

Crow Butte In-Situ Uranium Recovery Facility License Renewal National Historic Preservation Act of 1966, As Amended, Consultation

Historic and Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), requires that Federal agencies take into account the effect of an undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. As part of this required evaluation, Federal agencies must consult with Tribes to determine whether there are historic properties of cultural and religious significance to Tribes that may be adversely affected by a proposed undertaking.

Federal Undertaking

By letter dated November 27, 2007, Crow Butte Resources, Inc., (CBR) submitted to the U.S. Nuclear Regulatory Commission (NRC) staff a request to renew its source material license for its uranium in situ recovery (ISR) facility located in Crawford, Nebraska. License No. SUA-1534 authorizes the licensee to operate an ISR uranium recovery facility to produce yellowcake. In response to the NRC staff's requests for additional information and open issues, CBR supplemented the application by letters dated May 12, 2009, July 13, 2009, September 17, 2010, and September 28, 2010.

Based on its understanding of potential adverse effects, the NRC staff considers the area of potential effect for the proposed Crow Butte license renewal application to be generally contained within the 2,560-acre area of the current facility.

Cultural Resources Background

Adequate summaries of the cultural background for the area of western Nebraska where the Crow Butte Resources (CBR) In-Situ Uranium Recovery Facility is located can be found in NUREG-1910, "Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities" (GEIS) (NRC 2009), available CBR project specific cultural resources reports (Bozell and Pepperl 1987; Späth 2007a, b), and elsewhere (Koch 2000, Louis Berger 2005). Consequently, given the existence of these other sources, this section provides only a short, general overview of relevant background information to facilitate the later presentation of the NRC's findings.

Prehistoric Periods

The prehistoric cultural background is categorized into the following sequential developments, which are generally recognized in terms of archeology as occurring over a large area of the central plains:

- Paleo-Indian Big Game Hunters (12,000 to 8,000 years before the present (BP)). This cultural tradition began as humans gradually entered the plains following deglaciation of the region, sometime after 14,000 B.P. The economy was focused on the hunting of big game animals, notably mammoth and mastodon, and ancient forms of bison. Toward the end of the period, a transition in subsistence modes toward the modern form of bison took place, along with increased reliance on plant foods.

- Archaic foragers (8,500 to 2,000 BP). The Plains Archaic period represents a continuation of the change in subsistence patterns that occurred in the latter part of the Paleo-Indian era. The diversity in dietary sources was more pronounced, and settlement patterns became more associated with highly productive food resource areas.
- Plains Woodland (2,000 to 1,000 BP). The Plains Woodland period is characterized by largely sedentary lifestyles, with a mixed economy based on wild game animals, wild plants, and the beginnings of maize and bean horticulture. The defining settlement pattern of this period consists of earth lodge villages, located along the larger drainages. This period marked the appearance in the region of ceramic containers.
- Plains Village (1,000 to 600 BP). This period continued the trend toward increasing sedentism and increasing reliance on domesticated plants. Villages were primarily located along major river systems and larger tributaries. By the end of this period, the basic tribal structure of the later historic period on the plains was in place.

Proto-Historic and Post-Contact Tribes (400 BP to Present)

The post-contact period on the central plains is that period after initial contacts with Europeans and later Americans. The earliest documented contact in the region is by Spanish and French explorers in the early 1700s. Western Nebraska was home to “nomadic” people who resided in tepee villages and depended on bison hunting. At various times, these Tribes included the Apache, Crow, Kiowa, Cheyenne, Teton (Sioux), Comanche, and Arapaho. The Lakota Sioux, Northern Cheyenne, and Arapaho resided in northwestern Nebraska, and the Oglala and Sicangu Brule Sioux were concentrated around the Black Hills in northern Sioux country. By the mid-1800s, the Oglala and Brule bands had extended their range southward to the Platte River region of Nebraska.

The predominant Tribe in the region that includes the project area was formed by linguistically and regionally based groups and several subgroups of what has been termed the “Great Sioux Nation.” These groups and subgroups include the following:

- Lakota (Lakȟóta, Teton)
 - Northern Lakota (Húkpapȟa, Sihásapa)
 - Central Lakota (Mnikȟówožu, Itázipčho, Oóhenuŋpa)
 - Southern Lakota (Oglála, Sičhájȟu)
- Western Dakota (Yankton-Yanktonai or Dakȟóta)
 - Yankton (Iháŋktȟuŋwaŋ)
 - Yanktonai (Iháŋktȟuŋwaŋna)
- Eastern Dakota (Santee-Sisseton or Dakhóta)
 - Santee (Isányáthi: Bdewákhathuŋwaŋ, Waȟpékhute)
 - Sisseton (Sisíthuŋwaŋ, Waȟpéthuŋwaŋ)

Article 5 of the Fort Laramie Treaty of 1851 defined territories of each participating tribe, including the Sioux Nations of Rosebud, Standing Rock, Pine Ridge (Oglala), Crow Creek,

Lower Brule, Cheyenne River, Santee, and Fort Peck, and indicated that the Sioux territory included land in northwestern Nebraska north of the North Platte River. By the Fort Laramie Treaty of 1868 between the United States and the Oglala, Miniconjou, and Brule bands of Lakota people; Yanktonai Dakota; and Arapaho Nation, land located in the future Dawes County, Nebraska, was included in “unceded” territory that was reserved by the Sioux Nation for the right to hunt and travel, but not for occupation. The 1868 Fort Laramie treaty created the Great Sioux Reservation, essentially all of present-day South Dakota, for the various Sioux groups and subgroups to occupy.

Many Lakota refused to recognize the 1868 Fort Laramie treaty, saying it provided little to the people, and pointed out that non-Indians continued to use Lakota land, and the Government did not honor treaty provisions that promised rations, clothing, and schools. These people continued to live in their traditional areas in the unceded lands, followed the buffalo, and maintained their traditional ways of life.

Following the 1868 Fort Laramie treaty, the Red Cloud Agency was established in August 1873, just west of the present town of Crawford in Dawes County, Nebraska. While members of the Oglala Lakota were placed at the agency, members of other Tribes such as the Northern Cheyenne and Arapaho were also sent to the agency.

In 1887, the U.S. Congress passed the General Allotment Act (Dawes Act) to break up communal Indian lands into individual family holdings within the Great Sioux Reservation. On March 2, 1889, Congress passed another act partitioning the former reservation into five smaller reservations, mostly in South Dakota:

- the Standing Rock Reservation, with its agency at Fort Yates
- the Cheyenne River Reservation, with its agency on the Missouri River near the mouth of the Cheyenne River (later moved to Eagle Butte following the construction of Oahe Reservoir)
- the Lower Brule Reservation, with its agency near Fort Thompson
- the Upper Brule or Rosebud Indian Reservation, with its agency near Mission
- the Pine Ridge Reservation (Oglala Sioux), with its agency at Pine Ridge near the Nebraska border

Euro-Americans (300 BP to Present)

As American settlers began emigrating through Nebraska on trails to the western United States in the mid-1800s, increasing conflicts arose in what had previously been Tribal use lands. The establishment of forts on Indian lands and an influx of settlers into the Nebraska Panhandle led to further agitation. The Fort Laramie Treaty of 1851 was signed with the intent of protecting American travelers along the emigrant trails, while preserving the traditional use lands for the Cheyenne, Sioux, Arapaho, Crow, Assiniboine, Mandan, Hidatsa, and Arikara nations. Lack of enforcement by the U.S. Government of this treaty resulted in further conflict, eventually leading to the Fort Laramie Treaty of 1868. Continued disagreements between the United States and

Tribes led to the construction of Fort Robinson adjacent to the Red Cloud Agency to keep peace. Fort Robinson served a vital role during the Sioux Wars of 1876–1877 and was the place of the Cheyenne Outbreak of September 9, 1878. Fort Robinson was also the setting for the tragic death of the Oglala Lakota leader Crazy Horse on September 5, 1877. In 1878, the Red Cloud Agency was moved to the newly created reservation in South Dakota, where it was renamed the Pine Ridge Agency and Reservation. Use of Fort Robinson continued through World War I, and in World War II, it was a training site for soldiers and a camp for German prisoners of war. It ceased use as a military camp in 1948, and today is a Nebraska State park and historic site.

The town of Crawford began about 1866 as a civilian tent camp to support Fort Robinson. The town was formally established and named in 1886, and by then it was the hub of an area of active ranching and farming. Throughout its early history, Crawford and the immediate area included several significant regional transportation routes:

- the Fort Laramie, WY, to Fort Pierre, SD, Trail (1837 to 1880s)
- the Sidney, NE, to Deadwood, Black Hills, SD, Trail (1876 to 1880)
- the Fort Robinson/Red Cloud Agency to Camp Sheridan/Spotted Tail Agency Road (1874 to 1880s)
- the Fremont, Elkhorn, and Missouri Valley Railroad, then a subsidiary of the Chicago and Northwestern Railroad (1886)
- the Chicago, Burlington and Quincy Railroad (1887)

Identified Historic and Cultural Resources

Information for known or previously recorded historic and cultural properties comes from several sources, including the National Register of Historic Places (NRHP), State registers, and project-specific field inventories. Administered by the National Park Service, the NRHP is the official Federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. NRHP properties have significance to the history of their community, their State, or the Nation. The State of Nebraska does not have a formal State register, but it does maintain a list of the State's historic significant events, people, places, sites, movements, and traditions through the Nebraska Historical Marker Program, overseen by the Nebraska State Historical Society.

The final source for previously known and recorded historic and cultural sites results from past field inventories of the project lands. Earlier field surveys of the CBR research and development area (1982) and the CBR Commercial Study Area (1987) resulted in the recording of 21 prehistoric and historic resource sites (Bozell and Pepperl 1987).

National Register of Historic Places and State Registers

National Register

Five historic period sites within 10 miles of the CBR facility have been nominated to and listed in the NRHP. In addition to being included on the NRHP, the Fort Robinson and the Red Cloud

Agency property, located west of the town of Crawford within the boundaries of the Fort Robinson State Park, is also designated a National Historic Landmark (NHL) by the U.S. Department of the Interior. NHLs are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

No NRHP-listed properties are present within the boundaries of the Crow Butte APE (Louis Berger 2005), although six archaeological and historic architecture sites are evaluated as being "potentially eligible" for listing.

**NRHP-Listed Properties in Proximity to the CBR In-Situ Uranium Recovery Facility
(All in Dawes County)**

NRHP-Listed Properties	Date Listed	Approximate Distance/Direction from the CBR In-Situ Uranium Recovery Facility
Army Theater, Fort Robinson State Park	July 7, 1988	6 mi. W/NW
Co-Operative Block Building, Crawford, NE	September 12, 1985	4 mi. NW
Fort Robinson and Red Cloud Agency	October 15, 1966	6 mi. W/NW
U.S. Post Office, Crawford, NE	May 11, 1992	4 mi. NW
Henry Wohlers, Sr. Homestead, south of Crawford, NE	October 15, 2004	2.5 mi. N/NW

Nebraska State Register

The *Nebraska Revised Statutes*, Sections 82-119 through 82-124, authorize the Nebraska State Historical Society to mark and preserve the historical landmarks of Nebraska. This effort is coordinated through the Nebraska Historical Markers Program. Evaluation criteria for qualification for the Historical Markers Program are found in *Nebraska Revised Statutes*, Section 82-120.

Historical markers have been placed at 21 sites and places in proximity to the town of Crawford. All but three of these are related to events, places, and buildings associated with Fort Robinson and the Red Cloud Agency. The remaining three include two locales in the town of Crawford, and a “Buttes Country” marker, located 4 miles east of Crawford, that proclaims, in part, “Perhaps no spot in Nebraska is so surrounded by historical and geographical landmarks as this one.” All of the locales marked by the State program that lie within the boundaries of Crow Butte APE are fenced off and protected.

Previous Cultural Resources Surveys

Intensive (100-percent coverage) field surveys for historical and archaeological sites within the CBR license area (see Figure 1-1) were conducted in two phases. The University of Nebraska conducted identification and assessment of cultural resources in the CBR research and development area in March and April 1982. The Nebraska State Historical Society surveyed the remainder of the CBR license area (the Commercial Study Area) during April and May 1987. The results of the two surveys were presented in a single report (Bozell and Pepperl 1987).

The efforts in 1982 and 1987 recorded a total of 21 prehistoric and historic period archaeological sites. Cultural affiliation of the recorded sites included eight with Native American components, 12 historic period locations, and a buried bone deposit of undetermined cultural association.

Investigators from the University of Nebraska and the State Historical Society found that 15 of the newly recorded sites, including four Native American and nine historic period locales, contained limited scientifically important cultural remains or were not determined to be of significant historic value based on archival research. These 15 sites were evaluated as being

“not eligible” for nomination and potential listing on the NRHP. Six sites, including three Native American and three historic period locales, were evaluated as being “potentially eligible” for the NRHP, requiring further field assessment for a full evaluation as being “eligible.” Four of these sites (25DW114, 25DW192, 25DW194, and 25DW198) were evaluated as having potential importance for the recovery of archaeological data, and sites 25DW112 and 25DW00-25 have possible architectural values.

“Potentially eligible” Native American and historic period sites would be treated as “eligible,” pending further actual determination of their eligibility status. Since CBR was able to avoid each of the “potentially eligible” archaeological sites during the construction and operation phases of the project, full assessments of the eligibility status of these six sites were not conducted. Documented field visits made to each of the six “potentially eligible” sites in August 1995 confirmed that the sites did not incur any impacts during the CBR construction phase and the early operation phase (through 1995) (Crow Butte Resources 1995).

Prehistoric and Historic Cultural Resources Recorded during the 1982 and 1987 Field Investigations at the Crow Butte Project

Site Number	Year Recorded	Site Type/Age	NRHP Finding
25DW111	1982	Harvey Homestead; historic period	Not eligible
25DW112/ 00-17	1982	Wulf/Daniels Farmstead; historic period	Potentially eligible
25DW113	1982	Fiandt Homestead; historic period	Not eligible
25DW114	1982	Prehistoric lithic tools, flaking debris, trade goods, and nonhuman bone; Paleo-Indian, Middle Archaic, Late Archaic, Late Prehistoric, and Historic components	Potentially eligible
25DW115	1982	School District No. 25; former location of First Presbyterian Church; historic period	Not eligible
25 DW116	1982	Surface lithic scatter; unassigned Native American	Not eligible
25 DW117	1982	Fleming Homestead; historic period	Not eligible
FN-1	1982	Isolated stone flake; unassigned Native American	Not eligible
FN-2	1982	Buried nonhuman bone and charcoal; unknown cultural association	Not eligible
FN-3	1982	Crow Butte Cemetery; historic period	Not eligible
25DW191	1987	Dougherty/Smith Farmstead; historic period	Not eligible
25DW192	1987	Stetson/Roby Farmstead; historic Period	Potentially eligible
25DW193	1987	Surface/buried school foundation, artifact scatter; historic period	Not eligible
25DW194	1987	Surface/buried lithic tools, nonhuman bone, human remains; Plains Equestrian Period and unassigned Native American	Potentially eligible
25DW195	1987	Surface lithic tools, flaking debris, and fire-cracked rock; unassigned Native American (possibly Archaic)	Not eligible
25DW196	1987	Surface lithic tools, flaking debris, and nonhuman bone; unassigned Native American	Not eligible
25DW197	1987	Surface lithic tools, flaking debris, and nonhuman bone; unassigned Native American	Not eligible
25DW198	1987	Surface/buried (plow zone only) lithic tools and flaking	Potentially

Site Number	Year Recorded	Site Type/Age	NRHP Finding
		debris; unassigned Native American	eligible
25DW199	1987	Crawford Ice House; historic period	Not eligible
25DW00-25	1987	Stetson Place; occupied historic period farmstead	Potentially eligible
25DW00-26	1987	Gibbons/Ehlers Place; occupied historic period farmstead	Not eligible

Tribal Consultation

The table below lists previous Tribal contacts made by either the applicant or the U.S. Nuclear Regulatory Commission (NRC) for the purpose of consultation under NHPA Section 106 or to acquire information from Tribal experts concerning the existence of potential traditional cultural properties (TCPs) within the Crow Butte APE.

Traditional Cultural Properties

A TCP is associated with cultural practices or beliefs of a living community that (1) are rooted in that community's history and (2) are important in maintaining the continuing cultural identity of the community (Parker and King 1998). A TCP may be a building, site, district, object, or landscape. The significance must stretch beyond the past 50 years yet retain ongoing significance. Although the same aspects of integrity are relevant (e.g., integrity of location, design, setting, materials, workmanship, feeling, and association), National Register Bulletin 38, "Guidelines for Evaluating and Documenting Traditional Cultural Properties" (Parker and King 1998), notes that the concept of integrity is applied somewhat differently for TCPs than it is for historic buildings or archaeological sites:

In the case of a TCP, there are two fundamental questions to ask about integrity. First, does the property have an integral relationship to traditional cultural practices or beliefs; and second, is the condition of the property such that the relevant relationships survive?

The range of potential TCPs is varied and includes many property types of religious or traditional use that might be identified during a Tribal consultation process. American Indian researcher and Lakota Tribal member Vine Deloria, Jr., offers the following classification that reflects the wide-ranging variability for such places (Deloria and Stoffle 1995):

- creation story locations and boundaries
- sacred portals recounting star migrations
- universal center locations
- historic migration destiny locations
- places of prehistoric revelations
- traditional vision quest sites
- plant-animal relationship locations
- mourning and condolence sites
- historic past occupancy sites
- spirit sites
- recent historic event locations
- plant, animal, and mineral gathering sites

- sanctified ground

CBR In-Situ Recovery Facility: Summary of Tribal Contacts for NHPA Section 106 Consultation

Tribal Nation	Contacted for 1998 TCP Evaluation¹	Invitation To Be a Consulting Party under NHPA Section 106²	Invited to June 2011 Informal Information Gathering Meeting³	Attended June 2011 Informal Information Gathering Meeting⁴
Oglala Sioux Tribe	X	X	X	X
Standing Rock Sioux Tribe		X	X	X
Yankton Sioux Tribe		X	X	
Rosebud Sioux Tribe		X	X	X
Cheyenne River Sioux Tribe		X	X	X
Crow Creek Sioux Tribe		X	X	
Flandreau Santee Sioux Tribe			X	X
Lower Brule Sioux Tribe		X	X	
Sisseton Wahpeton Oyate			X	
Spirit Lake Tribe			X	
Lower Sioux Indian Community			X	
Northern Cheyenne Tribe	X	X	X	
Northern Arapaho Tribe		X	X	
Eastern Shoshone Tribe		X	X	
Santee Sioux Nation		X	X	
Ponca Tribe of Nebraska		X	X	
Crow Nation	X	X	X	
Three Affiliated Tribes (Mandan, Hidatsa, Arikara)		X	X	
Pawnee Nation of Oklahoma	X		X	
Assiniboine Sioux, Fort Peck Tribes			X	
Cheyenne and Arapaho Tribes of Oklahoma	X	X	X	
Kiowa Tribe of Oklahoma		X	X	
Southern Cheyenne	X			
Apache Tribe of Oklahoma		X	X	
Comanche Nation		X	X	

Previous Tribal Consultations for the Crow Butte Project Area

As part of the 1998 initial renewal of the CBR license to continue operation of the then-active CBR In-Situ Uranium Recovery Facility, a consultant for the applicant conducted a limited TCP

¹ Letters sent by the CBR cultural resources consultant, April 30, 2004 (Resource Technologies Group 1998).
² Letters sent by the NRC Office of Federal and State Materials and Environmental Management Programs, January 13, 2011 (see Appendix A to this report).
³ Letters sent by the NRC Office of Federal and State Materials and Environmental Management Programs, May 12, 2011 (see Appendix A to this report).
⁴ The Crow Butte Project site visit and information-gathering meeting took place June 7–8, 2011, in Crawford, NE, and Pine Ridge, SD (NRC 2011).

study that involved sending letters to six Tribal governments and requesting any information on localities of potential traditional concern or value to Native American groups (Resource Technologies Group 1998). The letter informed the recipients that an archaeological survey was completed in 1986 but did not provide them with a copy of the results of that survey. The applicant received no responses from the six Tribes contacted, which included the Oglala Sioux (South Dakota), Crow (Montana), Southern Cheyenne and Arapaho (Oklahoma), Southern Cheyenne (Oklahoma), Southern Arapahoe (Oklahoma), and Pawnee (Oklahoma).

For the current application for a renewal of the CBR Crow Butte license, , the NRC sent a letter to 18 Tribes on January 13, 2011, inviting the Tribal governments to a formal consultation for the license renewal environmental review under NHPA Section 106. These letters requested any known information on any areas on the project site that the Tribes believe have religious and cultural significance. A map of the current Crow Butte license area boundary and the proposed North Trend Expansion Area (NTEA) boundary was attached (see Figure 1-1 at the end of this document). The letter directed the Tribes to the NRC Agencywide Documents Access and Management System (ADAMS), where the CBR license renewal application and accompanying environmental report are available for electronic review. Following receipt of this letter, the Cheyenne River Sioux Tribe, Comanche Nation, Crow Creek Sioux Tribe, Crow Tribe of Montana, Eastern Shoshone Tribe, Flandreau Santee Sioux, Fort Peck Assiniboine Sioux Tribe, Kiowa Indian Tribe of Oklahoma, Lower Brule Sioux Tribe, Lower Sioux Tribe, Northern Arapaho Tribe, Northern Cheyenne Tribe, Oglala Sioux Tribe, Pawnee Nation of Oklahoma, Rosebud Sioux Tribe, Santee Sioux Nation, Sisseton Wahpeton Tribe, Spirit Lake Tribe, Standing Rock Sioux Tribe, Turtle Mountain Chippewa Nation, and the Yankton Sioux Tribe formally requested status as consulting parties under NHPA Section 106.

On May 12, 2011, the NRC sent letters to 24 Tribes inviting them to attend an informal information gathering meeting and a site visit June 7–9, 2011, at the Pine Ridge Reservation in South Dakota. The letter of invitation included a CD with publicly available⁵ archaeological surveys for the Crow Butte project area and a map of the project area.

Six consulting Tribes attended the meeting and site visit. Each of these Tribes inhabits reservations located in South Dakota. Tribes in attendance took a tour of the CBR In-Situ Uranium Recovery Facility project area near Crawford, Nebraska, on June 7, 2011, as well as a tour of the proposed CBR NTEA that is the subject of a separate ongoing NRC Section 106 consultation process.

As stated earlier, NRC Staff met with THPOs to gather information on June 8, 2011. The purpose of the meeting was to help NRC identify tribal historic sites and cultural resources that may be affected by actions associated with the proposed Crow Butte license renewal and North Trend ISR projects in Nebraska and the proposed Dewey-Burdock ISR project. Representatives of six tribes (Oglala, Sioux, Standing Rock Sioux, Flandreau-Santee Sioux, Siston-Whapeton Oyate, Cheyenne River Sioux, and Rosebud Sioux) attended.

During the June 8 meeting, tribal officials expressed concerns about the identification and preservation of historic properties of traditional religious and cultural importance to tribes at the proposed Crow Butte sites and proposed Dewey-Burdock sites. Tribal officials stated that historic and cultural resources studies of sites should be conducted with tribal involvement. A

⁵ The term "publically available" refers to a redacted version of the archaeological reports in which information, such as location data, is removed to prevent unlawful damage or vandalism to archaeological sites.

transcript of this meeting (NRC, 2011) is available through the NRC ADAMS database on the NRC website (www.nrc.gov/reading-rm/adams.html).

On January 19, 2012, the NRC Staff sent letters to 24 Tribes inviting them to attend a meeting on February 14th and 15th 2012 to continue ongoing consultation and discuss hear the views of the Tribes about potential Traditional Cultural Properties. Representatives of 19 Tribes attended the meetings.

Potential Places of Cultural Significance

In addition to the previously recorded archaeological sites within the Crow Butte APE that were evaluated as having a Native American cultural affiliation, other potential places of cultural significance are located in the vicinity of the Crow Butte APE. The preliminary identification of these potential TCPs comes from the Tribal information-gathering meeting, supplemented by literature searches:

- Crow Butte—The Crow Butte itself is located about 0.5 miles east of the CBR project area. Crow Butte was the site of a legendary 1849 battle between members of the Lakota and the Crow Tribes. Although exact details of the event differ in accounts over time, it is well remembered through Native American memory and by non-Indians as well (Cross 1916; Hanson and Wyatt 2009).
- Vision Quest Sites—A long ridge adjacent to Crow Butte was used in earlier years as a place that young Lakota men went to for vision quests. This locale would be about 1 mile east of the CBR project area.
- Medicinal Herbs—According to Tribal representatives at the information-gathering meeting, unspecified herbs used in traditional medical practices to treat ailments such as headache, stomachache, and arthritis grow on the CBR project area and around Crow Butte. Tribal members believe these herbs do not grow elsewhere.
- Cultural Landscape—The general region in which the CBR In-Situ Uranium Recovery Facility and appurtenant well fields are located is steeped in history, especially during the period of Fort Robinson and the Red Cloud Agency (1873–1877) and the Great Sioux War (1876–1877). For Native Americans, the CBR project area and the surrounding area includes land involved in the 1851 and 1868 Fort Laramie Treaties, having been traditionally occupied by various Lakota bands of the Great Sioux Nation. Oglala Lakota Chief Little Wound (ca. 1835–1899) is said to have camped around Crow Butte during that time. During the Red Cloud Agency era, other Tribes were brought to and occupied this general area as well, including Arapaho and Northern Cheyenne people.

On October 31, 2012, NRC invited all the consulting Tribes to complete a TCP field Survey of the proposed project area within the Crow Butte APE. In November and December of 2012, a TCP field survey was completed by the Santee Sioux Nation and the Crow Nation. A TCP report was submitted to the NRC by the Santee Sioux Nation on behalf of both Tribes. The report concluded that there were no sites of cultural or religious significance to the Tribes on the proposed site.

Historic and Cultural Resources Impacts from the Proposed Action

Review and approval of the proposed action, entailing the renewal of NRC Source Materials License SUA-1534 and, accordingly, the continued operation of the CBR In-Situ Uranium Recovery Facility, does not necessitate evaluation of all of the normal project phases typically addressed by an environmental review associated with a licensing action. The construction phase of the project ended in the late 1980s, there are no planned new construction activities and the facility has been operating since issuance of the original license in 1989.

Cultural resources surveys were completed in 1982 and 1987 for the entire CBR license area. A total of 21 prehistoric and historic archaeological and architectural sites was recorded, with six of these sites being evaluated at the time as “potentially eligible” for nomination and listing on the NRHP. The six “potentially eligible sites” were designated for avoidance during construction activities, both at the time and for the future. Only one site, 25DW192, is located entirely in an area of potential disturbance, and this property is protected by a fenced perimeter.

The original license contained administrative conditions calling for (1) additional cultural resources surveys should any previously unsurveyed land be used for future developmental activity, (2) cessation of work and immediate notification to the NRC should a discovery of previously unknown cultural artifacts take place during project disturbance activity, and (3) providing the NRC with documentation of its interaction with the Nebraska State Historical Society before any development activity takes place in the immediate vicinity of the six “potentially eligible” sites. Although the NRC has amended the license numerous times over the operating period, Administrative Condition 9.9 still includes these stipulations.

Although aquifer restoration and plant decommissioning are out of scope for the current proposed action, the practice of avoiding potential impacts for the six “potentially eligible” cultural resource sites would continue for the aquifer restoration and plant decommissioning phases of the project. Activities associated with restoration of the ground water in mining units occur at existing wells within established well fields and would result in little or no potential impacts to known cultural resource sites. While general earth-disturbing activities would be associated with decommissioning of the well fields and other facilities, the known cultural resource sites would be avoided during those activities (CBR 2004).

Since the CBR Crow Butte project area has been subjected to intensive cultural resources field surveys for archaeological and historical sites, and the six properties evaluated as “potentially eligible” for the NRHP are being actively avoided during all phases of the overall project, the NRC staff concludes that there will be no effects to the known and recorded cultural resource sites if the operating license is renewed.

Important potential TCPs, such as Crow Butte, are highly visible from the CBR project area, and the project is located within a potentially significant historic and Native American cultural landscape. However, the NRC staff concludes that there will be no adverse effects to the

known and recorded cultural resource sites if the operating license is renewed. This assessment is based on findings that potential impacts from major construction activities have already occurred as the uranium project has been operation for more than 20 years.

Cumulative Impacts for Historic and Cultural Resources

Cumulative impacts result from environmental effects from the proposed action, and from similar effects from other nearby actions in the past, present, and foreseeable future. The region of influence for cultural resources is the immediate vicinity of the proposed action.

There are few public lands within a reasonable distance of the Crow Butte uranium project where comparable historic and cultural resources data have been reported for use in evaluating potential cumulative impacts. The best data come from other proposed CBR project areas, namely future expansion areas that would extend and expand the production capability of the CBR In-Situ Uranium Recovery Facility. License amendments for construction and operation of two of these areas (including the North Trend Expansion Area (NTEA) and Marsland expansion area) are currently under environmental review, and a third (Three Crow Expansion Area (TCEA)) is proposed for review within a few years. The NTEA is located north of the town of Crawford. A second expansion area, the TCEA, is located southwest of Crawford. Although project planning and some environmental studies have been completed for the TCEA, the NRC staff has not yet begun its environmental reviews. A letter of intent has been submitted by the applicant to move forward with the TCEA and NRC expects that application to be finalized in late 2013. For the purpose of the present analysis, inventories of resources have been completed and reported for the NTEA, the Marsland expansion area, and the TCEA and are all available for a cumulative impacts assessment.

The proposed NTEA license area includes a total of 2,680 acres, although only 1,190 acres are included in the potential development area over the life of the project. In 2004, ARCADIS U.S., Inc., conducted an intensive pedestrian cultural resources inventory of the 1,190-acre proposed development area (Späth 2007a).

The field inventory recorded three historical sites (25DW296–298) and three isolated artifacts (25DW299–301). The historic sites include an abandoned farm complex, an occupied farm complex with a nearby schoolhouse foundation, and a small historic refuse disposal area. The isolated artifacts include an early historic period metal trade point and two prehistoric period chert artifacts (a core and a projectile point fragment). Based on the field survey findings, none of the resource sites was recommended as “potentially eligible” for listing on the NRHP, although one historic property, 45DW297, was recommend for further archival work should the site actually be disturbed by future mining development. The Nebraska State Historic Preservation Office accepted the cultural resources report and concurred with the NRHP eligibility recommendations in 2006 (Crow Butte Resources 2007b, Appendix C).

On behalf of CBR, ARCADIS U.S., Inc., conducted a Class III (intensive) historic and cultural resources field inventory in January 2006 and reported the results in December 2007 (Späth 2007b). The TCEA historic and cultural resources inventory included 100-percent pedestrian coverage of a 2,100-acre tract.

The field inventory of the TCEA recorded 11 historic period sites, along with two isolated prehistoric period artifacts and one historic period artifact. The 11 historic sites included three artifact scatters, two farm complexes, two rural residences, two collapsed buildings, a windmill and water tank, and an isolated piece of farm machinery. The isolated artifacts included an

historic fraternal medallion and two prehistoric chert flakes. The sites and isolated artifacts were fully recorded and given designations 45DW302–315 in the Nebraska Statewide inventory system. None of the recorded sites and isolated artifacts was found to be associated with important historical events or persons, or to be likely to contribute useful information about historic life ways, beyond the data collected during the field recording. Consequently, the applicant recommended that none of the recorded properties within the TCEA was “potentially eligible” for the NRHP.

The table below provides summary figures for the total number of acres that have been surveyed for historic and cultural resources in the three CBR project areas, along with the numbers of historic and prehistoric sites and isolated finds that have been recorded. In all, some 4,390 acres (6.86 square miles) have received intensive Class III pedestrian cultural resource inventory.

This combined acreage amounts to approximately 58 percent of the total acreage included in the original license application and the total numbers of acres in the license amendment applications for the NTEA and the TCEA. Because of these surveys, a total of 41 cultural resource sites and isolated finds have been recorded, for an overall density of 5.98 resources per square mile. When looking just at the recorded historic and archaeological sites (i.e., those resources potentially eligible for listing on the NRHP), the overall density drops to 4.81 per square mile.

Based on available historic and cultural resources information from the CBR application for the project area under the original license and the data related to the proposed license amendments for the NTEA and TCEA, the NRC staff concludes that there will be no effects to historic and cultural archaeological resources if the operating license is renewed. By extension, the staff concludes that the potential for cumulative effects to historic and cultural archaeological resources resulting from issuing a renewal of Source Material License SUA-1534 would also have no effects.

Previous Tribal consultations and the information-gathering meeting yielded information on several potential TCPs located in proximity to both the existing CBR In-Situ Uranium Recovery Facility and other proposed nearby developments. From the viewpoint of some of the consulting Tribes, development of additional areas by CBR would constitute further intrusions on the traditional cultural landscape and for individual TCPs. However a TCP survey was completed by two Tribes for the Marsland expansion area and the TCEA and concluded that there were no sites eligible for listing. Section 106 consultation remains ongoing for all proposed projects.

Comparative Summary of CBR Historic and Cultural Resources Information

Data Category	Crow Butte Facility	NTEA	TCEA	Totals
Total License Area (acres)	3,300	2,680	1,643	7,623
Cultural Resource Inventory (acres)	1,100 ⁶ (1.72 sq. mi.)	1,190 (1.86 sq. mi.)	2,100 (3.28 sq. mi.)	4,390 (6.86 sq. mi.)
Number of Resource Sites and Isolated Finds Recorded	21 ⁷	6	14	41
Historic Resource Sites	12	3	10	25
Prehistoric Resource Sites	8	0	0	8
Historic Isolated Finds	0	1	2	3
Prehistoric Isolated Finds	0	2	2	4
Site Density (per sq. mi.)	12.21	1.61	3.05	4.81
Isolated Find Density (per sq. mi.)	0	1.61	1.22	1.02
Total Cultural Resources Density (per sq. mi.)	12.21	3.23	4.27	5.98

⁶ This acreage is estimated based on the surface area developed as stated in the CBR license renewal application (Crow Butte Resources 2007a).

⁷ One of the recorded cultural sites at the ISL facility area is of unknown age and cultural affiliation.

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