

**Secretary Of The Interior's Report
To The Advisory Council on Historic Preservation
In Accordance With Section 213 of the National Historic Preservation Act:**

***Evaluation of the Impact of the Proposed Highwood Generating Station on the
Great Falls Portage National Historic Landmark***

By

Staff, Lewis and Clark National Historic Trail
Staff, Midwest Regional Office
Staff, Intermountain Regional Office

United States Department of the Interior
National Park Service
Midwest Regional Office
Omaha, Nebraska

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Executive Summary

The Advisory Council on Historic Preservation (ACHP) requested that the National Park Service (NPS) provide a report evaluating the impacts of the proposed Highwood Generating Station (HGS) on the Portage Route of the Lewis and Clark Expedition near Great Falls, Montana. This report addresses (1) the national significance of the route, (2) how the project might affect the integrity of the route, (3) recommendations to avoid, minimize, or mitigate adverse effects to the route, and (4) whether the project would threaten the current designation of the route as a National Historic Landmark (NHL) or require adjustments to its boundary.

The Portage Route's national significance was initially described and documented in its NHL nomination approved in 1966. The boundaries were approved as Great Falls Portage National Historic Landmark in 1985. To be eligible for designation as an NHL, a property must "possess exceptional value or quality in illustrating and interpreting the heritage of the United States." The Portage Route is directly associated with the Lewis and Clark Expedition, a seminal event that had a defining role in establishing the United States as a transcontinental nation. The route itself illustrates the hardships of the undertaking and the dedication and determination of its participants.

As approved by the Department of Agriculture Rural Utilities Service's (RUS) environmental Record of Decision, the preferred alternative site for the HGS is within and adjacent to the NHL. The generating station would introduce major physical, visual, and auditory elements into a landscape that has very few modern intrusions and appears and sounds much as it did when the Expedition traversed the route in 1805 and 1806.

The integrity of the NHL is based mainly on its current condition of large, open, historic and natural landscapes relatively free of intrusions. The proposed HGS and its ancillary features would constitute a broad and wide-scale impact on the surrounding landscape. In such an open landscape, the HGS cannot avoid, minimize, or mitigate adverse impacts sufficiently to maintain the integrity of the NHL.

In order to be designated an NHL, a property must have integrity. Integrity is the ability of the physical features of a property to convey its historical associations or attributes. In order to retain NHL status, a property must retain those essential physical features. The features must define both why a property is significant and when it was significant. Prior to the HGS proposal, the NPS rated the status of the NHL as "Satisfactory." When the HGS project was introduced, the NPS determined the NHL status should be elevated to "Threatened."

The HGS would have wide-spread, profound, and adverse impacts on the NHL and would require a critical review of its integrity; a process which would likely lead to the loss of NHL status for most, if not all, of the route. Since the Portage Route is also part of the Lewis and Clark National Historic Trail (LECL), the HGS would have significant and adverse impacts to LECL, a unit of the National Trails System, administered under the authority of the National Trails System Act and the NPS Organic Act.

Introduction

National Historic Landmarks are afforded special protection and consideration by the National Historic Preservation Act (NHPA; 16 U.S.C. §470u). In Section 110 of the NHPA, Federal agencies are directed to “undertake such planning and actions as may be necessary to minimize harm...” to NHLs. In addition, the regulations implementing Section 106 of the NHPA (36 CFR, Part 800) set forth special requirements for protecting NHLs and for conducting consultation with the Advisory Council on Historic Preservation (ACHP) and the Secretary of the Interior on projects involving an NHL. These regulations also provide for the ACHP to request a report from the Secretary of the Interior, under Section 213 of the NHPA, to assist in consultations involving NHLs. Section 213 of the NHPA specifically directs the Secretary of the Interior to prepare a report “detailing the significance of [the] historic property, describing the effects of [the] proposed undertaking on the affected property, and recommending measures to avoid, minimize, or mitigate adverse effects” (if requested by the ACHP). Under existing delegations of authority, the NPS acts on behalf of the Secretary of the Interior for these regulatory purposes.

The Lewis and Clark Portage Route around the Great Falls of the Missouri River, located in Cascade County, Montana, was officially designated as the Great Falls Portage National Historic Landmark (NHL) on May 13, 1966. Legal boundaries were established in a revision to the NHL dated June 18, 1985.

The 1978 amendment to the National Trail System Act established the Lewis and Clark National Historic Trail (LECL) along both the outbound and return routes of the Lewis and Clark Expedition of 1804-1806. Under this law, the NPS administers the LECL and has as its purpose the identification and protection of the historic route and its historic remnants and artifacts for the public enjoyment. The LECL is an administrative unit of the NPS, which extends the protection of the Organic Act (1916, as amended) to the Trail, specifically honoring the charge to “conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The Great Falls Portage Route is situated on and is a significant component of the LECL.

In 2004, the Southern Montana Electric Generation and Transmission Cooperative (SME) applied to the USDA Rural Utilities Service (RUS) for a loan guarantee for construction of a coal-fired electric generating plant and pilot wind turbine farm, to be called the “Highwood Generating Station” (HGS). The preferred location was an area called the Salem Site, within and adjacent to the NHL. In addition to undertaking the 1969 National Environmental Policy Act (NEPA) process, RUS initiated the required Section 106 consultation, to take into account the effects of this project on historic properties.

In this report, both the “Expedition” and the “Corps of Discovery” refer to the historic Lewis and Clark Expedition of 1804-1806; the “Portage Route” refers to the actual historic path of the Expedition around and near the Great Falls of the Missouri River in Montana. “NHL” refers to the land of the Portage Route and the adjoining land that comprises the Great Falls Portage National Historic Landmark.

Project Review

On June 29, 2006, the NPS Intermountain Region (IMR) was invited by the RUS to participate in the Section 106 consultation process. The HGS Proposed Action at the Salem Site (identified in the Draft Environmental Impact Statement June 26, 2006) would have an adverse impact on the NHL. The IMR expressed their willingness to participate in the 106 consultation process in a letter dated July 21, 2006. At the request of IMR, the LECL was invited to be a consulting party on September 12, 2006. LECL participated in two face-to-face consultations with the RUS, other Federal, State, and local government officials, national and state preservation groups, and individual citizens.

In a teleconference on March 15, 2007, the ACHP indicated it would ask for a report under Section 213 of the NHPA. The NPS agreed that it would complete the report, upon request. The RUS restated its commitment to issuing the Record of Decision (ROD) “by the end of March or the first week in April, 2007.”

In a letter to the NPS Director, dated March 22, 2007, the ACHP requested the views of the Secretary of the Interior on the potential adverse effects of the proposed HGS, within and adjacent to the NHL, pursuant to Section 213 of the NHPA:

Specifically, we request your views and comments on:

- What makes this site unique and important on a national level?
- How the proposed project may affect the integrity of the NHL;
- Recommended measures to avoid, minimize, or mitigate adverse effects to the NHL;
- Whether the adverse effects from the proposed HGS would threaten the continued designation of this property as a National Historic Landmark or require adjustments to the current boundary.

On May 11, 2007, the RUS issued the ROD approving the HGS, and the Montana Department of Environmental Quality issued the air quality permit for the project.

National Significance of the Great Falls Portage NHL

The Great Falls Portage NHL is among the few sections of the historic route of the LECL that can be identified and mapped using William Clark’s original survey notes. The hardships faced during this 31-day portage were among the toughest ordeals encountered by the explorers and threatened the success of the Expedition. The delay occasioned by this portage was critical because the Corps of Discovery needed to traverse the “unknown” Rocky Mountains before the onset of winter. The property’s designation as an NHL was based upon the national significance of the event and the high integrity of the resource – the largely unimpaired landscape within which the event took place.

The significance of this landscape was recognized on May 23, 1966, with the authorization of the Great Falls Portage National Historic Landmark Review Project. The NHL nomination was revised and updated in 1976 and in 1984. It was formally approved with legal boundaries in 1985. The entire Portage Route was not included in the NHL because Malmstrom Air Force

Base and several residential subdivisions of the City of Great Falls existed on the Portage Route by the time the boundaries were approved by the Secretary of the Interior. The current NHL encompasses 7,700 acres.

The 1976 review report states: “Since no permanent man-made evidence remains of the Lewis and Clark expedition’s campsites and exploration of the Great Falls area, the integrity of the historic sites is dependent on the preservation of the natural scene as it was when the explorers camped there and described it. Therefore, the sections of the National Historic Landmark with the most integrity are those which retain the area’s natural character and have the fewest man-made intrusions.”

The 1984 review states: “The boundaries... include the terrain necessary to convey the historical feeling and association of the portage route and the intrusions at such a scale are minor. The nomination includes the most important points of the portage route, and while not contiguous for the entire eighteen-mile length, presents a near-complete picture of the portage route.” The boundary is roughly 2000-4000 feet wide by 8 miles long on the eastern side (lower portage route) and 2000-3000 feet by 4 miles on the western (upper portage route). A 4.8 mile section of the route is excluded from the boundaries “due to its loss of historic integrity.” The western portion as established was significantly smaller “due to intrusions and altered landforms.” In contrast the eastern portion of the NHL retains a high degree of integrity with little to no intrusions on the historic and natural scene. The landmark boundaries, drawn in consultation with a historian of the Portage Route, reflect the high degree of confidence in the location of the route.

Impacts to the NHL have been relatively minor since 1984. As mandated by program regulations (36 CFR, part 65.10), the NPS monitors the condition of NHLs through the biennial “National Historic Landmarks Update” report and makes recommendations to owners and policy makers regarding preservation and protection.

As recently as 2004, the NPS recognized the efforts of Montana Fish, Wildlife and Parks, the U. S. Forest Service, the Bureau of Land Management, The Conservation Fund, Pennsylvania Light and Power (Montana), and the R.K. Mellon Foundation to further protect the relatively unaltered character of this landscape through conservation easements on the eastern portion of the NHL. This was profoundly significant because the NHL had been reduced from its original 1966 acreage due to man-made intrusions and subsequent losses of integrity in its western portion.

Prior to the proposed action by RUS, the “National Historic Landmarks Update” determined the Great Falls Portage Route NHL to be in “satisfactory” condition. However, in the most recent report (2006) that status was changed to “threatened,” indicating that the NHL had suffered, or is in imminent danger of suffering, a severe loss of integrity. Specifically, the status was described with the comment that the proposed development of the Highwood Generating Station would negatively impact this significant historic scene.

(For an abbreviated Expedition history of the Portage Route, please see Appendix)

How the Proposed Project Could Impact the Integrity of the NHL

Integrity

The physical properties of any NHL must convey its historical associations and attributes; evaluating integrity must be grounded in an understanding of a property's physical features and how they relate to those associations or attributes.

A great number of NHL nominations are documents that are products of their time, in that they were prepared according to the professional requirements and expertise of their era. The requirements for preparation of NHL nominations have evolved over time. Today a more rigorous set of criteria and guidelines must be met. The content of NHL nominations has evolved considerably since 1966 when the NHL was designated.

Today any property proposed for NHL designation must define the significance of the property and its ability to convey that significance through its integrity. The seven aspects of historic integrity, as defined in the National Register Bulletin "How to Prepare National Historic Landmark Nominations," are: location, design, setting, materials, workmanship, feeling, and association. The NHL boundary justification provided in the 1984 revision does identify intrusive elements to the portage, but does not directly address integrity as would be required by current standards.

The 1966, 1976 and 1985 NHL documentation predates our current understand of "historic/cultural landscape." The National Register Bulletin "Guidelines for Evaluating and Documenting Rural Historic Landscapes," and subsequent report entitled "The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (1996), defines a historic/cultural landscape as:

a geographical area (including both cultural and natural resources and the wildlife or domestic animals within), associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values.

There are eleven characteristics of an historic landscape: land uses and activities; patterns of spatial organization; response to the natural environment; cultural traditions; circulation networks; boundary demarcations; vegetation related to land use; buildings, structures, and objects; clusters; archeological sites; and small-scale elements. The NHL documentation contains very little information related to these characteristics. For example, any discussion of the historic landscape of the NHL should consider the human response to the natural environment: the basic fact that the Portage Route exists due to the presence of the Great Falls of the Missouri.

The historic landscape of the NHL has not been formally documented following the contemporary guidelines and criteria specified by the NPS. It is entirely possible that there is physical evidence remaining on the route, regardless of what the NHL documentation states. While there have been investigations at the NHL, it is not known if they were complete, adequate, or what results the investigations actually produced.

The degree of historic integrity needs to be formally assessed (as described in the Recommended Measures to Mitigate Adverse Effects section later in this report). From a qualitative analysis perspective, both Portage Route segments appear to retain the high degree of integrity required of NHLs. The eastern portage segment has a significantly higher degree of integrity than the western portage segment.

In the absence of formal, organized historic landscape documentation, it is, however, possible to conclude some aspects of the criteria stated above. A review of NHL nominations from 1976 and 1984 reveal the following information:

Since no permanent man-made evidence remains of the Lewis and Clark expedition's campsites and exploration of the Great Falls area, the integrity of the historic sites is dependent on the preservation of the natural scene as it was when the explorers camped there and described it. Therefore, the sections of the National Historic Landmark with the most integrity are those which retain the area's natural character and have the fewest man-made intrusions.

Both campsites are primary features for the various critical activities and decisions that were made by the Expedition leaders during this extraordinary transition from river travel to overland travel. The nominations provide significant visual references to the Missouri River on both ends of the route. It also notes the lack of intrusions upon the upper portage campsite.

Again, in the absence of formal, organized historic/cultural landscape documentation, current knowledge - combined with future studies utilizing modern methods and technology - may yield clarifying details to the criteria stated above. A review of NHL nomination forms for the NHL from 1976 and 1984 and the Journals of Lewis and Clark reveal the following:

The lack of intrusion upon the upper portage campsite is noted. The vista from the mouth of Belt Creek down river is still one of an undisturbed, natural riverway. The river rushes over rapids and through a channel lined with bluffs and canyons, surrounded by treeless grazing land, covered with native vegetation, including prickly pear cactus and high grass. The falls and stream associated with Sulphur Spring are visible from the lower portage camp.

The high plains portion of the NHL (beginning at the staging area on the east and ending with the descent into the ravine on the west) is the showcase for the great viewshed, punctuated by the distant snow capped mountains (approximately 25 to 60 miles away). When the original nominations were written the eastern portions of the route's landscape displayed agrarian features with little human development. This pastoral setting is considered spatially comparable to open plains. Cattle have replaced buffalo and wheat fields have replaced the native grasses. Very little fencing and only scattered buildings have been erected. These domestic human elements were typically dwarfed by the scale of the view. Over time, scenic easements were implemented to prevent the cumulative effect of human-made elements on the view.

The journals of Lewis and Clark contain many observations describing the viewshed and

associated landscape in colorful vernacular language. There are numerous references to the landscape, geographic features, native people, vegetation, and wildlife.

Addressing, more specifically, the seven aspects of integrity at the Great Falls Portage Route NHL, the following details have been identified:

1) Location: The NHL is the place where the historic event occurred. It is intact within the boundaries, there have been no topographical changes, and it is accessible in the same manner as that used by the Corps of Discovery.

2) Design: To a high degree, the NHL retains the overall spatial organization, physical relationships, scale and proportion present during the historic event. The form and fabric of the landscape remains – from the steep-sided canyon areas of the campsite to the numerous gullies. Bluffs and open plains are surrounded, in the distance, by the beginning of the Rocky Mountains. The general lack of built features reinforces the natural character of the Portage Route. The site, and its natural and spatial relationships, is intact. The scale and sense of great openness remains.

3) Materials: Materials of the site consist of biotic components native to the region. In general there is a lack of trees with herbaceous vegetation on the highlands and some woody species along the intermittent and permanent waterways. Evergreen forests are predominant on the mountains. Though cultivated fields have replaced native grass, this change in vegetation does not impact this aspect of integrity. This area still has the appearance of open land. The 1976 and 1985 reviews have taken this change into account.

4) Workmanship: In applying the aspect of workmanship to the biotic component of the landscape one could draw a conclusion that in general the landscape is as it was in during the period of significance – in a natural state. The natural processes of regeneration and succession dependent upon the climate and time are evident within the NHL. To some individuals this process of renewal is spiritual, invoking associations with a creator and/or ancestors.

5) Setting: The setting of the NHL consists of the natural context and the biotic components within it. The aspect of setting is enhanced in the eastern portion of the site by a relatively unimpeded view shed with distant mountains. The unspoiled quality of the setting indicates a purity of place similar to that experienced by the Expedition. The lack of man-made intrusions is both visible and audible; defined by the natural soundscape, clear air, and an unimpeded night sky. Currently, the flight path for the Air Force Base is the predominant intrusion upon the setting and mostly felt in the western section of the NHL. The setting has experienced relatively little impact beyond that of Malmstrom AFB and the City of Great Falls (outside the NHL boundaries).

6) Association: The NHL was designated because of its association with the Lewis and Clark Expedition. This association is well-documented through the journals and maps created during the journey. Accounts in the journals and on the maps have been verified by professional historians and scholars of the expedition. Likewise the association with native people along trade routes is evident in the archeological record where goods originating in the West, such as Yellowstone Park Obsidian, have been found in the East and Gulf Coast shells found in the

West. The Expedition depended on native peoples and their intimate knowledge of the region to traverse the unknown territory in search of the Northwest Passage.

7) Feeling: The location, design, materials, workmanship, setting, and association all contribute to the aspect of feeling experienced at the NHL. The knowledge of the historic events and associations with the Expedition and native peoples provides authenticity to the NHL for all who wish to experience it. For some the feeling is respect for perseverance and accomplishment faced by humans in a landscape environment that dwarfed them in comparison. For others it is a sense of being connected to one's culture and heritage and a spiritual connection to nature.

It should be noted that no other site along the LECL so aptly represents the extreme hardships of the Expedition while being so geographically accessible to the general visiting public. The fact that this important historic landmark is even accessible to those with physical disabilities is reason enough for it to be preserved free of human-made intrusion.

As previously noted, the NHL's historic landscape has not been formally evaluated using the guidelines specified by the NPS. It is likely that additional information about the journey, native peoples, and the human response to the landscape could be yielded during future investigations of the NHL using the latest guidelines and sophisticated technologies. Little metadata exists regarding past investigations in terms of methods employed or conclusions drawn. Research and scholarly publications could provide new, analytical data about the Expedition and native peoples.

Impacts on Integrity

The NHL is one of very few segments of the LECL that retains a high degree of natural and cultural integrity relatively free of modern human developments and intrusive activities. Until recommended studies are complete (refer to "Measures to Mitigate Adverse Effects," below), it is entirely possible that significant cultural and historical resources that exist within the NHL would be adversely impacted.

Although there has been an effort to realign features of the generating station to minimize the impact, the presence of any one of the proposed developments would be detrimental to the integrity of the NHL. A total of 550 acres of the landscape would be irreversibly and irretrievably lost in the proposed construction (Pg. 4-142 of the EIS), impacting a major portion of the eastern part of the NHL. This impact would be caused by the wind turbine array, two 100-foot wide transmission line corridors, a 1.7-mile fresh water and waste water line corridor, a raw water corridor, and more than two miles of additional roads. This industrial scale development would introduce modern design into the NHL and the site's view shed, radically changing features of the setting that are vital to defining the character of the place. Such major disruptions of the landscape could adversely affect the site's continued eligibility for national historic landmark status by diminishing and destroying its integrity. This would be an irreplaceable loss to the national heritage of our country.

The Final Environmental Impact Statement (FEIS) for the HGS states: "Within the inventory project area, Research Technologies, Inc. (RTI) found no physical evidence of the Corps of

Discovery's portage activities. No camp features, artifacts, or similar evidence were found on the surface." The summary of the inventory conducted does not describe the methods and technologies used, nor does it state the inventory team's professional qualifications to evaluate historic/cultural landscapes. The reported lack of physical evidence could be attributed to the methodology employed to complete the investigation within a time frame suitable to the proposed project's schedule and/or attributed to a lack of understanding of, and appreciation for, historic/cultural landscapes. The statement also contradicts studies that have been conducted at specific sites within the NHL.

There have been historical, archaeological excavations at the Lower Portage Camp for a number of years directed by Dr. Ken Karzmiski, formerly of the Museum of the Rockies, Montana State University (now Director, Research and Exhibits, Columbia Gorge Discovery Center, The Dalles, Oregon). While these investigations have proven problematic for a number of reasons, the excavations have revealed the presence of physical evidence. It has not been demonstrated through a published, peer-reviewed report that the physical evidence is associated with the Corps of Discovery or if it is related to Native American use of the area. The interaction between the two user groups makes this quandary understandable and deserving of further study. If the initial reports of physical evidence are correct, the conclusions would need to be included in a revision or continuation sheet of the NHL documentation so that the data could be referenced in the preparation of the EIS. It would be beneficial if the NPS were to undertake a peer-review analysis of Dr. Karzmiski's work to determine if, indeed, there is physical evidence of the Corps of Discovery's encampment at the Lower Portage Camp.

The cultural resource investigation conducted for the preparation of the EIS does not adequately address the possibility of future discoveries of physical resources associated with the Portage Route. The cultural resource inventory followed a standard methodology: a file and literature search, pedestrian transects spaced 30 meters apart, and a report describing the results. It is NPS opinion that the methodology should have been based upon the work conducted by scholars such as Robert N. Bergantino, a research professor at Montana Tech of the University of Montana. It is entirely appropriate to question the validity of the methodology and ask: Does it address the right questions and does it search for appropriate resources? It is not readily apparent from the cultural resource inventory, or from the EIS, that the appropriate methods, questions, and technologies were utilized to search for physical evidence of the Portage Route.

Visual resources: Under the high standards of the NPS, and the standards used to measure the impacts to the NHL, the goal is to avoid any further negative impact to the site's integrity, regardless of the current base state of the resource. The integrity of the NHL was based predominantly on the visual and natural landscape qualities of open grasslands presenting no barriers to wind and weather.

The FEIS for HGS notes:

...the view north towards the Missouri – arguably a more important view than the view south across a rolling, cultivated plateau, because of the historic portage from the river commemorated by the NHL...” (p. 4-88). The view to the north only encompasses the beginning of the historic portage, which continued for more than 18 miles to the south and southwest and took the Corps of Discovery more than a month to complete. The

preservation of all the views along the route, as preserved within the NHL, is essential for retaining the integrity of the NHL. The FEIS for the HGS also states that “considering the view towards the south, that the proposed construction within and adjacent to the NHL would result in a ...change to landscape [that] is the focus of attention and becomes the primary focus of the viewer....

Despite efforts to mitigate the impacts to the NHL viewshed by moving the coal-fired generating station south and outside NHL boundaries, the proposed realignment of the wind turbine array is closer to the developed interpretive site at the historic “staging area.” This mitigation would not provide a net reduction in the visual impacts to the NHL and it would not reduce adverse impacts to the visitor experience. To the contrary, as a visitor views the wayside exhibits at this site, they are looking directly at the proposed HGS site. The historic and scenic view would be obscured and forever impacted by this intrusion into the historic landscape. (*See Appendix A for details of the “staging area” history.*)

The FEIS for the HGS also acknowledges the issue of light pollution: “An additional adverse visual impact would occur from HGS-induced ‘light pollution’ that would decrease the area’s natural dark skies.” While the FEIS describes downward lighting on the plant buildings, the 400-foot coal stack, the 220-foot boiler stack, and the 300-foot wind generators must comply with FAA safety regulations requiring lighting of any structures over 200 feet in height. FAA compliance requires white flashing lights during the day and red aviation obstruction warning lighting at night. This would clearly be counter to maintaining the integrity of the NHL: affecting the setting and feeling and, therefore, the experience of place.

The FEIS for the HGS concluded, “Thus, at the Salem site itself, the Proposed Action would entail a large visual change to a scenic setting of moderate value.” This determination of a moderate impact is based on the Visual Resource Management (VRM), which we have noted is not an acceptable standard for lands administered by the National Park Service. The NPS believes the visual impacts of construction are a significant adverse impact that has not been mitigated. The visual impacts will effect most of the 7,700 acres of the NHL and are an unnecessary intrusion to the LECL. The visual impact would adversely affect the integrity aspects of workmanship, materials, setting, feeling and association.

Soundscape: Any degradation to natural ambient sounds is considered an adverse impact for areas administered by the NPS. Locating the coal-fired generation plant further from the interpretive site might potentially reduce the noise levels at that site to below the 55 dBA daytime standard for residential areas, but this does not address the acoustic conditions around the wind turbine array that will lie within the NHL. The FEIS acknowledges this significant adverse impact, but offers no mitigation: “While one significant, adverse noise impact is anticipated on the acoustic environment of the NHL, no mitigation measures are planned or proposed for either of the action alternatives” (p. 4-78). Also, the impact of additional sound upon the wildlife (which clearly contributes to the experience of place) has not been studied to a level where a determination of insignificance could be justified. One must remember that the Expedition recorded not only the travel route, but also took a keen interest in documenting the flora and fauna in their natural surrounds and solitude. If fauna were forced to other habitat, due to the impact and activities of the proposed HGS, a significant portion of the NHL experience

would be negatively impacted. The impact to the soundscape would adversely affect the integrity aspects of setting, feeling and association.

Air quality impacts: According to the NPS Management Policies (2006), regardless of air class designation, all units of the National Park System will work to "preserve, protect, and enhance the air quality." Specifically, NPS Management Policy, 4.7.1, states: "Permit applications for major new air pollution sources will be reviewed, and potential impacts will be assessed. If it is determined that any such new source might cause or contribute to an adverse impact on air quality-related values, the National Park Service will recommend to the permitting authority that the construction permit be denied or modified to eliminate adverse impacts." The NPS seeks to maintain the integrity of the NHL and the best possible air quality in NPS-administered areas to 1) preserve natural resources and systems, 2) preserve cultural resources, and 3) sustain visitor enjoyment, human health, and scenic vistas.

Results of the Class II Area Significant Impact modeling (Table 4-5, p. 4-40) demonstrate the potential significant impacts from particulate matter, sulfur dioxide, and nitrous oxides to areas in proximity to the project (0.6 to 1.8 km). These impacts are acknowledged to be adverse in the executive summary of the Final FEIS (p. ES-9): "Overall air quality impacts from the proposed action would be adverse and most likely non-significant. HGS operations would result in long-term minor to moderate degradation of local air quality." (The NPS does not agree that these impacts would be "non-significant.") Human-induced contribution to climate change is in opposition to the NPS mission to preserve natural resources and systems. Release of mercury by the proposed HGS would be seriously detrimental to native plant/animal communities, which are to be sustained under NPS policies and which are integral to the interpretation of the Lewis and Clark Expedition. The impact to the air quality would affect the integrity aspects of workmanship, materials, setting, feeling and association. Due to these adverse impacts to the NHL air quality, the NPS recommended, and still holds, that the Montana Department of Environmental Quality should deny or modify the construction permit to eliminate adverse impacts.

Recommendations to Avoid, Minimize, or Mitigate Adverse Effects to the NHL

Recommendations to Avoid Adverse Effects

The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act, 63 FR 20495-2058, April 24, 1998, recommends special treatment of NHLs. Standard 4 states: "An agency gives historic properties full consideration when planning or considering approval of any action that might affect such properties; (Sec. 110(a)(2)(B),(C), and (E), and sec. 402 (16 U.S.C. 470a-2)." Further, Guideline J states: "In those cases when an agency's undertaking directly and adversely affects an NHL, the agency should consider all prudent and feasible alternatives to avoid an adverse effect on the NHL."

As stated in the preceding section, the proposed mitigating measures are neither effective nor adequate. While some of the proposed on-site mitigation could have very limited positive effect, all of the off-site compensation is inappropriate. The NPS holds that the construction of the HGS

at the proposed location, on and adjacent to the NHL, is immitigable. Furthermore, the construction and operation of a power plant at this location would have a severe adverse impact on the integrity of the NHL, which could result in the delisting of most, if not all, of this national historic landmark. Due to the severe degradation, everything within the viewshed of the power plant and its plume of discharge would lose clear associations with the historical significance of the route.

Recommended Alternative Site Evaluation Criteria: From an NHPA perspective, there are no locations within the boundaries of the NHL that should be considered as reasonable alternative sites for the power generating facilities. Priority should be given to locations that avoid both the NHL and its viewshed. Consideration should only be given to a location with no, or minimal, visual and environmental impact to any portion of the NHL.

Recommendations to Minimize Adverse Effects

Any proposed development within the viewshed of the NHL should address a maximized distance from the NHL boundary to reduce visual impact and be restricted to down-wind locations, generally east of the NHL.

For any proposed location within the view shed of the NHL, a Supplemental FEIS should provide for a conceptual landscape plan developed to screen the generating facilities. (Only vegetation that is native to the area, and would have grown in that location at the time of the Expedition, should be used for screening. It should be noted that large-scale vegetation such as cottonwood trees would not have grown on the upper bench areas traversed by the Corps of Discovery.)

Any proposed site within the viewshed of the NHL should be restricted to areas already within proximity to existing visual disturbances, such as ranch houses, silos, or industrial sites.

Wind turbine locations within the NHL viewshed should not be considered as reasonable alternatives, as these impacts cannot be mitigated.

All new service and transmission lines should be placed underground along existing corridors within the NHL and its viewshed.

Surface traffic should be restricted as much as possible to existing roadways, with construction of new roadways limited to those areas where there is no feasible alternative.

Recommendations to Mitigate Adverse Effects

Relocation of the HGS: It is important to reemphasize that the development of criteria for relocation of HGS should be given the first consideration. If this is accomplished, other measures might be unnecessary.

Cultural Resources Surveys: As previously stated, it is possible that there is physical evidence of currently unidentified cultural resources within the NHL. It is the opinion of the NPS that there

should be additional and more thorough surveys conducted and that the methodology should be based upon detailed and scholarly analysis (such as that conducted by Dr. Bergantino, who has re-created the courses and distances recorded by Clark and plotted the actual Portage Route of the expedition).

The NHL is nationally significant; therefore, mitigating the HGS would most appropriately entail documentation of the property following the Historic American Landscapes Survey (HALS), Level 1. The purpose of such a survey is to create a lasting, archival record of significant cultural and designed landscape resources for study purposes. HALS history documentation is intended to convey the significance of the site and the context in which it was created and later evolved. The history also goes beyond context to discuss how the property evolved, including original conditions, as well as later additions and alterations. The report also describes the landscape, architectural and physical character of the site, as it currently exists. HALS projects are generally conducted at one of three levels of significance. Level I is the most complete level of documentation and is done for nationally significant properties. The final product for a Level I history component consists of the comprehensive completion of the HALS historical report form. (See Historic American Landscapes Survey Guidelines for Historical Reports.) Such a survey should include a professional video documentation of the NHL to capture the panoramic aspects of the site, and should include aerial and panoramic vistas, and color and black and white photographs of the site, the vistas, the terrain, and its features, including vegetation and human-introduced elements. Additionally, there should be measured drawings, interpretive drawings of the landscape and a professional topographic survey.

Mitigation should include a physical survey of cultural resources of the Portage Route
The methodology for this survey should ask basic questions:

1. Did the Corps of Discovery follow an existing Native American trail for the Portage Route? (This is their standard operating procedure along the entire length of their transcontinental journey.)
2. If they did not follow an established trail, what did Clark actually do while plotting and surveying the Portage Route that would have created physical evidence? (Captain Clark notes in his journals that he staked the Portage Route.)
3. As a surveyor and/or as a military commander in the field, would the captain have created a series of physical monuments along the Portage Route so that the men in the command would be able to see that they were actually on the Portage Route at all times?

In either trail scenario, what are the site formation processes that would have altered or affected our ability to find any evidence of the route over the intervening 200 years? How would we go about trying to find any physical evidence of the portage trail? A simple conversation with Mr. Bergantino about the Portage Route and possible Native American use is necessary. The local landowners should be contacted about the possibility of their observing any evidence of Native American use of the area because there are certain Native American sites and features which are often associated with trails.

A series of aerial infrared photographs taken on a flight line centered over Bergantino's route could provide evidence of any Native American trails through the area while simultaneously

providing information regarding the site formation processes. There are other remote sensing techniques that could be utilized to search for evidence of a possible centuries-old Native American trail.

The pedestrian transects should start with the Portage Route mapped by Bergantino. The courses and distances mapped by Bergantino are based upon the survey control points established by Clark when he surveyed the Portage Route. Tightly controlled pedestrian transects, spaced less than 5 meters apart, should be placed over Bergantino's route in order to search for any evidence of either a Native American trail or any survey monuments or other physical evidence which Clark may have constructed or placed along the Portage Route.

Long before the Portage Route became an important part of European American history due to its direct relationship with the Expedition, it was an area used by American Indians. As such, it is a traditional cultural property. The extent to which American Indians view the area as a traditional cultural property is unknown. Because the proposed HGS does pose significant and adverse effects to the NHL, compliance with Section 106 of the NHPA requires that the applicant conduct detailed and extensive consultation, interview programs, and ethnographic fieldwork (see National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties). The NPS does not consider the HGS applicant's American Indian consultation efforts sufficient to meet this requirement.

Whether Adverse Effects from the Highwood Generating Station Would Threaten the Continued Designation of this Property as a National Historic Landmark

Construction of the HGS at the Salem site location is a significant adverse impact that cannot be reasonably mitigated. Moving the footprint of the coal-fired generation structures outside NHL boundaries does not mitigate the impacts from the plant: its tall smokestack and coal chute, the four wind turbines, water and waste water mains, transmission lines, service roads, segments of rail line, and additional service buildings and maintenance yards that would be built within the legally established boundaries of the NHL. In addition, no other site along the LECL so aptly represents the extreme hardships of the Expedition while being geographically accessible to the visiting public. The fact that this historic landmark is accessible to those with physical disabilities is reason enough for it to be preserved free of human-made intrusion.

The "mitigation" proposed for construction of the project includes monetary payments to local organizations and agencies. This is, in fact, off-site compensation, not mitigation of impacts. Such payments may provide short-term benefits to the recipients at the expense of the NHL's loss of integrity.

The NPS, as stewards of the public heritage, represents all Americans today and all generations in the future. It is the responsibility of the NPS to protect the interest of all citizens by preserving the integrity of significant events, associated sites, and landscapes to the best of its ability. Construction of this power plant on, and adjacent to, the LECL and the NHL is viewed to be a significant, adverse impact to the heritage of this country. This impact cannot be adequately mitigated by the proposed mitigation, such as the selection of paint, landscaping, or monetary considerations. We believe that locations outside of the NHL must be seriously

considered. It is recommended that the FEIS be supplemented to consider viable alternative sites to avoid impacts to the NHL and to the LECL.

The NPS, in its 2006 National Historic Landmarks Condition Update (required under Section 8 of the National Park Service Organic Act) raised the threat level for the NHL from “Satisfactory” to “Threatened.” This report noted that the proposed development of the HGS would negatively impact the significant historic scene. The HGS would have profound and adverse impacts on the NHL and would require a critical review of its integrity, a process which would likely lead to the loss of NHL status for most, if not all, of the route.

Although the Portage Route is part of the LECL, most of it has not been certified as an official segment. The certification process for trail segments is similar to determining eligibility for NHL status. If the HGS is constructed as currently proposed, that portion of the Portage Route would be ineligible for trail certification. Because other portions of the Portage Route rely heavily on the integrity of the main portion of the route, the loss of NHL status would force a reexamination of those other portions which already hold certification. The loss of the route’s NHL status would negatively affect the viability of Great Falls, Montana, a signature part of the history.

Documents Considered In Preparation of the Section 213 Review

- Great Falls Portage Route National Historic Landmark Nomination (1966)
- Great Falls Portage Route National Historic Landmark Nomination (Amendment, 1976)
- Great Falls Portage Route National Historic Landmark Nomination (Amendment, 1984)
- Great Falls Portage Route National Historic Landmark Nomination (Amendment, 1985)
- National Park Service Organic Act (1916)
- National Historic Preservation Act of 1966 (as amended)
- National Trails System Act of 1978 (as amended)
- *National Historic Landmarks: Illustrating the Heritage of the United States*
- National Register Bulletin “How to Prepare National Historic Landmark Nominations”
- National Register Bulletin “How to Apply the National Register Criteria for Evaluation”
- National Register Bulletin “Guidelines for Evaluating and Documenting Rural Historic Landscapes” (1989)
- National Park Service Management Policies (2006)
- The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (1996)
- National Register Bulletin “Guidelines for Evaluating and Documenting Traditional Cultural Properties”
- Historic American Landscapes Survey Guidelines for Historical Reports
- National Park Service Cultural Landscape Professional Procedures Guide
- Historic Maps and Journals of the Lewis and Clark Expedition
- U.S. Department of Agriculture Rural Utilities District Highwood Generating Station Draft Environmental Impact Statement
- U.S. Department of Agriculture Rural Utilities District Highwood Generating Station Environmental Impact Statement
- U.S. Department of Agriculture Rural Utilities District Highwood Generating Station Final Environmental Impact Statement
- U.S. Department of Agriculture Rural Utilities Service Record of Decision for Highwood Generating Station
- Bergantino, Robert N., *The Great Falls Portage of Lewis and Clark, 1806-1806; Survey of the Great Falls of the Missouri and the Portage [of] William Clark, June 17, 18, 19, and 23, 1805*. Great Falls, MT: Advanced Litho Printing, 1984.

Appendix

An Abbreviated History of the Portage Route

Both the lower and upper portage campsites are located in the NHL. The lower campsite is a primary feature about one and a quarter mile below Morony Dam and is free of intrusions. One mile farther downstream (north) is the mouth of Portage Creek (now called Belt Creek). The vista from here down river is still one of the undisturbed natural river way. The river rushes over rapids and through a channel lined with bluffs and canyons, and is surrounded by treeless grazing land that is covered with native vegetation, including prickly pear cactus and high grass. Sulphur Spring is located within the NHL on the north side of the river across from the upper campsite, a staging area on the plain above Belt Creek. This water source is especially significant as it is credited with saving the life of the critically ill Sacagawea. Desperately ill for almost two weeks, Sacagawea showed little response to Lewis' attempts to treat her until he began administering regular doses of water from Sulphur Spring, after which her fever and convulsive movements subsided and she fully recovered. Access to this natural feature is very difficult, but its waterfall and stream is readily visible from the south side.

Clark and five men mapped out and staked a survey route of about 17.5 miles from a staging area on the plain above Belt Creek to a campsite above all five waterfalls on the east side near three islands in the Missouri River. They named them White Bear Islands, due to the unusually large numbers of grizzly bears they encountered while hunting there.

Journals and maps indicate that at least two routes were used by the men in the 31 days of hauling their supplies to the upper camp. The route the canoes traversed was, no doubt, longer and less direct as they had to go around hills and the many drainages that dissect these high plains. The route the men used as they hand-carried baggage and supplies very likely followed trails that had been established and used by native peoples for tens of thousands of years. By this time there existed a well-established trade among the various tribes whose homelands were on both sides of the Continental Divide. Trade goods from the Pacific coast and Columbia River were encountered by the Corps of Discovery in the Mandan Villages in the Dakotas. West slope peoples traveled to the east for buffalo in the spring and eastern tribes went west for salmon.

On June 16, 1805, the six dugout canoes from the Mandan villages were emptied, floated down river to Belt Creek then up the creek for about a mile and a quarter. The canoes were carried up the steep banks of Belt Creek. A work crew cut 22-inch cross sections from a cottonwood tree trunk to make wheels for several crude wagons. Axles and tongues were made from the mast of the white pirogue, which had been beached and camouflaged near the mouth of the creek. Once assembled, the wagons bearing the dugout canoes were loaded with baggage, supplies, and equipment and were laboriously pulled and pushed across the 18 miles of rough terrain to the upper terminus of the Portage Route. The loads were heavy and the terrain rugged; the axles frequently broke and had to be repaired. Progress was slow and frustrating. The summer heat was debilitating. Rain and wind and hail storms added to the men's misery as they picked their way through swaths of unavoidable prickly pear cactus. On June 29, as the portage neared an end, a violent downpour and hail storm injured several of the men. Clark, Charbonneau, Sacagawea, and her baby nearly drowned when they were caught in a flash flood while on a

sightseeing hike to the falls area. All the while, the snow-capped Rockies beckoned in the distance.

En route to the Pacific coast, the Expedition's second Independence Day on the trail was celebrated at the upper portage camp after a regular day of work. With a drink given to each of the men, the last of the liquor stock was consumed. Taking a well-earned break from their hard labor, members of the Corps of Discovery made merry and danced well into the night to the lively tunes played by Pierre Cruzatte on his fiddle.

At the upper camp, the 36-foot collapsible iron boat frame was assembled. Designed and built at Harpers Ferry in 1803, the frame and the expedition's supplies had been transported thousands of miles. The "Experiment" (as it was called in the journals) was covered with animal hides; however, with no pine pitch to seal the seams, it sank in the river and was abandoned on July 9. This resulted in additional delay as ten men built two more dugouts from huge cottonwoods harvested upriver (Clark notes in his journal that the trees were 8 miles away by land and 23¼ miles by water). On July 15, they departed upriver in the eight dugout canoes.

Not only did the Corps of Discovery spend an intensely demanding month portaging its dugout canoes, supplies, equipment, and Indian gifts and trade goods around the Great Falls of the Missouri from mid-June to mid-July, 1805, but Meriwether Lewis and a selected portion of the Corps returned to that site on the homeward journey. When the co-commanders decided to divide the Corps into two contingents at the Travelers' Rest site west of the continental divide for the purpose of exploring new territory along the Yellowstone River and the Marias River, Lewis led his horse-mounted, 10-man reconnaissance unit across today's Lewis and Clark Pass, arriving back at the Upper Portage campsite on the Missouri River on July 11, 1806.

Over the next several days Lewis and his men assembled two bullboats in which they passed the river; swam the horses across without incident; opened the storage caches near the White Bear Islands; and recovered many of the items hidden there the previous year for safekeeping -- such things as, medicines, draft maps and field notes, plant and animal specimens, dispensable clothing and personal items, prepared animal hides, etc. While some items had been damaged by water and had to be jettisoned, the wooden wagon wheels were still usable and the disassembled iron boat frame was found to be largely unscathed.

The plan was for Lewis to divide his group once more and lead a mounted exploration of the upper reaches of the Marias River to determine whether it headed up in a latitude parallel to, or even farther north than, Lake of the Woods. Before the plan could be put in motion, however, Indians under cover of darkness spirited away ten of the contingent's horses. Left with only ten horses, Lewis reduced his reconnaissance party from six to four men (including him). He then left six men and four horses at the Great Falls campsite and headed for the Marias on July 16th.

The six-man group at the Upper Portage camp was charged with managing the return portage around the falls. As they waited for the arrival of additional help from the 10-man canoe party that had split off, as planned, from Clark's Yellowstone reconnaissance contingent near the Three Forks area on July 13th, a delegation went down to the Lower Portage camp to check on the status of the white pirogue and the condition of goods stored in caches and other places among

the rock formations at that location. Finding that all was in good order, members of the delegation removed a few items, including some sorely missed chewing tobacco, and returned to the upper site to complete preparations for the impending portage.

This portage would be different: they were buoyed by thoughts of home; they were more experienced in dealing with hardships; and, they would have the help of four horses to pull the heavy loads. They fashioned harnesses with which to hook the horses to the canoe/wagons. Having recovered the wooden wheels used the year before, they rebuilt the wagons. They were ready for the big move when the canoe party arrived at the falls on July 19th.

The previous year the portage and its preparations had taken a full month. The actual hauling and toting had taken 11 days from start to finish. By contrast, the return portage took only six days with the help of the horses. At the conclusion of the portage, the men recovered the white pirogue from its hiding place near the mouth of Belt Creek. They also reclaimed the swivel gun and blunderbusses hidden among the rocks in the area as well as numerous other items from the caches at that location. On July 28th the canoe/portage unit of the Corps of Discovery was once more waterborne with a flotilla of six vessels and headed for the planned rendezvous with Lewis's reconnaissance unit at the mouth of the Marias River. The men had decided to abandon one of the dugout canoes that was "too injured" to make the return voyage.

The Corps of Discovery, as a whole or in part, spent more time at the Great Falls portage site than virtually any other location along the expedition's route: approximately 50 days in all. The only longer stints were at its winter quarters: Camp River Dubois, Fort Mandan, and Fort Clatsop.

Contributed by Dr. H. Carl Camp, Professor Emeritus, University of Nebraska, Omaha, June, 2007