National Science Foundation
Geosciences Directorate
Division of Atmospheric and Geospace Sciences (AGS)
Arlington, VA

RECORD OF ENVIRONMENTAL COMPLIANCE AND DECISION DOCUMENT

Project Title: NCAR-Wyoming Supercomputing Center Construction

Proposal: AGS-1034857 (to be awarded as a Cooperative Support Agreement under existing award AGS-0753581 – Management and Operation of the National Center for Atmospheric Research (NCAR))

Institution: University Corporation for Atmospheric Research (UCAR)

Other Institutions Involved in this Proposal: UCAR is a consortium of 73 member university institutions (http://www.ucar.edu/governance/members/institutions.shtml). The University of Wyoming is the principal partner in the project.

Purpose and Need

One of NCAR's primary areas of activity is the development and operation of complex numerical models of the climate and weather systems. These models serve as a community resource and are widely used throughout the U.S. and abroad. For example, the NCAR climate model provided more than half of the simulations used in the most recent report of the International Panel on Climate Change (IPCC). These large community models require powerful supercomputing resources and generate very large amounts of data that must be carefully archived. The NCAR high-performance computing facilities are currently located at the Mesa Laboratory, in Boulder; however, this site has only limited power available and is unable to support further upgrades to the system. It is therefore proposed that the principal NCAR facilities be relocated to a new site, where a partnership has been established between UCAR, the University of Wyoming, the State of Wyoming, Cheyenne Laramie County Corporation for Economic Development (LEADS), the Wyoming Business Council, and Cheyenne Light, Fuel & Power to build the NCAR-Wyoming Supercomputing Center (NWSC) in Cheyenne.

Description of Action

A proposed NWSC would be built on a 24-acre site located on the northwest corner of the intersection of Prosperity Drive and Logistics Drive in the North Range Business Park (NRBR) in Cheyenne, Laramie County, Wyoming. The NWSC would house high-performance computers, mass storage (data archival) systems, and required mechanical and electrical infrastructure. It would also include office space, meeting rooms and a visitor/public area. Plans call for the building to showcase sustainable technologies and energy efficient design and operation with Leadership in Energy and Environmental Design (LEED) certification being a requirement. A number of alternative site locations were evaluated in the EA and dismissed from further consideration. The Proposed Action Alternative and the No Action Alternative were fully evaluated in this EA:

- **Proposed Action Alternative** consists of the proposed construction of the planned NWSC at the North Range Business Range in Cheyenne, Wyoming, as described above.
- **The No Action Alternative** involves the premise that the NWSC is not constructed.

National Environmental Policy Act

In preparation for the proposed project, NSF commissioned Potomac-Hudson Environmental Inc. to prepare an Environmental Assessment (EA) of the proposed project (Attachment 1, *National Center for Atmospheric Research Wyoming Supercomputer Center Final Environmental Assessment, April 2010)* for NSF's review and approval. The findings of this EA are incorporated into this final decision document. Agency coordination was conducted with the U.S. Fish and Wildlife Service, Wyoming Game and Fish Department, the Natural Heritage Program, and the State Historic Preservation Office. Agency coordination letters are included in Appendix A of the Final EA. Comments to the Draft EA were received from the Wyoming State Historic Preservation Office (SHPO), Wyoming State Game & Fish Department (WG&F), Cheyenne Board of Public Utilities (BPU), and Cheyenne Metropolitan Planning Organization (MPO). The SHPO concurred that the proposed project described in the Draft EA would have no adverse effect upon historic properties. The WG&F stated that the project site was in crucial winter range for the pronghorn antelope, but that it concurred with the overall finding of no adverse impact. The BPU provided a clarifying note regarding the US Army Corps of Engineers ongoing work to treat and remove TCE at the Borie wellfield. The Cheyenne MPO recommended the inclusion of a reference to a Wyoming Department of Transportation intersection study. A summary of comments received on the Draft EA, responses to the comments, and annotated copies of commenting correspondence are included in Appendix B of the Final EA.

Public comments were received up to 30 days following the release of the Draft EA. Comments received on the Draft EA, and responses thereto, are included as Appendix B to the Final EA. Relevant concerns have been incorporated into the Final EA and the Finding of No Significant Impact (FONSI).

Impacts associated with the implementation of the Proposed Action Alternative and the No Action Alternative would range from beneficial impacts to minor adverse impacts to the natural and human environment, as summarized in Table 1.

In addition, the cumulative effects analysis determined that no significant adverse cumulative impacts would occur to the resource/issues (Table 1) as a result of past, present, and foreseeable future projects in conjunction with the Proposed Action.

Table 1. Summary of Potential Environmental Effects for the Proposed Action and No Action Alternative

Resource/Issue	Alternatives	
	Proposed Action Alternative	No Action
Land Use	Minor	None
Soils	Minor	None
Vegetation and Forestry	Minor	None
Invasive Species	Minor	None

Table 1. Summary of Potential Environmental Effects for the Proposed Action and No Action Alternative

Resource/Issue	Alternatives	
	Proposed Action Alternative	No Action
Wildlife and Fisheries	Minor	None
Threatened and Endangered Species/Species of Concern	Minor	None
Surface Water	Minor	None
Groundwater	Minor	None
Air Quality	Minor	None
Noise	Minor	None
Hazardous Materials and Waste	Minor	None
Fire Management	Minor	None
Public Access and Recreation	Minor	None
Socioeconomics	Beneficial	None
Human Health and Safety	Minor	None
Cultural Resources	Minor	None
Visual Quality/Aesthetics	Minor	None
Traffic and transportation	Minor	None
Infrastructure	Minor	None

Conclusions: NSF has independently reviewed the information contained in the above cited Environmental Assessment, and has determined that the implementation of the Proposed Action with accompanying management plans, policies, and regulatory requirements would not significantly affect the quality of the environment within the meaning of NEPA Section 102(2)(C). The preparation of an Environmental Impact Statement for the Proposed Action is, therefore, not

required. Issuance of a Finding of No Significant Impact for this project is authorized (see Attachment 1).

Endangered Species Act

The Wyoming State Game & Fish Department (WG&F) stated that the project site was in crucial winter range for the pronghorn antelope, but that it concurred with the overall finding of no adverse impact. The United States Fish and Wildlife Service (USFWS) concurred with the determination that the proposed work is not likely to adversely affect federally listed species and granted endangered species clearances for the project (see Attachment 1).

NSF has independently reviewed the determination by the USFWS and concludes that no threatened or endangered species or habitats will likely be affected. Therefore, no further compliance with the Endangered Species Act is required.

National Historic Preservation Act

NSF has independently reviewed the analysis of potential consequences of the project on National Register eligible historic properties, and concludes that the proposed activity is not reasonably likely to affect cultural/historical/archeological resources. The Wyoming State Historic Preservation Office (SHPO) has concurred with NSF's determination that the proposed project would have no adverse effect upon historic properties (see Attachment 1). Based on NSF's determination of no adverse effects and the concurrence of the SHPO, NSF's section 106 compliance requirements under the National Historic Preservation Act (NHPA) are fulfilled.

Decision

At its meeting of 4-5 May, 2010, the National Science Board, after reviewing the scientific merit of the proposed NWSC and the sufficiency of the project management plan, authorized the Director of the National Science Foundation, at his discretion, to increase the limit of the existing award to the University Corporation for Atmospheric Research for the management and operation of the National Center for Atmospheric Research in order to include funding for the construction of the proposed NWSC. The Director's decision to increase the funding to include construction of the proposed NWSC has been delegated to me, and, after thorough consideration of the environmental assessment and considering NSF's environmental reviews under the ESA and NHPA described above, I conclude that no significant adverse environmental impacts would result from the proposed project. Accordingly, I recommend that the NWSC construction project be funded.

J. Moyers 5/11/10

Jarvis L. Moyers
Division Director
Atmospheric and Geospace Sciences (AGS)

Date