List of Appendices

Appendix A Scoping Input

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Appendix E Section 7 Consultation of the Endangered Species Act Correspondence with the U.S. Fish & Wildlife Service

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Appendix A

Scoping Input

The Scoping Notice is presented as Exhibit 1. The Scoping Notice was delivered via United States (U.S.) mail and via email based on standard U.S. Department of Energy/National Renewable Energy Laboratory (DOE/NREL) protocol, using a master database of DOE/NREL contacts compiled as part of previous National Environmental Policy Act (NEPA) and other public outreach efforts over a period of years.

The Scoping Notice was attached to an email message dated November 7, 2013 (see Exhibit 2).

The 30-day Scoping period ended December 13, 2013.

The following input was received during the Scoping period:

- U.S. Fish and Wildlife Service (USFWS), Letter (Exhibit 3);
- Colorado Department of Public Health and Environment (CDPHE), Letter (Exhibit 4);
- Jefferson County, Letter (Exhibit 5);
- Westside Community Improvement and Preservation Association (WCIPA), Letter (Exhibit 6);
- City of Golden, Email Message (Exhibit 7); and
- U.S. Army Corps of Engineers (USACE), Email Message (Exhibit 8).

No other letters or email messages were received in response to the Scoping process.

Exhibit 1

Scoping Notice

Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

November 8, 2013

TO: DISTRIBUTION LIST

SUBJECT: NOTICE OF PUBLIC SCOPING – SITE-WIDE ENVIRONMENTAL ASSESSMENT OF THE U.S. DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968)

The U.S. Department of Energy (DOE) is proposing to complete a new Site-Wide Environmental Assessment (EA) for DOE's South Table Mountain campus at the National Renewable Energy Laboratory (NREL) and leased facilities at the Denver West Office Park. The Site-Wide EA will include an analysis of potential environmental impacts due to potential site operations and improvements over the next five to ten years.

In accordance with DOE's National Environmental Policy Act (NEPA) implementing regulations[1], DOE is required to evaluate Site-Wide EAs at least every five years to determine whether the documentation and findings continue to adequately address current agency plans, functions, programs, and resource utilization with respect to environmental impacts.

The last Site-Wide EA for the STM campus (DOE/EA-1440) was completed in 2003 with a Finding of No Significant Impact signed by DOE on July 1, 2003. That document evaluated the impacts that would be associated with long-term build-out of the STM campus and the areas suitable for future development. As project-specific funding has become available to implement the STM campus build-out vision, additional project-specific NEPA analyses have been generated, as well as supplemental NEPA analyses to update the Site-Wide EA per DOE regulations[2]. DOE has determined that a new comprehensive Site-Wide Environmental Assessment should be prepared to address the ongoing and reasonably foreseeable future operations and improvements of the STM campus and leased facilities in the Denver West Office Park.

Pursuant to the requirements of NEPA[3], the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA[4], and DOE's NEPA implementing procedures, this Site-Wide Environmental Assessment (EA) will also:

- Identify potential adverse environmental effects as well as ways to avoid, minimize or mitigate such effects should these proposed site operations and improvements be implemented;

[1] 10 CFR Part 1021
[2] 10 CFR 1021.330
[3] 42 U.S.C. § 4321 et seq.
[4] 40 CFR Parts 1500-1508

- Evaluate viable alternatives to the proposed action, including a no action alternative;
- Describe the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and,
- Characterize any irreversible and irretrievable commitments of resources that would be involved should these proposed site activities and operations be implemented.

PLANNED ENVIRONMENTAL EFFECTS/ISSUES SCOPED FOR THE ENVIRONMENTAL ASSESSMENT

The Site-Wide EA will describe and analyze any primary, direct, indirect and cumulative impacts of the Proposed Action and alternatives, and will identify possible mitigation measures to reduce or eliminate those impacts. Beneficial and adverse, on-site and off-site, construction, operation, and maintenance impacts will be discussed, as appropriate. The Site-Wide EA will consider impacts that may result to:

- Historic and Cultural Resources
- Biological Resources
- Water Resources
- Geology and Soils
- Air Quality, Greenhouse Gases and Climate Change
- Hazardous Materials and Waste Management
- Utilities, Infrastructure and Energy
- Energy Efficiency, Renewable Energy and Sustainability
- Human Health and Safety
- Socioeconomics and Environmental Justice
- Intentional Destructive Acts
- Land Use
- Traffic and Transportation
- Noise (Acoustics)
- Visual Quality/Aesthetics

PROPOSED ACTION AND ALTERNATIVES

The following presents a summary of the Proposed Action and No Action alternative descriptions.

Proposed Action

Proposed new construction projects include permanent physical improvements to the site, such as new buildings, modification to existing buildings, equipment, utilities and other infrastructure. Other activities not requiring permanent facilities or infrastructure include enhanced facility operations, research activities, management practices, and maintenance activities. Specifics of the Proposed Action are provided in Attachment I.

Development of a Reasonable Range Of Alternatives

DOE is required to consider a reasonable range of alternatives to the proposed action during an environmental review[5]. The definition of alternatives is governed by the "rule of reason". Reasonable alternatives are those that may be feasibly carried out based on environmental, technical, and economic factors.

[5] Section 102(2)(E) of NEPA

Under the No Action Alternative, DOE would continue the current level of activities and operations at the STM campus and leased facilities in the Denver West Office Park.

PUBLIC SCOPING

The DOE Golden Field Office will make this letter available to all interested federal, state, and local agencies to provide input on issues to be addressed in the Site-Wide EA. Agencies are invited to identify the issues, within their statutory responsibilities, that should be considered in the Site-Wide EA. The general public is also invited to submit comments on the scope of the Site-Wide EA.

Hardcopies of this letter and all attachments are available for review in the NREL Education Center (formerly called the Visitors Center) and electronically on the DOE Golden Field Office and NREL websites:

http://www.eere.energy.gov/golden/NREL_DEA.aspx or;

http://www.nrel.gov/ehsq/environmental_protection.html

Please submit your written comments regarding this scoping document **on or before December 13, 2013** to:

NREL NEPA Comments
National Renewable Energy Laboratory
EHS Office (M.S. RSF 040)
15013 Denver West Parkway
Golden, Colorado 80401
Email: NREL.NEPA.Comments@nrel.gov
Fax: 303-630-2114

The DOE Golden Field Office welcomes your input throughout our NEPA Process.

Sincerely,

Kristin Kerwin
NEPA Compliance Officer
U.S. Department of Energy
Golden Field Office

Attachment I: Background and Proposed Action Description

Attachment I: Background and Proposed Action Description

SITE BACKGROUND AND DESCRIPTION

The National Renewable Energy Laboratory (NREL) is the premier DOE national laboratory dedicated to the research, development, and deployment of renewable energy and energy efficiency technologies. As depicted in **Figure 1**, NREL is comprised of two main sites: South Table Mountain (STM) campus and the National Wind Technology Center (NWTC). Details regarding NREL's mission and research programs are available on the NREL website at: http://www.nrel.gov.

The 327-acre STM campus is located in Jefferson County, Colorado, along the southeast side of the South Table Mountain mesa, north of I-70, and west of the I-70 and Denver West Boulevard interchange, near Golden, Colorado. Approximately 136 acres of the site is available for development with 177 acres protected by a conservation easement, and development of the remaining 14 acres is restricted by utility easements. The community of Pleasant View is adjacent to the southern border of the STM campus. The STM campus includes portions of the South Table Mountain's mesa top, slope, and toe, and was formerly part of the Colorado National Guard facility at Camp George West. The STM campus houses five major research and support facilities located in the central part of the campus:

- Field Test Laboratory Building (FTLB)
- Solar Energy Research Facility (SERF)
- Science and Technology Facility (S&TF)
- Research Support Facility (RSF)
- Energy Systems Integration Facility (ESIF)

The campus also contains several smaller research and test facilities located mainly in the west end of the campus as well as the mesa top facilities. These include:

- Integrated Biorefinery Research Facility (IBRF)
- Outdoor Test Facility (OTF)
- Thermal Test Facility (TTF)
- Solar Radiation Research Laboratory (SRRL)
- High-Flux Solar Furnace (HFSF)
- Solar Industrial Mesa Test Area (SIMTA)
- Vehicle Testing and Integration Facility (VTIF)

Additionally, there are various support buildings located throughout the campus, such as Site Entrance Buildings, the NREL Education Center, a cafeteria, a parking garage, shipping and receiving, maintenance facilities, a waste handling facility, and on-site renewable energy systems, such as the Renewable Fuel Heat Plant (RFHP) and the Mesa Top Photovoltaic Array.

In support of the STM campus and DOE's mission, NREL and DOE also lease office and limited-capability laboratory space in the Denver West Office Park located east of the STM campus in the vicinity of the I-70 and Denver West Boulevard interchange.

Figure 2 shows the boundary of the STM campus and the location of leased facilities. **Figure 3** identifies the location of current buildings and other infrastructure on the STM campus.

In 2003, DOE released a final Site-Wide EA for the STM (DOE/EA-1440) evaluating the potential impacts of site operations and short-term and long-term improvements. A Finding of No Significant Impact was signed by DOE on July 1, 2003. As project-specific funding has become available to implement the STM campus build-out vision, additional project-specific NEPA analyses have been generated, as well as supplemental NEPA analyses to update the Site-Wide EA in accordance with 10 CFR 1021.330.

DOE has determined that a new comprehensive Site-Wide Environmental Assessment (DOE/EA-1968) should be prepared to address the ongoing and foreseeable future operations and activities of the STM campus and leased facilities in the Denver West Office Park. The subject of this Site-Wide EA includes the Proposed Action, discussed below, which would support DOE's mission in the research and development of energy efficiency and renewable energy technologies by providing enhanced research and support capabilities to adequately continue state-of-the-art renewable energy research.

PROPOSED ACTION AND ALTERNATIVES

The following presents a summary of the Proposed Action and No Action alternative descriptions.

Proposed Action

The Proposed Action is composed of individual, short-term and long-term components which together constitute potential activities and improvements to the STM campus and leased facilities over the next five to ten years. Federal budgeting decisions and fluctuating research and development priorities will determine which components of the Proposed Action are selected for funding and implementation. Thus, the specific physical requirements and locations of proposed facilities as well as their actual construction schedules may be uncertain for some components. In many cases, the descriptions of the improvements will be in general terms and the locations and schedules for components will be estimated based on currently available information and campus planning. Some of the Proposed Action components may never occur, or if implemented, may be of a smaller scale than currently presented. Therefore, the Site-Wide EA will use a "bounding analysis" approach to consider the full range of possible development scenarios.

The components of the Proposed Action fit into three primary actions:

- Enhancing research, routine laboratory and site operations
- New building construction and modifications of existing buildings
- Infrastructure and utilities upgrades and enhancements

Enhancing Research, Routine Laboratory and Site Operations

This component of the Proposed Action would include research activities and routine laboratory operations, as well as operation and maintenance of new and modified facilities and infrastructure. These tasks include routine laboratory operations, maintaining and upgrading existing research equipment, purchasing new research equipment, installing and removing test articles and experiments, monitoring, cleaning facilities and equipment, maintaining landscape features, snowplowing, performing pest and weed management, and maintaining modified and new buildings and infrastructure.

New Building Construction and Modifications of Existing Facilities

S&TF Photovoltaic Research Modifications. DOE proposes internal modifications to the S&TF and consolidation of existing laboratory operations to expand NREL's capabilities to wash and etch silicon wafers using various caustic and acidic solutions. This would require the creation of a clean room within the S&TF, the purchase of new equipment and tool sets, and the installation of a liquid effluent treatment system.

FTLB or IBRF Thermochemical Biofuels Research Facility (TBRF) Development. DOE would create the TBRF through the repurposing of existing FTLB space or space in the IBRF, or by constructing an expansion of the FTLB up to 35,000 square feet. This proposed facility would consist of high-bay laboratory space to support expanded bench-scale thermochemical biomass conversation laboratory research activities. The TBRF would be properly designed to meet industrial safety standards.

FTLB Workstation and Lab Space Addition. DOE would reconfigure existing space within the FTLB and construct an addition up to 7,500 square feet. The addition and reconfiguration would provide approximately 50 additional workstations and the vacated existing internal office space and cubicles would then be converted to laboratory space.

FTLB Modification for Algae and Other Research Organisms for Fuel. DOE would repurpose existing FTLB laboratory space and construct up to a two-story 30,000 square foot building expansion. The repurposing and expansion would provide additional laboratory and office space for several programs.

FTLB Outdoor Test Pad. Approximately 3,000 to 6,000 square feet of an existing paved area in the FTLB parking would be converted to an outdoor test pad for multiple, short-term and long-term research demonstration and pilot projects, in research areas such as solar or bioenergy.

Internal Reconfiguration of the TTF. With the Smart Power Laboratory having moved to its new location in the ESIF, DOE would reconfigure the now vacant 5,300 square foot space within the TTF by expanding the battery testing area, while also maintaining some space for commercial building equipment testing and calibration.

ESIF Security Enhancements. DOE proposes various security enhancements at ESIF to secure a portion of the facility to applicable sensitive information management standards. A majority of these enhancements would occur in the building interior, but exterior security enhancements such as additional fencing and security cameras may be required.

Research Support Facility III. DOE would construct an on-site office building or multi-building office complex providing 100,000 to 150,000 square feet of office and research support space. RSF III would house up to 300 staff, including staff that is currently located in leased, off-campus offices. Like the RSF I/II, RSF III would incorporate high-efficiency building design principles. RSF III would be located in the central part of the STM campus and construction would be planned within the next 5 to 10 years.

ReFUEL Laboratory Relocation. To consolidate and enhance vehicle systems testing on the STM campus, DOE proposes to relocate the existing, leased, off-site Renewable Fuels and Lubricants (ReFUEL) Laboratory located in Denver, Colorado (see **Figure 1**) to the STM campus. The relocated

ReFUEL Laboratory would be approximately 5,000 square feet and would house a new engine dynamometer, as well as equipment relocated from the existing facility, such as the chassis dynamometer, fuel mixing and testing equipment, measurement devices for air emissions, etc. The relocated ReFUEL Laboratory would consist of high- and low-bay laboratories, outside test areas, and office and support for researchers and partners. This laboratory may be an addition to an existing or planned building, such as VTIF or REVS, or as a stand-alone building.

Renewable Energy Vehicle Systems (REVS) Facility. To consolidate and enhance vehicle systems testing on the STM campus, DOE would construct a new building approximately 100,000 square feet in size, with up to 45,000 square feet of paved area for visitor parking and vehicle testing. The REVS facility would provide specifically designed space for crucial, systems-level research associated with advanced transportation, electric storage and propulsion systems, and the integration and testing of advanced biofuels and other alternative fuels. The REVS facility would most likely be located to the east of ESIF.

Waste Handling Facility Expansion. The Waste Handling Facility would be expanded from 1,065 square feet up to 4,000 square feet to accommodate the anticipated future needs of the campus. This expanded facility would be used for packaging and short-term storage of NREL's hazardous waste and other special wastes before the wastes are shipped offsite for proper management and disposal. No onsite waste treatment or disposal at this facility is proposed.

Site Operations and Maintenance Support Space. DOE would meet the need for the additional space for maintenance activities and support by repurposing existing site operations and maintenance facilities and by potentially expanding the Bulk Storage and Maintenance Buildings. The Bulk Storage building may be expanded up to 8,000 square feet and Maintenance Building up to 6,000 square feet.

Metrology Laboratory Relocation. DOE proposes to relocate the existing Metrology Laboratory currently within the SRRL building on the mesa top to a more accessible location closer to the rest of the STM campus and more readily available to off-site customers. A new building between 2,000 to 4,000 square feet meeting the stringent qualifications for metrology and calibration laboratory space would be designed and built.

High Flux Solar Furnace Upgrade. Also, DOE would upgrade key components of the High-Flux Solar Furnace facility on the mesa top. This would only entail the upgrading of equipment, components, electronic hardware and software, and would not expand the footprint of the facility from its current size.

Infrastructure and Utilities Upgrades and Enhancements

On-site Fuel Storage. To support bioenergy and vehicle systems research, there may be a need to store various types of biofuels and petroleum-based blends. Fuel storage would be limited to four or less properly sited aboveground storage tanks of less than 1,500 gallons each.

TriGEN Central Plant. If one or two large additional buildings are added to the campus, a new central plant may be needed. In that scenario, DOE would construct a central plant housing a 1.5 megawatt natural gas fired fuel cell to generate electricity, as well as provide hot and cold water to the STM campus. The facility would be between 40,000 and 80,000 square feet in size, and would be likely located behind the S&TF and ESIF.

East Campus Infrastructure. If new building construction would occur to the east of ESIF, new roads, electrical loops, data lines, sewer, hot and cold process water loops, and stormwater infrastructure would be required.

On-Site Renewable Energy Deployment. To meet various sustainability goals, as well as to support onsite renewable energy research and development, additional renewable energy sources may be deployed on the STM campus including solar, small wind turbines (less than 100 kilowatts), and closed loop geothermal systems.

Development of a Reasonable Range Of Alternatives

Under the No Action Alternative, the current level of activities and operations would continue at the STM campus and leased facilities at the Denver West Office Park.

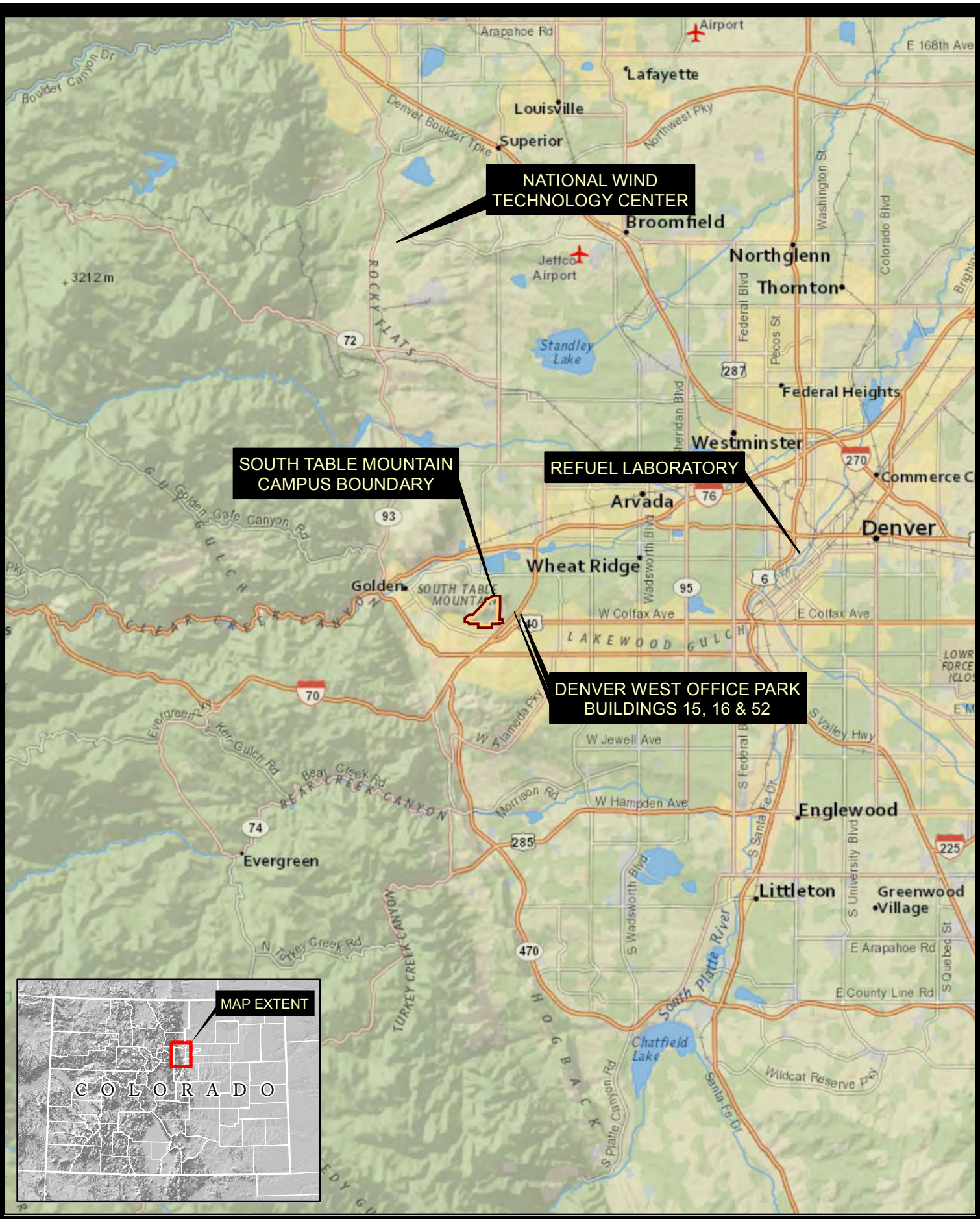

Figure 1 - Regional Site Location
South Table Mountain Campus

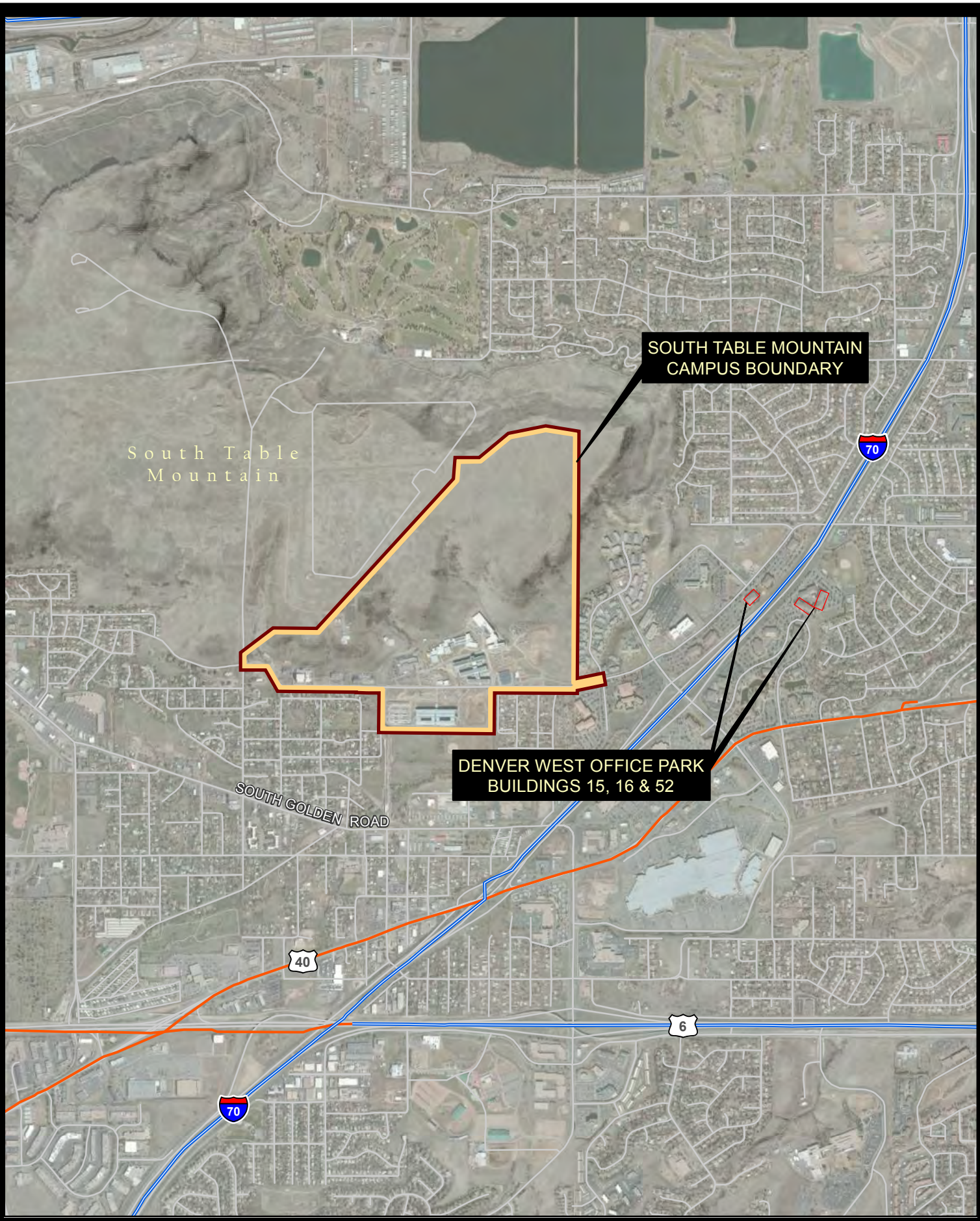

Figure 2 - Site Location
South Table Mountain Campus

N
W E
S

0 1,000 2,000 Feet

0 0.25 0.5 Miles

Figure 3
South Table Mountain
Campus Facilities

Exhibit 2

Scoping Notice Email Message

From: Smith, Robert [mailto:Robert.Smith@go.doe.gov]

Sent: Thursday, November 07, 2013 3:47 PM

To: 'msloan@cityofgolden.net'; 'mbestor@cityofgolden.net'; 'sglueck@cityofgolden.net'; 'planning@cityofgolden.net'; 'Info@goldencochamber.org'; 'bmurphy@lakewood.org'; 'kathod@lakewood.org'; 'nannee@lakewood.org'; 'trapar@lakewood.org'; 'natalie.menten@rtd-denver.com'; 'mastouff@blm.gov'; 'terry.a.mckee@usace.army.mil'; 'kiel.g.downing@usace.army.mil'; 'susan_linner@fws.gov'; 'anderson.carol@epa.gov'; 'garcia.bert@epa.gov'; 'davis.gregory@epa.gov'; 'harvey.sprock@co.usda.gov'; 'eugene.backhaus@co.usda.gov'; 'commish2@jeffco.us'; 'commish3@jeffco.us'; 'commish1@jeffco.us'; 'kfrench@co.jefferson.co.us'; 'thoby@jeffco.us'; 'pzweb@jeffco.us'; 'mjohnson@jeffco.us'; 'supt@jeffco.k12.co.us'; 'tmink@jeffco.us'; 'jmcsherr@jeffco.us'; 'ceo@jeffcoedc.org'; 'mclaymore@jeffcoedc.org'; 'mqueen@cmwc.net'; 'LMaag@mwrd.dst.co.us'; 'sprose@westmetrofire.org'; 'cmalmgren.pvfire@comcast.net'; 'pvwsd@comcast.net'; 'smcalister@pleasantviewmetro.org'; 'pvwsd@comcast.net'; 'dana.winkelman@colostate.edu'; 'ron.carleton@state.co.us'; 'eric.lane@state.co.us'; 'dona.zavislan@state.co.us'; 'Dick.Wolfe@state.co.us'; 'barkmann@mines.edu'; 'steve.Yamashita@state.co.us'; 'chad.bishop@state.co.us'; 'robert.randall@state.co.us'; 'gary.baughman@state.co.us'; 'karin.mcgowan@state.co.us'; 'steve.gunderson@state.co.us'; 'william.allison@state.co.us'; 'Anthony.Devito@state.co.us'; 'CSFS_Golden@mail.colostate.edu'; 'bill.ryan@state.co.us'; 'jon.barba@state.co.us'; Ackermann, Jeffrey (GO Custom_; 'douglas.young@state.co.us'; 'Ed.Nichols@state.co.us'; 'mark.tobias@state.co.us'; 'irenec@utetribe.com'; 'wanapeyanajica@gmail.com'; 'johns@oglala.org'; 'pcasias@southern-ute.nsn.us'; 'ghayes@utemountain.org'; 'civah@comanchenation.com'; 'jimmya@comanchenation.com'; 'northernarapaho@msn.com'; 'white_jo123@yahoo.com'; 'mgaytan@c-a-tribes.org'; 'lgray@c-a-tribes.org'; 'leroy.spang@cheyennenation.com'; 'conrad.fisher@cheyennenation.com'; 'cultres@nemontel.net'; 'Kevin_Kritz@fws.gov'

Cc: Smith, Robert; Ryon, Tom; Horst, John; Kerwin, Kristin; Altieri, Michele; Gray, Lori; Sweeney, Robin

Subject: Notice of NEPA Public Scoping - Site-Wide Environmental Assessment of DOE's South Table Mountain campus at NREL

ALL:

The U.S. Department of Energy (DOE) is proposing to complete a new Site-Wide Environmental Assessment (EA) for DOE's South Table Mountain campus at the National Renewable Energy Laboratory (NREL) and leased facilities at the Denver West Office Park in Golden, Colorado. The Site-Wide EA will include an analysis of potential environmental impacts due to potential site operations and improvements over the next five to ten years per the National Environmental Policy Act (NEPA). Please find more details in the attached Notice of Public Scoping letter.

The DOE Golden Field Office is making this letter available to all interested federal, state, and local agencies to provide input on issues to be addressed in the Site-Wide EA. Agencies are invited to identify the issues, within their statutory responsibilities, that should be considered in the Site-Wide EA.

The general public has also been invited to submit comments on the scope of the Site-Wide EA. Postcard notices have been mailed to almost 6,200 residents and businesses in the vicinity of the South Table Mountain campus, notices have been published in the Golden Transcript, and hardcopies of this letter have been made available at the NREL Education Center.

Please submit your written comments regarding this scoping document **on or before Friday, December 13, 2013** to:

NREL NEPA Comments

National Renewable Energy Laboratory

EHS Office (M.S. RSF 040)

15013 Denver West Parkway

Golden, Colorado 80401

Email: NREL.NEPA.Comments@nrel.gov

Fax: 303-630-2114

The DOE Golden Field Office welcomes your input throughout our NEPA Process.

Sincerely,

Rob

Robert V. Smith, CHMM

NEPA Document Manager

U.S. Department of Energy | Office of Energy Efficiency and Renewable Energy | Environmental Oversight Office

15013 Denver West Parkway, Golden, CO 80401

Phone: 720.356.1576

Email: Robert.Smith@go.doe.gov

Exhibit 3

USFWS Letter

Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

November 8, 2013

U.S. FISH AND WILDLIFE SERVICE
☐ NO CONCERNS Robert.Smith@go.doe.gov
☐ CONCUR NOT LIKELY TO ADVERSELY AFFECT
☒ NO COMMENT
NOV 26 2013
SUSAN C. LINNER DATE
COLORADO FIELD SUPERVISOR

TO: DISTRIBUTION LIST

SUBJECT: NOTICE OF PUBLIC SCOPING – SITE-WIDE ENVIRONMENTAL ASSESSMENT OF THE U.S. DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968)

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In accordance with DOE's National Environmental Policy Act (NEPA) implementing regulations[1], DOE is required to evaluate Site-Wide EAs at least every five years to determine whether the documentation and findings continue to adequately address current agency plans, functions, programs, and resource utilization with respect to environmental impacts.

The last Site-Wide EA for the STM campus (DOE/EA-1440) was completed in 2003 with a Finding of No Significant Impact signed by DOE on July 1, 2003. That document evaluated the impacts that would be associated with long-term build-out of the STM campus and the areas suitable for future development. As project-specific funding has become available to implement the STM campus build-out vision, additional project-specific NEPA analyses have been generated, as well as supplemental NEPA analyses to update the Site-Wide EA per DOE regulations[2]. DOE has determined that a new comprehensive Site-Wide Environmental Assessment should be prepared to address the ongoing and reasonably foreseeable future operations and improvements of the STM campus and leased facilities in the Denver West Office Park.

Pursuant to the requirements of NEPA[3], the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA[4], and DOE's NEPA implementing procedures, this Site-Wide Environmental Assessment (EA) will also:

- Identify potential adverse environmental effects as well as ways to avoid, minimize or mitigate such effects should these proposed site operations and improvements be implemented;

[1] 10 CFR Part 1021
[2] 10 CFR 1021.330
[3] 42 U.S.C. § 4321 et seq.
[4] 40 CFR Parts 1500-1508

Exhibit 4

CDPHE Letter

STATE OF COLORADO

John W. Hickenlooper, Governor
Larry Wolk, MD, MSPH
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
Located in Glendale, Colorado

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

www.colorado.gov/cdphe

Colorado Department
of Public Health
and Environment

December 10, 2013

Kristen Kerwin
NREL NEPA Comments
National Renewable Energy Laboratory
EHS Offices(M.S. RSF 040)
15013 Denver West Parkway
Golden, CO 80401

RE: Site-Wide Environmental Assessment of NREL

Dear Ms. Kerwin:

On November 13, 2013, the Colorado Air Pollution Control Division (APCD) received a request for an air quality determination concerning Site-Wide Environmental Assessment of NREL. APCD staff has reviewed the request and has determined that the following provisions of the Colorado Air Quality Regulations apply to the project.

All sources of potential construction project air emissions in Colorado are required to obtain a construction permit unless specifically exempt from the provisions of Regulation No. 3. Go to the website www.colorado.gov/cdphe/APCD to view this regulation - click on Air Quality Regulations, then Regulation No 3. Section II.D.1 lists which projects are exempt from requirements of the regulation. In addition, you will need to establish whether you are in an air quality attainment or non-attainment area, by accessing the information at www.colorado.gov/cs/Satellite/CDPHE-AP/CBON/1251595265316.

Once it has been determined that an **Air Pollution Emissions Notice (APEN)** is required, the next phase of air permitting involves submission of an **Application for Construction Permit** for each facility and one **APEN** for each emission source. A source can be an individual emission point or group of similar emission points (see Regulation No. 3, Part A). Both APEN reporting and permit requirements are triggered by uncontrolled actual emission rates. Uncontrolled actual emissions are calculated based upon the requested production/operating rate assuming no control equipment is used. In general, an APEN is required for an emission point with uncontrolled actual emissions of any critical pollutant equal to or greater than the quantities listed below:

AREA	UNCONTROLLED ACTUAL EMISSIONS
Attainment Area	2 tons per year
Non-attainment Area	1 ton per year
All Areas	Lead emissions: 100 pounds per year

Sources of non-criteria reportable pollutants have different reporting levels depending upon the pollutant, release point height and distance to the property line. Please see **Regulation No. 3 Appendix A and C** to determine the appropriate reporting level for each pollutant, and for a list of non-**criteria reportable air pollutants.**

However, none of the exemptions from an APEN filing requirement shall apply if a source would otherwise be subject to any specific federal or state applicable requirement. Information concerning submittal of revised APEN is also given in Regulation No. 3, Part A. An APEN is valid for five years. The five year period recommences when a revised APEN is received by the Division.

If you have any questions regarding your reporting or permitting obligations, please contact the Small Business Assistance Program at 303-692-3148 or 3175.

Land development construction activities (earth moving) that are greater than **25 acres** or more than **six months in duration** will require an APEN from the Air Division and may be required to obtain an air permit. In addition, a start-up notice must be submitted thirty days prior to beginning a land development project.

Please refer to the website www.colorado.gov/cdphe/APCD for information on APEN forms. Click on Construction Permit and Compliance Forms, then click on the menu item that applies to your project.

If you have any questions or need additional information, please call the phone number(s) listed above, or you may call/ e-mail me directly at 303-692-3127 / jim.dileo@state.co.us.

Thank you for contacting the Division about requirements for your project or permit.

Sincerely,

James A. DiLeo
NEPA Coordinator
Air Pollution Control Division
Colorado Department of Public Health and Environment

Exhibit 5

Jefferson County Letter

Board of County Commissioners

Faye Griffin
District No. 1
Casey Tighe
District No. 2
Donald Rosier
District No. 3

TO: Robert V. Smith, CCHM
NEPA Document Manager

FROM: Analiese Hock, Planner

DATE: December 5th, 2013

SUBJECT: Notice of NEPA Public Scoping – Site-Wide Environmental Assessment of DOE's South Table Mountain campus at NREL

CASE #: 13-124750 OA – Jefferson County Case Number

Jefferson County Planning and Zoning has reviewed the documents related to the DOE new Site-Wide Environmental Assessment for DOE's South Table Mountain Campus at NREL.

Planning and Zoning does not have any specific concerns or comments associated to the proposal.

Please continue to send referrals to Jefferson County Planning and Zoning regarding any proposals for construction that may impact unincorporated Jefferson County.

Internal Agency Referral Comments:

Jefferson County Open Space:
Thank you for the opportunity to review and comment on the DOE NEPA Public Scoping for the NREL Campus at 15463 Denver West Parkway.

We are concerned about proposed building heights adjacent to Jeffco Open Space (JCOS) trails and the land south of the NREL campus that is owned by JCOS and leased to the Pleasant View Metropolitan District.

If it hasn't already, we recommend that this referral be sent to Stewart McAlister, Pleasant View Metropolitan District Manager.

Feel free to contact me should you have any questions or comments.

Jean Reince Schwartz, RLA, AICP
Planner
Open Space
303.271.5994

Planning Engineering:

Planning Engineering has no concerns with the case at this time. In regard to any future construction or modifications, Planning Engineering would like to receive a referral associated with future construction to address the proposed on-site drainage and traffic improvements required within the unincorporated portion of Jefferson County with future development.

Jefferson County Public Health:

Jefferson County Public Health (JCPH) has no concerns regarding the proposed Environmental site assessment of this property. We have reviewed the submittal documents for this outside agency referral and have the following comments as it pertains to this case:

At the time projects are implemented, certain activities (i.e. fuel storage) and equipment (i.e. TriGen Power Plant and emergency generators) may require Air Pollutant Emissions Notices (APENs) for their possible air emissions that are not considered exempt. APENs must be submitted to the Colorado Department of Public Health and Environment, Air Pollution Control Division, for review and approval. It is requested that a copy of the APENs submittal be provided to this Department for our records. Routine inspections of these operations may also be conducted by this Department. Please contact John Moody at 303.271.5714 or Dave Volkel at 303.271.5730 for further information about this process.

Should you have and additional questions or need clarification, please contact me.

Thank you,

Analiese Hock, Planner
303-271-8767
Email Address: ahock@jeffco.us

Exhibit 6

WCIPA Letter

December 13, 2013

Westside Community Improvement and Preservation Association
www.wscipa.org

RE: Comment on **PUBLIC SCOPING – SITE-WIDE ENVIRONMENTAL ASSESSMENT OF THE U.S. DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968)**(1)

We submit these comments on behalf of Westside Community Improvement and Preservation Association (WSCIPA) a non profit organization formed to influence the improvement and preservation of the west side communities including those in which NREL operates and proposes to expand. WSCIPA supports the mission of the National Renewable Energy Lab, and is glad to have the Lab in our community. As the third largest employer in Jefferson County(2) with almost 2,500 employees, and with a highly visible and expanding campus NREL has a significant impact on the surrounding community which will only grow with the proposed development. NREL is located in an area of diverse environments.

'Surrounded by residential neighborhoods, a historic military campus, growing urban development, and the natural open spaces of South Table Mountain, the NREL campus has two faces. One looks toward the mountain with its open space and native plant communities. The other looks to the south to homes, parks, and regional commercial and office complexes.' (3)

Our comments are intended to highlight ways that NREL in its current state and with the proposed expansion can ensure that its impacts positively enhance the surrounding communities, are consistent with its mission and national and local policies of sustainability, energy efficiency, positive community development and smart growth, preservation of existing natural resources and the beneficial historical characteristics of the existing communities, and that overall NREL is a responsible and valuable asset to the surrounding communities and western Jefferson County. These goals are consistent with EPA findings:

'The way we develop our communities has significant impacts on greenhouse gas emissions. ' Compact developments that 'support safe and pleasant walking, biking, and transit use have been shown to create less of an impact on the climate than conventional developments.' and they 'allow people to get around more easily without a car.' Also 'According to EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (April 2008), roughly 20 percent of U.S. carbon dioxide (CO2) emissions come from passenger vehicles. Lower-carbon fuels and higher gas mileage standards can reduce the CO2 emissions from passenger vehicles, but the growth in population and in vehicle miles traveled would eventually outpace these reductions. An important third strategy to reduce CO2 from vehicles is to address the underlying development patterns that give people no choice but to drive.'(4)

We believe the goals of ensuring that NREL's impacts positively enhance the surrounding communities are further consistent with other federal mandates and programs including the US General Services Administration (GSA) Urban Development/Good Neighbor Program, which seeks to ***'leverage...federal real estate actions in ways that support community development goals, such as designing new facilities to create attractive public spaces that integrate with their surroundings', supporting neighborhood urban design goals; encouraging federal stakeholders to improve neighborhood conditions; managing Federal properties to encourage public use and openness; and, encouraging federal stakeholders to be active civic partners in the community by participating in neighborhood physical and management improvement efforts around Federal projects and properties as an active civic partner in the community. (Emphasis added)*** (5)

DOE and NREL have the opportunity to accomplish these goals by partnering with WSCIPA and other public and private stakeholders in a variety of specific ways including the following:

- Provide protected, comfortable, and easy public pedestrian and bicycle access from the NREL campus to the neighboring community and mass transit locations. Such access should be tree lined, and landscaped to be aesthetically pleasing, which will encourage pedestrian and cyclist use. Not only will this reduce traffic, help reduce greenhouse gas

emissions, improve the local economy, and reduce NREL impacts on the community but encourage existing and increased NREL visitors and employees to use non car transportation options.

● Ensure the inevitable development and growth of the area in which NREL is located is accomplished so as to preserve and enhance the unique historical character and identities of the surrounding communities and the Golden Road corridor, address residential and commercial needs of an economically and age diverse population, incorporate livability, smart growth, "Main Street", urban design and sustainability principles, including maximizing opportunities for water and energy efficiency, compact development, walkability, non motorized transportation, connections to mass transit and open space preservation and use.

● Contribute resources and expertise to encourage development by community partners and others of adequate and diverse housing opportunities for its existing and future employees in the surrounding neighborhoods and communities.

● Increase access to the campus by the general public, particularly community residents and visitors. The NREL campus showcases sustainable design, and is a major stakeholder in the westside community. While we understand there are security concerns, we believe these can be addressed with *building* security, rather than *campus* security. Eliminating chain link and barbed wire fencing and replacing with more up to date security systems that do not require physical barriers (e.g. thermal sensing) is a critical aspect of increased access. Allowing public access will not only showcase NREL to the public, it will improve community relations, facilitate greater community and public understanding of NREL's work and accomplishments which in turn will foster greater adoption of NREL's learnings in areas of sustainability, green building, energy efficiency. Etc. This access should also provide pathways for pedestrians and bicyclists to South Table Mountain, the Pleasant View Park and other community resources that have been made more difficult to access by the barriers provided by the secured NREL campus. The elimination of physical barriers will also allow greater access by wildlife to Lena Gulch and South Table Mountain, corridors that are now effectively blocked.

● Ensure that the historic and cultural Resources adjacent to NREL are preserved and enhanced with full access as community and public resources. These include the historic National Guard site and Camp George West. The impact to the historic nature of these sites should be quantified and NREL/DOE should provide funding to accomplish this goal.

● Prevent further degradation of the current dark skies enjoyed by the surrounding communities. This is a unique benefit of the local environment and adds greatly to the visual quality and aesthetics of our community. Impact to the dark skies resulting from the proposed expansion should be evaluated and quantified including consideration of the total lumens of outdoor lighting on the NREL campus. NREL/ DOE should strive to achieve Dark Sky designation, as stipulated by DarkSkys.org [(6)]

In summary we ask that full consideration be given to NREL's opportunities to impact, not only national interests, but also local ones. We believe this requires that the proposed NREL expansion be approved only subject to NREL working with and fully involving the local community and all local and national stakeholders to ensure the following mandates of NEPA are fully implemented.

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

4. preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment, which supports diversity, and variety of individual choice;

5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and,

6. enhance the quality of renewal resources and approach the maximum attainable recycling of depletable resources.

National Environmental Policy Act Sec. 101 [42 USC § 4331] [(7)]

We look forward to NREL's efforts to become a leader in our community.

Thank you,

Matthew Burde
Rob Thorsheim
Ann Norton
Sam Sanford
Westside Community Improvement & Preservation Association - www.wscipa.org

cc:
1. United States Senator Michael Bennet (% sean_babington@bennet.senate.gov Legislative Assistant Energy and Environment)
2. United States Senator Mark Udall (% wendy_adams@markudall.senate.gov Legislative Assistant Energy and Environment)
3. United States Representative Ed Perlmutter (% jeff.o'neil@mail.house.gov Legislative Assistant)
4. Colorado State Senator Nicholson (jeanne.nicholson.senate@state.co.us)
5. Colorado State Representative Sue Schafer (sue.schafer.house@state.co.us)
6. Jefferson County Commissioner Donald Rosier (commish3@jeffco.us)
7. Jefferson County Commissioner Casey Tighe (commish2@jeffco.us)
8. Jefferson County Commissioner Faye Griffin (commish1@jeffco.us)
9. Jefferson County Planning & Zoning Director John Wolforth (JWolfort@co.jefferson.co.us)
10. Pleasant View Metropolitan District Board (c/o District Manager Stewart McAlister (smcalister@pleasantviewmetro.org)
11. City of Golden Mayor Marjorie Sloan (msloan@cityofgolden.net)
12. City of Lakewood Mayor Bob Murphy (bmurphy@lakewood.org)
13. City of Golden City Council (citycouncil@cityofgolden.net)
14. City of Golden Director of Community and Economic Development Steve Glueck (sglueck@cityofgolden.net)
15. Jefferson County Economic Development Corporation (Jeffco EDC) (% Michelle Claymore MClaymore@jeffcoedc.org)

References

1. NOTICE OF PUBLIC SCOPING – SITE-WIDE ENVIRONMENTAL ASSESSMENT OF THE U.S. DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968) http://www.eere.energy.gov/golden/ReadingRoom/NREL/Draft/1968/Notice%20of%20NEPA%20Public%20Scoping%20DOE%20STM%20Campus%20at%20NREL.pdf
2. Jefferson County Economic Development Corporation http://www.jeffco.org/topemployers.asp
3. NREL General Development Vision 2003 http://www.nrel.gov/docs/gen/fy04/33696.pdf
4. EPA - Smart Growth and Climate Change http://www.epa.gov/dced/climatechange.htm
5. GSA Good Neighbor Program http://www.gsa.gov/portal/category/21088
6. International Dark Sky Association, Dark Sky Community Criteria http://www.darksky.org/idsp/Guidelines/IDSC%20Guidelines%20Final-May13-BP.pdf
7. A Citizens Guide to the NEPA http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-CitizensGuide.pdf

Other Resources

1. NREL Mission http://www.nrel.gov/about/overview.html
2. NREL Site Sustainability Plan http://www.nrel.gov/docs/fy13osti/56427.pdf
3. Final Supplement-II to Final Site-Wide Environmental Assessment: National Renewable Energy Laboratory South Table Mountain Site FINAL NREL SWEA/S-II COMMENT SUMMARY: http://www.eere.energy.gov/golden/ReadingRoom/NREL/NEPA/Final_Supp_II_STM_EA/AppenE_CommentResponse.pdf
4. U.S. Department of Energy Office of Inspector General Office of Audits and Inspections Special Report Inquiry into the Security Breach at the National Nuclear Security Administration's Y-12 National Security Complex http://energy.gov/sites/prod/files/IG-0868_0.pdf
5. National Renewable Energy Laboratory Chooses SightLogix Intelligent Video To Protect Facilities http://www.sightlogix.com/news_NREL/
6. NREL Greenhouse Gas Mitigation http://www.nrel.gov/sustainable_nrel/greenhouse.html
7. NREL's Planning "Campus of the Future" http://eande.lbl.gov/sites/all/files/lblwebinar82211_rev_ovnc.pdf
8. Good Scientists Make Good Neighbors - Office of Science Labs help their communities recover and rebuild after Superstorm Sandy. http://science.energy.gov/news/featured-articles/2013/10-29-13/
9. Los Alamos National Laboratory Community Commitment http://www.lanl.gov/community-environment/community-commitment/index.php

Exhibit 7

City of Golden, Email Message

From: Steve Glueck [mailto:SGLUECK@cityofgolden.net]

Sent: Tuesday, December 10, 2013 4:34 PM

To: NREL NEPA Comments

Subject: City of Golden Comments on Scoping document

The City of Golden staff has reviewed the Notice of Public Scoping document dated November 8, 2013 for the NREL Lab in Golden, CO (DOE/EA-1968). While we do not have specific comments on the list of "Planned Environmental Effects/Issues Scoped for the Environmental Assessment" , and find the list to be adequate, we do wish to encourage DOE to continue to approach this effort and future development in the area in a collaborative manner that seeks not only to identify effects, but also to address them in a constructive and appropriate manner.

To that end, we offer to actively participate in the upcoming steps of the EA process, and ask that you not only keep us informed, but also involved.

Sincerely,

Steve Glueck,

Director of Community and Economic Development

sglueck@cityofgolden.net

303-384-8095

Exhibit 8

USACE Email Message

From: Downing, Kiel G NWO [mailto:Kiel.G.Downing@usace.army.mil]

Sent: Saturday, November 09, 2013 10:54 AM

To: Smith, Robert

Subject: RE: Notice of NEPA Public Scoping - Site-Wide Environmental Assessment of DOE's South Table Mountain campus at NREL (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

If any work associated with this project requires the placement of dredged or fill material, and any excavation associated with a dredged or fill project, either temporary or permanent, in an aquatic site, which may include ephemeral and perennial streams, wetlands, lakes, ponds, drainage ditches and irrigation ditches, this office should be notified by a proponent of the project for Department of the Army permits, changes in permit requirements and jurisdictional determinations pursuant to Section 404 of the Clean Water Act.

Work in an aquatic site should be shown on a map identifying the Quarter Section, Township, Range and County and Latitude and Longitude, Decimal Degrees (datum NAD 83) and the dimensions of work in each aquatic site. Any loss of an aquatic site may require mitigation. Mitigation requirements will be determined during the Department of the Army permitting review.

Kiel Downing

State Program Manager

Denver Regulatory Office

9307 S. Wadsworth Blvd.

Littleton, CO 80128-6901

(303) 979-4120

Appendix B

Comments on Draft Environmental Assessment (EA) and Responses

Notice of Availability for the Draft Site-Wide Environmental Assessment of the NREL South Table Mountain Campus (DOE/EA-1968)

EA-1968: DRAFT SITE-WIDE ENVIRONMENTAL ASSESSMENT

Site-Wide Environmental Assessment of the U.S. Department of Energy's South Table Mountain (STM) Campus at the National Renewable Energy Laboratory (NREL), Golden, Colorado

DOE is preparing a Site-Wide Environmental Assessment to assess the potential environmental impacts of potential activities and improvements over the next five to ten years to the NREL's South Table Mountain campus and nearby leased support facilities in Golden, Colorado. This proposed action would support DOE's mission to research, develop, and deploy energy efficiency and renewable energy technologies and would consist of:

- Research, routine laboratory, and site operation enhancements
- New building construction and modifications of existing buildings
- Infrastructure and utilities upgrades and enhancements

EA-1968-DSWEA-2014
EA-1968-DSWEA-Appendices-2014.pdf

MORE DOCUMENTS & PUBLICATIONS

EA-1968 Site-Wide Environmental Assessment of the U.S. Department of Energy National Renewable Energy Laboratory (NREL) South Table Mountain Campus, Golden, Colorado

EA-1440: Final Site-Wide Environmental Assessment

Final Environmental Assessment of the National Renewable Energy Laboratory's (NREL) South Table Mountain Complex (DOE/EA 1440)

Proof of Publication
THE GOLDEN TRANSCRIPT

722 Washington Ave., Suite 210, Golden, CO 80401

1. I, G. (Jerry) Healey am the agent of The Golden Transcript, newspaper printed and published in the city of Golden, County of Jefferson and State of Colorado, and has personal knowledge of all the facts set forth in this affidavit;

2. That the said newspaper is printed and published once each week on Thursday, and that it has a general circulation in the City of Golden and in the County of Jefferson and elsewhere, delivered by carriers or transmitted by mail to each of the subscribers of said paper, according to the accustomed mode of business in this office;

3. That the said newspaper was established and has been printed and published in the said City of Golden and the County of Jefferson uninterrupted and continuously during a period of at least 52 consecutive weeks next prior to the first Issue there-of containing said publication, a copy of which is hereto attached;

4. That the said newspaper is a weekly newspaper of general circulation, and is printed and published in whole or in part in the City of Golden and the said County of Jefferson in which said publication is required by law to be published, a copy of which is hereunto attached;

5. That the said newspaper is a weekly newspaper qualified to publish legal notices, as defined by the Statutes of the State of Colorado;

6. That said newspaper had, prior to January 1, 1936, and has ever since that date, been admitted to the United States mail as second class matter under the provisions of the Act of March 3, 1979, or any amendments thereto;

7. That the said annexed publication was published in the regular and entire edition of the Golden Transcript, a duly qualified weekly newspaper for that purpose, within the terms and means of the Statutes of the State of Colorado;

8. That the said annexed publication is a full, true, and correct copy of the original which was regularly published in each of the regular and entire issues of the Golden Transcript, a legally qualified paper for that purpose, once each week, on the same day of each week, for 2 successive weeks, by--2--- Insertions, and that the first publication thereof was in the **September 4, 2014;** and that the last publication was in the **September 11, 2014.**

Subscribed and sworn to before me this **11th of September, 2014.**

For the Golden Transcript
State of Colorado
Jefferson County)ss

Notary Public, Notary Public, 9137 S Ridgeline Blvd., No. 210
Highlands Ranch, Colorado 80129

BARBARA KAY STOLTE
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 19874196221
MY COMMISSION EXPIRES 10/12/2016

My Commission Expires 10/12/16

PUBLIC NOTICE

NOTICE OF AVAILABILITY

The U.S. Department of Energy (DOE), in compliance with the National Environmental Policy Act of 1969 (NEPA), **has prepared a draft Site-Wide Environmental Assessment (EA) (DOE/EA-1968) to analyze and describe the potential environmental impacts associated with proposed improvements over the next five to ten years at the National Renewable Energy Laboratory (NREL) South Table Mountain campus in Golden, Colorado.**

Interested persons are invited to submit written comments on the draft EA for DOE consideration by October 3, 2014. All comments received will be considered in preparation of the final EA. A decision on whether to proceed with the proposed action will be made by DOE after the completion of the final EA. The draft EA is available for review at the NREL Education Center (formerly called the Visitors Center), 15013 Denver West Parkway, Golden, CO, and in electronic format on the DOE Golden Field Office and NREL websites:

http://www.nrel.gov/ehsq/environmental_protection.html

http://www.eere.energy.gov/golden/NREL_DEA.aspx

The DOE Golden Field Office welcomes your input throughout the NEPA process.
Please direct any written comments to:

NREL NEPA Comments
National Renewable Energy Laboratory
EHS Office (MS RSF 040)
15013 Denver West Parkway
Golden, Colorado 80401

or by email to

NREL.NEPA.Comments@nrel.gov

or by fax to 303-630-2114.

In addition, interested persons are invited to attend an informational meeting from 5:30 PM to 7:30 PM on September 10, 2014 at the Denver West Marriott Hotel, Monarch conference room, 1717 Denver West Blvd, Golden, CO 80401.

Legal Notice No.: 41287
First Publication: September 4, 2014
Last Publication: September 11, 2014
Publisher: Golden Transcript

Subject: FW: Appendix B - Notice of Availability - Draft Site-Wide Environmental Site Assessment of the NREL South Table Mountain Campus (DOE/EA-1968)

Sent: Friday, September 05, 2014 8:21 AM
To: Distribution List
Subject: Notice of Availability - Draft Site-Wide Environmental Site Assessment of the NREL South Table Mountain Campus (DOE/EA-1968)

Hello:

Please find attached the Notice of Availability indicating that the Draft Site-Wide Environmental Assessment (EA) of the U.S. Department of Energy National Renewable Energy Laboratory (NREL) South Table Mountain Campus in Golden, Colorado (DOE/EA-1968) is available for public review and comment. The Draft Site-Wide EA includes an analysis of potential environmental impacts due to potential site operations and improvements over the next five to ten years at the NREL South Table Mountain campus per the National Environmental Policy Act (NEPA).

The DOE Golden Field Office is making this notice available to all interested federal, state, and local agencies to provide comments on the Draft Site-Wide EA. Agencies are invited to provide comments, within their statutory responsibilities, that should be considered in the Final Site-Wide EA.

The general public has also been invited to submit comments on Draft Site-Wide EA. Postcard notices have been mailed to almost 6,200 residents and businesses in the vicinity of the South Table Mountain campus, notices have been published in the Golden Transcript, and hardcopies of this document have been made available at the NREL Education Center. Electronic copies of the Draft Site-Wide EA are available on DOE and NREL websites at:
http://www.eere.energy.gov/golden/NREL_DEA.aspx
http://www.nrel.gov/ehsq/environmental_protection.html

In addition, interested persons are invited to attend an informational meeting from **5:30 PM to 7:30 PM on Wednesday, September 10, 2014** at the Denver West Marriott Hotel, Monarch conference room, 1717 Denver West Blvd, Golden, CO 80401.

Please submit your written comments on the Draft Site-Wide EA **on or before Friday, October 3, 2014** to:

NREL NEPA Comments
National Renewable Energy Laboratory
EHS Office (M.S. RSF 040)
15013 Denver West Parkway
Golden, Colorado 80401
Email: NREL.NEPA.Comments@nrel.gov
Fax: 303-630-2114

The DOE Golden Field Office welcomes your input throughout our NEPA Process.

Sincerely,
NREL NEPA Coordinator

U.S. Department of Energy | Office of Energy Efficiency and Renewable Energy | Environmental Oversight Office
15013 Denver West Parkway, Golden, CO 80401
Please note the new email address

NOTICE OF AVAILABILITY

The U.S. Department of Energy (DOE) has prepared a draft Site-Wide Environmental Assessment (EA) to analyze and describe the potential environmental impacts associated with the proposed action at the:

NREL South Table Mountain Campus (DOE/EA-1968) - Jefferson County, Colorado

The DOE is proposing to make improvements over the next five to ten years to the National Renewable Energy Laboratory (NREL) South Table Mountain campus in Golden, Colorado. Interested persons are invited to submit written comments on the draft Site-Wide Environmental Assessment (EA) for consideration by DOE by **October 3, 2014**. All comments received will be considered in preparation of the final EA. A decision on whether to proceed with the proposed action will be made by DOE after the completion of the final EA. The draft EA is available for review at the NREL Education Center and on the DOE Golden Field Office and NREL websites:

http://www.nrel.gov/ehsq/environmental_protection.html
http://www.eere.energy.gov/golden/NREL_DEA.aspx

Please direct any written comments to: NREL NEPA Comments, National Renewable Energy Laboratory, EHS Office (MS RSF 040), 15013 Denver West Parkway, Golden, Colorado 80401 or by email to **NREL.NEPA.Comments@nrel.gov** or by fax to 303-630-2114. In addition, interested persons are invited to attend an informational meeting from **5:30 PM to 7:30 PM on September 10, 2014** at the Denver West Marriott Hotel, Monarch conference room, 1717 Denver West Blvd, Golden CO 80401.

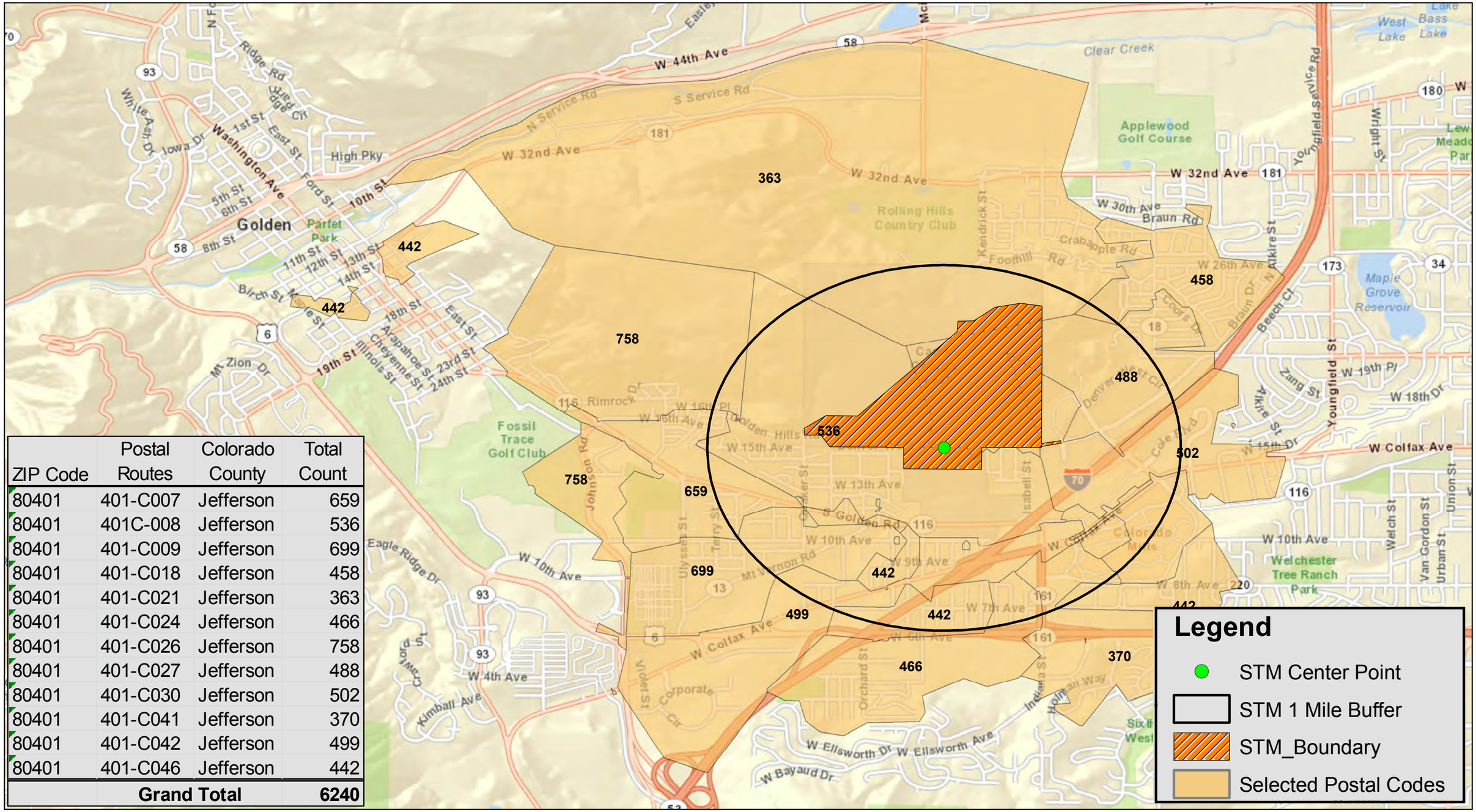
Mailing List – Distribution List to Government Agencies, Non-Governmental Agencies, and Special Interest Groups

Organization	Name	Title	E-Mail Address---Verified unless highlighted
City of Golden	Marjorie Sloan	Mayor	msloan@cityofgolden.net
City of Golden	Mike Bestor	City Manager	mbestor@cityofgolden.net
City of Golden	Steve Glueck	Director	sglueck@cityofgolden.net; planning@cityofgolden.net
Golden Chamber of Commerce	Gary Wink	President/CEO	Info@goldencochamber.org
City of Lakewood	Bob Murphy	Mayor	bmurphy@lakewood.org
City of Lakewood	Nanette Neelan	Deputy City Manager/Economic Development Director	nannee@lakewood.org
City of Lakewood	Travis Parker	Planning Director	trapar@lakewood.org; ed@lakewood.org
Regional Transportation District	Natalie Menten	District M Director	natalie.menten@rtd-denver.com
Bureau of Land Management	Megan Stouffer	NEPA Coordinator	mastouff@blm.gov
Office of Congressman Ed Perlmutter	Hannah Mullen	State Director	Hannah.Mullen@mail.house.gov
Office of Congressman Mike Coffman	Andy Merritt	District Director	andy.merritt@mail.house.gov
Office of Senator Mark Udall	Brandon Rattiner	State Director	Brandon_Rattiner@MarkUdall.senate.gov
Office of Senator Mark Udall	Wendy Adams	Relations	wendy_adams@markudall.senate.gov;
Office of Senator Michael Bennet	Monisha Merchant	State Director	Monisha_Merchant@bennet.senate.gov
Office of Senator Michael Bennet	Sean Babington	Relations	sean_babington@bennet.senate.gov
Office of State Senator - Jeanne Nicholson	Jeanne Nicholson	Colorado State Senator - District 16	jeanne.nicholson.senate@state.co.us
Office of State Representative - Sue Schafer	Sue Schafer	Colorado State Representative - House District 24	sue@sueschafer.com
U.S. Army Corps of Engineers	Kiel Downing	Acting Director Denver Reg Office	kiel.g.downing@usace.army.mil
U.S. Fish & Wildlife Service	Susan Linner	Colorado Field Supervisor	susan_linner@fws.gov
US EPA - Region 8	Carol Anderson		anderson.carol@epa.gov
US EPA - Region 8	Bert Garcia	Director	garcia.bert@epa.gov
US EPA - Region 8	Gregory Davis		davis.gregory@epa.gov
US EPA - Region 8	Suzanne Bohan		
USDA, National Resource Conservation Service	Harvey Sprock	Range Conservationist (Programs)	harvey.sprock@co.usda.gov
USDA, National Resource Conservation Service	Eugene Backhaus	State Range Conservationist	eugene.backhaus@co.usda.gov
Jefferson County	Casey Tighe		commish2@jeffco.us
Jefferson County	Donald Rosier		commish3@jeffco.us
Jefferson County	Faye Griffin	Chairman	commish1@jeffco.us
Jefferson County	Mr. Ralph Schell	County Administrator	countyadministrator@jeffco.us
Jefferson County	Kevin French	Director	kfrench@co.jefferson.co.us
Jefferson County Open Space	Tom Hoby	Director	thoby@jeffco.us
Jefferson County Planning & Zoning	John Wolforth	Director	JWolfort@co.jefferson.co.us
Jefferson County Public Health	Mark Johnson	Executive Director	mjohnson@jeffco.us
Jefferson County Public Schools	Cindy Stevenson	Superintendant	supt@jeffco.k12.co.us
Jefferson County Sheriff's Office	Ted Mink		sheriff@jeffco.us
Jefferson County Sheriff's Office	Tim McSherry	Division Director	jmcsherry@jeffco.us
Jefferson Economic Development Corporation	Kevin McCaskey	President & CEO	ceo@jeffcoedc.org
Jefferson Economic Development Corporation	Michelle Claymore	Vice President	mclaymore@jeffcoedc.org
Consolidated Mutual Water Company	John Boyle	Vice President	jboyle@cmwc.net
Metro Wastewater Reclamation District	Lori Maag		LMaag@mwrd.dst.co.us
West Metro Fire Protection District	Scott Prose		sprose@westmetrofire.org
Pleasant View Fire Department	Chris Malmgren	Fire Chief	cmalmgren.pvfire@comcast.net
Pleasant View Metro District	Adrian Waller	President, Board of Directors	pvwsd@comcast.net
Pleasant View Metro District	Stewart McAlister	District Manager	smcalister@pleasantviewmetro.org
Pleasant View Water & Sanitation Dist.	David Councilman	District Manager	pvwsd@comcast.net
Colorado Cooperative Fish & Wildlife Research Unit	Dana L. Winkelman	Unit Leader	dana.winkelman@colostate.edu
Colorado Department of Agriculture	Ron Carleton	Deputy Commissioner	ron.carleton@state.co.us
Colorado Department of Agriculture	Eric Lane	Conservation Services Director	eric.lane@state.co.us
Colorado Department of Corrections	Dona Zavislan	Administrator	dona.zavislan@state.co.us

Colorado Department of Natural Resources	Dick Wolfe	State Engineer	Dick.Wolfe@state.co.us
Colorado Department of Natural Resources	Peter Barkmann	Hydrogeology Supv.	barkmann@mines.edu
Colorado Department of Natural Resources	Steve Yamashita	Acting Director	steve.Yamashita@state.co.us
Colorado Department of Natural Resources	Chad Bishop	Assistant Director for Wildlife Natural Resources	chad.bishop@state.co.us
Colorado Department of Natural Resources	Robert Randall	Deputy Director	robert.randall@state.co.us
Colorado Department of Public Health & Environment	Gary Baughman	Division Director	gary.baughman@state.co.us
Colorado Department of Public Health & Environment	Karin McGowan	Deputy Executive Director	karin.mcgowan@state.co.us
Colorado Department of Public Health & Environment	Steve Gunderson	Division Director	steve.gunderson@state.co.us
Colorado Department of Public Health & Environment	William Allison	Division Director	william.allison@state.co.us
Colorado Department of Transportation	Chuck Attardo	Manager	
Colorado Department of Transportation	Tony DeVito	Region 1 Transportation Director	Anthony.Devito@state.co.us
Colorado State Forest Service	Allen Gallamore	District Forester	CSFS_Golden@mail.colostate.edu
Colorado State Land Board	Bill Ryan	Director	bill.ryan@state.co.us
Colorado State Patrol Training Academy	Jon Barba		jon.barba@state.co.us
Colorado National Guard	Greg Dorman	Resource Director/Legislative Liaison	greg.dorman@dmva.state.co.us
Colorado National Guard	Leon Harrell	Colorado Air National Guard	leon.l.harrell.mil@mail.mil
Colorado National Guard	Mark Hague	Environmental Expert	mark.d.hague.mil@mail.mil
Governor's Energy Office	Jeff Ackermann	Director	jeffrey.ackermann@state.co.us
Office of Governor John Hickenlooper	Doug Young	Senior Policy Director	douglas.young@state.co.us
State Historic Preservation Office	Edward Nichols	State Historic Preservation Officer	Ed.Nichols@state.co.us
State Historic Preservation Office	Mark Tobias	Section 106 Compliance Officer	mark.tobias@state.co.us
Northern Ute Indian Tribe (Ute Indian Tribe of the Uintah & Ouray Reservation)	Irene Cuch	Chairperson	irenec@utetribe.com
Oglala Sioux Tribe	Wilmer Mesteth	THPO	wanapeyanajica@gmail.com
Oglala Sioux Tribe	John Yellow Bird Steele	President	johns@oglala.org
Southern Ute Tribe	Pearl Casias	Chairwoman	pcasias@southern-ute.nsn.us
Ute Mountain Tribe of the Ute Mountain Reservation	Gary Hayes	Chairman	ghayes@utemountain.org
Comanche Nation	Johnny Wauqua	Chairman	civah@comanchenation.com
Comanche Nation	Jimmy Arterberry	THPO	jimmya@comanchenation.com
Arapaho Tribe of the Wind River Reservation	Jim Shakespeare	Chairman	northernarapaho@msn.com
Arapaho Tribe of the Wind River Reservation	JoAnn White		white_jo123@yahoo.com
Cheyenne and Arapaho Tribes, Oklahoma	Janice Boswell	Governor	mgaytan@c-a-tribes.org
Cheyenne and Arapaho Tribes, Oklahoma	Lynnette Gray	THPO	lgray@c-a-tribes.org
Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation	Leroy Spang	President	leroy.spang@cheyennenation.com
Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation	Conrad Fisher	THPO	conrad.fisher@cheyennenation.com
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation	Floyd Azure	Chairman	cultres@nemontel.net
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation	Darrell "Curly" Youpee	THPO	cultres@nemontel.net
Xcel Energy	Preston Gibson		preston.e.gibson@xcelenergy.com
Xcel Energy	William Scheitler		william.k.scheitler@xcelenergy.com;
Table Mountains Conservation Fund	Preston Driggers	President of Board	contact@tablemountains.org
Environmental Defense Fund	Dan Grossman	Regional Director	postal mailing
National Wildlife Federation	Ann Morgan	Regional Executive Director	postal mailing
Rocky Flats Stewardship Council	Mr. David Abelson	Executive Director	postal mailing

Sierra Club	Joshua Ruschhaupt	Chapter Director	postal mailing
VFW Post # 4171	Dick Yoder	Commander	postal mailing
Western Resource Advocates	John Nielsen	Interim President	postal mailing
Jeffco Open Space Foundation, Inc.	Joe Jehn	President	postal mailing
Colorado Wildlife Federation	Kent Ingram	Director	postal mailing
Earthjustice	Heidi McIntosh	Managing Attorney	postal mailing

Postal Routes for STM SWEA Public Comment - September 2014



ZIP Code	Postal Routes	Colorado County	Total Count
80401	401-C007	Jefferson	659
80401	401C-008	Jefferson	536
80401	401-C009	Jefferson	699
80401	401-C018	Jefferson	458
80401	401-C021	Jefferson	363
80401	401-C024	Jefferson	466
80401	401-C026	Jefferson	758
80401	401-C027	Jefferson	488
80401	401-C030	Jefferson	502
80401	401-C041	Jefferson	370
80401	401-C042	Jefferson	499
80401	401-C046	Jefferson	442
	Grand Total		**6240**

Notes: Map Background from ESRI Street Map World 2D

Postal Routes = last 3 digits of zip codes and postal codes

Postal Route Data provided by Intellegent Direct, Inc. August 28th, 2014

N

Comments on the Draft Site-Wide Environmental Assessment of the NREL South Table Mountain Campus (DOE/EA-1968)

Board of County Commissioners

Faye Griffin
District No. 1
Casey Tighe
District No. 2
Donald Rosier
District No. 3

October 3, 2014

NREL NEPA Comments
National Renewable Energy Laboratory
EHS Office (M.S. RSF 040)
15013 Denver West Parkway
Golden, CO 80401

Thank you for referring the Draft Environmental Assessment (EA) of the NREL South Table Mountain Campus to Jefferson County. The NREL campus is an assest to Jefferson County and we are supportive of NREL and the research being done at the STM Campus. The Jefferson County Comprehensive Master Plan identifies the NREL South Table Mountain Campus as Area 23 of the Central Plains Area Plan and states, "The National Renewable Energy Laboratories and the Department of Energy should be allowed to continue their mission of research, development and technology transfer of renewable energy and energy efficient design."

This information was sent to key agencies within the County and we have the following comments.

Planning & Zoning

1. We request that as each specific project or building moves forward in the process we receive a referral to determine whether a Site Approval or any other County processes would be necessary and to review the proposal in more detail. When we see more specific plans, there may be additional comments that stem from Jefferson County regulations or specific policies in the Jefferson County Comprehensive Master Plan.
2. Prior to the placement, erection, or construction of any new structures, signs, fences, retaining walls, etc. on this property all required permits must be obtained from the County.
3. Page 21, line 920 of the report references the Jefferson County General Land Use Plan (Land Use Plan). This document was superseded by the Jefferson County Comprehensive Master Plan (CMP) in 2010. Here is a link to the most recent version of the CMP - http://jeffco.us/planning-and-zoning/comprehensive-plans/. The CMP lists North and South Table Mountains as Visual Resources on page 48 of the Plan. One of the goals of the Visual Resources section is to "Protect the Visual Resources and unique natural features of the County." One of the Policies is "New Development in areas with Visual Resources should attempt to integrate development into the natural environment." Please replace any reference to the General Land Use Plan with the CMP.
4. The EA states that facilities in Zone 1: Top of Mesa, Buildable Area, would be of minimal size, low occupancy, and designed for minimal disruption to views of the mesa. This description sounds as though any construction should meet the goals and policies of the Visual Resources section of the CMP. However, since this EA is very conceptual, we would like to see more information about site design and architecture when specific facilities are proposed in the future.
5. Page 47, line 1554, states that A-2 zoning allows for residential, commercial and industrial development uses. This is not an accurate representation of what the A-2 zone district allows. The Intent and Purpose of the Agricultural District states "The Agricultural Zone Districts are intended to provide for limited farming, ranching, and agriculturally related uses while protecting the surrounding land from harmful effects." The majority of the uses allowed are either residential or agricultural. There are two permitted uses that may seem a bit more commercial in nature – a veterinary hospital and a cemetery, mausoleum, mortuary and related uses, but typical commercial uses, such as retail and office are not allowed. Additionally, oil and gas drilling is allowed, which may be considered industrial, but typical industrial uses of manufacturing, processing, processing and warehousing are not allowed. Please update the statement about what the zoning allows.

6. Page 48, lines 1591 and 1592, we suggesting switching the sentence that starts on line 1591 and the sentence that starts on line 1592. The sentences above discuss the Planned Development zone district, then the sentence that starts on line 1591 talks about open space and A-2 zoning, then the sentence on line 1592 skips back to talking about Planned Development zoning.
7. Page 48, line 1600 states that A-1 is similar to A-2, "but with no minimum property size limits." This is an inaccurate statement. The County's A-1 zoning is similar to A-2 in regard to uses allowed, but the minimum lot size for A-1 is 5 acres and the minimum lot size for A-2 is 10 acres.
8. Page 69, Line 2385 again references the Jefferson County General Land Use Plan. Please update this language as outlined in item 2 of this letter.
9. Page 71, Line 2451 to 2452 states that, "… other site locations would have a height limitation of five stories." Because of the location of these buildings this height limit should be compatible with the visual resources of South Table Mountain. However, we would still like to receive additional information with site plans and architectural elevations when a specific facility is proposed.
10. Page 80, Mineral Rights. This section discusses potential minerals, oil and gas that may be present. Are the mineral rights for this property owned by the DOE or are they owned by another entity? It may be helpful to state who owns them, so that it is clear who might develop them in the future, if they are ever developed.

Open Space

Thank you for the opportunity to review the site-wide environmental assessment for the NREL STM campus. JCOS is pleased to see a portion of the campus remaining in conservation for its natural resource values.

While JCOS currently has no concerns regarding the proposed plans for building on the NREL campus in the next 5-10 years, when new buildings or structures are designed for Zones 5 & 6, we request an additional opportunity for input at that time. Those zones are closest to our property and existing trails and we are committed to providing the best possible visitor experience to our South Table Mountain Park. Additionally, the further north buildings move, the closer they come to the Front Range Mountain Backdrop/Foreground, which warrants some additional design considerations to avoid detracting from the scenic values of the area. Again, thank you for the opportunity to comment on this document. JCOS looks forward to continuing a collaborative relationship with DOE and the NREL STM campus.

Public Health

Jefferson County Public Health has no comments on this case.

Transportation and Engineering

- We have noted that 2013 PM Peak Traffic counts were provided in Table 4-3 including for the South Entrance at South Golden Rd/Research Rd). Also, section 5.1.2. states that sufficient capacity is available for planned development resulting in acceptable traffic levels in 2023.
- We have no concerns with this EA, however, specific comments will be provided once new facilities are proposed.

Thank you again for the information. We look forward to receiving additional information as projects move forward.

Sincerely,

Heather Gutherless, AICP
Senior Planner
Phone: 303-271-8716
Fax: 303-271-8744
E-mail: hgutherl@jeffco.us

Responses to Comments on the Draft Site-Wide Environmental Assessment of the NREL South Table Mountain Campus (DOE/EA-1968)

Responses to Comments on the Draft EA

One comment letter was received following release of the draft EA for public comment. Responses to each comment in the letter are presented below. Some comments resulted in changes to the text in the final EA as noted in the responses.

Jefferson County, Colorado – Planning & Zoning Department

1. We request that as each specific project or building moves forward in the process we receive a referral to determine whether a Site Approval or any other County processes would be necessary and to review the proposal in more detail. When we see more specific plans, there may be additional comments that stem from Jefferson County regulations or specific policies in the Jefferson County Comprehensive Master Plan.

   Response: Comment noted. No text edit required.

2. Prior to the placement, erection, or construction of any new structures, signs, fences, retaining walls, etc. on this property all required permits must be obtained from the County.

   Response: Comment noted. No text edit required.

3. Of the report references the Jefferson County General Land Use Plan (Land Use Plan). This document was superseded by the Jefferson County Comprehensive Master Plan (CMP) in 2010. Here is a link to the most recent version of the CMP - http://jeffco.us/planning-and-zoning/comprehensive-plans/. The CMP lists North and South Table Mountains as Visual Resources on page 48 of the Plan. One of the goals of the Visual Resources section is to "Protect the Visual Resources and unique natural features of the County." One of the Policies is "New Development in areas with Visual Resources should attempt to integrate development into the natural environment." Please replace any reference to the General Land Use Plan with the CMP.

   Response: Any reference in the EA to the General Land Use Plan has been replaced with a reference to the Jefferson County Comprehensive Master Plan in Sections 2.1.5, 4.1.1, and 4.5.1.

4. The EA states that facilities in Zone 1: Top of Mesa, Buildable Area, would be of minimal size, low occupancy, and designed for minimal disruption to views of the mesa. This description sounds as though any construction should meet the goals and policies of the Visual Resources section of the CMP. However, since this EA is very conceptual, we would like to see more information about site design and architecture when specific facilities are proposed in the future.

   Response: Comment noted. No text edit required. The only component of the proposed action that would occur in Zone 1 would be High Flux Furnace Upgrade (N), which consists of internal upgrades. No visual impact is anticipated.

5. States that A-2 zoning allows for residential, commercial and industrial development uses. This is not an accurate representation of what the A-2 zone district allows. The Intent and Purpose of the Agricultural District states "The Agricultural Zone Districts are intended to provide for limited farming, ranching, and agriculturally related uses while protecting the surrounding land from harmful effects." The majority of the uses allowed are either residential or agricultural. There are two permitted uses that may seem a bit more commercial in nature – a veterinary hospital and a cemetery, mausoleum, mortuary and related uses, but typical commercial uses, such as retail and office are not allowed. Additionally, oil and gas drilling is allowed, which may be considered industrial, but typical industrial uses of manufacturing, processing, processing and warehousing are not allowed. Please update the statement about what the zoning allows.

   Response: Text has been modified as requested in Section 4.1.1.

6. We suggest switching the sentence that starts on line 1591 and the sentence that starts on line 1592. The sentences above discuss the Planned Development zone district, then the sentence that starts on line 1591 talks about open space and A-2 zoning, then the sentence on line 1592 skips back to talking about Planned Development zoning.

   Response: Text has been modified as requested in Section 4.1.1.

7. States that A-1 is similar to A-2, "but with no minimum property size limits." This is an inaccurate statement. The County's A-1 zoning is similar to A-2 in regard to uses allowed, but the minimum lot size for A-1 is 5 acres and the minimum lot size for A-2 is 10 acres.

   Response: Text has been modified as requested in Section 4.1.1.

8. Again references the Jefferson County General Land Use Plan. Please update this language as outlined in item 2 of this letter.

   Response: Text has been modified as requested in Section 4.5.1.

9. States that, "… other site locations would have a height limitation of five stories." Because of the location of these buildings this height limit should be compatible with the visual resources of South Table Mountain. However, we would still like to receive additional information with site plans and architectural elevations when a specific facility is proposed.

   Response: Comment noted. No text edit required.

10. Mineral Rights. This section discusses potential minerals, oil and gas that may be present. Are the mineral rights for this property owned by the DOE or are they owned by another entity? It may be helpful to state who owns them, so that it is clear who might develop them in the future, if they are ever developed.

    Response: A discussion on mineral rights has been added to the EA in Section 4.7.2.

<u>Jefferson County, Colorado – Open Space Department</u>

11. JCOS is pleased to see a portion of the campus remaining in conservation for its natural resource values.

    Response: Comment noted. No text edit required.

12. While JCOS currently has no concerns regarding the proposed plans for building on the NREL campus in the next 5-10 years, when new buildings or structures are designed for Zones 5 & 6, we request an additional opportunity for input at that time. Those zones are closest to our property and existing trails and we are committed to providing the best possible visitor experience to our South Table Mountain Park. Additionally, the further north buildings move, the closer they come to the Front Range Mountain Backdrop/Foreground, which warrants some additional design considerations to avoid detracting from the scenic values of the area.

    Response: Comment noted. No text edit required.

Jefferson County, Colorado – Transportation & Engineering Department

13. We have noted that 2013 PM Peak Traffic counts were provided in Table 4-3 including for the South Entrance at South Golden Rd/Research Rd). Also, section 5.1.2. states that sufficient capacity is available for planned development resulting in acceptable traffic levels in 2023.

    Response: Comment noted. No text edit required.

14. We have no concerns with this EA, however, specific comments will be provided once new facilities are proposed.

    Response: Comment noted. No text edit required.

Appendix C

Summary of Federal Permits, Licenses, and Entitlements

The following tables present federal, state, and local Environment, Health, and Safety (EHS) statutes and regulations, as well as DOE directives that may be applicable to current and potential future operations at the NREL South Table Mountain (STM) campus. This list is not exhaustive and is meant for illustrative purposes for this Site-Wide environmental Assessment (SWEA) only. DOE and NREL have established and implemented policies and procedures for the identification of applicable EHS requirements, incorporating new EHS requirements as they are promulgated, capturing changes to existing EHS requirements when they are modified or superseded, and analyzing new operations and activities for additional EHS requirements.

Federal Statutes and Regulations	Source
National Environmental Policy Act (NEPA)	
National Environmental Policy Act of 1970	42 United States Code (USC) 4321 et seq.
Council of Environmental Quality (CEQ), NEPA Regulations	40 Code of Federal Regulations (CFR) Parts 1500 to 1508
Department of Energy (DOE), NEPA Implementing Regulations	40 CFR Part 1021
Environmental Effects Abroad of Major Federal Actions (4 January 1979)	Executive Order (EO) 12114
Air Quality	
Clean Air Act (CAA) of 1970 and Amendments of 1977 and 1990	42 USC 7401 et seq., as amended
National Primary and Secondary Ambient Air Quality Standards	40 CFR Part 50
Requirements for Preparation, Adoption, and Submittal of Implementation Plans, Review of New Sources and Modifications	40 CFR Part 51, Subpart I
Approval and Promulgation of Implementation Plans, Prevention of Significant Deterioration of Air Quality	40 CFR Part 52, Subpart A
National Primary and Secondary Ambient Air Quality Standards	40 CFR Part 50
Standards of Performance for New Stationary Sources	40 CFR Part 60
National Emissions Standards for Hazardous Air Pollutants	40 CFR Part 61
State Operating Permit Programs	40 CFR Part 70
Federal Operating Permit Programs	40 CFR Part 71
Registration of Fuels and Fuel Additives	40 CFR Part 79
Designation of Air Quality Control Regions	40 CFR Part 81, Subpart B
Protection of Stratospheric Ozone	40 CFR Part 82
Clean-Fuel Vehicle Standards	40 CFR Part 88
General Conformity Regulations	40 CFR Part 93, Subpart B
Title V Greenhouse Gas (GHG) Tailoring Rule	75 *Federal Register* 31514
Mandatory Reporting of Greenhouse Gas	40 CFR Parts 86, 87, 89, 90, 94, 98, 1033, 1039, 1042, 1045, 1051, 1054, and 1065

Federal Statutes and Regulations	Source
Federal Leadership in Environmental, Energy, and Economic Performance (5 October 2009)	EO 13514
Noise	
Noise Control Act of 1972, as amended by the *Quiet Communities Act* of 2005	42 USC 4901 et seq., Public Law (P.L.) 92-574
Federal Highway Administration (FHA), Procedures for Abatement of Highway Traffic Noise and Construction Noise	23 CFR Part 772
Occupational Health and Safety Administration, Occupational Safety and Health Standards Subpart G, Occupational Health and Environmental Control, Standard Number 1910.95 Occupational Noise Exposure	29 CFR 1910.95
Airspace	
Safe, Efficient Use, and Preservation of the Navigable Airspace (Obstruction Evaluation / Airport Airspace Analysis)	14 CFR Part 77; Forms 7460-1 and 7460-2 (FAA 2013)
Health and Safety	
Occupational Safety and Health Act of 1970	P.L. 91-596
Occupational Safety and Health Standards	29 CFR Part 1910
Hazard Communication Standard	29 CFR 1910.1200
Safety and Health Regulations for Construction	29 CFR Part 1926
DOE Worker Safety and Health Program	10 CFR Part 851
DOE Occupational Radiation Protection	10 CFR Part 835
DOE Integration of Environment, Safety and Health into Work Planning and Execution	48 CFR 970.5223-1
Protection of Children from Environmental Health Risks and Safety Risks (23 April 1997)	EO 13045
Geology and Soils	
Farmland Protection Policy Act of 1981	7 USC 4201
Soil and Water Conservation Act of 1977	16 USC 2001 et seq.
Water Quality, Wetlands, and Floodplains	
Clean Water Act (CWA) of 1972	33 USC 1251 et seq., as amended
Safe Drinking Water Act of 1974	42 USC 300(f) et seq.
Safe Drinking Water Act, Protection of Underground Sources of Drinking Water	42 USC 300h-7
Rivers and Harbors Act of 1899	33 USC 401 et seq.
Energy Independence and Security Act of 2007, Section 438 Storm Water Runoff Requirements for Federal Development Projects	42 USC 17094 et seq.

Federal Statutes and Regulations	Source
U.S. Army Corps of Engineers (USACE), General Regulatory Policies	33 CFR Part 320
Permits for Discharges of Dredged or Fill Material into Waters of the United States	33 CFR Part 323
Definition of Waters of the United States	33 CFR Part 325
USACE Nationwide Permits	33 CFR Part 330
U.S. Environmental Protection Agency (EPA), Administered Permit Programs: The National Pollutant Discharge Elimination System (NPDES)	40 CFR Part 122
Water Quality Standards	40 CFR Part 131
National Primary Drinking Water Regulations and Implementation	40 CFR Part 141 and 142
Effluent Guideline and Standards	40 CFR Part 401
General Pretreatment Regulations for Existing and New Sources of Pollution	40 CFR Part 403
DOE Floodplain and Wetland Regulations	10 CFR Part 1022
Floodplain Management (24 May l977)	EO 11988
Protection of Wetlands (24 May l977)	EO 11990
Biological Resources	
Bald and Golden Eagle Protection Act of 1940	16 USC 668-668c
Endangered Species Act (ESA) of 1973	16 USC 1531–1543
Migratory Bird Treaty Act (MBTA) of 1918	16 USC 703–712
Fish and Wildlife Coordination Act of 1934, as amended 1946, 1958, 1977	16 USC 661-667e
Plant Protection Act of 2000 (Title IV of the *Agricultural Risk Protection Act* of 2000)	7 USC 7701et seq.
Noxious Weed Act of 1974, as amended by Section 15, Management of Undesirable Plants on Federal Lands 1990	7 USC 2801-2813
Environmental Pesticide Control Act	7 USC 136 et seq.
Federal Insecticide, Fungicide, and Rodenticide Act	7 USC 136 et seq.
Endangered and Threatened Wildlife and Plants	50 CFR Part 17
Interagency Cooperation - ESA of 1973	50 CFR Part 402
Exemption of Federal and State Agencies for use of Pesticides under Emergency Conditions	40 CFR Part 166
Certification of Pesticide Applicators	40 CFR Part 171
Invasive Species (3 February 1999)	EO 13112

Federal Statutes and Regulations	Source
Protection and Enhancement of Environmental Quality (5 March 1970)	EO 11514, as amended by EO 11541 (7/1/70) and EO 11991 (5/24/77)
Responsibilities of Federal Agencies to Protect Conservation of Migratory Birds (10 January 2001)	EO 13186
Cultural Resources	
National Historic Preservation Act (NHPA) of 1966	16 USC 470 et seq., as amended
Archaeological Resources Protection Act (ARPA) of 1979	16 USC 470a-11, as amended
American Indian Religious Freedom Act of 1978	P.L. 95-341 and 42 USC 1996, as amended
The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990	P.L. 101-601 and 25 USC 3001–3013
Archaeological and Historic Preservation Act of 1974	16 USC 469a et seq.
Antiquities Act of 1906	16 USC 431 et seq.
National Register of Historic Places	36 CFR Part 60
Determination of Eligibility for Inclusion in the National Register of Historic Places	36 CFR Part 63
Protection of Historic Properties	36 CFR Part 800
Protection and Enhancement of the Cultural Environment (13 May 1971)	EO 11593
Indian Sacred Sites (24 May 1996)	EO 13007
Consultation and Coordination with Indian Tribal Governments (6 November 2000)	EO 13175
Preserve America (3 March 2003)	EO 13287
Hazardous Materials and Waste Management	
Resource Conservation and Recovery Act (RCRA) of 1976	42 USC 6901, as amended
Comprehensive Environmental Response, Compensation, and Liability Act of 1980	42 USC 9601 et seq.
Pollution Prevention Act of 1990	42 USC 13101 et seq.
Toxic Substance Control Act of 1976	15 USC 2601 et seq.
Superfund Amendments and Reauthorization Act of 1986	26 USC 9507 et seq.
Oil Pollution Control Act of 1990	33 USC 2701 et seq.
Federal Insecticide, Fungicide, and Rodenticide Act of 1947	7 USC 136 et seq.
Discharge of Oil	40 CFR Part 110
Oil Pollution Prevention	40 CFR Part 112
Designation of Hazardous Substances	40 CFR Part 116

Federal Statutes and Regulations	Source
Determination of Reportable Quantities for Hazardous Substances	40 CFR Part 117
Hazardous Waste Management Regulations	40 CFR Parts 260 - 270
Standards for Universal Waste Management	40 CFR Part 273
Standards for the Management of Used Oil	40 CFR Part 279
Underground Storage Tank (UST) Regulations	40 CFR Part 280 - 282
Designation, Reportable Quantities, and Notification (Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA])	40 CFR Part 302
Emergency Planning and Notification (CERCLA)	40 CFR Part 355
Hazardous Chemical Reporting: Community Right-to-Know	40 CFR Part 370
Federal Compliance with Pollution Control Standards (13 October 1978)	EO 12088
Strengthening Federal Environmental, Energy, and Transportation Management (24 January 2007)	EO 13423
Federal Leadership in Environmental, Energy, and Economic Performance (5 October 2009)	EO 13514
Environmental Justice	
Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations (11 February 1994)	EO 12898
Transportation	
Hazardous Material Transportation Act of 1975	49 USC 1761
Hazardous Materials Regulations	49 CFR Parts 107-199
Federal Motor Carrier Safety Regulations	49 CFR Parts 382-399
Miscellaneous Related To Research Activities	
U.S. Tax Code, Chapter 51 - Distilled Spirits, Wines, and Beer	26 USC 5001 et seq.
Distilled Spirits Plants Regulations	27 CFR Part 19
Distribution and Use of Tax-Free Alcohol	27 CFR Part 22
Biotechnology Permits	7 CFR Part 340

State Statutes and Regulations	Source
Air Quality	
Colorado Air Pollution Prevention and Control Act	Colorado Revised Statutes (CRS) 25-7-101 et seq.
Vehicles and Traffic State Idling Standard	CRS 42-14-105

State Statutes and Regulations	Source
Colorado Department of Public Health And Environment (CDPHE), Air Quality Control Commission Regulations	5 Code of Colorado Regulations (CCR) 1001-1 through 5 CCR 1001-20
Noise	
Colorado Noise Abatement Statutes	CRS 25-12-101 through CRS 25-12-109
Enacting Ordinances for Regulation of Noise on Public and Private Property	CRS 30-15-401
Health and Safety	
Colorado Boiler and Pressure Vessel Regulations	7 CCR 1101-5
Water Quality	
Colorado Water Quality Control Act	CRS 25-8-101 et seq.
Individual Sewage Disposal Systems Act	CRS 25-10-101 et seq.
Colorado Ground Water Management Act	CRS 37-90-101 et seq.
CDPHE, Water Quality Control Commission Procedural Rules	5 CCR 1002-21
Basic Standards and Methodologies for Surface Water	5 CCR 1002-31
Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin	5 CCR 1002-38
The Basic Standards for Groundwater	5 CCR 1002-41
Colorado Discharge Permit System Regulations	5 CCR 1002-61
Regulations for Effluent Limits	5 CCR 1002-62
Pretreatment Regulations	5 CCR 1002-63
Regulations Controlling Discharges to Storm Sewers	5 CCR 1002-65
Primary Drinking Water Regulations	5 CCR 1003-1
Guidelines on Individual Sewage Disposal Systems	5 CCR 1003-6
Water Well Construction	2 CCR 402-2
Rules for Small Capacity Well Permits in Designated Ground Water Basins	2 CCR 402-4
Geothermal Wells	2 CCR 402-10
Biological Resources	
Colorado Nongame, Endangered, or Threatened Species Conservation Act	CRS 33-2-101
Wildlife – Illegal Possession	CRS 33-6-109
Wildlife – Damage or Destruction of Dens or Nests – Harassment of Wildlife	CRS 33-6-128

State Statutes and Regulations	Source
Colorado Weed Management Act	CRS 35-5.5
Pesticide Act	CRS 35-9
Pesticide Applicators Act	CRS 35-10
Colorado Department of Natural Resources, Division of Wildlife Regulations on Nongame Wildlife	2 CCR 406-10
Cultural Resources	
Colorado State Register for Historic Places	CRS 24-80.1
Hazardous Materials and Waste Management	
Colorado Hazardous Waste Act	CRS 25-15, Parts 1, 2, 3, and 5
Hazardous Substances Incidents	CRS 29-22
Petroleum Storage Tanks Statutes	CRS 8-20.5, Parts 1-3
Colorado Hazardous Waste Regulations	6 CCR 1007-3
Underground Storage Tanks and Aboveground Storage Tanks Regulations	7 CCR 1101-14
Colorado Radiation Control Regulations	6 CCR 1007-1, Parts 2, 4, 8, and 17

Other Local Statutes and Regulations
Jefferson County, Department of Health and Environment, Individual Sewage Disposal Systems Regulations
Jefferson County, Planning and Zoning Land Development Regulation, Section 18 (Drainage) and Section 20 (Floodplain) [Note: applies to off-site locations only.]
Jefferson County, Planning and Zoning Storm Drainage and Technical Criteria [Note: applies to off-site locations only.]
Metropolitan Wastewater Reclamation District Rules and Regulations
Pleasant View Water and Sanitation District Rules and Regulations
West Metro Fire Protection District Amendments to the International Fire Code
West Metro Fire Protection District Hazardous Materials Regulations

DOE Directives, Policies and Orders	
Natural Resource Damage Assessment Cooperation and Integration	DOE P 140.1
DOE Management of Cultural Resources	DOE P 141.1
Comprehensive Emergency Management System	DOE O 151.1C
Accident Investigations	DOE O 225.1B

DOE Directives, Policies and Orders	
DOE Oversight Policy	DOE P 226.1B
Implementation of DOE Oversight Policy	DOE O 226.1B
Independent Oversight Program	DOE O 227.1
Environment, Safety and Health Reporting	DOE O 231.1B Chg 1
Occurrence Reporting and Processing of Operations Information	DOE O 232.2 Chg 1
Work Authorization System	DOE O 412.1
Management Control Program	DOE O 413.1A
Program and Project Management for the Acquisition of Capital Assets (including High Performance Sustainable Building requirements)	DOE O 413.3B
Quality Assurance	DOE O 414.1D
Real Property Asset Management	DOE O 430.1B Chg 2
Radioactive Waste Management	DOE O 435.1 Chg 1
Departmental Sustainability	DOE O 436.1
Differing Professional Opinions for Technical Issues Involving Environmental, Safety, and Health Technical Concerns	DOE O 442.2
Integrated Safety Management	DOE O 450.2
NEPA Compliance Program	DOE O 451.1B Chg 3
The Safe Handling of Unbound Engineered Nanoparticles	DOE O 456.1 Chg 1
Radiation Protection of the Public and the Environment	DOE O 458.1 Chg 3

Appendix D

Description of the South Platte Water Related Activities Program and the Platte River Recovery Implementation Program

The South Platte Water Related Activities Program, Inc. (SPWRAP) is a Colorado nonprofit corporation established by Colorado water users for the purpose of representing water users' interests and partnering with the State of Colorado to implement the Platte River Recovery Implementation Program (PRRIP) in central Nebraska.

The following purposes of SPWRAP are taken from the organization's articles of incorporation. These purposes are focused on providing a successful outcome for the Platte Program for Colorado. We feel that a successful Platte Program offers Colorado water users the best option to address ESA issues on the Platte River and provides the most certainty for Colorado water users to be able to continue to divert and use existing water rights as well as to develop new sources of water.

- To assist in the recovery of species listed as threatened or endangered under the Endangered Species Act (ESA) through the development and operation of the Colorado Program component of the Platte River Recovery Implementation Program (PRRIP) in a manner that ensures the State of Colorado's compliance with PRRIP.
- To negotiate with federal agencies, other states, and various stakeholders on behalf of or in coordination with the State of Colorado in connection with implementation of the first increment of PRRIP and the formulation and implementation of future increments of PRRIP.
- Should the creation and implementation of PRRIP not be successful, assist in development and operation of a Colorado-Only Program or other programmatic ESA compliance approach in Colorado.
- To conduct other business as is reasonably necessary to accomplish the above purposes.

Additional information is available here:

http://www.spwrap.org/

Water use over the last century in the Platte River Basin, including the North and South Platte Rivers, has changed the hydrology of the river to such an extent that it has reduced important habitat components of four species associated with the Platte River in Nebraska. These four species, at various times, have been listed as either Threatened or Endangered under the Endangered Species Act. The governors of Nebraska, Colorado and Wyoming and the Secretary of the Interior entered into a Cooperative Agreement to address the needs these four species using the Platte River Basin. The agreement proposed a framework for a long-term Recovery Implementation Program to aid these species. In late 2006, the governors of Nebraska, Colorado, Wyoming and the Secretary of the Interior signed the final program agreement, effective January 1, 2007.

The Platte River Recovery Implementation Program (Program) brings together the states, federal government, water users and environmental groups to work collaboratively to improve and maintain the associated habitats for the designated species. The long-term goal of the Program is to improve and maintain the associated habitats which includes: 1) improving and maintaining migrational habitat for whooping cranes and reproductive habitat for least terns and piping plovers; 2) reducing the likelihood of other species found in the area being listed under the Endangered Species Act; and 3) testing the assumption that managing water flow in the central Platte River also improves the pallid sturgeon's lower Platte River habitat.

Additional information is available here: https://www.platteriverprogram.org/

Appendix E

Section 7 Consultation of the Endangered Species Act Correspondence with the U.S. Fish & Wildlife Service

Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

May 21, 2014

Susan Linner, Colorado Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
(MS 65412)
Denver, Colorado 80225

SUBJECT: BIOLOGICAL ASSESSMENT & REQUEST FOR FORMAL SECTION 7 CONSULTATION - PROPOSED IMPROVEMENTS FOR THE DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968)

Dear Ms. Linner:

This letter contains the Biological Assessment addressing potential impacts from the continued operations and proposed action at the U.S. Department of Energy's (DOE's) South Table Mountain (STM) campus at the National Renewable Energy Laboratory in Jefferson County, Colorado on federally-listed species in Nebraska. With this submission, we are requesting initiation of Formal Consultation under Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA), concerning the whooping crane (*Grus americana*), interior least tern (*Sternula antillarum*), northern Great Plains population of the piping plover (*Charadrius melodus*), pallid sturgeon (*Scaphirhynchus albus*) (collectively referred to as the target species), and designated critical habitat of the whooping crane. We further request initiation of Formal Consultation for the western prairie fringed orchid (*Platanthera praeclara)*. We have determined that the Project is not likely to adversely affect the American burying beetle (*Nicrophorus americanus*) and will have no effect on the Eskimo curlew (*Numenius borealis*). Other species including federally protected species potentially occurring in Jefferson County, Colorado, bald and golden eagles, and migratory birds are addressed in a separate mailing.

DOE is currently preparing a Site-Wide Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to analyze the potential impacts of possible site operations and improvements over the next five to ten years at the STM campus. The proposed action, as detailed in **Attachment I**, would include continued operations as well as modifications and improvements within the existing STM campus located in Jefferson County (see **Figure 1 and 2**). Specifically, the proposed action would include research, laboratory activities, and site operations enhancements; construction of new buildings and modification of existing buildings; and infrastructure and utilities that would need to

be installed to support buildings in undeveloped areas. These actions would take place on the existing DOE-owned STM campus property and are presented in **Figure 3**. The proposed action is being evaluated via the NEPA process, with details to be presented in the forthcoming draft Site-Wide Environmental Assessment of the Department of Energy's South Table Mountain Campus at the National Renewable Energy Laboratory, Golden, CO (DOE/EA-1968). In addition, continued operation of the existing STM campus would include the planned upgrades of a water-cooled super computer in the Energy Systems Integration Facility (ESIF), which was previously analyzed by DOE under NEPA (DOE/EA-1440-S-II).

The proposed action and continued operations of the South Table Mountain campus would result in some amount of continuing historic and new depletions to the South Platte River associated with research activities, site operations and maintenance activities, consumptive use, fire suppression, building heating and cooling, process water, and landscaping. Currently, DOE does not hold water rights associated with the site, there are no water wells onsite, and the STM campus does not use groundwater or surface water to meet its needs. Rather, the campus obtains its water via existing infrastructure from an existing domestic water supply system operated by the Consolidated Mutual Water Company of Lakewood, Colorado. Specifically, water provided to this campus comes from Consolidated Mutual's Maple Grove Reservoir. The Maple Grove Reservoir is supplied by waters from tributaries of Clear Creek, which is itself is a tributary of the South Platte River. Consolidated Mutual Water Company is a member of South Platte Water Related Activities Program, Inc. (SPWRAP) and a copy of their 2014 SPWRAP membership certificate can be found in **Attachment II**.

Continued operations and projected growth at the NREL STM campus over the next 10 years are anticipated to increase the onsite water usage. The addition of new buildings or building expansion would have a corresponding workforce increase (2% per year), an increase in demand for building heating and cooling, consumptive use, and increased demand for research related water use. These activities would increase water usage moderately. However, the continued use and expansion of the super computer at the ESIF will substantially add to the STM campus water use. Estimated water usage for the campus in 2014, 2015, 2020 (the duration of the current Platte River Recovery Implementation Program) and 2023 (planning window for the STM Site-Wide EA) are shown below:

- For 2014, the current water use is estimated to be 22,855,500 gallons (70.14 acre-feet) per year.
- For 2015, the projected usage would be 23,776,500 gallons 2014 (72.97 acre feet) per year.
- For 2020, the projected usage would be 38,605,500 gallons (118.48 acre feet) per year.
- For 2023, the projected usage would be 48,205,500 gallons (147.94 acre feet) per year (which will be in the second increment of PRRIP).

The Platte River Recovery Implementation Program (PRRIP), established in 2006, is implementing actions designed to assist in the conservation and recovery of the target species and their associated habitats along the central and lower Platte River in Nebraska through a basin-wide cooperative approach agreed to by the States of Colorado, Nebraska, and Wyoming and the U.S. Department of the Interior [Program, I.A.1.]. The Program addresses the adverse impacts of existing and certain new water related

activities on the Platte target species and associated habitats, and provides ESA compliance[1] for effects to the target species and whooping crane critical habitat from such activities including avoidance of any prohibited take of such species. [Program, I.A.2 & footnote 2.]. The State of Colorado is in compliance with its obligations under the Program.

For Federal actions and projects participating in the Program, the Platte River Recovery Implementation Program Final Environmental Impact Statement (FEIS) and the June 16, 2006 programmatic biological opinion (PBO) serve as the description of the environmental baseline and environmental consequences for the effects of the Federal actions on the listed target species, whooping crane critical habitat, and other listed species in the central and lower Platte River addressed in the PBO. These documents are hereby incorporated into this Biological Assessment by this reference.

Table II-1 of the PBO (pages 21-23) contains a list of species and critical habitat in the action area, their status, and the Service's determination of the effects of the Federal action analyzed in the PBO. The Service determined in the PBO that the continued operation of existing and certain new water-related activities may adversely affect but would not likely jeopardize the continued existence of the endangered whooping crane, interior least tern, and pallid sturgeon, or the threatened northern Great Plains population of the piping plover. Further, the Service found that the continued operation of existing and certain new water-related activities may adversely affect but would not likely jeopardize the threatened bald eagle and western prairie fringed orchid associated with the central and lower reaches of the Platte River in Nebraska, and was not likely to destroy or adversely modify designated critical habitat for the whooping crane. The bald eagle was subsequently removed from the federal endangered species list on August 8, 2007.

The Service also determined that the PBO Federal Action would have no effect to the endangered Eskimo curlew. There has not been a confirmed sighting since 1926 and this species is believed to be extirpated in Nebraska. Lastly, the Service determined that the PBO Federal Action, including the continued operation of existing and certain new water-related activities, was not likely to adversely affect the endangered American burying beetle.

The above-described annual water use for 2014 site operations at the STM Campus qualify as an "existing water related activity" because they reflect the effects of a surface water or hydrologically connected groundwater activity implemented on or before July 1, 1997, within the intent and coverage of the Program. [Program, I.A. footnote 3]. The estimated onsite water usage for 2014 is 22,855,500 gallons (70.14 acre-feet).

Under the proposed action, projected water use to 2020 qualifies as new water related activities because such operations constitute a new surface water or hydrologically connected groundwater activity which may affect the quantity or timing of water reaching the associated habitats of the target species

[1] "ESA Compliance" means: (1) serving as the reasonable and prudent alternative to offset the effects of water-related activities that FWS found were likely to cause jeopardy to one or more of the target species or to adversely modify critical habitat before the Program was in place; (2) providing offsetting measures to avoid the likelihood of jeopardy to one or more of the target species or adverse modification of critical habitat in the Platte River basin for new or existing water-related activities evaluated under the ESA after the Program was in place; and (3) avoiding any prohibited take of target species in the Platte River basin.

implemented after July 1, 1997. [Program, I.A. footnote 3]. The estimated maximum increase in new water use is 15,750,000 gallons (48.33 acre feet) for an overall total of 38,605,500 gallons (118.48 acre feet) in 2020. The continued operations and proposed action at the STM Campus conform to the following criteria in Section H of Colorado's Plan for Future Depletions [Program, Attachment 5, Section 9]:

1. The continued operations and proposed action are operated on behalf of Colorado water users;

2. The continued operations and proposed action do not involve construction of a major on-stream reservoir located on the mainstem of the South Platte River anywhere downstream of Denver, Colorado;

3. The continued operations and proposed action are not a hydropower diversion/return project diverting water including sediments from the mainstem of the South Platte River anywhere downstream of Denver and returning clear water to the South Platte River.

4. The continued operations and proposed action do not cause the average annual water supply to serve Colorado's population increase from Wastewater Exchange/Reuse and Native South Platte Flows to exceed 98,010 acre feet during the February-July period.

   Accordingly, the impacts of the continued operations and proposed action to the target species, whooping crane critical habitat, and other listed species in the central and lower Platte River addressed in the PBO are covered and offset by operation of Colorado's Future Depletions Plan as part of the PRRIP.

DOE intends to rely on the provisions of the Program to provide ESA compliance for potential impacts to the target species and whooping crane critical habitat. The DOE also intends to retain discretionary Federal authority for the Project, consistent with applicable regulations and Program provisions, in case re-initiation of Section 7 consultation is required.

This letter addresses consultation on all listed species and designated critical habitat, including the referenced Platte River target species and whooping crane critical habitat. Potential impacts from construction and operation of the proposed action to any other federally-listed threatened or endangered species and designated critical habitats will be addressed within the applicable biological opinion prepared by the Service, in accordance with the ESA.

If USFWS has any concerns or would like additional information please contact me via e-mail at Robert.Smith@go.doe.gov or by phone at 720-356-1576. In addition, you may mail comments to:

Robert Smith, CHMM
Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

Please provide acknowledgement of this request and help with streamlining the consultation process to assist us in moving the consultation process forward. DOE will include this correspondence in an appendix to the EA.

Sincerely,

Robert Smith, CHMM
NEPA Document Manager
U.S. Department of Energy
Golden Field Office

Attachment I – Project Description
Figures 1, 2, 3
Attachment II – The Consolidated Mutual Water Company's 2014 SPWRAP Membership Certificate

Attachment I: Background and Proposed Action Description

SITE BACKGROUND AND DESCRIPTION

The National Renewable Energy Laboratory (NREL) is the premier DOE national laboratory dedicated to the research, development, and deployment of renewable energy and energy efficiency technologies. As depicted in **Figure 1**, NREL is comprised of two main sites: South Table Mountain (STM) campus and the National Wind Technology Center (NWTC). Details regarding NREL's mission and research programs are available on the NREL website at: http://www.nrel.gov.

The 327-acre STM campus is located in Jefferson County, Colorado, along the southeast side of the South Table Mountain mesa, north of I-70, and west of the I-70 and Denver West Boulevard interchange, near Golden, Colorado. Approximately 136 acres of the site is available for development with 177 acres protected by a conservation easement, and development of the remaining 14 acres is restricted by utility easements. The community of Pleasant View is adjacent to the southern border of the STM campus. The STM campus includes portions of the South Table Mountain's mesa top, slope, and toe, and was formerly part of the Colorado National Guard facility at Camp George West. The STM campus houses five major research and support facilities located in the central part of the campus:

- Field Test Laboratory Building (FTLB)
- Solar Energy Research Facility (SERF)
- Science and Technology Facility (S&TF)
- Research Support Facility (RSF)
- Energy Systems Integration Facility (ESIF)

The campus also contains several smaller research and test facilities located mainly in the west end of the campus as well as the mesa top facilities. These include:

- Integrated Biorefinery Research Facility (IBRF)
- Outdoor Test Facility (OTF)
- Thermal Test Facility (TTF)
- Solar Radiation Research Laboratory (SRRL)
- High-Flux Solar Furnace (HFSF)
- Solar Industrial Mesa Test Area (SIMTA)
- Vehicle Testing and Integration Facility (VTIF)

Additionally, there are various support buildings located throughout the campus, such as Site Entrance Buildings, the NREL Education Center, a cafeteria, a parking garage, shipping and receiving, maintenance facilities, a waste handling facility, and on-site renewable energy systems, such as the Renewable Fuel Heat Plant (RFHP) and the Mesa Top Photovoltaic Array.

In support of the STM campus and DOE's mission, NREL and DOE also lease office and limited-capability laboratory space in the Denver West Office Park located east of the STM campus in the vicinity of the I-70 and Denver West Boulevard interchange.

Figure 2 shows the boundary of the STM campus and the location of leased facilities. **Figure 3** identifies the location of current buildings and other infrastructure on the STM campus.

In 2003, DOE released a final Site-Wide EA for the STM (DOE/EA-1440) evaluating the potential impacts of site operations and short-term and long-term improvements. A Finding of No Significant Impact was signed by DOE on July 1, 2003. As project-specific funding has become available to implement the STM campus build-out vision, additional project-specific NEPA analyses have been generated, as well as supplemental NEPA analyses to update the Site-Wide EA in accordance with 10 CFR 1021.330.

DOE has determined that a new comprehensive Site-Wide Environmental Assessment (DOE/EA-1968) should be prepared to address the ongoing and foreseeable future operations and activities of the STM campus and leased facilities in the Denver West Office Park. The subject of this Site-Wide EA includes the Proposed Action, discussed below, which would support DOE's mission in the research and development of energy efficiency and renewable energy technologies by providing enhanced research and support capabilities to adequately continue state-of-the-art renewable energy research.

PROPOSED ACTION AND ALTERNATIVES

The following presents a summary of the Proposed Action and No Action alternative descriptions.

Proposed Action

The Proposed Action is composed of individual, short-term and long-term components which together constitute potential activities and improvements to the STM campus and leased facilities over the next five to ten years. Federal budgeting decisions and fluctuating research and development priorities will determine which components of the Proposed Action are selected for funding and implementation. Thus, the specific physical requirements and locations of proposed facilities as well as their actual construction schedules may be uncertain for some components. In many cases, the descriptions of the improvements will be in general terms and the locations and schedules for components will be estimated based on currently available information and campus planning. Some of the Proposed Action components may never occur, or if implemented, may be of a smaller scale than currently presented. Therefore, the Site-Wide EA will use a "bounding analysis" approach to consider the full range of possible development scenarios. **Figure 3** identifies the potential location of the proposed action components in addition to current buildings and other infrastructure on the STM campus.

The components of the Proposed Action fit into three primary actions:

- Enhancing research, routine laboratory and site operations
- New building construction and modifications of existing buildings
- Infrastructure and utilities upgrades and enhancements

Enhancing Research, Routine Laboratory and Site Operations

This component of the Proposed Action would include research activities and routine laboratory operations in new and modified facilities, as well as the operation and maintenance of new and modified facilities and infrastructure. These tasks include routine laboratory operations, maintaining and upgrading existing research equipment, purchasing new research equipment, installing and removing test articles and experiments, monitoring, cleaning facilities and

equipment, maintaining landscape features, snowplowing, performing pest and weed management, and maintaining modified and new buildings and infrastructure.

New Building Construction and Modifications of Existing Facilities

S&TF Photovoltaic Research Modifications. DOE proposes internal modifications to the S&TF and consolidation of existing laboratory operations to expand NREL's capabilities to wash and etch silicon wafers using various caustic and acidic solutions. This would require the creation of a clean room within the S&TF, the purchase of new equipment and tool sets, and the installation of a liquid effluent treatment system.

Thermochemical Biofuels Research Facility (TBRF) Development. DOE would create the TBRF through either repurposing space in the FTLB, by constructing an expansion of the FTLB of up to 35,000 square feet, or as part of construction of a new building within the central or east campus. The TBRF would expand NREL's capabilities in researching thermochemical conversation, which is one of the processes used to convert biomass (e.g., trees, grasses, agricultural crops) into biofuels. This proposed facility would consist of high-bay laboratory and support laboratory space for bench-scale to approaching pilot-scale thermochemical biomass conversion research activities. The TBRF would be properly designed to meet industrial safety standards.

FTLB Workstation and Lab Space Addition. DOE would reconfigure existing space within the FTLB and construct an addition up to 7,500 square feet. The addition and reconfiguration would provide approximately 50 additional workstations and the vacated existing internal office space and cubicles would then be converted to laboratory space.

FTLB Modification for Algae and Other Research Organisms for Fuel. DOE would repurpose existing FTLB laboratory space and construct up to a two-story 30,000 square foot building expansion. The repurposing and expansion would provide additional laboratory and office space for several programs.

Outdoor Test Areas. DOE proposes to develop outdoor test areas and/or test pads to conduct multiple, short-term and long-term research demonstration and pilot renewable energy, energy efficiency, and energy system integration projects. This could include projects in photovoltaics, building systems or materials, wind energy, bioenergy demonstrations including algae growth, and other pilot scale research. These projects would be used for research and demonstration purposes, rather than on-site energy generation.

Wind energy projects would be limited to small-scale wind turbines up to 100 kW in capacity. This would include no more than two 100 kW turbines with rotor hub heights less than 200 feet to be used for distributive energy and grid integration testing at ESIF. Additionally, multiple smaller less than 10 kW may be mounted on buildings or monopoles and would be less than 50 feet. No turbines would be located on the mesa top.

Internal Reconfiguration of the TTF. With the Smart Power Laboratory having moved to its new location in the ESIF, DOE would reconfigure the now vacant 5,300 square foot space within the TTF by expanding the battery testing area, while also maintaining some space for commercial building equipment testing and calibration.

ESIF Security Enhancements. DOE proposes various security enhancements at ESIF to secure a portion of the facility to applicable sensitive information management standards. A majority of these enhancements would occur in the building interior, but exterior security enhancements such as additional fencing and security cameras may be required.

Research Support Facility III. DOE would construct an on-site office building or multi-building office complex providing 100,000 to 150,000 square feet of office and research support space. RSF III would house up to 300 staff, including staff that is currently located in leased, off-campus offices. Like the RSF I/II, RSF III would incorporate high-efficiency building design principles. RSF III would be located in the central part of the STM campus and construction would be planned within the next 5 to 10 years.

ReFUEL Laboratory Relocation. To consolidate and enhance vehicle systems testing on the STM campus, DOE proposes to relocate the existing, leased, off-site Renewable Fuels and Lubricants (ReFUEL) Laboratory located in Denver, Colorado (see **Figure 1**) to the STM campus. The relocated ReFUEL Laboratory would be approximately 5,000 square feet and would house a new engine dynamometer, as well as equipment relocated from the existing facility, such as the chassis dynamometer, fuel mixing and testing equipment, measurement devices for air emissions, etc. The relocated ReFUEL Laboratory would consist of high- and low-bay laboratories, outside test areas, and office and support for researchers and partners. This laboratory may be an addition to an existing or planned building, such as VTIF or REVS, or as a stand-alone building.

Renewable Energy Vehicle Systems (REVS) Facility. To consolidate and enhance vehicle systems testing on the STM campus, DOE would construct a new building approximately 100,000 square feet in size, with up to 45,000 square feet of paved area for visitor parking and vehicle testing. The REVS facility would provide specifically designed space for crucial, systems-level research associated with advanced transportation systems, such as electric storage and battery systems, electric motors and other propulsion systems, the integration and testing of advanced biofuels, hydrogen and other alternative fuels, and the design, testing and optimization of alternative vehicle fueling infrastructure. The REVS facility would most likely be located to the east of ESIF.

Waste Handling Facility Expansion. The Waste Handling Facility would be expanded from 1,065 square feet up to 4,000 square feet to accommodate the anticipated future needs of the campus. This expanded facility would be used for packaging and short-term storage of NREL's hazardous waste and other special wastes before the wastes are shipped offsite for proper management and disposal. No onsite waste treatment or disposal at this facility is proposed.

Site Operations and Maintenance Support Space. DOE would meet the need for the additional space for maintenance activities and support by repurposing existing site operations and maintenance facilities and by potentially expanding the Bulk Storage and Maintenance Buildings. The Bulk Storage building may be expanded up to 8,000 square feet and Maintenance Building up to 6,000 square feet.

Metrology Laboratory Relocation. DOE proposes to relocate the existing Metrology Laboratory currently within the SRRL building on the mesa top to a more accessible location closer to the

rest of the STM campus and more readily available to off-site customers. A new building between 2,000 to 4,000 square feet meeting the stringent qualifications for metrology and calibration laboratory space would be designed and built.

High Flux Solar Furnace Upgrade. Also, DOE would upgrade key components of the High-Flux Solar Furnace facility on the mesa top. This would only entail the upgrading of equipment, components, electronic hardware and software, and would not expand the footprint of the facility from its current size.

Infrastructure and Utilities Upgrades and Enhancements

On-site Fuel Storage. To support bioenergy and vehicle systems research, there may be a need to store various types of biofuels and petroleum-based blends. Fuel storage would be limited to four or less properly sited aboveground storage tanks of less than 1,500 gallons each.

TriGEN Central Plant. If one or two large additional buildings are added to the campus, a new central plant may be needed. In that scenario, DOE would construct a central plant housing a 1.5 megawatt natural gas fired fuel cell, and heating and cooling systems to generate electricity, as well as provide hot and cold water to the STM campus. The facility would be between 40,000 and 80,000 square feet in size, and would be likely located behind the S&TF and ESIF.

East Campus Infrastructure. If new building construction would occur to the east of ESIF, new roads, electrical loops, data lines, sewer, hot and cold process water loops, and stormwater infrastructure would be required.

On-Site Renewable Energy Deployment. To meet various sustainable goals, additional on-site renewable energy sources may be deployed on the STM campus including solar and geothermal. Additional photovoltaic systems could be added to rooftops of existing or new buildings, over parking lots, or on land unsuitable for buildings. No changes are proposed to the existing mesa top photovoltaic array. Closed loop geothermal systems could be installed for existing or new facilities to reduce heating and cooling costs. Stationary fuel cell systems could be deployed to generate electricity and heat.

Development of a Reasonable Range Of Alternatives

Under the No Action Alternative, the current level of activities and operations would continue at the STM campus and leased facilities at the Denver West Office Park.

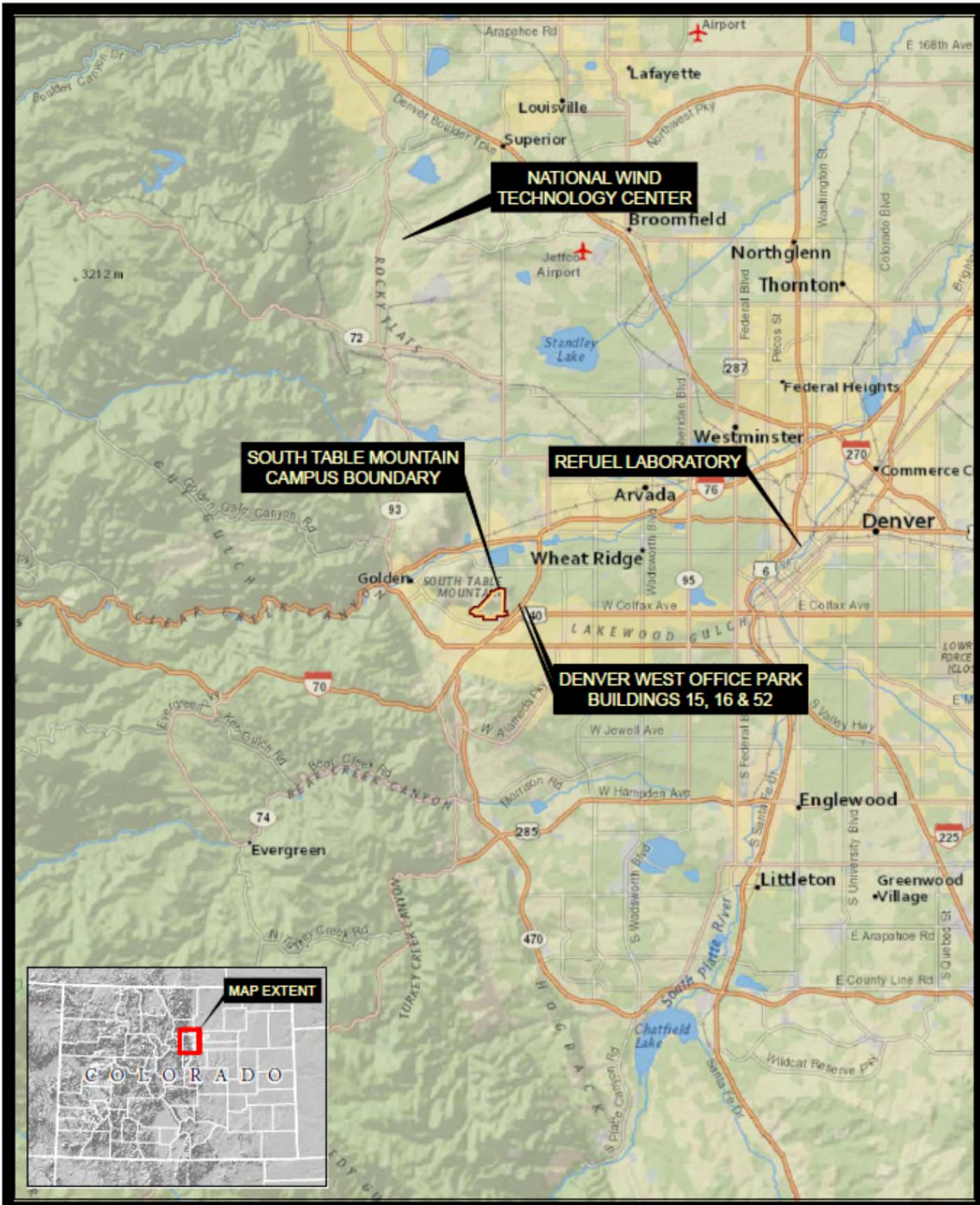


Figure 1 - Regional Site Location
South Table Mountain Campus

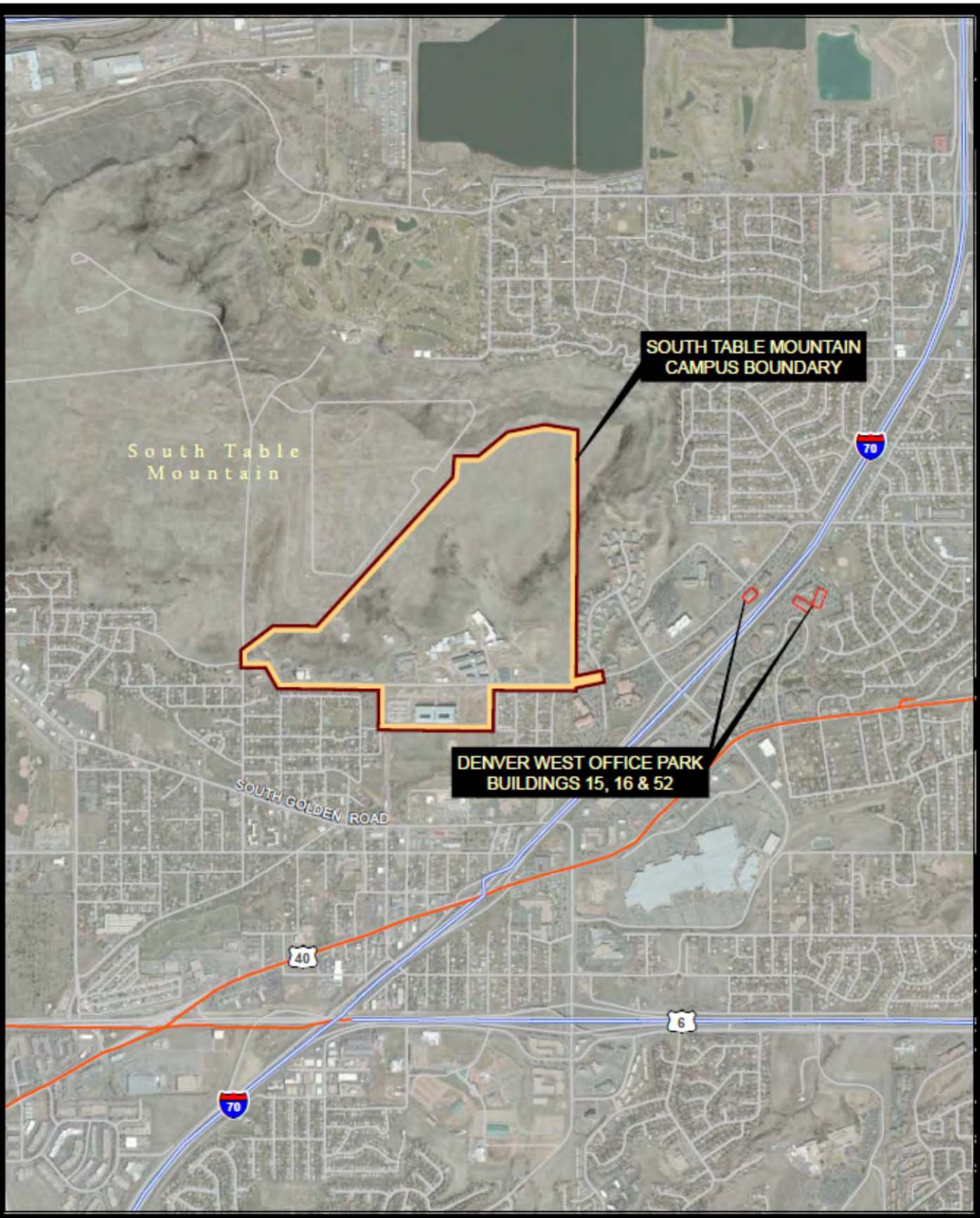
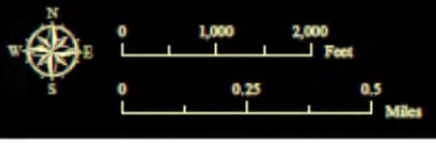


Figure 2 - Site Location
South Table Mountain Campus



PROPOSED ACTION	
A	S&TF PV Research Modifications
B	FTLB - Thermochemical Biofuels Research Facility (TBRF)
C	FTLB - Workstation and Lab Space Addition
D	FTLB - Expansion for Algae and Other Research Organisms for Fuel
E	Outdoor Test Pad (Zones 1, 3, 4, 5 & 6)
F	Internal Reconfiguration of the Thermal Test Facility
G	ESIF Security Enhancements
H	Research Support Facility III
I	ReFUEL Laboratory Relocation
J	Renewable Energy Vehicle Systems (REVS) Facility
K	Waste Handling Facility Expansion
L	NREL SITE Operations Support Space
M	Metrology Laboratory Relocation
N	High Flux Furnace Upgrade
O	TriGEN Central Plant
P	On Campus Renewable Energy Deployment (Zones 3, 4, 5 & 6)
Q	Additional Infrastructure at the East Campus

*Proposed action P calls for PV to be added in multiple locations throughout the STM campus.

MAP NUMBER	FACILITY NAME	MAP NUMBER	FACILITY NAME
1	Energy Systems Integration Facility (ESIF)	15	Maintenance Building
2	Education Center	16	Shipping & Recieving
3	Science & Technology Facility (S&TF)	17	Integrated Biorefinery Research Facility (IBRF)
4	Solar Energy Research Facility (SERF)	18	Thermal Test Facility (TTF)
5	Research Support Facility I (RSF I)	19	Outdoor Test Facility (OTF)
6	NREL Cafe	20	South Entrance, Site Entrance Building (SEB), (Employee Only Entrance)
7	Renewable Fuel Heat Plant (RFHP)	21	Research Support Facility II (RSF II)
8	East Entrance, Site Entrance Building (SEB), (Visitor's Entrance & Check-In)	22	Bulk Storage Building
9	Field Test Laboratory Building (FTLB)	23	Parking Garage
10	Vehicle Testing & Integration Facility (VTIF)	24	Surface Parking
11	High-Flux Solar Furnace (HFSF)	25	Waste Handling Facility (WHF)
12	Solar Radiation Research Laboratory (SRRL)	26	PV Array
13	Solar Industrial Mesa Test Area (SMTA)	27	Detention Pond
14	West Gate Entrance Facility (SEB), (Employee Only Entrance)		

Figure 3 South Table Mountain
Campus Map & Proposed Action Components

Legend
Existing Building
Existing Feature
Proposed Construction
Campus Boundary
Development Zone
A-Q Proposed Action Approximate Location

0 400 800
Feet

Data Sources: NREL, AECOM, ESRI

RECEIVED
JUN - 3 2014

Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

May 30, 2014

2014TA0682 EA - R Smith

U.S. FISH AND WILDLIFE SERVICE
☒ NO CONCERNS
☐ CONCUR NOT LIKELY TO ADVERSELY AFFECT
☐ NO COMMENT
JUN 24 2014
SUSAN C. LINNER DATE
COLORADO FIELD SUPERVISOR

Susan Linner, Colorado Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
(MS 65412)
Denver, Colorado 80225

SUBJECT: INITIATION OF INFORMAL SECTION 7 CONSULTATION, COMPLIANCE WITH MIGRATORY BIRD TREATY ACT & BALD AND GOLDEN EAGLE PROTECTION ACT - PROPOSED IMPROVEMENTS FOR THE DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968)

Dear Ms. Linner:

BACKGROUND

The U.S. Department of Energy (DOE) is initiating informal consultation pursuant to the requirements under Section 7(a)(2) of the Endangered Species Act and the U.S. Fish and Wildlife Service (USFWS) implementing regulations (50 CFR part 402) specifically regarding species listed by USFWS as Threatened or Endangered in Jefferson County, Colorado. DOE is also coordinating with your office, as required under the National Environmental Policy Act (NEPA) for the proposed potential improvements to DOE's South Table Mountain (STM) campus and leased facilities in the Denver West Office Park at the National Renewable Energy Laboratory (NREL), Jefferson County, Colorado. Additionally, DOE has already initiated formal consultations with your office for species potentially affected by Platte River depletions under separate cover.

DOE is currently preparing a Site-Wide Environmental Assessment (EA) to analyze the potential impacts of possible site operations and improvements over the next five to ten years at the STM campus and the nearby leased facilities at the Denver West Office Park. **Attachment I** contains background information, a description of the STM campus and Denver West Office Park leased facilities, and a summary of the proposed action for your reference.

LEASED FACILITIES AT THE DENVER WEST OFFICE PARK

DOE leases portions of a few buildings within the Denver West Office Park for administrative office space and limited indoor laboratories, and has no plans to expand these facilities. Furthermore, DOE currently does not conduct outdoor activities, does not plan to do so in future, and is not responsible for landscaping, exterior building maintenance, or other outside activities at these leased facilities in an established office park. Furthermore, DOE is currently projecting to reduce its leased space at Denver

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
P.O. Box 25486, DFC (65412)
Denver, Colorado 80225-0486

IN REPLY REFER TO:
ES/CO: DOE-STM Campus / PRRIP
TAILS: 06E24000-2014-F-0659

JUN 24 2014

Mr. Robert Smith, CHMM
U.S. Department of Energy - Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

Dear Mr. Smith:

This final biological opinion is provided in response to your May 21, 2014, request to initiate formal consultation pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (ESA). The May 21, 2014, letter/BA described the effects of the Department of Energy's (DOE) continued operations and proposed improvements for the South Table Mountain (STM) Campus (Project) at the National Renewable Energy Laboratory (NREL) (DOE/EA-1968), on federally listed species and designated critical habitat associated with the Platte River in Nebraska. Your May 21, 2014, letter/BA made no determination on the effects the proposed action may have on listed species/critical habitat in Colorado; therefore, this opinion will not cover any listed species in Colorado.

The Federal Action reviewed in this biological opinion is the continued site operations and proposed improvements over the next five to ten years at DOE's NREL STM campus in Jefferson County, Colorado. The Project would result in continuing and new federal water use associated with research activities, site operations and maintenance activities, consumptive use, fire suppression, building heating and cooling, process water, landscaping, and a water-cooled super computer in the Energy Systems Integration Facility (ESIF). Currently, DOE does not hold water rights associated with the site, there are no water wells onsite, and the STM campus does not use groundwater or surface water to meet its needs. Consequently, the campus purchases water through an existing domestic water supply system operated by the Consolidated Mutual Water Company (Consolidated Mutual), a member of the South Platte Water Related Activities Program, Inc. (SPWRAP).

BACKGROUND

On June 16, 2006, the U.S. Fish and Wildlife Service (Service) issued a programmatic biological opinion (PBO) for the PRRIP and water-related activities[1] affecting flow volume

[1] The term "water-related activities" means activities and aspects of activities which (1) occur in the Platte River final basin upstream of the confluence of the Loup River with the Platte River; and (2) may affect Platte River

and timing in the central and lower reaches of the Platte River in Nebraska. The action area for the PBO included the Platte River basin upstream of the confluence with the Loup River in Nebraska, and the mainstem of the Platte River downstream of the Loup River confluence.

The Federal Action addressed by the PBO included the following:

> 1) funding and implementation of the PRRIP for 13 years, the anticipated first stage of the PRRIP; and
>
> 2) continued operation of existing and certain new water-related activities[2] including, but not limited to, Reclamation and Service projects that are (or may become) dependent on the PRRIP for ESA compliance during the first 13-year stage of the PRRIP for their effects on the target species[3], whooping crane critical habitat, and other federally listed species[4] that rely on central and lower Platte River habitats.

The PBO established a two-tiered consultation process for future federal actions on existing and new water-related activities subject to section 7(a)(2) of the ESA, with issuance of the PBO being Tier 1 and all subsequent site-specific project analyses constituting Tier 2 consultations covered by the PBO. Under this tiered consultation process, the Service will produce tiered biological opinions when it is determined that future federal actions are "likely to adversely affect" federally listed species and/or designated critical habitat in the PRRIP action area and the project is covered by the PBO. If necessary, the biological opinions will also consider potential effects to other listed species and critical habitat affected by the Federal Action that were not within the scope of the Tier 1 PBO (e.g., direct or indirect effects to listed species occurring outside of the PRRIP action area).

Although the water depletive effects of this Federal Action to central and lower Platte River species have been addressed in the PBO, when "no effect" or "may affect" but "not likely to adversely affect" determinations are made on a site-specific basis for the target species in Nebraska, the Service will review these determinations and provide written concurrence

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flow quantity or timing, including, but not limited to, water diversion, storage and use activities, and land use activities. Changes in temperature and sediment transport will be considered impacts of a "water related activity" to the extent that such changes are caused by activities affecting flow quantity or timing. Impacts of "water related activities" do not include those components of land use activities or discharges of pollutants that do not affect flow quantity or timing.

[2] "Existing water related activities" include surface water or hydrologically connected groundwater activities implemented on or before July 1, 1997. "New water-related activities" include new surface water or hydrologically connected groundwater activities including both new projects and expansion of existing projects, both those subject to and not subject to section 7(a)(2) of the ESA, which may affect the quantity or timing of water reaching the associated habitats and which are implemented after July 1, 1997.

[3] The "target species" are the endangered whooping crane (*Grus americana*), the interior least tern (*Sternula antillarum*), the pallid sturgeon (*Scaphirynchus albus*), and the threatened northern Great Plains population of the piping plover (*Charadrius melodus*).

[4] Other listed species present in the central and lower Platte River include the western prairie fringed orchid (*Platanthera praeclara*) and American burying beetle (*Nicrophorus americanus*).

where appropriate. Upon receipt of written concurrence, section 7(a)(2) consultation will be considered completed for those federal actions.

Water-related activities requiring federal approval will be reviewed by the Service to determine if: (1) those activities comply with the definition of existing water-related activities and/or (2) proposed new water-related activities are covered by the applicable state's or the federal depletions plan. The Service has determined that the Project meets the above criteria and, therefore, this Tier 2 biological opinion regarding the effects of the Project on the target species, whooping crane critical habitat, and the western prairie fringed orchid in the central and lower Platte River can tier from the June 16, 2006 PBO.

CONSULTATION HISTORY

Table II-1 of the PBO (pages 21-23) contains a list of species and critical habitat in the action area, their status, and the Service's determination of the effects of the Federal Action analyzed in the PBO.

The Service determined in the Tier 1 PBO that the Federal Action, including the continued operation of existing and certain new water-related activities, may adversely affect but would not likely jeopardize the continued existence of the federally endangered whooping crane, interior least tern, and pallid sturgeon, or the federally threatened northern Great Plains population of the piping plover, western prairie fringed orchid, and bald eagle in the central and lower Platte River. Further, the Service determined that the Federal Action, including the continued operation of existing and certain new water-related activities, was not likely to destroy or adversely modify designated critical habitat for the whooping crane. The bald eagle was subsequently removed from the federal endangered species list on August 8, 2007. Bald eagles continue to be protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. For more information on bald eagles, see the Service's webpage at: http://www.fws.gov/midwest/eagle/recovery/biologue.html

The Service also determined that the PBO Federal Action would have no effect to the endangered Eskimo curlew. There has not been a confirmed sighting since 1926 and this species is believed to be extirpated in Nebraska. Lastly, the Service determined that the PBO Federal Action, including the continued operation of existing and certain new water-related activities, was not likely to adversely affect the endangered American burying beetle.

The effects of the continued operation of existing and certain new water-related activities on the remaining species and critical habitats listed in Table II-1 of the PBO were beyond the scope of the PBO and were not considered.

In a May 13, 2014, email to the Service, you inquired as to whether formal consultation was necessary for the Project's potential depletive effects to the listed Platte species in Nebraska. On May 14, 2014, Sandy Vana-Miller of my staff called to discuss the Project with you and recommended DOE request initiation of formal section 7 consultation by letter to this office.

The Service has reviewed the information contained in the BA, which was submitted by your office on May 21, 2014. Clarifying information for the Project BA was requested and received in this office on June 12, 2014. The Project BA stated that planned upgrades of a water-cooled super computer in the ESIF were previously analyzed by DOE under NEPA (Nov. 2009; DOE/EA-1440-S-II); however, effects of the Project's associated water use on the Platte species in Nebraska were not consulted on at that time.

We concur with your determinations of "likely to adversely affect" for the endangered whooping crane, interior least tern, pallid sturgeon, the threatened northern Great Plains population of the piping plover, and the western prairie fringed orchid in the central and lower Platte River in Nebraska. We also concur with your determination of "likely to adversely affect" for designated whooping crane critical habitat in Nebraska.

This office also concurs with your determination of "not likely to adversely affect" for the endangered American burying beetle in Nebraska.

In a May 30, 2014, letter to the Service, you requested concurrence on DOE's determination that the Project will not affect the Preble's meadow jumping mouse (*Zapus hudsonius preblei*), Ute ladies'-tresses orchid (*Spiranthes diluvialis*), Colorado butterfly plant (*Gaura neomexicana var. coloradensis*), Mexican spotted owl (*Strix occidentalis lucida*), Canada lynx (*Lynx canadensis*), and North American wolverine (*Gulo gulo luscus*) in Colorado. The Service will provide a response to this request under separate cover.

SCOPE OF THE TIER 2 BIOLOGICAL OPINION

The Project is a component of "the continued operation of existing and certain new water-related activities" needing a federal action evaluated in the Tier 1 PBO, and flow-related effects of the Federal Action are consistent with the scope and the determination of effects in the June 16, 2006 PBO. Because Consolidated Mutual, the water supplier, has elected to participate in the PRRIP through membership in the SPWRAP, ESA compliance for flow-related effects to federally listed endangered and threatened species and designated critical habitat from the Project is provided to the extent described in the Tier 1 PBO.

This biological opinion applies to the Project's effects to listed endangered and threatened species and designated critical habitat as described in the PBO for the first thirteen years of the PRRIP (i.e., the anticipated duration of the first PRRIP increment).

DESCRIPTION OF THE FEDERAL ACTION

The Federal Action is DOE's need for continued operations and proposed improvements over the next five to ten years at its NREL STM campus. The 327-acre STM campus is located along the southeast side of the South Table Mountain mesa, north of I-70, and west of the I-70 and Denver West Boulevard interchange near the Town of Golden. The Project would include research, laboratory activities, and site operations enhancements; construction of new

buildings and modification of existing buildings; and infrastructure and utilities that would need to be installed to support buildings in undeveloped areas.

The NREL is the premier DOE national laboratory dedicated to the research, development, and deployment of renewable energy and energy efficiency technologies. NREL is comprised of two main sites: STM campus and the National Wind Technology Center. The STM campus houses five major research and support facilities: the Field Test Laboratory Building (FTLB), Solar Energy Research Facility, Science and Technology Facility, Research Support Facility, and the ESIF. The campus also contains several smaller research and test facilities, and support buildings. Additionally, NREL and DOE lease office and limited-capability laboratory space in the Denver West Office Park, which is located in the vicinity of the I-70 and Denver West Boulevard interchange.

The Project would result in continuing and new/additional federal water use associated with research activities, site operations and maintenance activities, consumptive use, fire suppression, building heating and cooling, process water, landscaping, and an expanding super computer at the ESIF. Currently, DOE does not hold water rights associated with the site, there are no water wells onsite, and the STM campus does not use groundwater or surface water to meet its needs. Instead, the campus purchases water through existing infrastructure of a domestic water supply system operated by Consolidated Mutual. Specifically, the water comes from Consolidated Mutual's Maple Grove Reservoir, which is supplied by water from tributaries of Clear Creek, a tributary of the South Platte River. As mentioned above, Consolidated Mutual is a current member of SPWRAP.

Water use at the NREL STM campus essentially began once the first permanent research facility, the FTLB, was completed in 1985; approximately 7.77 acre-feet (af) were used that year. Over the past 29 years (through 2013), several new research and support facilities were built, increasing water usage to 70.14 af annually. Continued operations and projected growth (2% annual workforce increase) at the NREL STM campus over the next 10 years are anticipated to moderately increase onsite water use. However, the continued use and expansion of the super computer at the ESIF would substantially add to the STM campus water usage. Estimated current (2013) water usage and projected use in 2015 and 2023 (build-out) would be as follows: 22,855,500 gallons (70.14 af) of water in 2013; 23,776,500 gallons (72.97 af) per year of water projected for 2015; and 48,205,500 gallons (147.94 af) per year projected at build-out in 2023. Consequently, water use from 2013 (current use) to 2020 (end of the PRRIP's first increment) would increase by 15,750,000 gallons (48.33 af); and water use from 2013 to 2023 (build-out) would increase by 77.8 af.

STATUS OF THE SPECIES / CRITICAL HABITAT

Species descriptions, life histories, population dynamics, status and distributions are fully described in the PBO on pages 76-156 for the whooping crane, interior least tern, piping plover, pallid sturgeon and western prairie fringed orchid, and whooping crane critical habitat and are hereby incorporated by reference. Climate change is not explicitly identified in the

Tier 1 PBO as a potential threat, except for whooping crane and whooping crane critical habitat.

The terms "climate" and "climate change" are defined by the Intergovernmental Panel on Climate Change (IPCC). "Climate" refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements, although shorter or longer periods also may be used (IPCC 2007, p. 78). The term "climate change" thus refers to a change in the mean or variability of one or more measures of climate (e.g., temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2007, p. 78). Various types of changes in climate can have direct or indirect effects on species. These effects may be positive, neutral, or negative and they may change over time, depending on the species and other relevant considerations, such as the effects of interactions of climate with other variables (e.g., habitat fragmentation) (IPCC 2007, pp. 8–14, 18–19).

Changes in temperature and/or precipitation patterns will influence the status of the Platte River system. These changes may contribute to threats that have already been identified and discussed for interior least tern, piping plover, pallid sturgeon and western prairie fringed orchid in the Tier I PBO.

Since issuance of the Service's PBO, there have been no substantial changes in the status of the target species/critical habitat other than the bald eagle delisting previously mentioned.

ENVIRONMENTAL BASELINE

The Environmental Baseline sections for the Platte River and for the whooping crane, interior least tern, piping plover, pallid sturgeon and western prairie fringed orchid, and whooping crane critical habitat are described on pages 157 to 219 of the Tier 1 PBO, and are hereby incorporated by reference. The status of the Platte River system includes a discussion on the impact of climate change. The Tier 1 BO concluded that although climate change has been identified as a contributor to the baseline, human activities are the biggest influence on the baseline. For the first 13-year stage of the PRRIP, human activities are expected to continue to be the major influence on the functionality of the action area for listed species and critical habitat.

Since issuance of the Tier 1 PBO, there have been no substantial changes in the status of the target species/critical habitat in the action area other than the bald eagle delisting.

EFFECTS OF THE ACTION

The Tier 1 BO did not address climate change in the Effects of The Action section, as human activities (upstream storage, diversion, and distribution of the river's flow) are the most important drivers of change that adversely affect species habitat in the action area. Since issuance of the Tier 1 PBO, our analyses under the ESA include consideration of ongoing and

projected changes in climate. In our analyses, we used our expert judgment to weigh relevant information, including uncertainty, in our consideration of various aspects of climate change. Actions that are undertaken to improve the river ecology and habitats for listed species not only address human activities, but also contribute to listed species and whooping crane critical habitat resiliency to climate change.

Based on our analysis of your BA for the Project, the Service concludes that the Federal Action will result in a combination of existing and new federal depletions to the Platte River system above the Loup River confluence. These depletions are associated with the current use of 70.14 af of water for ongoing site operations and maintenance, including the ESIF super computer; and beginning in 2015, an estimated 72.97 af per year for continued site operations and maintenance (including the upgraded super computer), and construction-related activities. At build-out (2023), water use at the STM campus would be 147.94 af per year, a maximum increase of 77.8 af per year from the current water usage at the STM campus.

As both an existing and new federal water-related activity, we have determined that the flow-related adverse effects of the Project are consistent with those evaluated in the Tier 1 PBO for the whooping crane, interior least tern, piping plover, pallid sturgeon, western prairie fringed orchid, and whooping crane critical habitat, and these effects on flows are being addressed in conformance with the Colorado Plan for Future Depletions of the PRRIP.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local, or private (non-federal) actions that are reasonably certain to occur in the action area considered in this biological opinion. A non-federal action is "reasonably certain" to occur if the action requires the approval of a State or local resource or land-control agency, such agencies have approved the action, and the project is ready to proceed. Other indicators which may also support such a "reasonably certain to occur" determination include whether: a) the project sponsors provide assurance that the action will proceed; b) contracting has been initiated; c) State or local planning agencies indicate that grant of authority for the action is imminent; or d) where historic data have demonstrated an established trend, that trend may be forecast into the future as reasonably certain to occur. These indicators must show more than the possibility that the non-federal project will occur; they must demonstrate with reasonable certainty that it will occur. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA and would be consulted on at a later time.

Cumulative effects are described on pages 194 to 300 of the Tier 1 PBO, and are hereby incorporated by reference. Since the Tier 1 PBO was issued, there have been no substantial changes in the status of cumulative effects.

CONCLUSION

The Service concludes that the Continued Operations and Proposed Improvements for the STM Campus Project is consistent with the Tier 1 PBO for effects to listed species and critical habitat addressed in the Tier 1 PBO. After reviewing site specific information, including: 1) the scope of the Federal Action, 2) the environmental baseline, 3) the status of the whooping crane, interior least tern, piping plover, pallid sturgeon, and the western prairie fringed orchid in the central and lower Platte River and their potential occurrence within the project area, as well as whooping crane critical habitat, 4) the effects of the Project, and 5) any cumulative effects, it is the Service's biological opinion that the Project, as described, is not likely to jeopardize the continued existence of the federally endangered whooping crane, interior least tern, and pallid sturgeon, or the federally threatened northern Great Plains population of the piping plover, or western prairie fringed orchid in the central and lower Platte River. The Federal Action is also not likely to destroy or adversely modify designated critical habitat for the whooping crane.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct, and applies to individual members of a listed species. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

Sections 7(b)(4) and 7(o)(2) of ESA do not apply to the incidental take of federally listed plant species (e.g., Colorado butterfly plant, Ute ladies'-tresses orchid, and western prairie fringed orchid). However, limited protection of listed plants from take is provided to the extent that ESA prohibits the removal and reduction to possession of federally listed endangered plants or the malicious damage of such plants on non-federal areas in violation of state law or regulation or in the course of any violation of a state criminal trespass law. Such laws vary from state to state.

The Department of the Interior, acting through the Service and Bureau of Reclamation, is implementing all pertinent Reasonable and Prudent Measures and implementing Terms and Conditions stipulated in the Tier 1 PBO Incidental Take Statement (pages 309-326 of the

PBO) which will minimize the anticipated incidental take of federally listed species. In instances where the amount or extent of incidental take outlined in the Tier 1 PBO is exceeded, or the amount or extent of incidental take for other listed species is exceeded, the specific PRRIP action(s) causing such take shall be subject to reinitiation expeditiously.

CONSERVATION RECOMMENDATIONS

Section 7(a) (1) of ESA directs federal agencies to utilize their authorities to further the purposes of ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of an action on listed species or critical habitat, to help implement recovery plans, or to develop information. Conservation recommendations are provided in the PBO (pages 328-329) and are hereby incorporated by reference.

REINITIATION AND CLOSING STATEMENT

Any person or entity undertaking a water-related activity that receives federal funding or a federal authorization and which relies on the PRRIP as a component of its ESA compliance in section 7 consultation must agree: (1) to the inclusion in its federal funding or authorization documents of reopening authority, including reopening authority to accommodate reinitiation upon the circumstances described in Section IV.E. of the Program document, which addresses program termination; and (2) to request appropriate amendments from the federal action agency as needed to conform its funding or authorization to any PRRIP adjustments negotiated among the three states and the Department of the Interior, including specifically new requirements, if any, at the end of the first PRRIP increment and any subsequent PRRIP increments. The Service believes that the PRRIP should not provide ESA compliance for any water-related activity for which the funding or authorization document does not conform to any PRRIP adjustments (Program Document, section VI).

Reinitiation of consultation over the Continued Operations and Proposed Improvements for the STM Campus Project will not be required at the end of the first 13-years of the PRRIP provided a subsequent Program increment or first increment Program extension is adopted pursuant to appropriate ESA and NEPA compliance procedures, and, for a subsequent increment, the effects of the Project are covered under a Tier 1 PBO for that increment addressing continued operation of previously consulted-on water-related activities.

This concludes formal consultation on the actions outlined in the May 21, 2014, request from the DOE. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or 4) a new species is listed or critical habitat designated that

may be affected by the action. In instances where the amount or extent of incidental take is exceeded, the specific action(s) causing such take shall be subject to reinitiation expeditiously.

Requests for reinitiation, or questions regarding reinitiation should be directed to the Service's Colorado Field Office at the above address. If you have any questions regarding this consultation, please contact Sandy Vana-Miller of my staff at (303) 236-4748.

Sincerely,

Susan C. Linner
Colorado Field Supervisor

ec: FWSR6/WTR, T. Econopouly
FWSR6/ES/NE, M. Rabbe
FWSR6/ES/LK, S. Vana-Miller

LITERATURE CITED

IPCC. 2007. *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, Pachauri, R.K., and A. Reisinger (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

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U.S. Department of the Interior. 2006. Platte River Recovery Implementation Program Final Environmental Impact Statement.

U.S. Fish and Wildlife Service. 2006. Biological opinion on the Platte River Recovery Implementation Program.

Appendix F
Section 106 Consultation of the National Historic Preservation Act Correspondence

Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

June 4, 2014

Edward C. Nichols
State Historic Preservation Officer
History Colorado Center
1200 Broadway
Denver, CO 80203

SUBJECT: SECTION 106 COMPLIANCE FOR THE SITE-WIDE ENVIRONMENTAL ASSESSMENT OF THE U.S. DEPARTMENT OF ENERGY'S SOUTH TABLE MOUNTAIN CAMPUS AT THE NATIONAL RENEWABLE ENERGY LABORATORY, GOLDEN, CO (DOE/EA-1968)

Dear Mr. Nichols:

BACKGROUND

The U.S. Department of Energy (DOE) is initiating consultation pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and its associated implementing regulations codified at 36 CFR Part 800. DOE is also coordinating with your office, as required under the National Environmental Policy Act (NEPA) for the proposed potential improvements to DOE's South Table Mountain (STM) campus and leased facilities in the Denver West Office Park at the National Renewable Energy Laboratory (NREL), Jefferson County, Colorado.

DOE is currently preparing a Site-Wide Environmental Assessment (EA) to analyze the potential impacts of possible site operations and improvements over the next five to ten years at the STM campus and the nearby leased facilities at the Denver West Office Park. **Attachment I** contains background information on the Site-Wide EA including a description of the existing STM campus and Denver West Office Park leased facilities, and a summary of the Proposed Action for your reference.

LEASED FACILITIES AT THE DENVER WEST OFFICE PARK

DOE leases portions of a few buildings within the Denver West Office Park for administrative office space and limited indoor laboratories, and has no plans to expand these facilities. Furthermore, DOE currently does not conduct outdoor activities, does not plan to do so in future, and is not responsible for landscaping, exterior building maintenance, or other outside activities at these leased facilities in an established office park. There are no eligible or listed historic properties in the vicinity of these buildings. Given the lack of potential activities or actions that may affect historic properties at these leased facilities, the remainder of this letter will focus only on the NREL STM campus.

NREL SOUTH TABLE MOUNTAIN CAMPUS

The STM campus is owned by DOE and is the main research center for NREL with nearly 80 percent of the laboratory's staff having their offices and laboratories there. The STM campus is approximately two miles east of Golden and 12 miles west of central Denver (see **Figures 1 and 2**). The STM campus is a roughly triangular parcel of land occupying portions of the top, sides, and lower south-facing slopes of South Table Mountain, a mesa that stands about 492 feet above the adjacent lowlands. The STM campus was formerly part of Camp George West, a Colorado Army National Guard installation that began operation in 1903.

The STM campus is a 327-acre area predominantly bordered by open grassland zoned for recreation and light-commercial activity. Portions of the community of Pleasant View are located immediately to the south and west. Pleasant View has constructed a recreational park immediately south of the STM campus in the northern portion of the Camp George West Historic District (5JF145). A majority of the contributing features of Camp George West Historic District lie further south on the opposite bank of Lena Gulch along South Golden Road on property operated by the Colorado National Guard, Colorado State Patrol, Colorado Department of Transportation and the Colorado Department of Corrections. Offices, shops, and a tree nursery owned by the Colorado State Forest Service are located at the far western edge of the STM campus. Undeveloped state land and a Colorado State Patrol pursuit driver-training track are located along the northwestern boundary of the STM site on top of the mesa. Jefferson County Open Space property wraps around the northern and the eastern edge of the site. Portions of Denver West Office Park and apartment homes lie to the east.

The STM campus houses five major renewable energy and energy efficiency research and support facilities located in the central part of the campus (see **Figure 3**). The campus also contains several user and testing facilities located in the west end of the campus, as well as the mesa top facilities. The campus also includes other research support facilities, site operations facilities, and supporting infrastructure. **Attachment I** provides a more detailed narrative of existing campus facilities and infrastructure.

More than half of the STM site (177 acres) has been set aside in a conservation easement with Jefferson County, as depicted as Zone 2 in **Figure 3**. This includes a majority of the mesa top, slope and toe of South Table Mountain. No development is allowed on that land, with the exception of some existing utility easements and recreational trails to be established by Jefferson County Open Space. In addition, Zone 7 includes another 11 acres where potential development is limited to protect cultural resources.
These are features listed on the National Register of Historic Places including the Colorado Amphitheater with an adjacent stone bridge spanning a natural drainage channel (5JF842) and the Ammunition Igloo (5JF843). Both of these features are associated with the Camp George West Historic District. Several cultural resource surveys and assessments of the entire STM campus have been conducted with no additional eligible or significant features identified (Nelson 1980, Forum Associates 1987, Butler 1992, Simmons & Simmons 1992). The oldest DOE structure or building on the STM campus is the Field Test Laboratory Building (FTLB), which was built in 1985. The 25-acres that comprise Zone 6 are within the boundary of the Camp George West Historical District and DOE consulted with your office in 2003 for potential development within that parcel. The consultation resulted in the execution of a MOU and the preparation Level II HABS/HAER documentation (SAIC 2006).

PROPOSED SECTION 106 COMPLIANCE APPROACH

We met recently with Mr. Mark Tobias and Mr. Dan Corson of your office to discuss potential approaches to meet our Section 106 obligations for this Site-Wide Environmental Assessment. Given lack of known archeological resources and the prohibition of development in the areas surrounding the Amphitheater and Ammunition Igloo, the primary concern involves indirect visual impacts to those features. These effects could occur from new development near and within the viewshed of these resources. However, at this time there is an insufficient level of detail available about the location and design (dimensions, visual massing, architectural features, etc.) of proposed facilities potentially near these resources to determine an Area of Potential Effect (APE) considering indirect visual impacts, to identify historic properties in that APE per 36 CFR 800.4, and conduct a proper effects analysis pursuant to 36 CFR 800.5. Therefore, DOE proposes to meet our Section 106 obligations by consulting in the future, on a project-by-project basis, as individual parts of the Proposed Action get proposed for funding and authorization. At that point, they would also be reevaluated for NEPA compliance.

We are requesting concurrence from your office with this approach to meet our Section 106 obligations for this undertaking. If you have any concerns or would like additional information, please contact me via email at Robert.Smith@go.doe.gov or by phone at 720-356-1576. In addition, you may mail comments to:

Robert Smith, CHMM
U.S. Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

Please provide acknowledgement of this request within 30 days of the receipt of this letter to assist us in moving the consulting process forward. DOE will include this correspondence in an appendix to the Site-Wide EA. The DOE Golden Field Office welcomes your input throughout the NEPA process.

Sincerely,

Robert Smith, CHMM
NEPA Document Manager
U.S. Department of Energy
Golden Field Office

Cc:
Jefferson County Historical Commission
Jefferson County Historical Society
Golden Landmarks Association
Tom Ryon, NREL

Enclosures:
Attachment I – Background and Proposed Action Description
Figures 1, 2, 3

References

Butler, William B. 1992. *Archaeological Survey of Camp George West and the Works Progress Administration South Table Mountain Basalt Quarries, Jefferson County, Colorado*. National Park Service, Interagency Archaeological Services, Denver. Report prepared for the Colorado National Guard (Department of Defense Legacy Resource Management Program No. 60).

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Science Applications International Corporation, Inc. 2006. *Camp George West Level II HABS/HAER Documentation.* Prepared for the U.S. Department of Energy, Golden, Colorado. January.

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Attachment I: Background and Proposed Action Description

SITE BACKGROUND AND DESCRIPTION

The National Renewable Energy Laboratory (NREL) is the premier DOE national laboratory dedicated to the research, development, and deployment of renewable energy and energy efficiency technologies. As depicted in **Figure 1**, NREL is comprised of two main sites: South Table Mountain (STM) campus and the National Wind Technology Center (NWTC). Details regarding NREL's mission and research programs are available on the NREL website at: http://www.nrel.gov.

The 327-acre STM campus is located in Jefferson County, Colorado, along the southeast side of the South Table Mountain mesa, north of I-70, and west of the I-70 and Denver West Boulevard interchange, near Golden, Colorado. Approximately 136 acres of the site is available for development with 177 acres protected by a conservation easement, and development of the remaining 14 acres is restricted by utility easements. The community of Pleasant View is adjacent to the southern border of the STM campus. The STM campus includes portions of the South Table Mountain's mesa top, slope, and toe, and was formerly part of the Colorado National Guard facility at Camp George West. The STM campus houses five major research and support facilities located in the central part of the campus:

- Field Test Laboratory Building (FTLB)
- Solar Energy Research Facility (SERF)
- Science and Technology Facility (S&TF)
- Research Support Facility (RSF)
- Energy Systems Integration Facility (ESIF)

The campus also contains several smaller research and test facilities located mainly in the west end of the campus as well as the mesa top facilities. These include:

- Integrated Biorefinery Research Facility (IBRF)
- Outdoor Test Facility (OTF)
- Thermal Test Facility (TTF)
- Solar Radiation Research Laboratory (SRRL)
- High-Flux Solar Furnace (HFSF)
- Solar Industrial Mesa Test Area (SIMTA)
- Vehicle Testing and Integration Facility (VTIF)

Additionally, there are various support buildings located throughout the campus, such as Site Entrance Buildings, the NREL Education Center, a cafeteria, a parking garage, shipping and receiving, maintenance facilities, a waste handling facility, and on-site renewable energy systems, such as the Renewable Fuel Heat Plant (RFHP) and the Mesa Top Photovoltaic Array.

In support of the STM campus and DOE's mission, NREL and DOE also lease office and limited-capability laboratory space in the Denver West Office Park located east of the STM campus in the vicinity of the I-70 and Denver West Boulevard interchange.

Figure 2 shows the boundary of the STM campus and the location of leased facilities. **Figure 3** identifies the location of current buildings and other infrastructure on the STM campus.

In 2003, DOE released a final Site-Wide EA for the STM (DOE/EA-1440) evaluating the potential impacts of site operations and short-term and long-term improvements. A Finding of No Significant Impact was signed by DOE on July 1, 2003. As project-specific funding has become available to implement the STM campus build-out vision, additional project-specific NEPA analyses have been

generated, as well as supplemental NEPA analyses to update the Site-Wide EA in accordance with 10 CFR 1021.330.

DOE has determined that a new comprehensive Site-Wide Environmental Assessment (DOE/EA-1968) should be prepared to address the ongoing and foreseeable future operations and activities of the STM campus and leased facilities in the Denver West Office Park. The subject of this Site-Wide EA includes the Proposed Action, discussed below, which would support DOE's mission in the research and development of energy efficiency and renewable energy technologies by providing enhanced research and support capabilities to adequately continue state-of-the-art renewable energy research.

PROPOSED ACTION AND ALTERNATIVES

The following presents a summary of the Proposed Action and No Action alternative descriptions.

Proposed Action

The Proposed Action is composed of individual, short-term and long-term components which together constitute potential activities and improvements to the STM campus and leased facilities over the next five to ten years. Federal budgeting decisions and fluctuating research and development priorities will determine which components of the Proposed Action are selected for funding and implementation. Thus, the specific physical requirements and locations of proposed facilities as well as their actual construction schedules may be uncertain for some components. In many cases, the descriptions of the improvements will be in general terms and the locations and schedules for components will be estimated based on currently available information and campus planning. Some of the Proposed Action components may never occur, or if implemented, may be of a smaller scale than currently presented. Therefore, the Site-Wide EA will use a "bounding analysis" approach to consider the full range of possible development scenarios. **Figure 3** identifies the potential location of the proposed action components in addition to current buildings and other infrastructure on the STM campus.

The components of the Proposed Action fit into three primary actions:

- Enhancing research, routine laboratory and site operations
- New building construction and modifications of existing buildings
- Infrastructure and utilities upgrades and enhancements

Enhancing Research, Routine Laboratory and Site Operations

This component of the Proposed Action would include research activities and routine laboratory operations in new and modified facilities, as well as the operation and maintenance of new and modified facilities and infrastructure. These tasks include routine laboratory operations, maintaining and upgrading existing research equipment, purchasing new research equipment, installing and removing test articles and experiments, monitoring, cleaning facilities and equipment, maintaining landscape features, snowplowing, performing pest and weed management, and maintaining modified and new buildings and infrastructure.

New Building Construction and Modifications of Existing Facilities

S&TF Photovoltaic Research Modifications. DOE proposes internal modifications to the S&TF and consolidation of existing laboratory operations to expand NREL's capabilities to wash and etch silicon wafers using various caustic and acidic solutions. This would require the creation of a clean room within the S&TF, the purchase of new equipment and tool sets, and the installation of a liquid effluent treatment system.

Thermochemical Biofuels Research Facility (TBRF) Development. DOE would create the TBRF through either repurposing space in the FTLB, by constructing an expansion of the FTLB of up to 35,000 square feet, or as part of construction of a new building within the central or east campus. The TBRF would

expand NREL's capabilities in researching thermochemical conversation, which is one of the processes used to convert biomass (e.g., trees, grasses, agricultural crops) into biofuels. This proposed facility would consist of high-bay laboratory and support laboratory space for bench-scale to approaching pilot-scale thermochemical biomass conversion research activities. The TBRF would be properly designed to meet industrial safety standards.

FTLB Workstation and Lab Space Addition. DOE would reconfigure existing space within the FTLB and construct an addition up to 7,500 square feet. The addition and reconfiguration would provide approximately 50 additional workstations and the vacated existing internal office space and cubicles would then be converted to laboratory space.

FTLB Modification for Algae and Other Research Organisms for Fuel. DOE would repurpose existing FTLB laboratory space and construct up to a two-story 30,000 square foot building expansion. The repurposing and expansion would provide additional laboratory and office space for several programs.

Outdoor Test Areas. DOE proposes to develop outdoor test areas and/or test pads to conduct multiple, short-term and long-term research demonstration and pilot renewable energy, energy efficiency, and energy system integration projects. This could include projects in photovoltaics, building systems or materials, wind energy, bioenergy demonstrations including algae growth, and other pilot scale research. These projects would be used for research and demonstration purposes, rather than on-site energy generation.

Wind energy projects would be limited to small-scale wind turbines up to 100 kW in capacity. This would include no more than two 100 kW turbines with rotor hub heights less than 200 feet to be used for distributive energy and grid integration testing at ESIF. Additionally, multiple smaller less than 10 kW may be mounted on buildings or monopoles and would be less than 50 feet. No turbines would be located on the mesa top.

Internal Reconfiguration of the TTF. With the Smart Power Laboratory having moved to its new location in the ESIF, DOE would reconfigure the now vacant 5,300 square foot space within the TTF by expanding the battery testing area, while also maintaining some space for commercial building equipment testing and calibration.

ESIF Security Enhancements. DOE proposes various security enhancements at ESIF to secure a portion of the facility to applicable sensitive information management standards. A majority of these enhancements would occur in the building interior, but exterior security enhancements such as additional fencing and security cameras may be required.

Research Support Facility III. DOE would construct an on-site office building or multi-building office complex providing 100,000 to 150,000 square feet of office and research support space. RSF III would house up to 300 staff, including staff that is currently located in leased, off-campus offices. Like the RSF I/II, RSF III would incorporate high-efficiency building design principles. RSF III would be located in the central part of the STM campus and construction would be planned within the next 5 to 10 years.

ReFUEL Laboratory Relocation. To consolidate and enhance vehicle systems testing on the STM campus, DOE proposes to relocate the existing, leased, off-site Renewable Fuels and Lubricants (ReFUEL) Laboratory located in Denver, Colorado (see **Figure 1**) to the STM campus. The relocated ReFUEL Laboratory would be approximately 5,000 square feet and would house a new engine dynamometer, as well as equipment relocated from the existing facility, such as the chassis dynamometer, fuel mixing and testing equipment, measurement devices for air emissions, etc. The relocated ReFUEL Laboratory would consist of high- and low-bay laboratories, outside test areas, and office and support for researchers and partners. This laboratory may be an addition to an existing or planned building, such as VTIF or REVS, or as a stand-alone building.

Renewable Energy Vehicle Systems (REVS) Facility. To consolidate and enhance vehicle systems testing on the STM campus, DOE would construct a new building approximately 100,000 square feet in size, with up to 45,000 square feet of paved area for visitor parking and vehicle testing. The REVS facility would provide specifically designed space for crucial, systems-level research associated with advanced transportation systems, such as electric storage and battery systems, electric motors and other propulsion systems, the integration and testing of advanced biofuels, hydrogen and other alternative fuels, and the design, testing and optimization of alternative vehicle fueling infrastructure. The REVS facility would most likely be located to the east of ESIF.

Waste Handling Facility Expansion. The Waste Handling Facility would be expanded from 1,065 square feet up to 4,000 square feet to accommodate the anticipated future needs of the campus. This expanded facility would be used for packaging and short-term storage of NREL's hazardous waste and other special wastes before the wastes are shipped offsite for proper management and disposal. No onsite waste treatment or disposal at this facility is proposed.

Site Operations and Maintenance Support Space. DOE would meet the need for the additional space for maintenance activities and support by repurposing existing site operations and maintenance facilities and by potentially expanding the Bulk Storage and Maintenance Buildings. The Bulk Storage building may be expanded up to 8,000 square feet and Maintenance Building up to 6,000 square feet.

Metrology Laboratory Relocation. DOE proposes to relocate the existing Metrology Laboratory currently within the SRRL building on the mesa top to a more accessible location closer to the rest of the STM campus and more readily available to off-site customers. A new building between 2,000 to 4,000 square feet meeting the stringent qualifications for metrology and calibration laboratory space would be designed and built.

High Flux Solar Furnace Upgrade. Also, DOE would upgrade key components of the High-Flux Solar Furnace facility on the mesa top. This would only entail the upgrading of equipment, components, electronic hardware and software, and would not expand the footprint of the facility from its current size.

Infrastructure and Utilities Upgrades and Enhancements

On-site Fuel Storage. To support bioenergy and vehicle systems research, there may be a need to store various types of biofuels and petroleum-based blends. Fuel storage would be limited to four or less properly sited aboveground storage tanks of less than 1,500 gallons each.

TriGEN Central Plant. If one or two large additional buildings are added to the campus, a new central plant may be needed. In that scenario, DOE would construct a central plant housing a 1.5 megawatt natural gas fired fuel cell, and heating and cooling systems to generate electricity, as well as provide hot and cold water to the STM campus. The facility would be between 40,000 and 80,000 square feet in size, and would be likely located behind the S&TF and ESIF.

East Campus Infrastructure. If new building construction would occur to the east of ESIF, new roads, electrical loops, data lines, sewer, hot and cold process water loops, and stormwater infrastructure would be required.

On-Site Renewable Energy Deployment. To meet various sustainable goals, additional on-site renewable energy sources may be deployed on the STM campus including solar and geothermal. Additional photovoltaic systems could be added to rooftops of existing or new buildings, over parking lots, or on land unsuitable for buildings. No changes are proposed to the existing mesa top photovoltaic array. Closed loop geothermal systems could be installed for existing or new facilities to reduce heating and cooling costs. Stationary fuel cell systems could be deployed to generate electricity and heat.

Development of a Reasonable Range Of Alternatives

Under the No Action Alternative, the current level of activities and operations would continue at the STM campus and leased facilities at the Denver West Office Park.

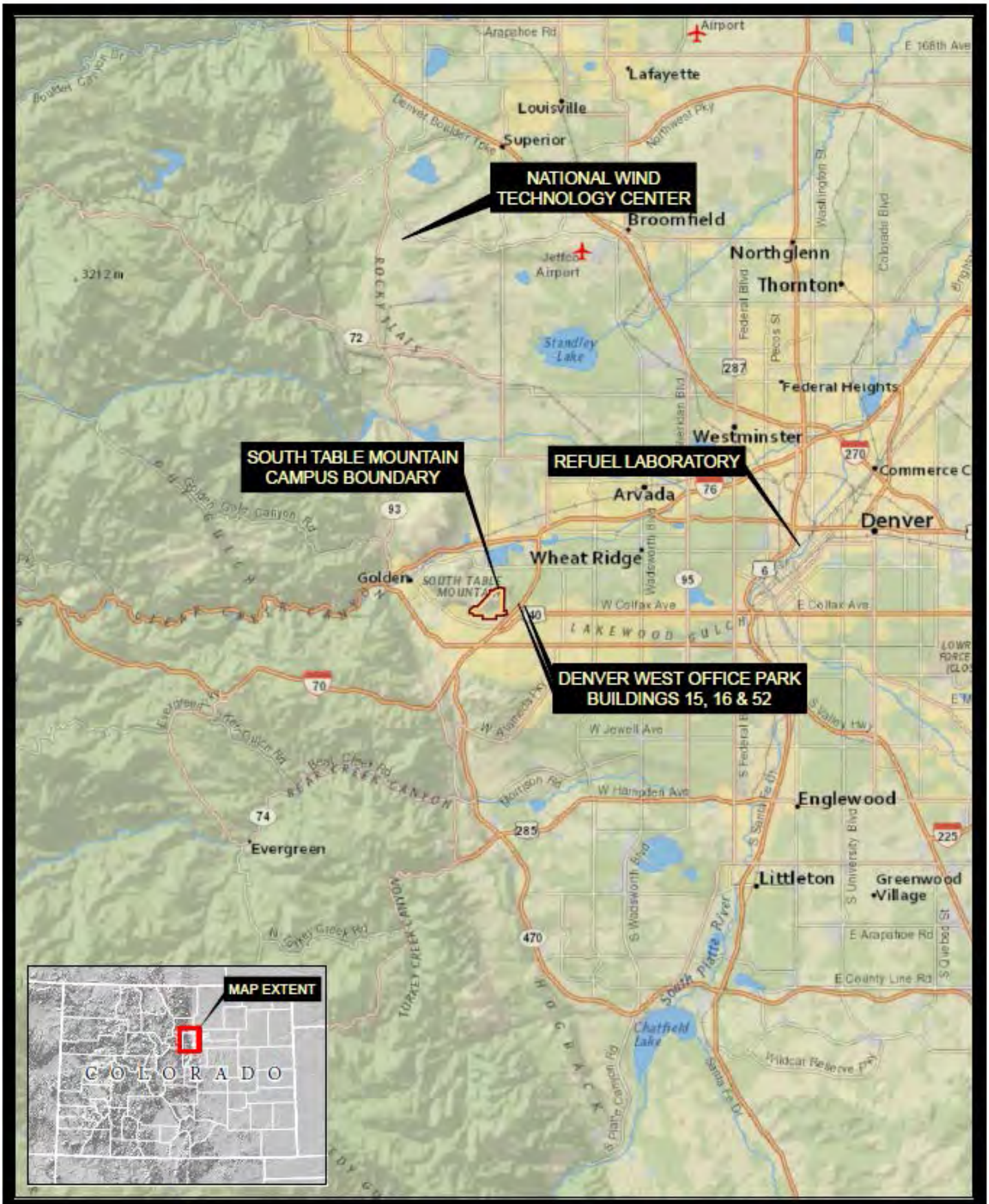
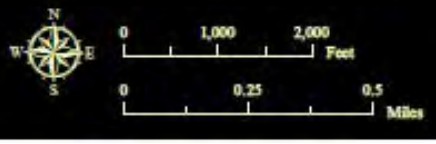


Figure 1 - Regional Site Location
South Table Mountain Campus

Figure 2 - Site Location
South Table Mountain Campus



PROPOSED ACTION	
A	S&TF PV Research Modifications
B	FTLB - Thermochemical Biofuels Research Facility (TBRF)
C	FTLB - Workstation and Lab Space Addition
D	FTLB - Expansion for Algae and Other Research Organisms for Fuel
E	Outdoor Test Pad (Zones 1, 3, 4, 5 & 6)
F	Internal Reconfiguration of the Thermal Test Facility
G	ESIF Security Enhancements
H	Research Support Facility III
I	ReFUEL Laboratory Relocation
J	Renewable Energy Vehicle Systems (REVS) Facility
K	Waste Handling Facility Expansion
L	NREL SITE Operations Support Space
M	Metrology Laboratory Relocation
N	High Flux Furnace Upgrade
O	TriGEN Central Plant
P	On Campus Renewable Energy Deployment (Zones 3, 4, 5 & 6)
Q	Additional Infrastructure at the East Campus

*Proposed action P calls for PV to be added in multiple locations throughout the STM campus.

MAP NUMBER	FACILITY NAME	MAP NUMBER	FACILITY NAME
1	Energy Systems Integration Facility (ESIF)	15	Maintenance Building
2	Education Center	16	Shipping & Recieving
3	Science & Technology Facility (S&TF)	17	Integrated Biorefinery Research Facility (IBRF)
4	Solar Energy Research Facility (SERF)	18	Thermal Test Facility (TTF)
5	Research Support Facility I (RSF I)	19	Outdoor Test Facility (OTF)
6	NREL Cafe	20	South Entrance, Site Entrance Building (SEB), (Employee Only Entrance)
7	Renewable Fuel Heat Plant (RFHP)	21	Research Support Facility II (RSF II)
8	East Entrance, Site Entrance Building (SEB), (Visitor's Entrance & Check-In)	22	Bulk Storage Building
9	Field Test Laboratory Building (FTLB)	23	Parking Garage
10	Vehicle Testing & Integration Facility (VTIF)	24	Surface Parking
11	High-Flux Solar Furnace (HFSF)	25	Waste Handling Facility (WHF)
12	Solar Radiation Research Laboratory (SRRL)	26	PV Array
13	Solar Industrial Mesa Test Area (SMTA)	27	Detention Pond
14	West Gate Entrance Facility (SEB), (Employee Only Entrance)		

Figure 3 South Table Mountain Campus Map & Proposed Action Components

Legend
Existing Building
Existing Feature
Proposed Construction
Campus Boundary
Development Zone
A-Q Proposed Action Approximate Location

0 400 800
Feet

Data Sources: NREL, AECOM, ESRI

HISTORY Colorado

June 19, 2014

Robert Smith, CHMM
NEPA Document Manager
U. S. Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, CO 80401

Re: Section 106 Compliance for the Site-Wide Environmental Assessment of the U.S. Department of Energy's South Table Mountain Campus at the National Renewable Energy Laboratory in Golden, CO (DOE/EA-1968) (CHS #66086)

Dear Mr. Smith:

Thank you for your follow-up correspondence dated June 4, 2014 (received by our office on June 6, 2014) and for your consideration of how the U.S. Department of Energy (DOE) may best meet its statutory obligations under the National Historic Preservation Act and the National Environmental Policy Act in its management of the South Table Mountain Campus.

We certainly appreciated the opportunity to discuss this matter with you and Tom Ryon, Senior Environmental Specialist/Wildlife Biologist at the National Renewable Energy Laboratory during our May 3, 2014 meeting. Dan Corson, Intergovernmental Services Director, and Mark Tobias of our office were in attendance to help clarify and consider possible next steps as outlined under Section 106 of the National Historic Preservation Act (Section 106) and its implementing regulations 36 CFR Part 800.

While the content and focus of our discussion was on the development of a programmatic agreement to streamline DOE's Section 106 regulatory responsibilities, we understand that it does not wish to presently develop such program alternatives, as described in 36 CFR 800.14. As such, we anticipate that DOE will meet its obligations through standard Section 106 consultation prior to implementation of project-specific undertakings as defined by 36 CFR 800.16(y).

The Section 106 consultation process does involve other consulting parties such as local governments and Tribes, which as stipulated in 36 CFR 800.3 are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations. Please note that our compliance letter does not end the 30-day review period provided to other consulting parties.

Thank you for the opportunity to comment and we look forward to participating in future Section 106 consultation for undertakings within the South Table Mountain Campus. If we may be of further assistance, please contact Mark Tobias, Section 106 Compliance Manager, at (303) 866-4674 or mark.tobias@state.co.us.

Sincerely,

for Edward C. Nichols
State Historic Preservation Officer
ECN/MAT