



## Department of Energy

Golden Field Office  
1617 Cole Boulevard  
Golden, Colorado 80401-3305

May 14, 2008

DOE/EA 1440-S-1

**FINDING OF NO SIGNIFICANT IMPACT**  
**for**  
**SUPPLEMENT TO FINAL SITE-WIDE ENVIRONMENTAL ASSESSMENT**  
**OF THE NATIONAL RENEWABLE ENERGY LABORATORY'S**  
**SOUTH TABLE MOUNTAIN COMPLEX**

**AGENCY:** Department of Energy, Golden Field Office

**ACTION:** Finding of No Significant Impact

**SUMMARY:** In accordance with the Department of Energy (DOE) National Environmental Policy Act (NEPA) implementing regulations, DOE evaluated the potential environmental impacts that would result from three actions at the National Renewable Energy Laboratory's (NREL) South Table Mountain (STM) site:

Proposed Construction and Operation of:

- Research Support Facilities (RSF),
- Infrastructure Improvements (Phase I),
- Upgrades to the Thermochemical User Facility (TCUF) and addition of the Thermochemical Biorefinery Pilot Plant (TBPP)

The decision to use federal funds for these three projects required that DOE address NEPA requirements and related environmental documentation and permitting requirements. In compliance with the NEPA (42 U.S.C. 4321) and with DOE's NEPA implementing regulations (10 CFR section 1021.330) and procedures, the supplemental environmental assessment (SEA) examines the potential environmental impacts of DOE's decision to support this Proposed Action, and also examines a No Action Alternative. Under the No Action Alternative, DOE would not fund these projects and they would not be constructed or operated.

All discussions and findings related to the Proposed Action and the No Action Alternatives are presented in the attached Final SEA and Appendices. The Final SEA is hereby incorporated by reference.

For many of the environmental resource areas assessed in the SEA, the three site projects that make up the Proposed Action would not result in either adverse or beneficial impacts because the project area and surrounding area lack sensitive receptors or resource areas that would be impacted (e.g., species of concern; on-site perennial creeks, streams, ponds, or floodplains; wetlands; low-income or minority populations; agriculturally productive soils; or high



commercial- value geologic resources). Additionally, while the proposed site expansion would place additional demands on local infrastructure such as water and electrical supplies, telecommunication systems, and sewage treatment, these demands would neither exceed existing capacities nor require upgrades or modifications to the local systems which supply the STM site. Similarly, because the construction activities would be relatively short-term and of limited scale, and the majority of the workers already exist within local communities, there would be no significant socioeconomic impacts from the proposed action. In general, routine operations of the proposed projects would have no affect on the off-site public and have no potential to affect members of populations protected by Executive Order on Environmental Justice (*E.O. 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629)*). However, implementation of the three site projects would result in some environmental impacts.

The proposed relocation of staff from the Denver West Office Park (DWOP), on the south side of Interstate 70, to the South Table Mountain (STM) site, on the north side of I-70, would result in increased traffic at intersections near the STM site. The analyses in the SEA predict that, if not mitigated, the increased traffic would lead to an unacceptable degradation of traffic flow in the east bound lanes of the Denver West Parkway/Denver West Marriot Boulevard intersection during evening rush hours. In response to these predicted impacts, DOE and NREL have developed a Mitigation Action Plan (MAP), which stipulates the mechanisms by which traffic flows will be reduced to acceptable levels and the monitoring program which will be utilized to assure the success of the mitigating actions.

Construction of an RSF building that would be more than one or two stories high on Pad 1 would obstruct the mountain views to the west from the residences on Kendrick Street that are immediately adjacent to Pad 1. RSF construction on either Pads 2 or 3 located to the north of the Kendrick Street residences would be consistent with other STM facilities and would not obstruct the neighbors mountain view. DOE currently is not proposing permanent building construction on Pad 1. Temporary construction disturbance impacts would be consistent with those described in the SEA and would be less than significant.

Collectively, the RSF and infrastructure upgrades would result in the loss of approximately 5.9 to 6.9 hectares (15 to 17 acres) of grassland and shrubland habitat, some of which would occur in or adjacent to natural drainages, which are among the site's most productive wildlife habitats and corridors. The drainages also support the site's richest vegetation.

Construction would result in short-term (1- 2 years) increases in on-site traffic, noise, fugitive dust, auto and equipment emissions, and construction debris. The equipment and facilities that would be added to the STM site under the Proposed Action would not be unique to the site. The appearance of these facilities would in fact be similar to other buildings. As such, the addition of the RSF, TBPP, and infrastructure upgrades would add to, but would not substantially alter, the visual impact and character of the site.

The proposed actions would not result in untreated operational discharges of pollutants to surface water or groundwater. Drains would be connected to the site's existing or new stormwater and sewage lines, and all discharges to the publicly owned treatment works would meet the requirements of the Metro Wastewater Reclamation District and the Pleasant View Water and Sanitation District.

The new construction would increase the impervious surface area, which could increase quantities of stormwater conveyed off-site. Management practices, including stormwater

pollution prevention measures to minimize runoff, which could include permanent detention ponds, would be implemented during construction to minimize degradation of surface water quality due to sediment and various chemicals associated with additional vehicles and construction equipment.

The proposed developments in Zone 6 would result in unavoidable adverse impacts to historical resources. The improvements would result in the destruction of the two historic Camp George West firing lines and all or portions of a low rock wall. This unavoidable adverse impact has been mitigated through consultations with the SHPO and the preparation of Level II HABS/HAER documentation of these historical resources. Through this process the impacts have been rendered less than significant.

Under both the No Action Alternative and the Proposed Action, workers within the TCUF could be directly affected by exposures to hazardous releases, fires, or explosions under the accidents postulated in the SEA, and serious injuries could occur. However, because the operations are conducted remotely, and workers have standard procedures in place to control hazards, protective equipment, and emergency response procedures, the likelihood of a serious injury to a TCUF worker is small.

Additionally, based on the accident analyses in Appendix B, DOE and NREL acknowledge that under Option 2 for the proposed TBPP, where the reactor would not be housed in a building designed to contain potential explosions, a failure of the synthesis reactor could result in injuries or fatalities to non-involved workers if they were struck by flying fragments. Even though the probability of such an accident is “extremely remote”, such consequences are unacceptable. Therefore, this option has been eliminated from further consideration by DOE and NREL for the TBPP.

Until the final design is completed for the TBPP, DOE and NREL are unable to finalize the specific building design elements and containment structures that would mitigate the impacts of a catastrophic synthesis reactor failure accident. Prior to final design, NREL would initiate a Safety Assessment for the TBPP facility and associated activities to determine what additional levels of risk assessment are required.

Construction near the east or west boundary of Zone 6 would occur close to residences, and noise could be a nuisance for some residents during the duration of construction. Construction-related noise impacts would vary with the phase of construction and would occur intermittently. Because this noise would be short-term, mitigated by distance, occur during normal week day working hours, and would comply with all applicable noise ordinances, it would not result in a significant adverse impact. Operationally there would be no noise sources that could generate significant noise impact to off-site members of the public.

The Proposed Action would not offer any credible targets of opportunity for terrorists or saboteurs to inflict significant adverse impacts to human life, health, or safety, nor would the Proposed Action render the STM site as a whole any more susceptible to such acts. However, the consequences of an operational accident as defined in the SEA could occur if initiated by an act of terrorism or sabotage.

The Proposed Action would support and promote the overall objectives and mission of NREL and would occur within areas evaluated and committed to for further development in the 2003 site-wide EA.

**COPIES OF THE FINAL SEA ARE AVAILABLE FROM:**

Steve Blazek  
DOE/GO NEPA Compliance Officer  
U.S. Department of Energy  
1617 Cole Boulevard  
Golden, CO 80401  
(303)275-4723  
[steve\\_blazek@go.doe.gov](mailto:steve_blazek@go.doe.gov)


**FOR FURTHER INFORMATION ON THE DOE NEPA PROCESS CONTACT:**

Office OF NEPA Policy and Compliance  
U.S. Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585  
(202) 586-4600 or (800) 472-2756

**DETERMINATION:**

Based on the information presented in the Final SEA (DOE/EA 1440-S-1), and the commitment in the MAP to mitigate traffic impacts to less than significant levels, DOE determines that the construction and operation of RSF on pads 2 or 3; the proposed infrastructure upgrades; and the modifications to TCUF and the addition of TBPP; do not constitute major Federal actions significantly affecting the quality of the human environment, within the meaning of the National Environmental Policy Act. Therefore, the preparation of an Environmental Impact Statement is not required, and DOE is issuing this Finding of No Significant Impact.

Issued in Golden, Colorado 16<sup>th</sup> day of May, 2008.

  
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Rita L. Wells  
Manager