U.S. Department of the Interior
Bureau of Land Management

Record of Decision
December 2010

Crescent Dunes Solar Energy Project

APPLICANT

Tonopah Solar Energy, LLC
2425 Olympic Blvd., Suite 500 E.
Santa Monica, CA 90404

GENERAL LOCATION

The proposed action is located on public lands managed by the Bureau of Land Management approximately 13 miles northwest of Tonopah, in Nye County, Nevada.

BLM CASE FILE SERIAL NUMBER

N-86292

PREPARING OFFICE

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NATIONAL SYSTEM OF PUBLIC LANDS

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I. Introduction

This Record of Decision (ROD) approves the construction, operation, maintenance, and decommission of the proposed 110-megawatt Tonopah Solar Energy, Crescent Dunes Solar Project and associated facilities on approximately 2,250.27 acres of BLM-administered lands. The proposed project and alternatives were analyzed in the *Final Environmental Impact Statement for the Tonopah Solar Energy, LLC, Crescent Dunes Solar Energy Project, Nye County, NV* noticed in the Federal Register on November 19, 2010 (75 FR 70971) and November 26, 2010 (75 FR 72836).

1. Background

Tonopah Solar Energy, LLC submitted a 7,680 acre right-of-way (ROW) application for the Crescent Dunes Solar Energy Project (N-86292) on November 5, 2008 to construct a concentrated solar thermal power plant facility approximately 13 miles northwest of Tonopah, Nye County, Nevada. Tonopah Solar Energy, LLC applied for a larger area than necessary in order to have the flexibility to avoid potential impacts to cultural resources, sensitive species or military operations. The facility is expected to operate for about 30 years and generate a nominal 110 megawatts of electricity.

The applicant proposes to build a field of heliostats (mirrors) to focus sunlight on a central receiver (tower) within a footprint disturbance area of 1,620 acres of public lands. A heat transfer fluid is heated as it passes through the receiver and is then circulated through a series of heat exchangers to generate high-pressure steam. The steam is used to power a conventional steam turbine and produce electricity.

The exhaust steam from the turbine is condensed and returned via feed-water pumps to heat exchangers where steam is regenerated. Hybrid cooling processes would be used to minimize water consumption while continuing to maintain efficient power generation.

The proposed facility design includes the heliostat fields (mirrors), a 653-foot central receiver tower, a power block, an approximate 1-mile long 230 kV gen-tie transmission and communications line, buildings, parking area, lay-down area, evaporation ponds, and an access road.

A single overhead 5.6 mile long (102 acres), 230 kV transmission line and communications line (N-87933) would connect the solar facility to the nearby Sierra Pacific Power Company (NV Energy) Anaconda-Moly electrical substation. The Anaconda-Moly substation expansion (N-87273), located on an additional 10-acres of public lands, is necessary to accommodate the incoming 230 kV transmission line from the Crescent Dunes Solar Energy Project. A 40-acre borrow pit is required to extract aggregate for construction purposes as well as a temporary 55 kV distribution line of 1,650 feet in length and 100 feet in width, disturbing approximately 4 acres for use during construction.

Placer mining claims (lithium) were located in February 2010 and filed 90 days later with Nye County and the BLM, by Nevada Alaska Mining Company Inc. These claims overlap the proposed project site. Under current law, these claims could conflict with the

proposed use of the public land. During the preparation of the Final EIS and as of this date, no notices of intent for exploration, exploration plans of operations, or plans of operation have been submitted for mineral exploration or mine development.

The BLM has prepared an environmental impact statement (EIS) in compliance with the National Environmental Policy Act (NEPA) of 1969 in response to the ROW application.

Title V of the Federal Land Policy and Management Act (FLPMA), 43 U.S.C. 1761-1771, authorizes the BLM, acting on behalf of the Secretary of the Interior to issue a ROW grant on, over, under, and through the public lands system for generation, transmission, and distribution of electric energy. The BLM's implementation of its statutory direction for ROW authorizations is detailed in 43 CFR Part 2800.

The Authorized Officer administers the ROW authorization and ensures compliance with the terms and conditions of the ROW lease/grant. The term "Authorized Officer" means any employee of the Department of the Interior to whom has been delegated the authority to perform the duties described in 43 CFR Part 2800. In respect to this specific ROW authorization, this authority has been delegated to the Battle Mountain District, Tonopah Field Office Manager.

2. Decisions to be Made

The NEPA analysis contained in the Crescent Dunes Solar Energy Project EIS considered the following decisions to be made:

- Approve the Proposed Action or Alternative, in whole or in part, and grant a ROW lease/grant to the Applicant;
- Approve the Proposed Action or Alternative, in whole or in part, with additional mitigation measures and grant a ROW lease/grant to the Applicant; or
- Deny the ROW application.

II. Mitigation and Monitoring

1. Required Mitigation

Mitigation measures required for the implementation of the approved action are included as a requirement of the ROW lease/grant (Appendix A of this ROD). The ROW lease/grant stipulations are included as Appendix B to the ROW lease/grant. These stipulations will be strictly adhered to throughout the duration of all project activities and are considered essential elements of the project. Application of these stipulations will reduce the impacts to BLM-administered lands and resources as described in the Final EIS and this ROD.

2. **Monitoring and Enforcement**
The ROW authorization requires compliance with all mitigation measures required for implementation in this ROD, and puts the applicant on notice of BLM's authority to monitor and enforce such measures. Monitoring will occur throughout the duration of the project for each component of construction, operation, maintenance, decommissioning, and reclamation of the solar facility.

III. Alternatives Including the Proposed Action

A No Action alternative, the Proposed Action and two other action alternatives were analyzed in the EIS. The three action alternatives focused on comparing environmental impacts from three different site choices all located within a 4-5 square mile area west and down-slope from the Crescent Dunes Special Recreation Management Area (SRMA). All three action alternatives utilize a very similar layout for the heliostat field, central tower, and ancillary facilities. The three action alternatives differ based upon location relative to the SRMA and length of access road and transmission line.

The three action alternatives would have impacts to the environment. Impacts include potential conflicts with military operations for the Air Force radar testing mission at the Nellis Testing and Training Range, impacts to ground water with minor long-term local drawdown in the ground water basin, loss of unique wildlife habitat and significant impacts to the viewshed for the Crescent Dunes SRMA.

The BLM's preferred alternative is alternative 2, as described below. Alternative 2 does not encroach on the Crescent Dunes SMRA and it reduces the amount of new access road and transmission line. It also reduces some of the habitat impacts for several sensitive plant and animal resources and limits impacts to military operations. Alternative 2 is the environmentally preferable alternative.

No Action Alternative. The No Action Alternative assumes the ROW application would be denied and the proposed project would not be built.

Proposed Action. This action alternative is located to the south of the Crescent Dunes Special Recreation Area (SRMA). This alternative would disturb a total of 1,673 acres. Within the disturbance footprint, this site would eliminate 1,374 acres of Nevada oryctes habitat and 1,466 acres of pale kangaroo mouse habitat. This alternative would not encroach on the Crescent Dunes SRMA nor does it impact Crescent Dunes scarab beetle habitat. This alternative will; however, have potential conflicts for the Air Force radar testing mission.

Alternative 1: This alternative site encroaches on the Crescent Dunes SRMA. This alternative would disturb a total of 1,640 acres, including 803 acres of suitable habitat for Nevada oryctes (a state protected plant) and would encroach on 130 acres of a ROW avoidance area for the Crescent Dune SRMA and, therefore, create the need for a land use plan amendment to the Tonopah Resource Management Plan (RMP). This alternative would also eliminate approximately 1,191 acres of habitat for pale kangaroo mouse (a state protected species) and 7 acres of habitat for several endemic species of

scarab beetles (BLM sensitive species). This alternative minimizes potential conflicts with military operations for the Air Force radar testing mission.

Alternative 2 (BLM Preferred Alternative): Alternative 2 was designed so that the project was situated on low or no-relief public land. This alternative analyzes a project area of 2,250.27 acres of public lands. The proposed project facility encompasses approximately 2,094.27 acres, of which 1,620 acres would be disturbed within the project footprint.

This preferred alternative site is located to the west of the Crescent Dunes SRMA and eliminates or reduces environmental impacts overall, including visual impacts to recreational users of the Dunes Area and impacts to unique habitat for the Nevada oryctes plants, a state protected plant. The site is located in closer proximity to the Pole Line Road and an existing transmission line reducing the length of additional transmission line and access road and amount of surface disturbance. The site would disturb 434 acres of pale kangaroo mouse habitat. There would be no impacts to habitat for the endemic species of scarab beetles. This site also minimizes potential conflicts with military operations for the Air Force radar testing mission.

IV. Management Considerations

The decision to approve the Crescent Dunes Solar facility takes into account statutory, legal, and national policy considerations, as well as Tonopah Solar Energy's technical and financial capability to construct the project for which the ROW is requested. The decision was also based on input provided by and received from the public, industry, as well as other Federal and state agencies, including state public utility agencies. Through this review process, all practicable methods to reduce environmental harm have been incorporated into the decision and as designed, including mitigation incorporated as stipulations. No undue or unnecessary degradation will result from this project. This decision is consistent with BLM's multiple-use mandate under the Federal Land Policy and Management Act of 1976.

Secretarial Order 3283, "Enhancing Renewable Energy Development on the Public lands," was signed January 16, 2009. This Secretarial Order established renewable energy as a Departmental policy and committed the U.S. Department of the Interior (DOI) to achieve the goals established in Section 211 of the Energy Policy Act of 2005. The Energy Policy Act encourages the development of renewable energy resources, including solar energy. Section 211 of the Act directs the Secretary of the Interior to approve at least 10,000MW of non-hydropower renewable energy projects on public lands by 2015. Secretarial Order 3285 "Renewable Energy Development by the Department of Interior," signed March 11, 2009, as amended on February 22, 2010, establishes the development of renewable energy as a priority for the DOI and creates a Departmental Task Force on Energy and Climate Change. The Congress, and the President, through the DOI, has established a national policy priority for renewable energy development.

The Crescent Dunes Solar Energy Project is consistent with the BLM implementation of the policy goals established by the Energy Policy Act of 2005 and the Secretarial Orders identified above.

The BLM's purpose of the ROD is to formalize the BLM's decision in response to Tonopah Solar Energy's application filed under Title V of FLPMA for a ROW lease/grant to construct, operate, and decommission a solar generation facility and associated infrastructure in compliance with the FLPMA, BLM ROW regulations (43 CFR Part 2800), and other applicable Federal laws. Instruction Memorandum 2011-003, "Solar Energy Development Policy," dated October 7, 2010, establishes BLM policy to ensure the timely and efficient processing of ROWs for solar power on the public lands.

1. Relationship to BLM and other Agency Plans, Programs, and Policies

National Historic Preservation Act. The State Historic Preservation Office (SHPO) has reviewed this project under Section 106 of the National Historic Preservation Act (NRHPA). The SHPO reviewed and concurred with the BLM's determinations of site eligibility to the national register of historic places of nine eligible properties that would be affected by this project. A Historic Properties Treatment Plan describing the mitigation measures that would be employed to resolve any adverse effect to the nine NRHP eligible sites has been prepared. A Memorandum of Agreement between the BLM and Nevada SHPO has been implemented to ensure the Historic Properties Treatment Plan will mitigate any adverse effect to these NRHP-eligible sites.

Tribal Consultation. There are no tribal lands affected by this project. Consultation occurred with federally-recognized Indian tribes and with the Nevada State Historic Preservation Office in accordance with the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, and the Sacred Sites Executive Order 13007, as appropriate.

The Crescent Dunes Solar Energy Project is in conformance with the Tonopah Resource Management Plan (1997). Even though it is not specifically provided for, it is clearly consistent with the following land use plan decision, "To make lands available for community expansion and private economic development and to increase the potential for economic diversity."

Separately, a Solar Energy Development Programmatic EIS is being prepared by the U.S. Department of Energy and the BLM. This study will assess environmental impacts related to agency-specific programs that would facilitate utility-scale solar energy development in the six western states of Arizona, California, Colorado, New Mexico, Nevada, and Utah. When completed, the Programmatic EIS may result in the amendment of existing RMPs to adopt new Bureau-wide solar energy policies, along with best management practices to reduce the environmental impacts of solar energy development.

The State of Nevada has also enacted legislation requiring area utility companies to provide energy from renewable energy sources as part of the State's renewable portfolio

standard to achieve a goal of 25 percent of its energy production from renewable energy sources by the year 2025.

On April 3, 1985, the Nye County Board of Commissioners adopted a county policy plan for public lands under the Nevada Statewide Policy Plan for Public Lands authorized by Senate Bill 40. Senate Bill 40 directs the State Land Use Planning Agency to work together with local planning entities to prepare local plans and policy statements regarding the use of Federal land in Nevada. The Nye County Policy Plan promotes opportunities to increase local economic development by use of public land in conformance with local land use plans, and those lands should be made available for economic activity. This action is consistent with Nye County land policies.

V. Agency and Public Involvement

1. Scoping

An initial 30-day scoping period for the Crescent Dunes Solar Energy Project was initiated with a *Federal Register* Notice of Intent (NOI) to conduct scoping posted on November 24, 2009 (74 FR 225: 61354-55). The scoping period ended on December 24, 2009.

A Project NEPA team consisting of BLM staff, Tonopah Solar Energy LLC staff, and the NEPA contractor held public scoping meetings in two local communities: Las Vegas on December 17, 2009 and Tonopah on December 18, 2009.

The NOI also requested the views of other agencies as to the scope and content of the environmental information that was relevant to the statutory responsibilities or areas of expertise for those agencies. Federal, state, and local agencies, as well as individuals or organizations that were interested or may be affected by the BLM's decision on this project, were invited to participate in the scoping process and, if eligible, could request to participate as a cooperating agency.

The Project NEPA team received 24 scoping comments by either letter, email or on public comment forms. These comments were invaluable in helping the Project NEPA team identify issues and determine the scope of the Draft Environmental Impact Statement.

The Department of the Air Force participated as a Cooperating Agency in the development and preparation of the Tonopah Solar Energy, LLC (TSE) Crescent Dune Solar Energy Project EIS. Nellis Air Force Base (AFB) was assigned as the point of contact for the EIS. Nellis AFB and the Air Force Scientific Advisory Board (SAB) conducted analysis on impacts of the project to radar systems. They provided recommendations on two proposed separate ROW project areas. The two areas contained a total of five alternative site locations and identified ways to minimize operational impacts to the Air Force testing mission. The SAB identified one site location that minimized operational impacts to the testing mission (Alternative 1). They conducted a subsequent analysis at the request of BLM and TSE on an additional site

(Alternative 2 – Agency Preferred Alternative) that was also found to minimize testing mission impacts.

2. **DEIS Public Comment Period**
The BLM held a 45-day public comment period starting with publication of the Notice of Availability (NOA) of the Draft Environmental Impact Statement (DEIS) by the BLM on September 3, 2010, in the *Federal Register* (75 FR 171: 54145-46, 54177). The Project NEPA team (staff from BLM, Tonopah Solar Energy LLC, and third party NEPA Contractor subcontractors) held public meetings in Las Vegas on September 23, 2010, and in Tonopah on September 24, 2010. The comment period ended on October 18, 2010.

The Project NEPA team received 23 letters, emails, or comment forms. The Project NEPA team reviewed each comment and developed responses to all substantive comments based on guidance found in the Council on Environmental Quality (CEQ) regulations (40 CFR 1503.4.) As a result of this review, the EIS has been modified to supplement and improve the analysis.

3. **FEIS Public Comment Period**
The Notice of Availability (NOA) for the Final EIS was published by the Environmental Protection Agency (EPA) on November 19, 2010 in the *Federal Register* (75 FR 223: 70917-18) and by the BLM on November 26 in the *Federal Register* (75 FR 227: 72836-37). Interested parties and the public were notified by a press release and by direct mail. Hard copies and CD-ROM versions of the Final EIS were made available at the Battle Mountain District, Tonopah Field Office on November 19, 2010. An electronic copy of the Final EIS is posted on the internet at:
http://www.blm.gov/nv/st/en/fo/battle_mountain_field/blm_information/national_environmental.html.

VI. Decision Rationale

The BLM is considering the project application as analyzed in the Crescent Dunes Solar Energy Environmental Impact Statement through the NEPA process.

The BLM, after careful consideration of the potential effects of the proposed project has decided to authorize the preferred alternative (Alternative 2) which would include a project footprint disturbance of 1,620 acres in order to construct a concentrated solar thermal power plant facility approximately 13 miles northwest of Tonopah, Nye County, Nevada. This EIS and its environmental impacts have been fully considered, along with appropriate and effective mitigation.

Authorization of the facility satisfies the purpose and need of the NEPA analysis contained in the EIS to respond to Tonopah Solar Energy's application and to determine whether to approve, approve with modifications, or deny issuance of a ROW lease/grant, taking into consideration the provisions of the Energy Policy Act of 2005 and other applicable Federal laws, regulations, and policies.

VII. Final Agency Action

1. **Right-of-Way Authorization**
It is my decision to approve a solar energy ROW lease/grant and associated facilities to Tonopah Solar Energy, LLC, subject to the terms, conditions, stipulations, Plan of Development, and environmental protection measures developed by the Department of the Interior and reflected in this Record of Decision. This decision is effective on the date this Record of Decision is signed.

Approved by:

DEC 20 2010

Robert V. Abbey

Robert V. Abbey
Director
Bureau of Land Management

Date

2. **Secretarial Approval**
I hereby approve this decision. My approval of this decision constitutes the final decision of the Department of the Interior and, in accordance with the regulations at 43 CFR 4.410(a)(3), is not subject to appeal under Departmental regulations at 43 CFR Part 4. Any challenge to this decision, including the BLM Authorized Officer's issuance of the ROW as directed by this decision, must be brought in Federal district court.

Approved by:

Ken Salazar

Ken Salazar
Secretary
U.S. Department of the Interior

DEC 20 2010
Date