READER'S GUIDE

The U.S. Department of the Interior (DOI) Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE) have jointly prepared the "Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States" (Solar PEIS). For the BLM, the PEIS evaluates the agency's proposed actions to establish a new BLM Solar Energy Program applicable to utility-scale solar energy development on BLM-administered lands in six southwestern states (Arizona, California, Colorado, Nevada, New Mexico, and Utah). For DOE, the PEIS evaluates the agency's proposed action to develop new program guidance relevant to DOE-supported solar projects.

The PEIS contains two levels of analyses. First, it evaluates the environmental impacts of utility-scale solar energy technologies considered to be viable for deployment over the next 20 years, and the potential effects of the agencies establishing new solar energy development programs or guidance. Some chapters address this broad, programmatic scope. Second, it provides in-depth environmental analyses of the BLM's 24 proposed solar energy zones (SEZs) to inform decisions about whether to identify those locations as areas in which the BLM would prioritize utility-scale solar energy development. Some chapters pertain only to the SEZs. Both BLM action alternatives include a SEZ component.

The public will have 90 days to review this Draft PEIS. Given that the document consists of about 11,000 pages, 16 chapters and 14 appendices, a comprehensive review of the document will be aided by a clear understanding of how information presented in the Draft PEIS is organized and how that information supports the agencies' evaluation of alternatives. This Reader's Guide has been prepared to assist the public's review. It includes general guidance as well as a section-by-section summary and guide.

In addition, the agencies want to acknowledge that there are some inconsistencies and data gaps that were identified too late in the preparation of the Draft PEIS to be accommodated in the document. These inconsistencies and gaps are identified following the section-by-section summary and guide. It is anticipated that additional inconsistencies and data gaps will be identified during the public review period. These problems will be addressed in the Final PEIS. At this time, the agencies do not believe that these inconsistencies and gaps substantively affect the analyses in the Draft PEIS, nor do they anticipate that supplemental analyses will be required.

General Guidance

- Sections of the Draft PEIS have been divided into separate volumes. The volumes are identified in the section-by-section guide below, along with the approximate number of pages. The volume contents are also listed in the front of each volume.

- Given the length of the Draft PEIS, readers are encouraged to maximize their use of the electronic version of the document. All sections of the Draft PEIS can be downloaded from the project Web site (http://solareis.anl.gov).

- The electronic copies of all sections are provided in PDF format, with bookmarks included to assist in navigating through the text.

- Acronyms are defined upon their first use in each section. A master list of all acronyms used in the Draft PEIS is provided in the front of each volume.

- Separate reference lists have been compiled for each section of the Draft PEIS, as applicable.

- Page numbering starts over within each section of the Draft PEIS. Page numbers denote the section and the page (e.g., 1-10 is the tenth page in Chapter 1 and A-10 is the tenth page in Appendix A).

- Line numbers appear on each page to assist in submitting and responding to comments on the Draft PEIS.

- Reviewers are strongly encouraged to submit their comments on the Draft PEIS via the comment form provided on the project Web site (http://solareis.anl.gov).

Section-By-Section Summary and Guide

Executive Summary (Vol. 1, ~24 pages)	This stand-alone summary provides an understanding of why the agencies have prepared the Draft PEIS, summary-level descriptions of each agency's proposed actions and alternatives, and the potential impacts of these actions.
Chapters	
1: Introduction (Vol. 1, ~32 pages)	This chapter provides a description of applicable federal orders and mandates; the purpose and need for the agencies' actions; the scope of analysis; which agencies are cooperating in preparation of the PEIS; the relationship of the proposed actions to other programs, policies, and plans; and an overview of solar energy technologies and resources considered in the PEIS.

2: Description of Alternatives and Reasonably Foreseeable Development Scenario (Vol. 1, ~36 pages)	This chapter provides a complete description of the agencies' alternatives, the reasonably foreseeable development scenario, and alternatives considered but eliminated from detailed analysis. Evaluations of these alternatives are presented in Chapters 6 and 7 for BLM and DOE, respectively. The entire set of policies and design features proposed under BLM's action alternatives as the agency's Solar Energy Program is provided in Appendix A (Section A.2). The active solar right-of-way (ROW) applications that have been submitted to the BLM and some general information about each application are given in Appendix B. The land use plan amendments proposed to implement the program under both BLM action alternatives are described in Appendix C.
3: Overview of Solar Energy Power Production Technologies, Development, and Regulation (Vol. 1, ~60 pages)	This chapter provides general descriptions of the solar energy technologies evaluated in the Draft PEIS and overviews of the development process, existing regulatory requirements, relevant agency guidelines on impact mitigation, and other aspects of solar energy development. For a more detailed technical description of the solar technologies, read Appendix F. For a more detailed presentation on relevant federal, state, and county requirements pertaining to solar development, read Appendix H.
4: Affected Environment (Vol. 1, ~210 pages)	This chapter provides a general description of the affected environment in the six-state study area. This description provides the basis for identifying the potential impacts described in Chapter 5 and the supporting programmatic-level analyses. More detailed descriptions of the affected environments in each of the proposed SEZs are provided in Chapters 8 through 13.
5: Impacts of Solar Energy Development and Potential Mitigation Measures (Vol. 1, ~310 pages)	This chapter provides a general description of the potential impacts of utility-scale solar energy power production facilities, as well as required transmission interconnections, and a discussion of potentially applicable mitigation measures. The impact analyses presented in this chapter are described in the context of the affected environment presented in Chapter 4. Mitigation measures identified in this chapter were reviewed for incorporation as required programmatic design features that would be applicable to all utility-scale solar energy development on BLM-administered lands under the agency's proposed Solar Energy

	Program. These proposed design features are presented in Appendix A.
6: Analysis of BLM's Solar Energy Development Alternatives (Vol. 1, ~112 pages)	This chapter presents an analysis of the potential impacts of BLM's three alternatives for management of utility-scale solar energy development, including cumulative impacts of utility-scale solar energy development in the six-state area over the next 20 years, and other National Environmental Policy Act (NEPA) considerations.
7: Analysis of DOE's Alternatives (Vol. 1, ~10 pages)	This chapter presents an analysis of the potential impacts of DOE's alternatives, including cumulative impacts and other NEPA considerations.
8–13: Affected Environment and Impact Assessment for Proposed Solar Energy Zones in Each State 8. Arizona (Vol. 2, ~1,100 pages) 9. California (Vol. 3, Part 1 and Part 2, ~1,440 pages) 10. Colorado (Vol. 4, ~1,330 pages) 11. Nevada (Vol. 5, Part 1 and Part 2, ~2,390 pages) 12. New Mexico (Vol. 6, ~1,100 pages) 13. Utah (Vol. 7, ~920 pages)	Chapters 8 through 13 provide detailed descriptions of the affected environments in BLM's proposed SEZs and assessments of potential impacts, including cumulative impacts of development in each SEZ and the surrounding area. The SEZ analysis is organized by state in individual chapters. The impact analyses presented in the SEZ sections build upon the programmatic impact assessment presented in Chapter 5. These chapters also identify SEZ-specific design features that would be required under BLM's proposed Solar Energy Program for projects located within SEZs. These SEZ-specific design features are in addition to the programmatic design features. Information presented in these chapters will be useful in the review of future projects proposed in the SEZs.
14: Consultation and Coordination Undertaken To Support Preparation of the PEIS (Vol. 1, ~10 pages)	This chapter describes the actions the agencies have taken in terms of public scoping; government-to-government consultation; coordination with BLM state and field offices; and cooperation, consultation, and coordination with other agencies.

15: List of Preparers (Vol. 1, ~10 pages)	This chapter identifies the organizations and individuals who supported preparation of the Draft PEIS, including staff at the BLM, DOE, Argonne National Laboratory, and the National Renewable Energy Laboratory.
16: Glossary (Vol. 1, ~86 pages)	This chapter provides definitions of technical terms used in the Draft PEIS.
Appendices	
A: Current and Proposed BLM Solar Energy Polices and Design Features (Vol. 8, ~180 pages)	This appendix provides (1) copies of BLM's current Solar Energy Policies and (2) the programmatic administration and authorization polices and design features proposed for BLM's new Solar Energy Program.
B: Active Solar Applications (Vol. 8, ~10 pages)	This appendix provides detailed information about active ROW applications received by the BLM for utility-scale solar energy development on BLM-administered lands in the six-state study area as of February 2010. This set of applications was used to support analysis in the PEIS.
C: Proposed BLM Land Use Plan Amendments under the BLM Action Alternatives of the Solar Energy Development PEIS (Vol. 8, ~20 pages)	This appendix lists all of the land use plans in the six-state study area and identifies the amendments that would be made to implement BLM's proposed Solar Energy Program under both of BLM's action alternatives.
D: Summary of Regional Initiatives and State Plans for Solar Energy Development and Transmission Development to Support Renewable Energy Development (Vol. 8, ~40 pages)	This appendix provides a summary of regional and state-level initiatives related to renewable energy development, including state Renewable Portfolio Standards (RPSs), renewable energy zoning initiatives, and related transmission planning efforts. The appendix includes maps showing how designations from some of these initiatives relate to BLM's proposed designations for solar energy development.
E: Methods for Estimating Reasonably Foreseeable Development Scenarios for Solar Energy Development (Vol. 8, ~60 pages)	This appendix describes the methods used to project the levels of utility-scale solar energy development over the next 20 years within each of the six states. The calculations from one of the methods, based on state RPSs, were used to establish a reasonably foreseeable development scenario to support analyses in the PEIS.
F: Solar Energy Technology Overview (Vol. 8, ~100 pages)	This appendix provides a detailed discussion of the solar energy technologies evaluated in the Draft PEIS. This information supports the general descriptions provided in Chapter 3.

G: Transmission Constraint Analysis (Vol. 8, ~20 pages)	This appendix provides information about the existing electricity transmission grid in the six-state study area, designated transmission corridors, and planned or proposed new transmission projects. It also presents the results of analyses of the extent to which lands proposed to be made available for ROW application under the BLM action alternatives are constrained by lack of transmission access.
H: Federal, State, and County Requirements Potentially Applicable to Solar Energy Projects (Vol. 8, ~40 pages)	This appendix lists the major federal and state laws, county ordinances, and Executive Orders that establish permit, approval, or consultation requirements that may apply to the siting, construction, operation, and decommissioning of utility-scale solar projects and transmission projects.
I: Ecoregions of the Six-State Study Area and Land Cover Types of the Proposed Solar Energy Zones (Vol. 8, ~50 pages)	This appendix provides detailed descriptions of ecoregions within the six-state study area, as defined by the U.S. Environmental Protection Agency, including state maps showing where the lands proposed to be made available for ROW application under the BLM action alternatives occur within the ecoregions, and the land cover types and descriptions for the proposed solar energy zones. This information supports the ecological analyses of general impacts (Chapter 5), the comparison of alternatives (Chapter 6), and the analyses for the SEZs (Chapters 8–13).
J: Special Status Species Associated with BLM's Alternatives in the Six-State Study Area (Vol. 8, ~270 pages)	This appendix provides information on federally listed species (i.e., species listed under the Endangered Species Act), BLM-designated sensitive species, state-listed species, and rare species that occur on BLM-administered lands that are included under the three alternatives considered in the PEIS. Information in the appendix includes listing status, suitable habitat types, and occurrence of these species on available lands under the three BLM alternatives.
K: Government-to-Government and Cultural Resource Consultations (Vol. 8, ~390 pages)	This appendix documents the consultation correspondence for the PEIS, including government-to-government consultations among the DOE, BLM, and Native American Tribes, and cultural resource consultations.
L: GIS Data Sources and Methodology (Vol. 8, ~20 pages)	This appendix describes the data and methodology used for geographic information system (GIS) mapping and analysis in the PEIS.

M: Methodologies and Data Sources for the Analysis of Impacts of Solar Energy Development on Resources (Vol. 8, ~74 pages)	This appendix describes the methodologies used in the PEIS for analysis of impacts on resources.
N: Viewshed Maps for Proposed Solar Energy Zones (Vol. 8, ~150 pages)	This appendix presents viewshed maps for four solar technology heights for each of the proposed SEZs.

Recognized Data Inconsistencies and Gaps

- Because utility-scale solar development requires substantial amounts of land, the BLM originally planned to exclude contiguous areas of less than 247 acres (1 km^2) from lands available for development, and such lands are not currently shown in the maps or included in the acreages presented under the program alternatives. However, comments received through ongoing, internal scoping indicate that such parcels could be used to support community-scale solar energy development or projects on adjacent private or Tribal lands. For these reasons, small parcels that otherwise meet the criteria of the program alternatives are included in the program alternatives. Maps and acreages will be updated in the Final PEIS.

- The BLM proposes to exclude many categories of lands from utility-scale solar energy development. These categories, listed in Chapter 2, Table 2.2-2, include a number of resources and resource uses for which GIS data are not consistently available across the six-state study area. Examples include areas designated in land use plans for seasonal restrictions, Visual Resource Management Classes I and II, and areas with important cultural or archaeological resources. As a result, the maps and acreage estimates showing lands that would be available for ROW application include some areas that would be excluded from development. The BLM intends that all categories of lands listed in Table 2.2-2 would be excluded, and exclusions that could not be mapped in the Draft PEIS would be identified during the ROW application process.

- The BLM is currently compiling new visual resource inventory (VRI) data for each of the BLM field offices in the six-state study area in which SEZs have been proposed. Some of these inventories were not completed in time for the new data to be included in the Draft PEIS analyses of visual resource impacts. Specifically, VRI data were not available for the proposed Brenda and Bullard Wash SEZs in Arizona, nor for any of the SEZs proposed in Nevada. The new VRI data will be incorporated into the analyses presented in the Final PEIS.

- The BLM currently is processing a number of solar energy project ROW applications as "fast-track" projects. Environmental impact statements (EISs)

are being prepared or have been completed for each of these projects. Information collected in preparation of these EISs was incorporated into the Draft PEIS as available; however, the BLM acknowledges it was unable to achieve this comprehensively. This information will be integrated into the Final PEIS, as appropriate.

- A number of the land use plans in the six-state study area are undergoing revision. The Draft PEIS integrated the decisions of the land use plans of record (i.e., those plans for which Records of Decision have been issued). The BLM recognizes that some of the land use plan revisions will be completed prior to issuance of the Final PEIS. Land use plans that are undergoing revision or amendment concurrent with the development of the PEIS (e.g., land use plan amendments for fast-track projects) will be reviewed to identify and resolve inconsistencies between the PEIS and individual planning efforts, and appropriate changes will be made in the Final PEIS.

- GIS data were assembled from multiple sources to support analyses in the PEIS. In all cases, the agencies consider the data used to be the best available data. However, data gaps and inconsistencies have been identified during late stage internal reviews and reviews by the cooperating agencies. Some of these issues are a result of the way in which the GIS data have been generated (e.g., data generated by digitizing paper maps). Others are a result of discrepancies between data sets managed by different federal agencies, or offices within an agency. For example, the boundaries of lands administered by various federal agencies are constantly being updated by the administering agency at the local level, but there is no mandate to communicate these updates to the BLM, which maintains the boundaries at the national level. Efforts will be made to reconcile these issues for the Final PEIS.

- Only those species that are known to occur in the SEZ regions are discussed in Appendix J because the need for an expanded species analysis by alternative was identified too late in preparation of the Draft PEIS to be accommodated in this version of the document. It is anticipated that a discussion of all species with potential for impacts under each alternative will be developed between the Draft and Final PEIS.