



U.S. DEPARTMENT OF
ENERGY

Office of
Science

SLAC Site Office

SLAC National Accelerator Laboratory
2575 Sand Hill Road, MS-8A
Menlo Park, CA 94025

DATE: September 15, 2015

MEMORANDUM FOR: Paul Golan, Site Manager, SLAC Site Office

THROUGH: James Elmore, ISC-OR NEPA Compliance Officer, Oak Ridge Office

FROM: Mitzi Heard, NEPA Coordinator, SLAC Site Office *mlh*

SUBJECT: Supplement Analysis to SLAC LCLS-II Environmental Assessment, DOE/EA-1975, July 2014

ATTACHMENT: *A. Supplement Analysis to the SLAC LCLS-II Environmental Assessment, September, 2015*

The purpose of this memorandum is to document a proposed design change for the Linac Coherent Light Source-II Project (DOE/EA-1975, July 2014), the environmental review of the proposed change, and the determination resulting from that review. The proposed design change is described in Attachment A. Supplement Analysis for the National Environmental Policy Act Environmental Assessment. Since DOE published the most recent FONSI in 2014, DOE and SLAC have completed a more detailed design of the superconducting Linac and have determined that the project will require more refrigeration capacity for cryogenic helium to cool the accelerator than envisioned in the 2014 EA, and that the second cryogenic plant—originally planned to be smaller than the primary plant—will need approximately the same capacity and will need to be approximately the same size (4 kW) as the primary plant. With the larger second cryogenic plant, rather than using the existing cooling tower as originally planned, the reconfigured cryogenic plants also will require a new water cooling tower on the same site. SLAC would construct and operate two cryogenic plants at the western end of the SLAC property to provide cryogenic helium for the LCLS-II superconducting linear accelerator. The original plan described in the 2014 EA included a 4-kW cryogenic plant at Sector 4, and an approximately 1-kW plant at Sector 0-1 to provide additional capacity and backup during maintenance shutdowns. The reconfigured plan would include the original 4-kW plant and a second 4-kW plant within the same building at the same location. The proposed design change is within the scope of the original July 2014 Environmental Assessment (EA) project, but that EA did not identify a second larger cryogenic plant or a second cooling tower. Accordingly, the SLAC Site Office (SSO), SLAC National Accelerator Laboratory and Office of Science (SC) Integrated Support Center, Oak Ridge Office undertook a Supplement Analysis of the proposed design change, and determined

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that no new hazards or environmental impacts would result from the proposed change and that the existing EA bounds the potential environmental impacts of the design change.

Description of Proposed Update and Determination: The proposed change to the design of the cryogenic plant is described in detail in Attachment A. For all resource areas evaluated, the planned Experimental Hall access road (covered in a previous SA) would result in the same or smaller impacts than that described in the July 2014 EA. There are no new hazards or environmental impacts resulting from the proposed design change for the cryogenic plant, and any minor impacts would be addressed by implementing project-specific avoidance and minimization measures described in the July 2014 EA/FONSI.

Regulatory Requirements:

The potential environmental impacts of the LCLS-II project, including the proposed design change have been reviewed in compliance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) implementing regulations (40 Code of Federal Regulations [CFR] 1500-1508), the Department of Energy's (DOE) National Environmental Policy Act Implementing Procedures (10 CFR 1021), and DOE Order 451.1B.

There are no extraordinary circumstances related to the proposed design change that affect the significance of the environmental impacts analyzed in the July 2014 EA and resulting FONSI. The proposed design change is not connected to other actions with potentially significant impacts, are not related to other proposed actions with cumulatively significant impacts, and are not precluded by 40 CFR Sec. 1506.1 or 10 CFR Part 1021.

The proposed design change will not threaten a violation of the applicable ES&H regulatory requirements; will not require construction or major expansion of waste storage, disposal, recovery, or treatment facilities; will not disturb hazardous materials that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; and will not adversely affect environmentally sensitive resources.

Overall Determination:

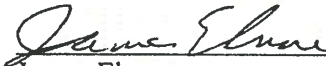
The July 2014 EA for the Linac Coherent Light Source-II (DOE/EA 1975) presented an analysis of potential environmental consequences of the LCLS-II project. Based on a review of the proposed design change I have determined that:

- The above description of the proposed design change (including the Attachment hereto) accurately describe the proposed action.
- There are no extraordinary circumstances related to the proposed design change that would affect the significance of the environmental effects analyzed in July 2014 EA/FONSI.
- The proposed design change is not "connected" to other actions with potentially significant impacts, are not related to other proposed actions with cumulatively significant impacts and is not precluded by 40 CFR Sec. 1506.1 or 10 CFR Part 1021.


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Therefore, I have determined that the proposed change is within the scope of the original July 2014 EA/FONSI for the LCLS-II Project and no additional NEPA analysis/documentation are needed.

Based on my review and the recommendation of the SLAC Site Office NEPA Coordinator, I have determined that the proposed change is within the scope of the July 2014 EA/FONSI for the LCLS-II Project.


James Elmore
ISC-OR NEPA Compliance Officer

9/16/2015
Date


Paul Golan
Site Manager
SLAC Site Office

9/16/15
Date

cc: Carol Borgstrom
Menlo Park Library
Pat Burke
John Cummins