

SCOPE OF WORK

LCLS-II LERF as Cryomodule Testing Facility

POC: Kevin Jordan

General

A proposal was submitted by Accelerator Division to use the LERF (Building 18) as a cryomodule testing facility for LCLS-II. A description of activities was included in the presentation "LERF as Cryomodule Testing Facility Set-Up and Installation Logistics" which was prepared by Kevin Jordan and emailed to Rusty Sprouse and David Fazenbaker for review on 9/22/2017. This document outlines the scope of work required for systems which FM&L has configuration management responsibilities.

Life Safety

Using the NFPA Life Safety code, the second floor gallery means of egress was evaluated by Christine Snetter. The following conditions were established:

- New SSA's will be installed 18" in front of existing HPA/CPS's in two areas (see figure 1). The space between the new and existing equipment will be used for maintenance access only.
- The face of the new equipment will be 48" minimum from the existing south drywall partition.

Based on the described conditions, 48" of space in front of the equipment is adequate for the means of egress.

Exits are currently visible from both ends and no additional exit signs are expected to be required, however, the location of the exit signs will be re-evaluated after the equipment installation to determine whether an additional exit sign is required.

Following completion of the project, new SSA's will be removed.

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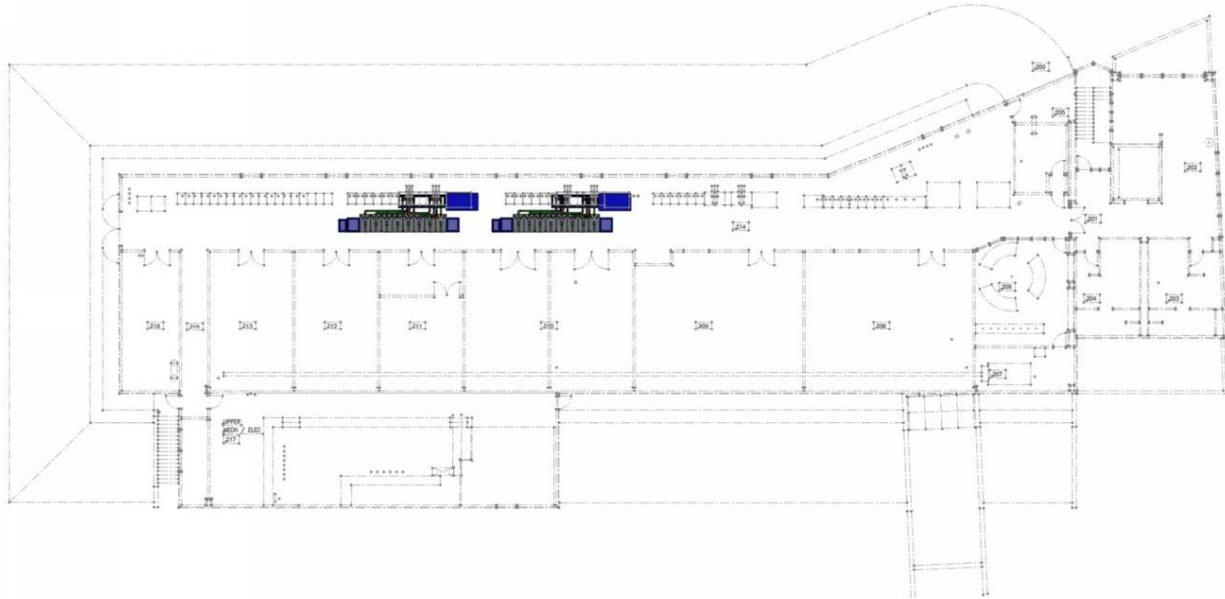


Figure 1: LERF Second Floor

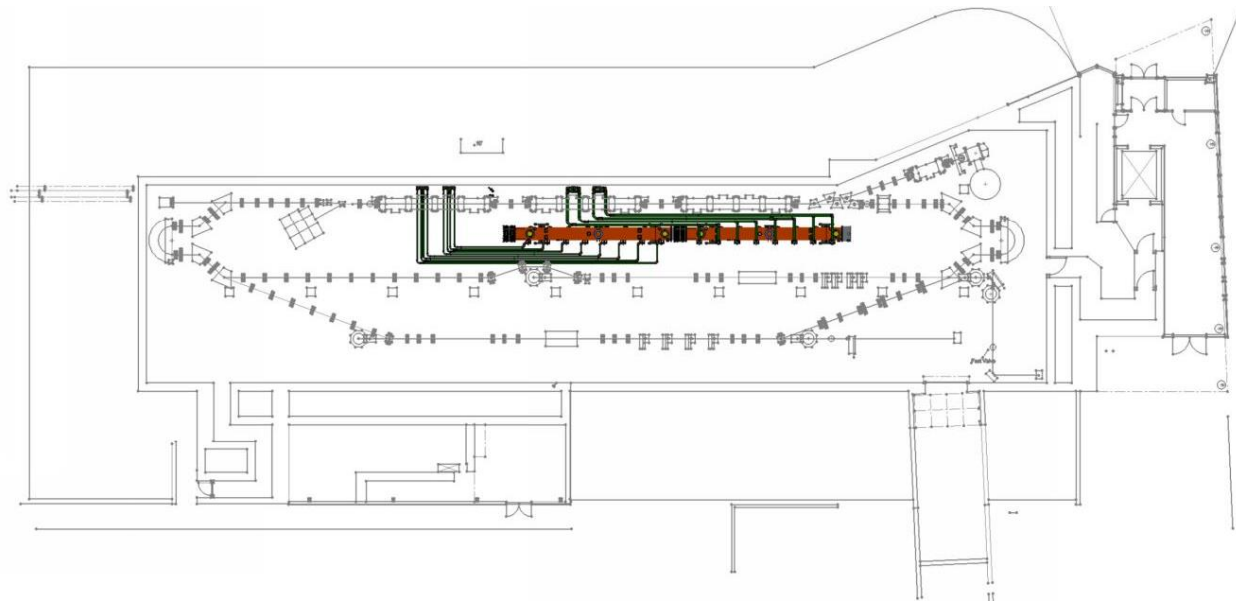


Figure 2: LERF First Floor

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Fire Protection

The fire protection system was evaluated by Tim Minga and BFPE and the number and location of sprinkler heads is sufficient and meets code. No modifications are required for the scope of this project.

Although not covered in the presentation, Kevin Jordan informed FM&L that portable clean tents (approximately 8' x 8') would be used in the LERF vault as laminar flow hoods over portions of the LCLS-II cryomodules. Each portable clean tent will be equipped with a fire extinguisher and it is not required to extend fire sprinkler coverage inside the tent.

Mechanical

The HVAC system was evaluated by Carroll Jones and no modifications are required.

The LCW system was evaluated by Carroll Jones and no modifications are required.

Electrical

Using NEC 2011, proposed electrical work was evaluated by Paul Powers and Jason Willoughby. The following conditions were established:

- Power feeds for existing HPA/CPS's in zone 3 and zone 4 of the LERF will be disconnected and repurposed to supply power to (2) new temporary electrical panels which will feed the new LCLS-II SSA's.
- The LCLS-II SSA's will use less power than existing LERF HPA/CPS's, so there is no increase in electrical load or demand.
- Proposed work will be completed by Engineering Division electricians and coordinated with FM&L to ensure that panelboard schedules, ARC flash labels, and other configuration management documentation remains current and accurate.
- Following completion of the project, all electrical modifications will be removed and the system will be returned to its previous configuration.

Summary

The proposed modifications in the LERF to accommodate LCLS-II cryomodule testing only result in minimal impacts to FM&L managed systems. Modifications to systems as described above are approved. David Fazenbaker should receive any subsequent communication on the project and will coordinate any follow-up action items required.