

**LCLS-II Review Committee Charge for:**

***1.3 GHz Cryomodule***  
**Production Readiness Review**

The review committee is charged to evaluate the production readiness of the LCLS-II cryomodule at Fermi National Accelerator Laboratory (FNAL) and Thomas Jefferson National Accelerator Lab (JLab). To carry out this charge, the review committee should evaluate the system readiness by responding to the following questions:

**1 Technical Scope and Schedule (FNAL and JLab)**

- a. Is the scope of work defined properly?
- b. Is the schedule reasonable to achieve the defined scope?
- c. Are there opportunities for schedule advancement or schedule recovery in cases of cryomodule rework or repairs?
- d. Are the prototype test-results, as available, consistent with initial acceptance criteria?

**2 Cryomodule Assembly Team (FNAL and JLab)**

- a. Have all key project team members been identified?
- b. Have roles and responsibilities been clearly defined?
- c. Is the staffing level suitable to support the production plan?

**3 Design Status (FNAL)**

- a. Are all design specifications, requirements, performance, and interface documents reviewed, approved and released?
- b. Are the drawing packages 100% complete and released to permit successful fabrication?
- c. Have all previous design review recommendations been addressed and/or closed out?

**4 ES&H and Work Planning and Control (FNAL and JLab)**

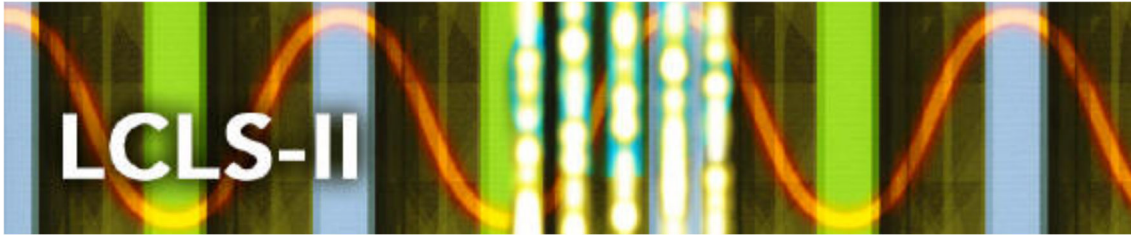
- a. Is there evidence of work planning and control processes in day-to-day procedures?
- b. Have all safety risks been identified and ranked?
- c. Is there evidence of appropriate hazard mitigation plans?

**5 Quality Assurance and Quality Control (FNAL and JLab)**

- a. Is there a process for configuration management in place, e.g. drawing release status, change approval authorization, red-line process, as-builts, etc?
- b. Is the process for incoming component inspections, sub-system check-out, documentation, and responsibilities well planned?

**6 Production Management (FNAL and JLab)**

- a. Have all of the major risks been identified and managed?
- b. Is the supply chain in place and well planned, especially drop-shipments between partner laboratories?
- c. Are the processes for qualification, QA, material handling, storage, and risk mitigation adequate for the cavities and fundamental power couplers (FPCs), both of which are high-risk, no guarantee elements?
- d. Have lessons learned and traveler documentation from Eu-XFEL, Fermilab CM02, and JLab 12 GeV Upgrade been incorporated into the assembly procedures and component/system check-out planning?
- e. Are all travelers and assembly procedures updated and available?



f. Is there an agreed upon plan in place to collect and deliver all relevant inspection, assembly and testing data to SLAC for each cryomodule?

**7 Miscellaneous (FNAL and JLab)**

- a. Have all of the major risks been identified and managed?
- b. Are there any other issues that have been identified that need to be addressed?

**8 Overall Readiness (FNAL and JLab)**

- a. Are all plans, processes and resources in place to fabricate the LCLS-II cryomodule, so that there is a high likelihood of success to meet the schedule and system performance requirements?