

Magnet, Support and Infrastructure

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Engineering Work for SoLID

- Updated cost estimates for preCDR.
- Updated magnet, supports and infrastructure, and installation sections of preCDR to reflect the latest conceptual design.
- Requested an updated cost estimate from Cornell University for transporting the remaining magnet steel to JLAB.
- Delivery no earlier than Summer 2019 if approved.
- Planning for magnet refurbishment and testing.

Magnet Refurbishment and Testing

- JLAB ENP has allocated funds for FY18-20 to initiate work on the CLEO magnet as follows:
 1. New I&C system - FY18-Fy20
 2. New Cryo Control Reservoir (CCR) - FY19-20
 3. Static testing of the magnet - FY19

Initial manpower estimation and scheduling for this project have been completed. The project is funded as capital equipment for the preparation of the CLEO magnet as a JLAB solenoid detector magnet.

1. New Instrumentation and Control System – FY18

- Design the system – **completed**
- Identify hardware and software requirements – **completed**
- Procurement – **completed**
- Assemble and test the new I&C – **Starting summer 2019**

2. New Cryo Control Reservoir – FY 19-20

- Design to interface w/ CLEO and JLAB ESR system - **ongoing**
- Procurement
- Acceptance testing upon arrival-leak & pressure

3. Static Testing of the CLEO Magnet – FY 18-20

- Check out existing instrumentation in the cryostat
- HIPOT test the coil
- Evacuate the coil
- Leak test
- Pressure test

Additional Slide

Why a new CCR?

Most cost effective way to integrate CLEO into JLAB cryo system

Existing dewar:

- Incompatibility with ESR cryo system delivery pressure
- Problematic and inefficient LN2 interface

However it is possible to adapt the existing dewar system to ESR, but:

- Would require a local custom dewar and additional valve box
- Higher heat load
- Greater complexity
- Extra space required

The new CCR:

- More efficient
- Standardization with ESR cryo
- Standardization with I&C