# Engineering Specifications for Additional Utilities to Support CAMP and Other User Endstations

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**Brief Summary:**

This document describes the additional electrical supported needed for proposed user endstations in Hutch 1 and Hutch 2.
Change History Log

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<tr>
<th>Rev Number</th>
<th>Revision Date</th>
<th>Sections Affected</th>
<th>Description of Change</th>
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<td>000</td>
<td>3/30/2009</td>
<td>All</td>
<td>Initial Version</td>
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1. Overview

User endstations have been proposed for Hutch 1 and Hutch 2 that require additional electrical power beyond what has been provided for the initial installation. This document lays out these requirements. Note, additional PCW is also needed but is covered in a separate PCW plant upgrade project.

2. Hutch 1 Specific Requirements

2.1. Electrical

Install five 60-Amp, 3-phase, 5-wire 208 VAC outlets on wall near existing electrical panels. Specific locations for the outlets to be specified in the field after consultation with LCLS Hutch 1 coordinators. Outlets to be mounted in downward angled enclosures. Disconnects, preferably integrated with the outlet, to be provided at each outlet. Outlet type to be NEMA L21-60 5-wire type.

Power source to be determined by LCLS Central Facilities. Note power source will be external to hutch.

Provide five flexible power cords with appropriate plugs for the installed outlets on one end, approximately 20 feet long for use by experimenters. The other end will be field terminated to devices by facility electricians when the endstations are set up.
3. Hutch 2 Specific Requirements

3.1. Electrical

Install five 60-Amp, 3-phase, 5-wire 208 VAC outlets on wall near existing electrical panels. Specific locations for the outlets to be specified in the field after consultation with LCLS Hutch 2 coordinators. Outlets to be mounted in downward angled enclosures. Disconnects, preferably integrated with the outlet, to be provided at each outlet. Outlet type to be NEMA L21-60 5-wire type.

Power source to be determined by LCLS Central Facilities. Note power source will be external to hutch.

Provide five flexible power cords with appropriate plugs for the installed outlets on one end, approximately 20 feet long for use by experimenters. The other end will be field terminated to devices by facility electricians when the endstations are set up.

4. Setup Area Specific Requirements

4.1. Electrical

Install five 60-Amp, 3-phase, 5-wire 208 VAC outlets on wall near existing electrical panels. Specific locations for the outlets to be specified in the field after consultation with LCLS Experiment coordinators. Outlets to be mounted in downward angled enclosures. Disconnects, preferably integrated with the outlet, to be provided at each outlet. Outlet type to be NEMA L21-60 5-wire type.

Power source to be determined by LCLS Central Facilities.

Provide five flexible power cords with appropriate plugs for the installed outlets on one end, approximately 20 feet long for use by experimenters. The other end will be field terminated to devices by facility electricians when the endstations are set up.

5. Schedule

Power should be available on the following schedule:

- Power available in Hutch 2 by Oct. 1, 2009
- Power available in Hutch 1 by Nov. 2009 (see below)
- Power available in Experiment Setup Area by Oct. 1 2009 (if Hutch 2 cannot be used by CAMP for setup)
- Power available in Experiment Setup Area by Jan 1, 2010 (if Hutch 2 can be used by CAMP for setup)
Note that experiment running in Hutch 1 will impact ability to bring power into hutch. Installation should run power to the outside of the hutch, then coordinate with LCLS Experimental Facilities Department for access to the hutch to complete installation.