

## LCLS: Injector and Sector-21 - Magnet Power Supply Commissioning Plan

#	Task	LCLS	PCD	Notes
<b>0</b>	<b>Initial condition: magnet power cables disconnected from PS</b>		<b>x</b>	
<b>1</b>	<b>Lock and tag</b>	<b>x</b>	<b>x</b>	
1.1	Master circuit breakers to the PS in the rack(s) under test	<b>x</b>	<b>x</b>	
1.2	Other sources of hazards	<b>x</b>	<b>x</b>	Such as RF, modulators, vacuum
<b>2</b>	<b>Inspection of the magnets</b>	<b>x</b>	<b>x</b>	
2.1	Check tightness of magnet core ground connection		<b>x</b>	
2.2	Check tightness of magnet LCW connections	<b>x</b>		
2.3	Check for water leaks	<b>x</b>	<b>x</b>	If LCW is available
<b>3</b>	<b>Secure the area with caution tape</b>		<b>x</b>	
3.1	PS racks back and front		<b>x</b>	
3.2	Magnets under test		<b>x</b>	
<b>4</b>	<b>Remove magnet terminal covers</b>	<b>x</b>		If this is the case
<b>5</b>	<b>Check cable tags</b>		<b>x</b>	
5.1	Check power cable tags - magnet side		<b>x</b>	
5.2	Check power cable tags - PS side		<b>x</b>	
5.3	Check klixon cable tags - magnet side		<b>x</b>	
5.4	Check klixon cable tags - PS side		<b>x</b>	
<b>6</b>	<b>Verify the magnet/PS are one circuit</b>	<b>x</b>	<b>x</b>	With a low power PS: < 50 V, < 10 A
6.1	Connect a lab PS to the magnet power cables		<b>x</b>	One PS system at a time
6.2	Check DCCTs polarity indications on local control board		<b>x</b>	
6.3	Check cable polarity at magnet's terminals		<b>x</b>	
6.4	Check magnet polarity	<b>x</b>		
<b>7</b>	<b>Check tightness of cable connections to magnet</b>		<b>x</b>	
7.1	Power cables		<b>x</b>	
7.2	Klixon cables		<b>x</b>	
<b>8</b>	<b>Put covers back on the magnets</b>	<b>x</b>	<b>x</b>	
	Check proper grounding of magnet covers	<b>x</b>	<b>x</b>	If metallic covers are used
<b>9</b>	<b>Hi pot cables</b>		<b>x</b>	Follow the EWP procedures for hi pot
9.1	Make sure magnet power cables are disconnected from their PS		<b>x</b>	One PS system at a time
9.2	Hi pot Power cables		<b>x</b>	
9.3	Klixon cables		<b>x</b>	
9.4	Sign off PS system check list		<b>x</b>	
<b>10</b>	<b>Install magnet stickers</b>	<b>x</b>		
<b>11</b>	<b>Complete PS system's cables connections</b>		<b>x</b>	
11.1	Connect power cables to PS output terminals		<b>x</b>	
11.2	Reconnect klixon cable connector to EPSC		<b>x</b>	
11.3	Sign off PS system configuration control list		<b>x</b>	
<b>12</b>	<b>Energize PS</b>			If all the PS in the rack have been checked
12.1	Remove locks and tags from circuit breakers to the PS	<b>x</b>	<b>x</b>	
12.2	Test PS system in the local mode		<b>x</b>	
<b>13</b>	<b>Validate the ELPs</b>		<b>x</b>	Follow the steps from the ELP
<b>14</b>	<b>Check the ground fault detection</b>		<b>x</b>	Follow procedures
14.1	Connect a 10-ohm 10-W resistor from PS + output to ground		<b>x</b>	
14.2	Turn the PS ON on local control mode		<b>x</b>	
14.3	Slowly increase the PS output voltage until PS trips on GND FLT		<b>x</b>	
<b>15</b>	<b>Tune the PS system</b>		<b>x</b>	Follow procedures for tuning the PS system
<b>16</b>	<b>Test the PS system in remote mode</b>	<b>x</b>	<b>x</b>	When SCP/EPICS becomes available
16.1	Verify that addressing is correct	<b>x</b>	<b>x</b>	
16.2	Verify voltage and current compliance	<b>x</b>	<b>x</b>	
16.3	Check that all readbacks are functional	<b>x</b>	<b>x</b>	
16.4	Check klixon, water flow, GND FLT interlocks and display statuts	<b>x</b>	<b>x</b>	