

***If you are using a printed copy of this procedure, and not the on-screen version, then you MUST make sure the dates at the bottom of the printed copy and the on-screen version match. The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are available by contacting the ESSHQ Procedures Coordinator, Bldg. 911A***

**C-A OPERATIONS PROCEDURES MANUAL**

**ATTACHMENT**

**4.1.e Electrical Safety Training Requirements for Ring Entry**

<b>C-A-OPM Procedure in which this Attachment is used</b>		
4.1		

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approved: \_\_\_\_\_ *Signature on File* \_\_\_\_\_  
 Collider-Accelerator Department Chairman Date

P. Ingrassia

#### 4.1.e Electrical Safety Training Requirements for Ring Entry

RING CONDITIONS	TRAINING REQUIREMENT	ENTRANT'S REQUIREMENT
<ul style="list-style-type: none"> <li>• EVERY item on C-A LOTO list is LOTO.</li> <li>• Entrants will only observe or advise.</li> <li>• Entrants will not work on apparatus physically attached to the accelerator, or connected to the vacuum chamber (except for the Rf Power Amplifier system).</li> </ul>	<ul style="list-style-type: none"> <li>• Valid C-A Access Training on BTMS Listing.</li> </ul>	<ul style="list-style-type: none"> <li>• AA256A key + ID/RW1 card.</li> <li>• NO LOTO lock required.</li> </ul>
<ul style="list-style-type: none"> <li>• EVERY item on C-A LOTO list is LOTO.</li> <li>• Entrants will work on apparatus physically attached to the accelerator.</li> </ul>	<ul style="list-style-type: none"> <li>• Valid Lockout/Tagout training on BTMS Listing</li> <li>• Valid Electrical Safety training on BTMS Listing</li> <li>• Valid C-A Access on BTMS Listing</li> </ul>	<ul style="list-style-type: none"> <li>• LOTO lock on Token Box.</li> <li>• AA256A key + ID/RW1 card.</li> </ul>
<ul style="list-style-type: none"> <li>• Some apparatus from the AGS OPM C-A LOTO checklist remains energized.</li> </ul>	<ul style="list-style-type: none"> <li>• Valid Lockout/Tagout training on BTMS Listing</li> <li>• Valid Electrical Safety training on BTMS Listing</li> <li>• Valid C-A Access training on BTMS Listing</li> </ul>	<ul style="list-style-type: none"> <li>• LOTO lock on Token Box.</li> <li>• Energized Circuit Work Permit (OPM Att. 2.6.2.a) issued by MC.</li> <li>• AA256A key + ID/RW1 card.</li> </ul>
<ul style="list-style-type: none"> <li>• Only the Main Magnet Power Supply, the high field backleg winding power supplies, and the active filter power supply are LOTO.</li> </ul>	<ul style="list-style-type: none"> <li>• Valid Lockout/Tagout training on BTMS Listing</li> <li>• Valid Electrical Safety training on BTMS Listing</li> <li>• Valid Working Hot training* on BTMS Listing</li> <li>• Valid C-A Access training on BTMS Listing</li> </ul>	<ul style="list-style-type: none"> <li>• LOTO lock on Token Box.</li> <li>• Energized Circuit Work Permit (OPM Att. 2.6.2.a) issued by MC.</li> <li>• AA256A key + ID/RW1 card.</li> <li>• CEE** approved work plan</li> </ul>
<ul style="list-style-type: none"> <li>• The ring main magnets are energized.</li> </ul>	<ul style="list-style-type: none"> <li>• Valid Lockout/Tagout training on BTMS Listing</li> <li>• Valid Electrical Safety training on BTMS Listing</li> <li>• Valid Working Hot training* on BTMS Listing</li> <li>• Valid C-A Access training on BTMS Listing</li> <li>• Tasks specified on Range D Working Hot Permit.</li> </ul>	<ul style="list-style-type: none"> <li>• LOTO lock on Token Box.</li> <li>• Task specific Range D Working Hot Permit.</li> <li>• AA256A key + ID/RW1 card.</li> <li>• CEE** approved work plan</li> </ul>

\*Working Hot Training is entitled Electrical Safe Work Practices on BTMS.    \*\*CEE = Chief Electrical Engineer