

Task Hazard Analysis Checklist

PERMIT No:

JLab-PTW-3516

Jefferson Lab

Summary

Work Scope

Site:

Jefferson Labs

Responsibility Group:

Physics

Issue Date/Time:

5/29/2024 4:22:13PM

Area: Bldg 203 - Experimental Hall D

Title: Installation of ECAL cables and dividers

- FORWARD CALORIMETER

Job Description:	We will install signal, LV, and HV cables inside the calorimeter dark box
	The work will be organized into several steps:
	1. All cables will be labeled and organized into bundles (groups of 7 and 6 cables)
	2. The cable bundles will be installed on the detector vertical support chains
	3. The signal, HV, and LV cables cables will be attached to PMT dividers
	4 The dividers will be installed on the detector
	5 Signal, HV, and LV cables will be installed between the crates and patch panels, connect cables to crates
	6 Cables will be connected to patch panels
Tools And Equipment:	Cable strip cutter, portable ladder
Functional Location	Description

Task	Task Description	Hazards	Control Measures
No	Work Categories		
1	CONNECT CABLES CONNECTORS TO PATCH PANELS		
1.1	Student Safety	Lab hazards affecting students may include radiation, oxygen deficient atmospheres, high noise levels, lasers and/or other industrial type hazards	 Assign a trained/qualified mentor responsible for oversight of student's work activities Comply with limitations associated with minor's (< 18 years of age) exposure to lab hazards Comply with restrictons on students working 'after hours' & working alone Conduct mentor/student safety briefings Create Skill Requirements List (SRL) for the student Ensure qualified escort(s) are provided for minors entering Radiologically Controlled Areas (RCAs) Ensure students complete applicable lab safety training, including sign-off on Operational Safety Procedures (OSPs) Provide on-the-job observation & coaching

Гask	Task Description	Hazards	Control Measures	
No	Work Categories	11020103	Control medicalics	
2	INSTALL CABLES BETWEEN CRATES AND PATCH PANELS, CONNECT CABLES TO CRATES (continued)			
2.1	• Electrical Equipment - Class 1 Mode 2	Electrical Shock	Assign a trained/qualified mentor responsible for oversight of student's work activities	
	(Voltage less than or equal to 50Vac or	 Lab hazards affecting 	• Comply with limitations associated with minor's (< 18 years of age) exposure to lab hazards	
	60Vdc Current Capacity less than or	students may include	Comply with restrictons on students working 'after hours' & working alone	
	equal to 50A, Voltage >50Vac or 60Vdc	radiation, oxygen deficient	Conduct mentor/student safety briefings	
	Current Capacity less than or equal to	atmospheres, high noise	Create Skill Requirements List (SRL) for the student	
	5mA, Non-Manipulative Diagnostics on	levels, lasers and/or other	Develop a work plan & conduct pre-job briefing with qualified workers	
	Energized Equipment) (Do not forget to	industrial type hazards	Does the person in this position operate electrical equipment other than using a light switch, for	
	choose locks and tags and capacitors, if		example, turning on/off appliances or common office equipment on or off? If YES, then ESC001 Basic	
	stored energy is present)		Electrical Safety Training is required.	
	Student Safety		• Ensure qualified escort(s) are provided for minors entering Radiologically Controlled Areas (RCAs)	
			Ensure students complete applicable lab safety training, including sign-off on Operational Safety	
			Procedures (OSPs)	
			Ensure tasks are assigned to qualified personnel only	
			• Is the person a TJNAF employee, subcontractor, or user who performs all modes of work on Class 1	
			electrical or electronics equipment? If YES, then ESC001 Basic Electrical Safety is required. *ESC007	
			Lockout/Tagout (LOTO) and ESC008 Electrical Safety Practical Application are only required IF	
			performing Lockout/Tagout	
			Provide on-the-job observation & coaching	
			Shock Risk Assessment Required- add a custom control to document the level of shock PPE	
			required, the limited approach boundary, and the restricted approach boundary required to perform the	
			job	
			Verify zero voltage verification has been performed and/or perform a test before touch	
ATTACH DIVIDERS TO THE DETECTOR				
3.1	Permanent Ladder/Non-Standard Stairs	• Fall - Fall from Fixed Ladder	Assign a trained/qualified mentor responsible for oversight of student's work activities	
	Portable Ladder	Falling objects - Portable	Complete SAF307 - Ladder Safety Training before using a ladder	
	Student Safety	Ladders	Comply with limitations associated with minor's (< 18 years of age) exposure to lab hazards	
		Falls - Portable Ladder	Comply with restrictons on students working 'after hours' & working alone	
		Lab hazards affecting	Conduct mentor/student safety briefings	
		students may include	Create Skill Requirements List (SRL) for the student	
		radiation, oxygen deficient	• Ensure qualified escort(s) are provided for minors entering Radiologically Controlled Areas (RCAs)	
		atmospheres, high noise	• Ensure students complete applicable lab safety training, including sign-off on Operational Safety	
		levels, lasers and/or other	Procedures (OSPs)	
		industrial type hazards	Maintain 3 points of contact while ascending/descending	
			Perform a pre-use inspection	
			Provide on-the-job observation & coaching	
			Use only as indicated in manufacturer's instructions	
			Use only portable ladders with minimum ANSI Type I - 250 lb. rating	

Task	k Details			
Task	Task Description	Hazards	Control Measures	
No	Work Categories			
4	ATTACH SIGNAL, HV, AND LV CABLES TO PMT DIVIDERS (continued)			
4.1	• Electrical Equipment - Class 1 Mode 2	Electrical Shock	Assign a trained/qualified mentor responsible for oversight of student's work activities	
	(Voltage less than or equal to 50Vac or	Lab hazards affecting	Comply with limitations associated with minor's (< 18 years of age) exposure to lab hazards	
	60Vdc Current Capacity less than or	students may include	Comply with restrictons on students working 'after hours' & working alone	
	equal to 50A, Voltage >50Vac or 60Vdc	radiation, oxygen deficient	Conduct mentor/student safety briefings	
	Current Capacity less than or equal to	atmospheres, high noise	Create Skill Requirements List (SRL) for the student	
	5mA, Non-Manipulative Diagnostics on	levels, lasers and/or other	Develop a work plan & conduct pre-job briefing with qualified workers	
	Energized Equipment) (Do not forget to	industrial type hazards	• Does the person in this position operate electrical equipment other than using a light switch, for	
	choose locks and tags and capacitors, if		example, turning on/off appliances or common office equipment on or off? If YES, then ESC001 Basic	
	stored energy is present)		Electrical Safety Training is required.	
	Student Safety		• Ensure qualified escort(s) are provided for minors entering Radiologically Controlled Areas (RCAs)	
			• Ensure students complete applicable lab safety training, including sign- off on Operational Safety	
			Procedures (OSPs)	
			Ensure tasks are assigned to qualified personnel only	
			• Is the person a TJNAF employee, subcontractor, or user who performs all modes of work on Class 1	
			electrical or electronics equipment? If YES, then ESC001 Basic Electrical Safety is required. *ESC007	
			Lockout/Tagout (LOTO) and ESC008 Electrical Safety Practical Application are only required IF	
			performing Lockout/Tagout	
			Provide on-the-job observation & coaching	
			Shock Risk Assessment Required- add a custom control to document the level of shock PPE	
			required, the limited approach boundary, and the restricted approach boundary required to perform the	
			job • Verify zero voltage verification has been performed and/or perform a test before touch	
-	INOTALL CARLE BUNDLES ON THE RET	TOTOR OUANO	* Verify Zero Voltage Verification has been performed and/or perform a test before touch	
_	5 INSTALL CABLE BUNDLES ON THE DETECTOR CHAINS			
5.1	Portable Ladder Object of the Control of t	Falling objects - Portable	Assign a trained/qualified mentor responsible for oversight of student's work activities	
	Student Safety	Ladders • Falls - Portable Ladder	Complete SAF307 - Ladder Safety Training before using a ladder Complete with limitations associated with minorly (s.18 years of ago) synasure to lab hazarda	
		Lab hazards affecting	 Comply with limitations associated with minor's (< 18 years of age) exposure to lab hazards Comply with restrictons on students working 'after hours' & working alone 	
		students may include	Conduct mentor/student safety briefings	
		radiation, oxygen deficient	Create Skill Requirements List (SRL) for the student	
		atmospheres, high noise	Ensure qualified escort(s) are provided for minors entering Radiologically Controlled Areas (RCAs)	
		levels, lasers and/or other	Ensure students complete applicable lab safety training, including sign-off on Operational Safety	
		industrial type hazards	Procedures (OSPs)	
		lindustrial type flazards	Maintain 3 points of contact while ascending/descending	
			Perform a pre-use inspection	
			Provide on-the-job observation & coaching	
			Use only as indicated in manufacturer's instructions	
			Use only portable ladders with minimum ANSI Type I - 250 lb. rating	
6	INSTALL LABELS ON CARLES AND ORG	ANIZED CABLES INTO BLINDLE		
	INSTALL LABELS ON CABLES AND ORGANIZED CABLES INTO BUNDLES (GROUPS OF 7 AND 6 CABLES)			

Task	ask Details			
Task	Task Description	Hazards	Control Measures	
No	Work Categories			
6	INSTALL LABELS ON CABLES AND ORGANIZED CABLES INTO BUNDLES (GROUPS OF 7 AND 6 CABLES)			
	(continued)	·	,	
6.1	Student Safety	Lab hazards affecting	Assign a trained/qualified mentor responsible for oversight of student's work activities	
		students may include	Comply with limitations associated with minor's (< 18 years of age) exposure to lab hazards	
		radiation, oxygen deficient	Comply with restrictons on students working 'after hours' & working alone	
		atmospheres, high noise	Conduct mentor/student safety briefings	
		levels, lasers and/or other	Create Skill Requirements List (SRL) for the student	
		industrial type hazards	Ensure qualified escort(s) are provided for minors entering Radiologically Controlled Areas (RCAs)	
		·	• Ensure students complete applicable lab safety training, including sign-off on Operational Safety	
			Procedures (OSPs)	
			Provide on-the-job observation & coaching	

Site Risk Assessment (Additional Hazards/Controls to those in Checklist)

HAZARDS (List Hazards)	CONSEQUENCE (What could go wrong - its effects?)	CONTROL (How can the hazard be prevented?)	RESPONSIBILITY (Who is going to take action to prevent escalation?)