

LCLS Room Data Sheet #	1.9-1034	Near Experimental Hall - Electronic Shop	Revision 2
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Javier A. Sevilla
Owner / Editor

8/12/05

Signature

Date

Jim Welch
System Physicist

8/12/05

Signature

Date

David Saenz
Conventional Facilities System
Manager

8/12/05

Signature

Date

Stefan Moeller
X-R End stations WBS Manager

8/12/05

Signature

Date

Jim C. 8-12-05

Darren Marsh
Quality Assurance Manager

8/15/05

Signature

Date

REVISION INFORMATION

Rev 2. Added diversity factor for electrical panels and clarified panel requirements. Added panic door bars, deleted floor drain
Clarified ceiling specifications and water cooling requirements

ROOM DATA SHEETS

FACILITY COMPONENT	ELECTRONIC SHOP (NEH) - ROOM DATA SHEET		
	Name of Building	Electronic Shop (NEH)	
	Organization or Department	SLAC, Stanford University	
	Net area	60.7 sq. meters	653 sf
	Critical dimensions	H:	4.5 m 15'-0"
		W:	8.2 m 26'-11"
		L:	7.4 m 24'-4"
	Hours of operation	Normal business hours	
	Users/Occupancy	Electronics Technicians using electronic shop tools and equipment used for the maintenance of existing and construction of custom-designed experiment equipment used throughout the facility.	
	Building orientation	Electronics Shop is located directly adjacent to the Open Work Area on the NEH sub-basement level.	
FUNCTIONAL OBJECTIVE	To provide an electronics shop equipped with the appropriate shop tools necessary to support the experiment equipment maintenance and construction needs of the facility.		
PLANNING CONSIDERATIONS & CRITICAL FACTORS			
FINISHES	Walls	Painted reinforced concrete, framed gypsum board assembly	
	Ceiling	Acoustic tile panels with mylar finish within suspended ceiling assembly.	
	Floor	ESD (electrostatic discharge) - conductive or dissipative - flooring Tie into building grounding system.	
	Base	ESD floor covering turned vertically providing an integral base / floor.	
	Doors	Pair of 3ft wide by 7 ft high, with narrow light, hollow metal door with card key access. Add panic bar for unobstructed egress.	
	Fenestration	NA	
	Acoustical	Perimeter walls are to be constructed with sound attenuation insulation batts	

APPLICABLE STANDARDS	29 CFR Part 1910 Occupational Safety and Health Standards Dept of Labor, 29 CFR Part 1926 Safety and Health Regulations for Constructions Dept of Labor, Uniform Building Code (UBC) 1997 including appendixes, National Electric Code (NEC) 2002, Uniform Mechanical Code (UMC) 2003 including appendixes, Uniform Plumbing Code (UPC) 2003 including appendixes, Uniform Fire Code (UFC) 1997 including appendixes, California Code of Regulations Title 8 Industrial Safety, Title 19 Public Safety, NFPA 70 National Fire Codes, National electrical Safety Code ANSI C2, Occupational Safety and Health Act (OSHA), General Services Administration 41 CFR part 101-19, Environmental Protection Agency 40 CFR Parts 264 and 265, SLAC Environmental Safety & Health Manual, General Industrial Activities Storm Water Permit (SLAC Permit), NFPA 101 life Safety Code, Title 24-Energy Code, DOE standard 10 CFR Part 435, ASHRAE/IES Standards 90.1, NFPA Standard 13 and SLAC Fire Marshal requirements, LCLS Cabling Standard and SLAC LOTO			
VIEWS & SCHEMATICS (N. T. S.)	NONE			
9.11 LIST OF SHOP EQUIPMENT		Equipment	Watts/Voltage	Nos.
	Other	Equipment	Watts/Voltage	Nos.

MECHANICAL REQUIREMENTS	HVAC	<input checked="" type="checkbox"/> Heating system	Temp:	<input type="checkbox"/>	Mechanical humidification	
		<input checked="" type="checkbox"/> Air conditioning	Temp: 72 degrees F ± 2 degree F	<input checked="" type="checkbox"/>	Direct exhaust system -	
		<input type="checkbox"/> Direct supply		<input type="checkbox"/>	Positive pressure system	
		<input type="checkbox"/> Indirect supply		<input type="checkbox"/>	Negative pressure system	
		<input checked="" type="checkbox"/> Smoke control system		<input type="checkbox"/>	Standard registers	
		<input checked="" type="checkbox"/> Temperature sensors connected to SLAC's DDC system		<input type="checkbox"/>	Requirement for gases	
		Centralized Mechanical Utilities: a- Clean dry oil-free compressed air 20 SCFM, 100 psig-Provide shut-off valve and gauge. One location		1- 200 CFM exhaust ducts (6") for process exhaust at 1.5"W.C. static pressure.		
	Communications	<input checked="" type="checkbox"/> Telephone- 2 phone/location-see diagram for locations		<input type="checkbox"/>	PA speakers	
		<input checked="" type="checkbox"/> Data port- 2 outlet/location-see diagram for locations		<input type="checkbox"/>	PA station	
		<input type="checkbox"/> Payphone			CCTV camera	
		<input checked="" type="checkbox"/> Fire alarm station		<input type="checkbox"/>	CCTV monitor	
		<input type="checkbox"/> Intercom				
		Comments				
	Plumbing/Fire Protection	<input type="checkbox"/> Hot water system		<input type="checkbox"/>	Electric water cooler	
		<input type="checkbox"/> Cold water system		<input type="checkbox"/>	Drinking fountain	
		<input type="checkbox"/> Process cooling water		<input checked="" type="checkbox"/>	Smoke detection system	
		<input type="checkbox"/> Waste drain		<input checked="" type="checkbox"/>	Wet Sprinkler System	
		<input type="checkbox"/> Floor drain		<input type="checkbox"/>	Eye wash / Safety shower	
		<input type="checkbox"/> Trench drain				
		Comments: Process Cooling water: 10 GPM, 25 PSI (min. delta pressure) at 68 F supply -Refer to LCLS ESD for water cooling requirements. Terminate with shut off valve and pressure gauge. See diagram for location.				
ELECTRICAL REQUIREMENTS	Power supply	<input type="checkbox"/> 208-230V-1ph outlets		<input type="checkbox"/>	Uninterrupted power supply	
		<input checked="" type="checkbox"/> 110V, 1ph Double duplex outlets, 20 amps locate at 10ft apart on all walls.		<input checked="" type="checkbox"/>	Special electric-See below	
		<input type="checkbox"/> Emergency power		<input type="checkbox"/>	208-230V-3ph outlets-	
		Comments: 1.- Provide two panels, 120-208 volts, 3 ph, (one "clean" and one "dirty" power). Each panel shall have a main breaker. All panels should have 42 circuits. Capacity of each panel: 100 amps/Panel. Diversity factor: 60%				
	Lighting	<input checked="" type="checkbox"/> Light fixtures - florescent fixtures		<input type="checkbox"/>	Remote lighting control	
		<input type="checkbox"/> Fixture type I: Down light		<input checked="" type="checkbox"/>	Light switches	
		<input type="checkbox"/> Fixture type II: Bollard (exterior)		<input checked="" type="checkbox"/>	Lighting level	FC: 75
		<input checked="" type="checkbox"/> Emergency lighting				
		Comments: 1) Standard recessed mounted lighting fixtures either 2'x4' or 2'x2'				

RADIATION/SEISMIC/VIBRATIONS ISSUES	Comments: 1- All equipment (HVAC, panels, etc) and systems shall be seismically braced and restrained per Code and SLAC standards 2- Refer to vibration criteria: 100 micro inch/sec						
SPECIAL REQUIREMENTS FOR EQUIPMENT	Comments:						
CHEMICALS / GASES		CHEMICALS		SPECIALTY GASES			
		#	Chemical Type	Quantity	#	Gas Type	Quantity
ENVIRONMENTAL NEEDS							