Standard Configuration

Vault/Area: S3 vault
Coordinator: Jorge Pereira
Manager: Georg Bollen
Last update Feb-21

System	Subsystem	Subsystem	Model (number)	Location	Spares available?	Model	Location Spare	Reponsible Organizational Unit
Magnets	Analysis line dipoles	I200DS	22-deg (sn: DV100)	S3	no			LAB.FRIB.ESD.MagnetSys
		I205DS	22-deg (sn: DV101)					
		I223DS	22-deg (sn: DV105)					
		I228DS	22-deg (sn: DV107)					
	Analysis line quadrupoles triplets	[I191TA,I193TB,195TC]	S800 Triplet (sn: QT098)	S3	yes (1)			LAB.FRIB.ESD.MagnetSys
		[I209TA,I210TB,I211TC]	S800 Triplet (sn: QT102)					
		[I216TA,I217TC,I218TC]	S800 Triplet (sn: QT104)					
		[I232TA,I234TB,I236TC]	S800 Triplet (sn: QT109)					
		[I241TA,I243TB,I245TC]	S800 Triplet (sn: QT110)					
	Analysis line quadrupoles doublets	I1172QA,I174QB!,II184QA,I186QB!	NSCL Doublet (2). 4 quads	S3	no			LAB.FRIB.ESD.MagnetSys
	Analysis line steerers	I170DH,I197DH,I231DH	NSCL (3)	TH. S3	no			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Spectrograph quadrupoles	I256QA.I258QC	S800 "yellow submarine" (sn: QD112)	S3	no			LAB.FRIB.ESD.MagnetSys
	Spectrograph dipoles	I265DS	sn: DV113	S3	no			LAB.FRIB.ESD.MagnetSys
		I269DS	sn: DV114					
	Spectrograph sextupoles	I257QB	S800 "yellow submarine" (1). 1 sext.	S3	no			LAB.FRIB.ESD.MagnetSys
Power Supplies	Analysis line power supply quads	[I191TA,I193TB,195TC,I209TA,I210TB,I211TC,I21 6TA,I217TC,I218TC,I236TC,I241TA, I243TB,I245TC	NSCL 10/100 (13)	S3 mezzanine	yes	EMI	S3 mezzanine	LAB.FRIB.ASD.ElecEng.PowerSupplies
		I232TA,I234TB	SigmaPhi 6/100 (2)	S3 mezzanine	yes			LAB.FRIB.ASD.ElecEng.PowerSupplies
		I172QA,I174QB.I184QA.186QB	NSCL 20/20 (4)	S3 mezzanine	???????			LAB.FRIB.ASD.ElecEng.PowerSupplies
	Analysis line power supply dipoles	I200DS.I205DS.I223DS.I228DS	NSCL 10/100 (4)	S3 mezzanine	yes	EMI	S3 mezzanine	LAB.FRIB.ASD.ElecEng.PowerSupplies
	Analysis line dump resistors	I232TA.I234TB	SigmaPhi (2)	S3 mezzanine	yes			LAB.FRIB.ASD.ElecEng.PowerSupplies
	Analysis line steerers PS	I170DH	Sorensen DLM 20-30 (1)	S3 mezzanine	yes	Sorensen DLM 20-30 (1)	S3 mezzanine	LAB.FRIB.ASD.ElecEng.PowerSupplies
		I197DH.I231DH	Sorensen DC80-13E (2)	S3 mezzanine	yes			LAB.FRIB.ASD.ElecEng.PowerSupplies
	Spectrograph power supply quads	I256QA.I258QC	NSCL 10/100 (2)	S3 mezzanine	yes	EMI	S3 mezzanine	LAB.FRIB.ASD.ElecEng.PowerSupplies
	Spectrograph power supply sext.	I257QB	NSCL 20/20 (1)	S3 mezzanine	???????		S3 mezzanine	LAB.FRIB.ASD.ElecEng.PowerSupplies
	Spectrograph power supply diodes	I265DS.I269DS	Invertipower NSCL-208-20/680 (2)	S3 basement.top	???????			LAB.FRIB.ASD.ElecEng.PowerSupplies
	Spectrograph power supply trim coils	I265T. I269T	SGA 60/250	S3 mezzanine	yes (2)	NSCL 10/250	S3 mezzanine	LAB.FRIB.ASD.ElecEng.PowerSupplies
	Dump switches	I265DS.I269DS	NSCL	S3 basement. mezzanine	???????			LAB.FRIB.ASD.ElecEng.PowerSupplies
	Delta V	Spectrograph dipoles	NSCL	S3 mezzanine	???????			LAB.FRIB.ASD.ElecEng.PowerSupplies
NMR	NMR probes 4	Spectrograph dipoles	Metrolab 1060-4 (2)	Inside Spectr. Dipoles	no	Metrolab 1060-4	Beam Diagnostics (Evan Daykin)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR probes 4	Analysis line diodes	Metrolab 1060-4 (4)	S3 alcove.basement	yes	Metrolab 1060-4	Beam Diagnostics (Evan Daykin)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR probes 5	Spectrograph dipoles	Metrolab 1060-5 (2)	Inside Spectr. Dipoles	no	Metrolab 1060-5	Beam Diagnostics (Evan Daykin)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR probes 5	Analysis line diodes	Metrolab 1060-5 (4)	S3 alcove.basement	yes	Metrolab 1060-5	Beam Diagnostics (Evan Daykin)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR controllers	Analysis line. Spectrograph	Metrolab PT2025 (2)	S3 mezzanine	yes	Metrolab PT2025 (1)	Beam Diagnostics (Evan Daykin)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR preamp/multiplexers	Analysis line. Spectrograph	Metrolab MUX2031 (2)	S3 mezzanine. alcove	yes	Metrolab MUX2031		LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR contoller TS	Analysis line. Spectrograph	Lantronix ETS8P	S3 mezzanine	yes			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	NMR oscilloscopes	Analysis line. Spectrograph	Tektronix TDS1002 (2)	Data-U6	yes	Tektronix	epool. S3 mezzan. (near NMR contr.)	LAB.NSCL.EXPRES.ExpRes.MSS
	NMR oscilloscope TS	Analysis line. Spectrograph	Lantronix UDS1100 (2)	Data-U6	yes			LAB.NSCL.EXPRES.ExpRes.MSS
Cryostats	Rupture disk (20 psi)	Analysis line. Spectrograph	Zook	S3	yes	Zook	???????	LAB.FRIB.ESD.MagnetSys
	Rupture disks (25 psi)	Analysis line (I232)	Zook	S3	yes	Zook	???????	LAB.FRIB.ESD.MagnetSys
	Cryopanels	Analysis line, Spectrograph	NSCL	S3	no			LAB.FRIB.ESD.MagnetSys
	Cold-head I205DS	I205DS cryostat	Cryomech AL60 (1)	S3 alcove	no			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Diffusion pump I205DS	I205DS cryostat	VHS-4 (1)	S3 alcove	yes	VHS-4	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Compressor I205DS	I205DS cryostat	Cryomech CP820 (1)	S3 alcove	no			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Diffusion pump Upper bobbin	I265DS cryostat	VHS-6 (1)	S3 mezzanine	yes	VHS-6	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Diffusion pump Lower bobbin	I265DS cryostat	VHS-4 (1)	S3 basement	yes	VHS-4	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Main Diffusion pump	Cryo Box 27	VHS-10 (1)	S3 mezzanine	yes (1)	VHS-10	Roof	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Mechanical pumps	Pumps	Miscellaneous (small-alcatel type)	S3	yes	Miscellaneous (small-alcatel type	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Sentry valves	Miscellaneous	S3	???????	???????	???????	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Pressure gauges	Ion gauges cryostats I265. I269	Standard NSCL	S3	yes	Standard NSCL	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Gauge controllers	SenTorr	S3	yes	XGS 600	Roof (top of cyclotrons)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
			XGS 600	S3	yes	XGS 600	Roof (top of cyclotrons)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
			XGS 600	S3	yes	XGS 600	Roof (top of cyclotrons)	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
Vacuum (pumps etc)	Gate valves	Analysis line	"Standard" NSCL fast beamlines	S3	no			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		I255GV Gate valve	???????	S3 basement	yes (1)	Sweeper Magnet type	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		I265GV Gate valve	???????	S3 top level	no	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Mechanical pumps	OBJ box	Alcatel Pascal 2021SD (Alc 30)	S3 alcove	yes	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Upper dipole sections	Alcatel Pascal 2015 (Alc 32)	S3 alcove	yes	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Int. lm.	Varian SD 200	S3 mezzanine	yes	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Low dipole section	Varian DS 602	S3 basement	yes	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Target	Alcatel Pascal 2015 (Alc 32)	S3 basement	yes	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Focal plane	Alcatel 2033 SD (Alc 70)	S3 top level	yes	???????	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Turbo pumps	Analysis line	Varian TV 551 (4)	S3	yes	Varian TV 551	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		S800 Focal plane chamber	Leybold iMAGW 2200iP	S3 top level	yes (1)	Leybold iMAGW 2200iP	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		S800 Focal plane TP chiller	Tek-Temp LK-10	S3 top level	yes	Tek-Temp LK-10	S3 east entrance. S3 basement	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Target area	Leybold TVAC 361	S3 basement	yes	?	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Cryopump D1/D2 chamber	Cryopump	CTI Cryo-Torr 10	S3 mezzanine	yes	APD 12 SC Cryopump	S3 basement	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Compressor	CTI 9600	S3 mezzanine	yes	Sumitomo HC-8E	S3 basement	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Roots Blower	Pfeiffer WKP 500 A	S3 basement	???????	???????		LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Welsch pump	Welch Sci. Mod. 1398 ("Wel-35")	S3 basement	???????	???????		LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Vacuum gauges	Pirani gauges	Granville-Phillios 275 (~20)	S3	yes	Granville-Phillios 275	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Manometers	Miscellaneous brands (~10)	S3	yes	Miscellaneous brands	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Ion gauges	Standard NSCL	S3	yes	Standard NSCL	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Termocouples	???????	S3	yes	???????	Vacuum lab ???	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
		Ion gauge controllers	SenTorr (1)	S3 mezzanine (magnet PS)	yes	SenTorr	Rm 1107	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
			XGS 600 (3)	S3 mezzanine (magnet PS)	yes	XGS 600	Rm 1107	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
			Varian Multi-gauge	S3 mezzanine (magnet PS)	no		Rm 1107	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations.Vacuum
	Valves							
Control and networks	Modicon cards		Modicon	S3 top level	yes	Modicon	???????	LAB.NSCL.OPS.Controls.Operation
	Ethernet control switches 1		Netgear	S3 mezzanine (near NMR T	yes	???????	???????	LAB.NSCL.OPS.Controls.Operation
	Ethernet control switches 2		???????	S3 mezzanine (magnet PS)	yes	???????	???????	LAB.NSCL.OPS.Controls.Operation
	VME crate		???????	S3 mezzanine (magnet PS)	yes	???????	???????	LAB.NSCL.OPS.Controls.Operation
	VME cards		???????	S3 mezzanine (magnet PS)	yes	???????	???????	LAB.NSCL.OPS.Controls.Operation
	Terminal servers	Miscellaneous: gas bottle scales, S800 gas handli	Moxa, Lantronix	S3	yes	Moxa, Lantronix	???????	LAB.NSCL.OPS.Controls.Operation
	DAQ ethernet switches		Juniper 1	S3 top (west balcony)	yes	???????	???????	LAB.FRIB.BSO.BusinessIT.AS
			Juniper 2	S3 top (west balcony)	yes	???????	???????	LAB.FRIB.BSO.BusinessIT.AS
Detectors	CRDCs	Assembled Detectors	NSCL S800 CRDC (2)	S800 Focal plane (inside)	yes (2)	S800 CRDC fully assembled	Detector Lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: PPTA windows			yes		Detector Lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: shaping foils			yes		Detector Lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: anode wire			yes		Detector Lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: pad readout			yes		Detector Lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: STAR cards	STAR (16)	S800 Focal plane	yes	STAR	S3 base cabinet. ATTPC cabinet	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Interface boards	NSCL S800 interface boards (2)	S800 Focal plane	yes	NSCL S800 interface boards	S3 base cabinet	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Preamplifiers	???????	S800 Focal plane (outside)	yes	???????	Detector Lab: S3 top drawer. ATTPC cabi	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Cable STAR/Interface boards	32 flat	S800 Focal plane (inside)	no		Materials available in electronic shop	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Flat ribbon cable (signals)	32 flat-ribbon	S800 Focal plane (inside/out	no		Materials available in electronic shop	LAB.NSCL.EXPRES.ExpRes.MSS
		Low voltage supply	NIM bin	S3 top (NIM crate FP)	no			LAB.NSCL.EXPRES.ExpRes.MSS
		High voltage drift	Iseoxxxx	S3 top (Wiener crate FP)	yes	Iseoxxxx	Sweeper setup: epool	LAB.NSCL.EXPRES.ExpRes.MSS
		High voltage anode	Iseoxxxx	S3 top (Wiener crate FP)	yes	Iseoxxxx	Sweeper setup: epool	LAB.NSCL.EXPRES.ExpRes.MSS
		Voltage CRDC grid	Tennelc 953	data-U6	yes	Tennelc 953	epool: data-U3 (RF-kicker)	LAB.NSCL.EXPRES.ExpRes.MSS
		Stepper motors/limit switches	?????? (2)	S3 basement (cabinet)	no			LAB.NSCL.EXPRES.ExpRes.MSS
		CRDC Drives	CRDC drives (2)	S3 basement (cabinet)	no			LAB.NSCL.EXPRES.ExpRes.MSS
		Controller stepper motor	Parker (2)	S3 top (FP frame)	yes	Parker	S3 HiRA cabinet: SEE setup	LAB.NSCL.EXPRES.ExpRes.MSS
		Chiller	Lytron	S3 top	yes	Lytron	S3 east entrance	LAB.NSCL.EXPRES.ExpRes.MSS
	Ionization Chamber	Assembled Detectors	NSCL S800 IC (1)	S800 Focal plane (inside)	no			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: Kevlar window			yes		Detector Lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: foils			yes			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: Frame			no			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: preamplifiers			yes	???????	Detector Lab: S3 top drawer	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: signal cables inside chamber			no			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: signal cables outside chamber			no			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Low voltage supply	NIM bin	S3 top (NIM crate FP)	no			LAB.NSCL.EXPRES.ExpRes.MSS
		High voltage	Iseoxxxx	S3 top (Wiener crate FP)	yes	Iseoxxxx	Sweeper setup: epool	LAB.NSCL.EXPRES.ExpRes.MSS
	E1 scintillator	Assembled detector (1-mm thick)	E1 S800 1-mm	S800 FP (inside)	no			LAB.NSCL.EXPRES.ExpRes.MSS
		Assembled detector (5-mm thick)	E1 S800 5-mm	Detector lab	no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Frame			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Scintillator layer			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Light guides			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: PMTs			yes	EMI 9807B: Hamamatsu R329	1107: Detector Lab: Lenda lab	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: bases + voltage dividers			yes	NSCL	S3 top (drawers)	LAB.NSCL.EXPRES.ExpRes.MSS
		High voltage	Iseoxxxx	S3 top (Wiener crate FP)	yes	Iseoxxxx	Sweeper setup: epool	LAB.NSCL.EXPRES.ExpRes.MSS
	Hodoscope	Assembled detector	S800 Hodoscope	S800 FP (inside)	no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: CdI(Tl) crystals			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: PMTs			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: Bases/voltage dividers			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: cable HV			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: cable signals inside chamber			no			LAB.NSCL.EXPRES.ExpRes.MSS
		Component: cable signals outside chamber			no			LAB.NSCL.EXPRES.ExpRes.MSS
	OBJ scintillator	Assembled detector 1-mm	S800 OBJ 1-mm	A1900 lab (cabinet)	yes	S800 OBJ 1-mm	A1900 lab (cabinet)	LAB.NSCL.EXPRES.ExpRes.MSS
		Assembled detector 120-um	S800 OBJ 120-um	S800 OBJ chamber (inside)	yes	S800 OBJ 120-um	A1900 lab (cabinet)	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: 1-mm BC404			yes	BC-404	A1900 lab (cabinet)	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: 120-um BC404			yes	BC-404	A1900 lab (cabinet)	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: frame			yes	BC-800	A1900 lab (cabinet)	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: PMT			yes	EMI 9807B: Hamamatsu R329	1107: Detector Lab: Lenda lab	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: base/voltage divider			yes	NSCL	S3 cabinet (basement)	LAB.NSCL.EXPRES.ExpRes.MSS
		Component: HV	Ortec HV	Data-U6	yes	???????	epool	LAB.NSCL.EXPRES.ExpRes.MSS
	Intermediate-Image delay PPACs	Assembled detectors			no			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: foils			yes		Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: frame			yes		Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: delay lines			yes		Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: 2-stage preamps			yes		Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Component: coax cables			yes	RG213/U (10)	S3 west balcony	LAB.NSCL.EXPRES.ExpRes.MSS
		Low voltage supply	NSCL	S3 top (west balcony)	yes	NSCL	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		High voltage supply	Iseoxxxx	S3 top (Wiener crate FP)	yes			LAB.NSCL.EXPRES.ExpRes.MSS
Gas Handling system S800 FP	Pressure transducers	CRDC gas mixture	MKS 720B	S3 FP (outside)	yes	MKS 720B	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		IC P10	MKS 720B	S3 FP (outside)	yes	MKS 720B	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
	Mass flow controls	CRDC gas mixture	MKS 1179A	S3 FP (outside)	yes	MKS 1179A	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		IC P10	MKS 1179A	S3 FP (outside)	yes	MKS 1179A	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
	Gas controller		MKS 186B	S3 FP (outside)	NO		Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
	Gas controller Power Supply		MKS 260 PS-3B		???????			
	Filters	CF4	MKS	S3 FP (outside)	yes	**MKS**	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Isobutane	MKS	S3 FP (outside)	yes	**MKS**	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
	Solenoid valves	Solenoid valves to S800 FP chamber	Nororen (V60P417AA213JB)	S3 FP (outside)	???????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Solenoid valves	Solenoid valves (25)	Humphrey (310-39 / 24 Vdc)	S3 FP (outside)	???????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	24-V DIN connectors		Humphrey (HS2-LED-24V)	S3 FP (outside)	???????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Diaphragm valves		Swagelok (6LV-DFB28-C)	S3 FP (outside)	???????			
	Needle valves	CRDC gas mixture	Swagelok (SS-4BMG-TW)	S3 FP (outside)	???????			LAB.NSCL.OPS.CCFOperations.DetectorSystems
		IC P10	Swagelok (SS-4BMG-TW)	S3 FP (outside)	???????			
	Piping	Mixing tube CRDC	NSCL	S3 FP (outside)	yes	NSCL	Sweeper Magnet GHS	LAB.NSCL.EXPRES.ExpRes.MSS
		VCR4 fittings	Swagelok VCR4	S3 FP (outside)	yes	Swagelok VCR4	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		VCR8 fittings	Swagelok VCR8	S3 FP (outside)	yes	Swagelok VCR8	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		Gaskets VCR4	Swagelok Gaskets	S3 FP (outside)	yes	Swagelok Gaskets	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems

Category	Component	Item	Manufacturer/Model	Location	Y/N	Manufacturer/Model 2	Location 2	Code
		Gaskets VCR8	Swagelok Gaskets	S3 FP (outside)	yes	Swagelok Gaskets	Detector lab	LAB.NSCL.OPS.CCFOperations.DetectorSystems
		SS pipes	miscellaneous	S3 FP (outside)	no	miscellaneous	can be fabricated in lab	LAB.FRIB.CFID.Facilities
		Hoses	miscellaneous	S3 FP (outside)	yes	miscellaneous	plumbers lab	LAB.FRIB.CFID.Facilities
	Pump	Pump	Edwards Scroll (nxDS15)	S3 top	yes	Edwards Scroll	S3 basement (shelves)	LAB.NSCL.EXPRES.ExpRes.MSS
		Sentry valve	????????	S3 top	????????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Gas	Digital regulator CF4	Ashcroft 2274	S3 top	????????		Detector lab; operations lab	LAB.NSCL.EXPRES.ExpRes.MSS
		Digital regulator P10	Ashcroft 2274	S3 top	????????		Detector lab; operations lab	LAB.NSCL.EXPRES.ExpRes.MSS
		Regulator Isobutane	Mathelson 1P-510	S3 top	????????		Detector lab; operations lab	LAB.NSCL.EXPRES.ExpRes.MSS
		Digital scale isobutane	????????	S3 top	yes	????????	Operations lab	LAB.NSCL.EXPRES.ExpRes.MSS
		CF4 bottle	Purity-CGA 320	S3 top	yes	Purity CGA320,Praxair CGA580	Gas storage	LAB.NSCL.EXPRES.ExpRes.MSS
		Isobutane bottle	Mathelson CGA-510	S3 top	yes	Mathelson CGA-510	Gas storage (flammable)	LAB.NSCL.EXPRES.ExpRes.MSS
		P10 bottle	Praxair CGA350	S3 top	yes	Praxair CGA350	Gas storage	LAB.NSCL.EXPRES.ExpRes.MSS
Gas Handling system S800 II	Pressure gauge	Isobutane	Pirani	S3 top west balcony	yes	Pirani	Vacuum lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Mass flow control	Isobutane	MKS	S3 top west balcony	????????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Solenoid valves		????????	S3 top west balcony	????????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Needle valve		????????	S3 top west balcony	????????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Piping	Pipe GHS	miscellaneous	S3 top west balcony	no	miscellaneous	can be fabricated in lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
		Pipe drvN exhaust	miscellaneous	S3 top west balcony	no	miscellaneous	can be fabricated in lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Pump	Pump	Edwards Scroll (nxDS15)	S3 top west balcony	yes	Edwards Scroll	S3 basement (shelves)	LAB.NSCL.EXPRES.ExpRes.MSS
		Sentry valve	????????	S3 top west balcony	????????			LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
	Gas	Regulator isobutane	Mathelson 1P-510	S3 top west balcony	yes	????????	Detector lab; operations lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
		Digital scale isobutane	????????	S3 top west balcony	yes	????????	Detector lab; operations lab	LAB.NSCL.OPS.CCFOperations.MaintenanceInstallations
		Isobutane bottle	Mathelson CGA-510	S3 top west balcony	yes	Mathelson CGA-510	Gas storage (flammable)	LAB.NSCL.EXPRES.ExpRes.MSS
Computers	sodaq50 DAQ box	S800 DAQ					S3 top (S800 electronics cabinet)	LAB.NSCL.EXPRES.ExpRes.ScientificSoftwareGroup
	GHS (s800fp-win)	S800 GHS computer					S3 top (south balcony)	LAB.FRIB.BSO.BusinessIT.SS
	S3 control (ctl-s3)	S3 vault control					S3 mezzanine	LAB.FRIB.BSO.BusinessIT.SS
Utilities	AC	Two top S3 units	Trane WCHD08041E0AAA410000000200	S3 top level	????????			LAB.FRIB.CFID.Facilities
			Trane WCHD08041E0AAA410000000200	S3 top level	????????			LAB.FRIB.CFID.Facilities
		Two basement S3	Trane SWUB-B504-E	S3 basement	????????			LAB.FRIB.CFID.Facilities
			Carrier 508RN01662	S3 basement	no			LAB.FRIB.CFID.Facilities
		S800 electronics cabinet (2)	McLean	S3 top	no			LAB.NSCL.EXPRES.ExpRes.MSS