SHMS Magnets Routine Pre-run Check Out Sheet

Date: _____

Personnel: _____

Experiment Number: _____

Notes: Record Values in columns where applicable.

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Special Notes:	HB	Q1	Q2	Q3	Dipole

A: Physical Observations	HB	Q1	Q2	Q3	Dipole
Magnetic material near magnet cleared					
Electronic equipment near magnet cleared					
Personal near HMS advised of operations					
Magnetic field warning signs in place					
All clear around magnet					

B: Vacuum Checks		HB	Q1	Q2	Q3	Dipole
Condensation of Freezing on OVC						
Vacuum Reading	V = Torr					
Spectrometer Vacuum reading	V = Torr					

C: Cryogenic and Valve Checks	HB	Q1	Q2	Q3	Dipole
U Tubes inspected for condensation/frosting					
CCR inspected for condensation/frosting except for N2 exhaust line.					
Audible check for gas leaks					
Heater Tape working CCR neck					
Visual check of valve actuators, LVDT settings & motor operations					
Lead flow valves operating and correct position					

Heaters set at ~40C & working					
Manual Valves in correct position: Current Leads flow					
Helium Cool down /Warm up					
From HMI screens:					
Cryo He Supply valve setting [5] %					
Cryo He Return valve setting [6] %					
Helium Liquid Level					
Helium Pressure atm					
Helium Magnet Average Temperature K					
Helium Temperatures within range [4.2 to 4.8K]					
Cryo LN2 Supply valve setting [2] %					
LN2 Liquid Level %					
LN2 Pressure ATM					
LN2 Magnet Average Temperature K					
LN2 temperatures within range [77 – 80 K]					
Helium and LN2 liquid levels maintained for last 24 hrs.					
Valve Settings					
Open/close valve by 5% via PLC Manual Mode					
Valves at Hard Set [-6%] [1,3,4]					
Current lead flow valves at ~10% open and ~10 l/min, no current					
Current lead flow valves at ~100% and ~200 l/min, no current					

ESR Data & Transfer Line Temperature					
	T1	**T2**	**T3**	**T4**	**T5**
HMS Transfer Line Temperatures K					
SHMS Transfer Line Temps K					
		CPI671SC	**CFI6711C**	**CPI9521**	**CTD9521**
ESR data: 4K Supply Pressure & Flow, 4K Return Pressure & Temp					
ESR and HMS data updating, logging and trending					

D: Electrical & Main Power Supply Checks	**HB**	**Q1**	**Q2**	**Q3**	**Dipole**
UPS powered and on					
208V Magnet circuit breakers OFF					

Record Resistance of Left Current bus bar to Ground.					
Record Resistance of Right Current bus bar to Ground					
Inspect current leads connection within PSU					
208V Magnet circuit breakers ON					
Quench Detectors with power and no interlocks					
Energy Dump resets remotely					
LCW Checkout					
LCW to HMS		Supply	Return	Flow	Temp
Record values					
LCW to PSU is ON					
Check for water leaks within PSU					
Close all interlocked PSU doors					
Turn on 480V wall circuit breaker					
Power enable switch ON in counting house					
PSU switched ON					
PSU, Magnet, Quench Detector & Interlock Tests	**HB**	**Q1**	**Q2**	**Q3**	**Dipole**
Verify and clear all PSU interlocks					
Turn OFF water to PSU, Verify and reset Interlock					
Verify Remote operation of PSU					
Quench detector Current Channel 1 measured					
Quench detector Channel 2 measured					
Quench detector Channel 3 measured					
Quench detector Current Channel 4 measured					
Broken Cable detection checked					
Verify Remote Polarity switch					
Verify Fast Dump Switch from Counting House					
PSU turned on and ramps to 100A					
Hall Probes / NMR working					
PSU ramped to 0 A and placed in standby					
Keep Alive Relays working					