

## C-A MAINTENANCE, MODIFICATIONS, AND REPAIRS SCHEDULE

**Results – October 12, 2001, 1000 Hours**

R. Zaharatos – October 9, 2001

### SCHEDULE SUMMARY(REV. 1)

Maintenance Begins: October 10, 2001, 0800hrs  
(protons beam off 0400hrs,  
RHIC store possibly to 0800)

Maintenance Ends For AGS/Booster/Linac/SEB: October 10, 2001, 1600hrs

SEB - set-up for HEP October 10, 2001, 1800hrs

RHIC - secured for beam: October 11, 2001, 1800hrs  
(exception - PHENIX. Est. late evening of Oct. 11)

RHIC - beam set-up: No later then 0800, Oct. 12

TANDEM Schedule: Oct. 10 - off to load object foils. Oct. 11 - TTB fault study

### **Machine Areas Access:**

AGS	Restricted Access - Oct. 10, 0930hrs to 1430hrs
Booster	Controlled Access - Oct. 10, 1030hrs to, 1330hrs
SEB	Controlled Access - Oct. 10, 0900hrs to 1200hrs
ATR/U Line	Restricted U downstream only - Oct. 10,11
Linac	Restricted Access - Oct. 10, 0800hrs to 1430hrs
RHIC	Restricted Access - Oct. 10, 0800hrs to Oct. 11, 1600hrs

### C-A POWERED TESTING REQUESTS

- C 1. RHIC RF – Conditioning (Oct 11 to start of RHIC set-up)
- C 2. AGS - H20 Septum drive
- C 3. AGS - RF System following the installation of feedback ampl's.

### PRIMARY JOBS

JOBS STATUS CODE: **C** complete **IP** in-process **RS** reschedule **CAN** cancelled

### AGS RING EQUIPMENT

- C 1. Replace RF feedback amplifiers in stations IJ, JK, and K
- C 2. G10 Kicker - investigate recurring interlock (no indication)
- C 3. H20 Septum - Inspect/ test drives for suspected problem. Check oil level.
- C 4. Ring inspection of enclosure and equipment
- C 5. A20 A/C Dipole - change termination for operation at different frequency

- C 6. Install polarimeter instrumentation near C20.
- C 7. L13 Vac. Sect. Valve – repair air leak
- C 8. C20 Pol. Tgts. Found damaged from beam – remove to have new tgts. Installed (to be reinstalled at later date).
- C 9. Test fire alarms (annual cert.)

### **AGS EXTERNAL EQUIPMENT**

- C 1. Westinghouse Motor/Generator - Thorough cleaning, inspection, and PM's.
- C 2. Tower 1 - down for cleaning(Oct. 10, 0630-1200)
- C 3. Fan House A, D, E – Test Duct Smoke Detectors

### **ATR**

- C 1. Tower 6 - Maintenance and belts replacement (2 hours downtime)

### **BOOSTER RING**

- C 1. Investigate loss monitor gas leak
- C 2. DH5 – Clean strainers and replace measure flow.

### **BOOSTER EXTERNAL EQUIPMENT**

- C 1. RF System ENI P.S.'s – replace fuses with circuit breakers

### **LINAC**

- C 1. Install SNS Laser Box in HEBT(6-8hrs)

### **LTB**

- C 1. Set-up DH1 P.S. for pulsed operation

### **SEB**

- C 1. C7 Line - continue removal of mercury from target
- C 2. LESB3/LESB2/2GEV Separators - condition as long as possible

### **RHIC**

#### **IR's**

- C 1. PHENIX - shielding additions
- C 2. STAR - detector work

#### **TUNNEL**

- C 1. Installation of AC Vertical Dipole in Sect. 3/4
- Can2. Investigate/search for Cryo leak – Leak Cleared itself.
  
- C 3. Snakes - continue installation and p.s.'s commissioning (sect. 9C and 3C)
- C 4. Alcove P.S.'s - repairs/modifications (Bruno)
- C 5. Install Scintillators at 12 O'clock IP(Seberg)

EXTERNAL SUPPORT EQUIPMENT

- 1. PHOBOS Tower - clean and tighten belts
- 2. PHENIX Tower - perform cleaning
- 3. RF Tower - perform cleaning (day 1 of shutdown)
- RS 4. STAR Tower - perform cleaning
- C 5. 1012A - connect replacement UPS for Cryo
- RS 6. 1004B - Install UPS maintenance by-pass switch for vacuum and controls

DETAILED SCHEDULE

NOTE: RHIC Beam Set-up begins when PHENIX work is complete but no later than 0800 Friday, Oct. 12, 2001

<u>10 Oct</u>	0400	Linac/SEB off for cool-down Tandem available for RHIC injection
	0530	Tandem/Booster/AGS beams off Begin AGS Restricted Access LOTO
	0630	Cleaning of Cooling Tower 1
	0700	Begin Booster Controlled Access LOTO
	0800	RHIC beam off for maintenance shutdown. Prepare for RHIC Restricted Access Begin HP survey of AGS Ring. Begin HP survey of Linac/HEBT
	0900	Linac Restricted Access SEB HP surveys as required (C3/C7)
	0930	AGS Restricted Access Begin Booster HP survey for Controlled Access
	1030	Booster access as required (Controlled Access)

	1430	Begin sweeps and securing for SEB HEP 1. Linac 2. Booster 3. AGS 4. SEB if required
	1530	Equipment and beam set-up for SEB/HEP as sweeps are completed
	1800	SEB/HEP Secure RHIC Sector 4 for RF System conditioning
<u>11 Oct</u>	0800	RHIC - RF conditioning (sect. 4 secured)
	1500	Begin securing RHIC for beam
	1800	RHIC secured for beam except for those sections where work is still in progress
<u>12 Oct</u>	0800	RHIC set-up for beam

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Accelerator Controls – B. Venegas (ext. 3917, BP 7241), B. Oerter (ext. 2799)**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD’L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	1007B Alcove	4 hrs.	Find source of oscillations on y07-sxf-ps and y07-sxd.ps for Iref and I current both in cfe-7b-ps1	RHIC power supply group	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Access Controls – D. Meany (ext. 5329, BP 0361), N. Williams (ext. 5346, BP 0554)**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD’L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	HEBT	2 hrs.	Procedure 4.16b – Sys. Recert.		Yes
C 2	SEB	1 hr.	Procedure 4.16d – Sys. Recert.		No
C 3	SEB	2 hrs.	Complete installation of A10 Multiwire Interlock	Instrumentation	No
C 4	Linac	1 hr.	Add relays to Linac HI/LO Beam Intensity Vacuum Valve Interlock for Equipment Protection	n	No
C 5	911		Replaced relay for SEB security (23 UK14-911 Term Rm.)		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Beam Components & Instrumentation: D. Lehn (Ext. 4095 [4276], T. Russo (Ext. 7330 [4201])**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	RHIC Ring Sector ¾ (IR)	16 hrs.	AC Dipole – Installation of Vertical AC Dipole Magnet. Install Cap bank (Phase I) - Inspection of area for Cap Bank Installation		
C 2	AGS Ring	4 hrs.	AGS Sextupole Magnets – North Conjunction Area - Survey and possibly rig out of ring.	HP – Survey Riggers	
C 3	AGS Ring	4 hrs.	H2O Septum – Inspect/Test Drives - Inspect Oil Level	HP – Survey	
C 4	AGS Ring	10 min.	AGS Splitters – Inspect Oil Levels	HP – Survey	
C 5	AGS Ring	1 hr.	BTA RLRM – Investigate/Repair Argon Leak	HP – Survey, Pump Room	
C 6	Booster Ring	1 hr.	BTA RLRM – Investigate/Repair Argon Leak (IF RING IS OPEN – LOW PRIORITY)	HP – Survey, Pump Room	
C 7	Booster Ring	15 min.	BAF Inspections for upcoming work (IF RING IS OPEN – LOW PRIORITY)	HP- Survey	
C 8	AGS	1 hr.	C5 & E15 IPM (External to RING) a) Pump out gas lines		
C 9	Booster Ring	15 min.	C3 Inflector – Inspect Elbow (IF RING IS OPEN – LOW PRIORITY)	HP-Survey	
C 10	RHIC Ring Sector 7	2 hrs.	Beam Scraper – Adjust gain control for camera		
C 11	EXP Floor	8 hrs.	LESB3/LESB2/2GEV – Condition as long as possible - Possible Electronics Testing		
C 12	AGS	2 hrs.	A20MW Inhibit Chassis – Tie in with Access Controls System (External to Ring)	Access Controls	
C 13	HEBT/Linac	???	Laser Scanner – Support as necessary	HP-Survey	
RS 14	SEB	???	VIDEO – Switchyard/D-Line – Repair if requested	HP-Survey	



**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Collider-Accelerator Power Supplies – R. Zapasek (ext. 2189, BP 4263), D. Bruno**  
**(ext. 5533), BP 4135)**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C/RS 1	RHIC, 9C, 3C	48 hrs.	Commission RHIC Snake Power Supplies, <b>D. Bruno</b> – 9C Complete, 3C needs 2 days work		
C 2	1006	8 hrs.	QT Power supplies, clean, <b>W.Eng</b>		
C 3	RHIC	4 hrs.	50 Amp Correctors, Replace failed power supplies. <b>W. Eng</b>		
C 4	RHIC		Quench Detection Clean connections and re-install warm VT for B9DRDR_GL. Investigate problem with &3DSA2_A1VT and YSDSA3-A2VT		
C 5	RHIC		Main Power Supply – Check Yellow Dipole Ramp P.S. for possible noise.		
C 6	RHIC		Sextupole P.S. – Investigate current steps in sextupole ckts.		
C 7	RHIC		Insertion P.S. – Investigate the 16 mv difference between DAC output and Iref. In Y4-dho-ps.		
C 8	RHIC		Continue working to get Snake P.S. and quench systems operational.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: LINAC – B. Briscoe (ext. 5007, 5010, BP 4225) J. Alessi (ext. 7563)**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD’L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	HEBT	8 hrs.	Put SNS laser box in HEBT	Vac.	SS2001
C 2	None	4 hrs.	Test RF Switch in Buncher 1	None	None
C 3	None	2 hrs.	Check RFQ Crowbar System	None	None
C 4	None	4 hrs.	Repair Mod 2 Quad ACME Power Supply	None	None
C 5	None	4 hrs.	Back flush Mod8 PA Power Supply	None	None

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Main Ring Power Supply Systems: M. Bannon (Ext. 7704) [4224], I. Marneris (Ext. 7027) [4255]**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1		8 hrs.	Westinghouse monthly maintenance		
C 2		2 hrs.	Westinghouse – install additional pressure switch, oil line and valve in oil pit.	Pump Room, Mike Hamilton	
C 3		4 hrs.	Westinghouse – connect oil pit alarm into transmitter.		
RS 4		4 hrs.	Investigate QV5 & possibly QV6 in BTA line for circuit breaker trip circuit proper operation.		
C 5		2 hrs.	Possibly test DH1 in the LTB line for pulsed operation.		
C 6		3 hrs.	RHIC – UPS at 1012a remove the 2.4kva control power UPS and install and test the new 6kva mitsubishi UPS.	C. Magoulas	
RS 7		4 hrs.	RHIC – UPS at 1004 connect maintenance bypass switch to existing UPS and test.	C. Magoulas	
RS 8		5 hrs.	AGS – UPS at 911B UPS2 mitsubishi unit 15kva shutdown UPS and wire input to N/E feed.	C. Magoulas	
C 9		1 hr.	LTB – change and test rubber orgin in flow switch on magnet D5 of the LTB line located on the Booster side of LTB.	Pump Room	
C 10		2 hrs.	Install 2 pressure switches on the nitrogen system on the BMMPS transformers.	Pump Room	

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Maintenance Support: R. Zaharatos (Ext. 7205 [4281], J. Benante (Ext. 4498(1207))**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	RHIC/Tunnel		Investigate air-cond. Faults in alcoves 5A & 5C	PE (McKay)	
C 2	RHIC/Tunnel		Perform P.M.'s for all alcove air-cond. Units	PE (McKay)	
RS 3	RHIC/Tunnel		Test all tunnel emergency exhaust fans	PE (McKay), Fire Safety, Acc. Ctrls. Group	
C/RS 4	RHIC/Tunnel		Relamp	Electricians	
C 5	RHIC/Tunnel		Inspect Tunnel		
C 6	AGS Ring		Inspection		
C 7	AGS Ring		Relamp	Electricians	
C/RS 8	AGS Fan Houses		Air Cond. P.M's (A & B complete)		
RS 9	AGS Ring		Test Exhaust Fans		
C 10	913 Fan Hosue A		Relamp		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: POWER DISTRIBUTION: D. Bastedo (Ext. 2555) [0274], T. Nehring (Ext. 5275) [4246]**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	Relamp	16 hrs.	Relamp in AGS, Booster and RHIC as required.		
C 2	1012A	2 days	Connect replacement UPS for Cryo		
RS 3	911B	4 days	Provide new normal/emergency feed to UPS 911BUPS2		
RS 4	1004B	3 days	Install maintenance by-pass switch for UPS for vacuum and controls in 1004B		
C 5	RHIC Tunnel	16 Hrs.	Check lead heaters as required.		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Vacuum - S. Gill (Ext. 4627) [4164], M. Mapes (Ext. 2841)[4277]**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	RHIC / 7:00		Check Turbo @ 7:00 Triplett – Replace Controls Board.		
C 2	RHIC / 5:00		Check Turbo @ 5:00 (YO5 P.I.8) – Replace Controls Board		
C 3	HEBT		Assist with repair of HEBT 2	LINAC	
C 4	AGS		Repair L13 valve air leak		
C 5	AGS		C20 pol. Remove tgts. For replacement at future date.		
C 6	HEBT 2		Replace roughing pump		

**C-A DEPARTMENT MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Water Systems: J. deBoer (Ext. 4668, BP [4250], L. Vogt (Ext. 4797, BP4273) R. Grandinetti (Ext. 7186, BP [4239]**

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
C 1	C-A Complex Bldg. Various	32 mhrs.	Perform draining and cleaning of C-A Towers. Towers to be cleaned will be determined prior to maintenance day. (RHIC RF 1004, Tower 1 Phenix)	None	None
C 2	Booster Ring Bldg. 914	6 mhrs.	Check/Repair LTB/DH5 line measure flow and clean strainers.	None	RWP and Survey
C 3	Westinghouse Bldg. 911A	6 mhrs.	Replace ¼" lines and add valves on the oil cooling system.	Power Room Tech's	RWP
C 4	Twr-2 near Bldg. 912	4 mhrs.	Mod to Tower make-up line.	P.E. Plumbers	None
C 5	AGS Ring, Bldg. 913	2 mhrs.	Inspect ring for leaks and repair if required.	None	Survey of Ring including cat walk
RS 6	Main Magnet HTXR cooling Bldg. 911A	2 mhrs.	Repack MM HTXR temp controller valve	None	None
C 7	RHIC Twr 6 Bldg. 100P	3 mhrs.	Replace tower belts	None	None
C 8	Phobos Twr Bldg. 1010	1 mhr.	Tighten tower fan belts	None	None
C 9	Twr 3		Download PLC Load.		
C/RS 10	RHIC		AC Dipole – Connect Water		