

# AGS MAINTENANCE, MODIFICATIONS, AND REPAIRS SCHEDULE

R. Zaharatos - September 1, 1999 **Revision One**

## PRELIMINARY SCHEDULE SUMMARY

Maintenance Shutdown Period - Begin: **RHIC - August 16, 1999 0800hrs.**  
**AGS - Sept. 1, 1999 0800hrs.**  
**AGS End - Oct. 29, 1999**  
**RHIC END - Nov. 15, 1999**

Note: MCR will be unmanned off hours but the CAS group will remain on shifts

Machine Areas Access:	Booster	Restricted Access
	AGS	Restricted Access
	All SEB	Restricted Access
	ATR/U Line	Restricted Access
	Linac	Restricted Access
	RHIC	Restricted Access

**Job Status:** C - Complete  
IP - In-process/on going  
Can - Cancelled  
RS - Reschedule  
\* - Additions

## AGS RING POWERED TESTING REQUESTS

1. Heat Run(0800 - 1200 Sept. 1, Weds.)
2. Westinghouse testing into ring(approx. 3wks./15 normal work days from 0800-1600 - Begin approx. Oct. 7)
3. Low energy P.S. for Main Mags.(0800-1600 Sept. 2 and 3, Thurs. and Fri.)
4. H20 Septum
5. H10 Ejector
6. J10 Beam Dump Bumps
7. A5 Kicker

## RHIC POWERED TESTING REQUESTS

1. Dump Kickers(2wks.)
2. Power Supplies(1wk at start of shutdown)
3. PHOBOS Magnet Choke(Oct. 1, 2wks.)
4. BRAHMS Magnet(Oct. 15, 1wk.)

## PRIMARY JOBS

Power outages for electrical work has been tentatively scheduled. No major conflicts at this time. Final schedule will be issued before start of shutdown.

## **AGS RING EQUIPMENT**

1. Install J10 Beam Dump
2. Rebuild Main Magnets J10, J11, and J12.
3. Rebuild Main Magnet at K13(depends on heat run results, possible deferment to next shutdown)
4. Replace H20 Septum
5. Grout ceiling in J and K.
6. Relamp overhead lights and emergency lights.
7. Replace F7 Sextupole
8. Replace F5 Downstream bellows

## **AGS EXTERNAL EQUIPMENT**

1. Seal sumps in Fan Hses. A through E
2. Test sump alarms in each Fan Hse..
3. Prepare Siemen's Generator for shipping out to rebuild site.
4. Completion and commissioning of Westinghouse Generator
5. Fan Hses. A through E electrical maintenance.

## **BOOSTER RING EQUIPMENT**

1. BAF penetration survey
2. Survey entire ring.
3. BAF construction penetration
4. Relamp including emergency lights.
5. Replace BTA Current Xformer bellows.(Requires bakeout)
6. Inspect BTA Foil Stripper for correct foil positions.

## **BOOSTER EXTERNAL EQUIPMENT**

1. Repair argon leak on station 1(BTA - AGS side)
2. Repair Ion Pump P.S.'s.

## **LINAC**

1. Rebuild Linac Tower

## **SEB**

1. Install electric strike at Downstream Escape Gate.
2. Set-up for NASA in A1 Line.
3. A3 Line - Muon Collider installation

## **TANDEM**

1. Install MP6 by-pass for BAF.

## **U Line**

1. PTR Line – remove experimental equipment

## **RHIC**

1. Install Beam Scraper in Sects. 7&8.
2. Modify BLM Sys. in Sects. 7&8.
3. Install Polarimeter at Sect 12.
4. Modify Dump Kickers in Sects. 9&10 for bakeout.
5. Modify BLM Sys. in Sect. 12.
6. Crystal Collimator installation in Sects. 7&8.
7. HSD Magnet installation
8. Valve Box repairs
9. Troubleshooting of O11DU6/O1DU6Q6
10. VJR repairs

## **RHIC IR's**

1. STAR – Install EM Cals.
2. BRAHMS - Experimental equipment installations
3. PHENIX - Install gas piping, safety systems, and PLC.
4. PHOBOS – Install magnet choke and exp. Equipment.

## **PROPOSED SCHEDULE**

(Detailed schedule will be issued on a daily basis as determined by progression of jobs and work permit requirements. Check TV Monitor or with me)

- 1 Sept. 0800 Maintenance period begins except for AGS Ring heat run.
1. All equipment has been secured except equipment involved in heat run
  2. Begin LOTO for Restricted Access/Shutdown LOTO of Booster, SEB, ATR, and U Line(exclusive of equipment involved in AGS Ring heatrun)
  3. Begin final work plan approvals and detailed coordination of jobs
- 0800-1200 AGS Ring heat run.
- 1300 At this time or at the end of a total cooldown of eight hours the detailed HP surveys will be started:
1. Detailed survey of the AGS with specific job surveys.
  2. Remove High Rad. Area Postings for each AGS Ring Fan Hse. (A-E)
  3. Detailed survey of the Booster with specific job surveys.
  4. Surveys of SEB and ATR/U Line as required.

## **PROPOSED SCHEDULE(CONT'D)**

### SEPT.

- 2 0800-1600 AGS Ring Secured for test of Low energy Main Mag. P.S..  
Begin survey of entire Booster Ring magnet cells including BAF penetration.
- 3 0800-1600 AGS Ring Secured for test of Low energy Main Mag. P.S..

- 7 0800-1630 AGS Main Mag. Surveys for removal of J10, J11, J12, and possibly K13.  
Disconnect Main Mag. Buss at J10,11,and 12(and K13?)
- 8 - 10 0800-1630 Remove shielding blocks from South Shield entry.  
Remove and transport AGS Main Mags. to ring aisle near South Shield and one  
or two to 911 assembly area.
- 13-24 Outside contracted grouting of AGS Ring ceiling H through K.  
(J10 area will be done first so that Beam Dump installation can proceed)
- 17-19 All servers off-line upgrade - Fri. 1700 to Sun. 1700.**
- 20 Begin installation of J10 Beam Dump
- 27-Oct. 5 0800-1630 Reinstall AGS Main Mags.
- OCT.
- 11-28 0800-1630 AGS Ring powered testing of Westinghouse.(preceded by heat run before full  
energy)

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Access Controls: D. Meany (Ext. 5329, [0361], A. McGeary (Ext. 2053 [0554]**

For Maintenance Period September 1999

<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>
1	Linac Tunnel	24	Opm testing of Linac <b>DONE</b>	Linac Personnel	AD 99-004
2	923 Pit		Recalibrate all AGS Chipmunks, and Gassner boxes		
3	AGS Ring	24	Install electric strike, for north conjunction gate		SS99-205acs
4	921 PASS cabinet	16	Ground all unused inputs, and PLC's		
5	V Primary	8	Install start of sweep button at V Target gate	H/P tech	SS99-204acs
6		?	Assist as necessary with PASS updates	RHIC Pass techs	
7	AGS/HEBT Gate	30 min.	Repair AGS/HEBT gate crash switch	H/P Survey	AD 99-004
8	Booster	4	Six months testing expires on 10/06/99		
9	AGS Ring	8	Six months testing expires on 10/14/99		
10	SEB Pri ABCD	24	Six months testing expires on 10/19/99		
11	U up	?	Six months testing expires on 8/22/99 possible extension.		
12	U dn	?	Six months testing expires on 8/22/99 possible extension.		
13	G-2	?	Six months testing expires on 8/22/99		
14	RHIC Ring	?	Six months testing expires on 12/01/99		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Beam Components: D. Lehn (Ext. 4542) [4276], T. Russo (Ext. 7330) [4201]**

For Maintenance Period September 1999

<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>
1	AGS	60	H-20 Install, Survey, Cable, Test	Rigging, Vac.	Yes
2	AGS	60	J-10 Install, Survey, Cable, Test	Rigging, Vac.	Yes
3	AGS	120	Main Magnet rebuild, J-10, 11, 12, K-13	Power Supply	Yes
4	RHIC	40	Beam Scrappers - Install, Survey, Cable	Vac, Survey	
5	BTA		Bake-out Support (see instr. list)		
6	BTA	3	Foil Stripper (BTA) Poss Repair		
7	RHIC	160	Polarimeter - Fabricate and install	Vac, Survey	
8	AGS	8	F-7 Sextupole - Replace	Vac, Survey	Yes
9	AGS	8	F-10 Hoses - Inspect / Replace	Survey	Yes
10		2	Check/Backflush F5 Septum		
11		2	Check/Backflush F10 Ejec.		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Controls: K. Kohler (Ext. 3917), B. Oerter (Ext. 2799)**

For Maintenance Period September 1999

<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>
1	Talcove (tandem)	56	MP6 control system installation (PP, WB) AGS		None
2	J18	96	J10 Dump Controls (WJ, VW) AGS		None
3	930A	120	Booster Quad Trim upgrade (JC, NS, VW)		None
4	930A, L18A, 914, 911, Dibbuk, 929	200	Apollo Station replacement AGS		None
5	911A	40	Build and test prototype 4 axis motor transition PWA (AW, WB) RHIC		None
6	RHIC Service Bldg. & Alcoves	320	Remove, Modify, Reinstall, 6u VME Chassis (EK, JO, WB) RHIC		None
7	RHIC Service Bldgs.	200	Install AC-Reset chassis (AW, PS) RHIC		None
8	911B	8	Computer network upgrade (EK, RK) AGS		None
9	Repair f/o in 1002b, R2bbqf2 psbil-qf3-ps	4	Repair f/o (WJ, BV) RHIC		None

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: EAG - R. Hubbard Ext. 2046[0172], A. Pendzick (Ext. 4718[4212])**

For Maintenance Period September 1999

<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>
1	STAR	2 wks	Star Removal from IR Tunnel (begins 8/16)		
2		7 wks	Install EM Cals		
3		4 wks	Reinstall Star		
4	BRAHMS	9 wks	Prepare back forward platform		
5		5 wks	Assist Exp. with equipment installations.		
6	PTR Line	3 wks	Remove Exp. equipment (begin 9/1)		
7	A3 Line	12 wks	Muon Collider Construction		
8	PHENIX	12 wks	Install gas piping (begin 9/1)		
9		12 wks	Install Safety Systems		
10		8 wks	PLC installation (begin 10/1)		
11	PHOBOS	4 wks	Install Magnet Choke (begin 9/1)		
12		8 wks	Assist Exp. with installations (begin 10/1/)		
13	Testing	2 wks	Phobos Magnet Choke (begin 10/1)		
14		1 wk	Brahms Magnet Tests (10/15)		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: ELECTRICIANS - D. Bastedo Ext. 2555[7654]**

For Maintenance Period September 1999

<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>
1	Fan House A	8	Electrical Maintenance of Circuit C41 - Power shutdown in AGS Ring.	None	
2	Fan House C	8	Electrical Maintenance of Circuit D43 - Power shutdown in AGS Ring.	None	
3	Fan House D	8	Electrical Maintenance of Circuit B41 - Power shutdown in AGS Ring.	None	
4	Fan House B	8	J10 Dump Bump P/S Power - Circuit D41 - Power shutdown of 1 hour	None	
5	Westinghouse PR	8	MCR UPS - Installation of electrical distribution panel.	None	
6	AGS Ring	24	Replacement of damaged 480 volt cable in F Superperiod.	HP	
7	AGS F Superperiod	4	F5 & F10 Flow Signal cable run to 911 Pump Room	HP	
8	AGS Ring	24	Re-lamp AGS Ring		
9	Booster	16	Re-lamp Booster Ring		
10	Bldg. 928 & E18 Hse	8	Relocation of E18 UPS to E10 House		
11	Substation 7N	8	Power Shutdown for electrical work (RHIC & PTR areas).		
12	Feeder 911-17	8+	Power shutdown for electrical work (G18, H10, F10, E10, A10, L18A Houses, HITL, Bldg. 925 & Bldg. 911 New Wing).		
13	Bldg. 1000P	40	Changes to Building electrical wiring @ Switch CM & Emergency Lights		
14	Bldg. 1000P	24	Changes to electrical wiring in racks WB-2, WB-3, WB-4.		
15	"A" Trailer	24	Changes to electrical wiring in racks ATRL-6 & 7		
16	Westinghouse PR	8	Circuit Breaker battery bank switch-over.		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: G-2 J. Benante Ext. 4498[1207]**

For Maintenance Period September 1999

<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>
1			Magnet Shimming		
2			Inflector repair? G-2 Warm-up?		
3			Inflector test		
4			G-2 Cooldown		
5			RHIC Maintenance		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: INSTRUMENTATION – D. Lehn Ext. 4095[4276], T. Russo Ext. 7330[4201]**

For Maintenance Period September 1999

<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>
1	Booster	48	Setup and support of BTA Bake-out.	HP-Survey, Vacuum Grp.	
2	AGS	8	A20MW - Investigate cause of bad wires. Repair electronics as necessary.	HP-Survey	
3	AGS	200	AGS Vacuum System - all work external to ring. Repair Ion Pump Power Supplies. Repair Datacon/Readback Problems. Detailed list to follow when work completed.		
4	Booster	40	Booster Vacuum System - all work external to ring. Repair Ion Pump Power Supplies. Repair B2 valve problem. Repair BTI64 Ion Pump Cable/J-Box *		
5	Booster	2	Booster Vacuum System - Measure all GP303 Grid voltages.		
6	ATR	40	Video Profile Monitor System. Inspect actuators and modify as necessary. (UF1/UF2/UF4/WF2/WF3) * Replace Phosphor flags as necessary. (UF3/UF5/WF1/XF1/XF2/YF1/YF2)	Vacuum Grp. HP-Survey *	
7	AGS	80	CATV System - Upgrade operations system. Repair C-Buss for video distribution. *		
8	HITL	8	Hookup new cables for current transformer.		
9	AGS	40	Support installation of J10 Dump.	Beam Components	
10	A-Line A3-Line	80	<b>E947</b> - Setup and test of beamline Instrumentation. - Setup of new camera/flag in experimental area. - Setup of remote actuation for SWICS.		
11	RHIC	400	Installation, Setup and test of Beam Scrappers in Sectors 7&8. Includes cable pulls.	Beam Comp., Electricians, Riggers	
12	RHIC	200	Installation, Setup and test of Polarimeter in Sector 12. Includes cable pulls.	Beam Comp., Electricians, Riggers	
13	RHIC	240	Beam Loss Monitor System. Modify in Sector 12 for Polarimeter.	Electricians	

			Modify in Sector 7 for Beam Scrapper. Modify in Sector 8 for Beam Scrapper. Modify in Sector 9 for Snake. Includes cable pulls. Perform full checkout on above sectors.	
14	RHIC	40	Beam Loss Monitor System. Sectors 1,2,3,4,5,6,10 & 11 - perform modified checkout.	
15	AGS	24	Support H20 Septum Installation. Modify Vacuum setup in ring and house. Checkout of loss monitors when complete. Modify & Checkout Video after Septum installed. *	Beam Comp., Vacuum, HP-Survey
16	AGS Booster	40	BTA RLRM System. Investigate Argon leak. Repair/Modify/Plan upgrade.	HP-Survey, Mechanical
17	AGS	40	Cleanup of C14 Alcove. Possible modifications (to be determined).	HP-Survey
18	AGS	40	UXF1 Current Transformer. Add junction box / reroute cables and test.	HP-Survey
19	MP7		Continue work on MP6 Bypass Instrumentation Racks.	
20	AGS	8	F20 & G7 PUE Pre-amps. Remove from ring, test, reinstall in requested configuration.	HP-Survey
21	ALL *	16	Perform Supplemental Lockout - On & Off (Training)	CAS Grp MCR
22	RHIC *	????	Support RHIC PASS Video	Controls Access
23	AGS *	32	Setup & Test Ring Instrumentation for E947 - Fe26 Long Loss Monitors, Current Transformers etc.	
24	Booster *	24	Investigate and repair several problems with RLRM System Electronics Crates.	
25	AGS *	8	Setup camera to monitor potential AGS Ring water problems.	HP Survey
26	AGS *	8	Test AGS Vacuum valve panels in MCR. Repair/Replace bulbs as necessary	
27	AGS *	???	Repair/Replace as needed the following. RC's/Shunts/DCCT's	
28	AGS *	8	Inspect Ring Cameras. Replace/Repair/Relamp as necessary. (120/CF011/F5/CF100).	HP Survey
29	SWYD *	4	Inspect Switchyard Cameras. Replace/Repair/Relamp as necessary. (AF124/AF171/AF238/CF157/CF223/CF255).	HP Survey

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: LINAC – B. Briscoe Ext. 5007,5010, [4225], J. Alessi Ext. 7563**

For Maintenance Period September 1999

<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>
RS 1	None	4 hrs.	Back flush LEPT solenoids	Pump Room	None
RS 2	None	2 hrs.	Back flush RFQ1	Pump Room	None
RS 3	None	1 hr.	Check for install of Sol. in 7835 city H20	None	None
C 4	HEBT	2 hr.	Check operation of HEBT Slit	None	Mini RWP
C 5	None	2 hrs.	Put spare NJE supply in HEBT rack	None	None
C 6	None	2 hrs.	Check operation of Pol. Xfmr for BM4	None	Yes
RS 7	None	6 hrs.	Load new program in Mod 5 and test	None	None
RS 8	None	4 hrs.	Change transmission elbow from Mod 2 to 5	None	None
C 9	None	4 hrs.	Replace test fire buttons in Mod 1 - 5	None	None
C 10	None	2 hrs.	Fix Mod 8 driver flow switches	None	None
RS 11	None	2 hrs.	Check operation of slow chopper	None	None
RS 12	None	2 hrs.	Test operation of new slow chopper	None	None
CAN 13	None	4 hrs.	Install pulsed bending mag in LEPT	Security	None
C 14	None	8 hrs.	Change grounds on modulators 1, 2, 3	None	None
C 15	None	4 hrs.	Check for noise on SEM amps	None	None
C 16	None	2 hrs.	Repair micro switches in Mod 3 Modulator	None	None
IP 17	None	8 hrs.	Replace AC Cables on Driver Cabinets	None	None
C 18	None	32 hrs.	Set up and Test Polarized protons	None	None
C 19	None	8 hrs.	Regen. cryo of polarized RFQ	None	None
RS 20	None	8 hrs.	Replace driver cart in Mod5	None	None
RS 21	None	32 hrs.	Start removing all cables from old P.S.	None	None
C 22	HEBT		Fix leak on WQ17 Quad in HEBT.		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Maintenance Coordinator: R. Zaharatos (Ext. 7205,[4281]**

For Maintenance Period September 1999

<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>
1	J, K		AGS Ring Ceiling Grout		
2	913A-E		AGS Ring Fan House sumps-Plug French Drains and coat sumps with sealant.		
3			Relamp AGS Ring		
4	913		AGS Ring thorough cleaning L-H		
5	913A-E		Add sump high level alarm to each 913 Fan House sump.		
6	AGS Complex		Trim trees around cable trays, bldgs., etc.		
7	AGS Ring		Repair sump pumps - South Gate, C14, HEBT Test K7 and I4. (job# 908810GP)		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Mechanical Services: J. deBoer (Ext. 4668 [4250], E. Dale (Ext. 7943 [0124])**

For Maintenance Period September 1999

<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>
1	928	32 mhrs.	Repair leaks in Building 928	None	
2	930	32 mhrs.	Comply with Y2K computer checks	None	
3	Fan Houses	8 mhrs.	Inspect all fan house condensate pumps	None	CP
4	J-10	32 mhrs.	Repair J-10 Bump Dump manifold	None	CP
5	Beam Stop	16 mhrs.	Inspect hoses to beam stop	None	CP
6	Brahms Tower	24 mhrs.	Repair leaks to inlet pipe of tower clean tower as needed.	None	
7	Tower 6	32 mhrs.	Install and check new flow transmitter and controller.	None	
8	Booster	40 mhrs.	Inspect, locate and repair argon leaks in Booster Ring.	None	CP
9	SEM Evaps	16 mhrs.	Locate and seal all leaks from SEM Evap coolers.	None	
10	Tower 1	32 mhrs.	Drain, clean and repair tower.	None	
11	Tower F-10	8	Drain, clean basin and strainer	None	
12	Tower 6	4 mhrs.	Drain, clean cooling tower	None	
13	RFMG Tower	8 mhrs.	Drain, clean cooling tower	None	
14	Linac Tower	8 mhrs.	Drain, clean cooling tower	None	
15	Tower 7	8 mhrs.	Drain, clean cooling tower	None	
16	RHIC RF Tower	12 mhrs.	Drain, clean and seal leaks in cooling tower.	None	
17	RHIC Phobos Tower	8 mhrs.	Drain, clean cooling tower	None	
18	F5	16 mhrs.	Check-Repair-Replace Flometer	None	CP
19	F10	16 mhrs.	Check-Repair-Replace Flometer	None	CP
20	H-10	40 mhrs.	H-10 to Tower1 piping modifications	PE, Plumbers	

21	911	32 mhrs.	Main Magnet deion control	None	CP
22	Star-TPC	16 mhrs.	TPC Flow Meter installation	None	
23	Star-MCW	40 hrs.	MCW Pump Installation	PE, Plumbers	
24	RFMG	48 hrs.	Deion control for RF Cav, Rf Power and SEM Systems	None	CP
25	Tower 1	40 hrs.	Replace drain pipe	PE, Plumbers	
26	Tower 4	48 mhrs.	Install toe boards and tie off	PE, Contractors	
27	Linac Tower	48 mhrs.	Install toe boards and tie off	PE, Contractors	
28	T/E Building	32 mhrs.	Check and or replace relief valves	None	
29	Tower 5	64 mhrs. (Sept. 20-24)	Asbestos abatement of tower	PE, Contractors	
30	Linac Tower	64 mhrs. (Sept. 7-17)	Asbestos abatement of tower and upgrade.	PE, Contractors	
31	911	16 mhrs.	Install Main Magnet Control valve air filter	None	
32	913	2 mhrs.	Check E20 catcher water flow	None	

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

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

For Maintenance Period September 1999

<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>
--------------------	-----------------------------	-----------------------------	--	----------------------------------	-----------------------------

**BOOSTER**

- |   |  |  |   |  |  |
|---|--|--|---|--|--|
| 1 |  |  | Repair water leak in PS-IE on heat sink phase B left bank.  |  |  |
| 2 |  |  | Visual inspection of all 12 BMMPS. (Check MOV's), check torque on SCR's and bus conn.                 |  |  |
| 3 |  |  | Clean filter area wipe down magnets, (dipole and 2 quads) cap banks and inductors. removing all dirt. |  |  |
| 4 |  |  | Make a back-up copy of BMMPS harmonic monitor (Jim Bensons) computer program.                         |  |  |
| 5 |  |  | Look into what it would take to tap into LINAC's nitrogen system. Keeping old system in place also.   |  |  |

**AGS**

- |   |  |  |  |  |  |
|---|--|--|--|--|--|
| 1 |  |  | Rebuild 3 main ring AGS Magnets J10, J11, J12 and possibly K13.  |  |  |
| 2 |  |  | Install new sextupole magnet at F7 then re-insert this sextupole magnet and 3 others back into string. Do a run and test. Verify polarity. |  |  |
| 3 |  |  | Need to test into the ring on 8/31 heat Run using Siemens MG set.  |  |  |
| 4 |  |  | Need to test into ring using transformer instead of MG set on Sept. 1, 2 possible 3, 4.  |  |  |
| 5 |  |  | need to test into ring using Westinghouse MG Set later part of Sept.   |  |  |
| 6 |  |  | Prepare J10 power supply. Install new transformer. Firing system and test (from scratch-brand new supply).                                 |  |  |
| 7 |  |  | Test out spare ramp modules, digital delays filter brds. for new firing buckets.   |  |  |

## **UPS MAINTENANCE**

- 1 UPS-B914
- 2 UPS-B914 - SECURITY
- 3 UPS-B919 (G-2)
- 4 UPS-911B
- 5 UPS-E18
- 6 UPS-SMS (SIEMENS BASEMENT)
- 7 UPS-A10
- 8 UPS-H10
- 9 UPS-B930 (BOOSTER BLDG. 930A)
- 10 UPS-L930A (LINAC BASEMENT)
- 11 UPS-911 (MCR)
- 12 UPS-CYBEREX (SECURITY)
- 13 UPS-E10 HOUSE

## **UPS SYSTEMS BATTERY MAINTENANCE & CLEANING**

- 1 UPS-EAO-A
- 2 UPS-RF-1 (929)
- 3 UPS-RF-2 (929)
- 4 Install new caps in some UPS's that need them and take pictures of before and after change.
- 5 Clean or replace air filters on all UPS's.
- 6 Biddle check the battery impedance on all ups batteries.
- 7 Order 25 new TC1235X batteries and use the spares which came out of E10's UPS first if any bad batteries are found in the other UPS's.
- 8 E10 UPS is going to be a prototype for new batteries which will be installed this maintenance period.

## **WESTINGHOUSE**

- 1 Finish construction of Westinghouse controls and start to test.
- 2 Complete testing and start MG Set.
- 3 Excite Westinghouse generator.
- 4 Use Westinghouse MG Set to power AGS ring Magnets.

## **SIEMENS MG SET**

- 1 General MG Set maintenance.
- 2 Motor and generator rotor removal and ship generator rotor to be refurbished.

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Pulsed Power: R. Zapasek (Ext. 2189 [4263], R. Sanders (Ext. 2591 [4228])**

For Maintenance Period September 1999

<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>
1	RHIC	6 wks.	<b>Abort Kicker</b> , complete installation 1. Install vacuum and beam permit interlocks. 2. Look at noise on BPM from kickers? 3. Commission yellow system 4. Modify BIAS interlock boards 5. Install SOLA transformers?	<b>A. Zhang</b>	
2	1005,7	3 md	<b>Injection Kickers</b> , install KIRK keys,	<b>A. Zhang</b>	
3	1005	2 md	<b>Injection Kicker</b> , test if oil is changed,	<b>A. Zhang</b>	
4	AGS	2 wk	<b>A5 Kicker</b> , inspect & modify PFN,	<b>A. Zhang</b>	
5	L18A	1 md	<b>L20</b> , install new output choke,	<b>R. Lockey</b>	
6	Booster	2 md	<b>F3 Kicker</b> , inspect PFN	<b>A. Zhang</b>	
7	Booster	1 md	<b>F20</b> , Inspect fan and cables,	<b>R. Lockey</b>	
8	Various	1 wk	<b>Various</b> , inspect FO1, FO2 chassis,	<b>A. Zhang</b>	
9	H10 House	1 wk	<b>H10</b> , troubleshoot power supply problems,	<b>R. Lockey</b>	Need LOTO for testing 1 wk.
10	H10 House	1 wk	<b>H10</b> , install and test slew limiting card,	<b>R. Lockey</b>	
11	G-2	1 wk	<b>G2 Kicker</b> , general maint,	<b>Mi</b>	

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: RHIC: S. Seberg (Ext. 7313[4136])**

For Maintenance Period September 1999

<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>
1	RHIC	5 days	P.S. Testing		
2		44 days	HSD Magnet installation	Vac. Grp.	
3	Section 7WE	60 days	Crystal Collimator installation		
4		33 days	011Du6/01DU6Q6 troubleshooting		
5	Sects. 7&8	54 days	Primary Collimators installation		
6		54 days	Valve Box repairs		
7		18 days	VJR repairs		
8		11 days	Polarimator installation		
9		5 days	Cryogenics warm-up (Aug. 23-27)		
10		30 days	Cryo systems start-up (pump and purge) and cooldown (Nov. 15 - Dec. 14)		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: RF: N. Laloudakis (Ext. 7177, 7417 [4261], A. Zaltsman (Ext. 2967[4259]**

For Maintenance Period September 1999

<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>
<b>AGS</b>					
1	AGS Ring		Replace all air filters (10 each)	No	Yes
2	AGS Ring		Check and replace all water filters	Pump Room	Yes
3	Bldg. 929		Replace 2 capacitors in plate supplies	Riggers	No
<b>BOOSTER</b>					
1	Bldg. 914		Replace transformer for A3 power supply	Riggers	No
2	Bldg. 914		Finish PLC program with control view for Booster HLRF.	No	No
3	Booster Ring		Replace or clean all water filters.	Pump Room	Yes
<b>RHIC</b>					
1	Bldg. 1004		Finish the installation of 197 MHZ system (10 each)	No	No

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

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

For Maintenance Period September 1999

<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>
1	AGS Ring	260	Refurbish AGS main magnets J-10, J-11, J-12, K-13. Vent sectors J, K and KL, remove chambers & ion pumps. Remove K-13 sector valve prior to magnet removal. 2 men	Beam Comp., Instrum., HP, Rigging (?), Survey	Survey Req'd RWP#
2	AGS Ring	64	Install J-10 Beam Dump. 2 men	Same as above	Survey Req'd RWP#
3	AGS Ring	80	Install H-20 Septum. Vent HI sector, remove existing septum, install new septum / ion pumps, test. 2 men	Same as above	Survey Req'd RWP#
4	AGS Ring	40	Replace all existing plastic air lines 1 man	HP	Survey Req'd RWP#
5	HEBT "A"	120-180	Replace vacuum chamber / magnet BM1. 3 men	Survey, Linac, HP	Survey Req'd RWP#
6	Booster	120-180	Replace vacuum chamber / ion gauges in BTA line (BXT 10), Bakeout line. 3 men	Survey, Instrum.	Survey Req'd, RWP #
7	AGS Ring	24	Possibly replace E-15 servo motor 1 man	Instrum., HP	Survey Req'd, RWP#
8	AGS Ring	24	Possibly replace C-5 servo motor. 1 man	Instrum., HP	RWP#
9	Booster	??	Possibly open up Booster for BAF installation.		
10	BLIP	32-48	Replace d/s pipe in wall. 2 men ***** CONTAMINATION WORKER TRAINING REQUIRED *****	BLIP, HP, Linac	Survey Req'd Rwp#
11	ATr Line	12-18	Remove section of pipe in section W-2 & reinstall.		
12	AGS Ring	64	Replace F-5 d/s bellows 2 men	Beam Comp., HP	Survey Req'd RWP#
13	AGS Ring	80	Assist with replacement of F-7 sextupole	Beam Comp., HP, Water, Survey	Survey Req'd RWP#
14	ATr line	2 days each	Replace 6 or 7 flags in U, W, X & Y Lines	Instrum., HP	

