

AGS MAINTENANCE, MODIFICATIONS, AND REPAIRS SCHEDULE

R. Zaharatos - March 5, 1999

SCHEDULE SUMMARY

Maintenance Period - Begin: March 9, 1999 0800hrs.
End: March 12, 1999 1630hrs.
End Actual: March 13, 1999 1200hrs.

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

Machine Areas Access: Booster Controlled Access as required
 AGS Controlled Access as required
 All SEB Restricted Access - as required 3/9-3/12
 ATR/U Line Restricted Access - 3/9-3/12
 Linac Restricted Access - 3/10

AGS RING POWERED TESTING REQUESTS

(typically barriered testing which will be scheduled on a daily basis determined by conflicting jobs)

- C 1. Siberian Snake(I10).
- C 2. Gamma TR P.S.s' by using I17 for load.
- C 3. H10 Septum
- C 4. F5 Septum positioning to check for vacuum integrity

PRIMARY JOBS

AGS RING EQUIPMENT

- C 1. Install C-20 Polarimeter
- C 2. Install C-15 Polarimeter(remove octupole magnet)
- C 3. Insert F5 Septum(US 1999, DS 2165) to test for vac. leak. (In Position - Okay 3/9/99)
- C 4. Backflush F5 Septum.
- C 5. Flow check all RF P.A. stations and replace bag filters
- C 6. Repair and test K3 and G14 high gain pue's.
- C 7. Prep Siberian Snake P.S. - powered testing and check-out of controls and signals to MCR.
- CAN 8. Tune Meter - change configuration
- C 9. Replace D-17 roughing valve
- C 10. Backflush F10 Ejector

SEB Switchyard:

- C 11. Modify existing C-10 SEC for gas type

AGS EXTERNAL EQUIPMENT

- C 1. Clean Cooling Tower 1.
- C 2. Soil samples of AGS Ring Fan Houses A-E.
- C 3. PM's for Ring air-cond..
- C 4. Install and test beam inhibit for polarimeter.

BOOSTER RING EQUIPMENT

- C 1. BAF penetration soil samples
- C 2. Sublimate entire ring.
- C 3. Repair/install High Gain BPM's

BOOSTER EXTERNAL EQUIPMENT

- RS 1. Repair argon leak on station 1
- RS 2. Repair Ion Pump P.S's.

LINAC

- C 1. Check operation of HEBT Slit
- CAN 2. Replace 4 Ion Pumps in HEBT 2.
- C 3. Set-up and test Polarized Protons

SEB

- C 1. Instrumentation set-up in B1 @ Line.(INST)
- C 2. Set up B1 Tgt. Tent(EAG)
- C 3. Tower 4 turn-on for B1 exp..(MSG, EAG)
- C 4. B1 Line set-up and checkout for Exp. 925(EAG)

U Line

- C 1. Repair/test UXF1 Transformer.(INST)
- C 2. Set-up UW725 SWIC onto Reflector(INST)
- C 3. Set-up cameras for: Mercury Tgt. and Exps. 945,945A.(INST)

BASIC 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)

- | | | |
|--------------|------|--|
| <u>9 Mar</u> | 0800 | Maintenance period begins:(this assumes the following was completed prior to 0800) <ul style="list-style-type: none">1. All equipment has been secured2. Restricted Access LOTO is in place for Controlled Access of AGS. And Booster. SEB, ATR, and U Line will be prepared for Restricted Access.3. Begin final work plan approvals and detailed coordination of jobs |
| | 0830 | At this time or at the end of a total cooldown of eight hours the HP Surveys will be started: <ul style="list-style-type: none">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 B Line and ATR/U Line as required. |

1000 As HP surveys are received begin final job reviews for completion of required permits
1300 Begin AGS Ring Controlled Access entries
1330 F5 Septum positioning
1630-2100 AGS Ring Controlled Access entries as required.

10 Mar 0800 Prepare Linac/HEBT for Restricted Access
Begin cleaning of Cooling Tower 1
AGS Ring Controlled Access for scheduled jobs
0830 Begin survey work in Booster for BAF penetration soil samples (Controlled Access)

1030 Begin HEBT jobs
1600 Tower 1 back on line
2100 Booster and AGS Controlled Access for the day typically ends but can continue as required.

For the detailed schedule and continuation of this schedule see daily postings.

12 Mar 0800 Continue "U" Line Setup and AGS Polarimeter Installation

1000 Begin Linac and Booster turn-on for beam

13 Mar 1200 Maintenance ends. AGS Set-up.

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 March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	10 o'clock		Pass testing of 10 o'clock sector		
C 2	12 o'clock		Pass testing of 12 o'clock sector		
C 3	2 o'clock		Pass testing of 2 o'clock sector		
C 4			Support operations as necessary		
C 5	B1 exp. area		Check B1 security for up coming run		

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 March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	AGS Ring	30 min.	Modify existing C-10 Sec for gas type	HP, Vac	RWP Contam.
C 2	AGS Ring	1 hour	Install C-20 Polarimeter, test run, leak check	HP, Vac	Min RWP
C 3	AGS Ring	48+ Hours	Remove existing octupole, prepare girder, install C-15 polarimeter, install necessary electronic components, survey, leak check, test run	HP, Survey, Vac Group, Power Supply Group	Min RWP
C 4	AGS/BTA/BSTR	4 hours	Equipment Documentation	HP	
C 5	F-10 House	15 min.	Remove hold tag and enable motor drives, F-5 is to be commanded to norm. operating parameters (U/S D/S Vac. valves remaining closed)	MCR, Vac Group	
C 6	AGS Ring	1.5 hr.	Backflush F-5 and F-10 Magnets, change bag filters	HP, Pump Room	

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

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

For Maintenance Period March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	930 UEB ps	4 hrs.	Change Fan in cdc.b.Amux_930ueb	N/A	N/A
C 2	K18 vw	8 hrs.	Check AGS K18 datacon controller block down loads for errors. Verify external trigger for A/D read.	N/A	N/A
C 3	914 vw	4 hrs.	Check datacon conn. to Eurocrate D at bnc	N/A	N/A
C 4	A trailer tc/bv	8 hrs.	Install power pc cpu in cfe-at-ps2, remove bit 3 pwa cfe-at-ps1	N/A	N/A
C 5	919, 921, 929, A10, E10, F10, H10 Linac cr	24 hrs.	Install modified v102 pwa's in appropriate chassis.	N/A	N/A
C 6	F18 House		F18 VHF controller - P.S. Checkout		

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

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

For Maintenance Period March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
(POL. PROTON SETUP)					
C 1	AGS Ring	.5 hr.	Swap out F5 Video camera	HP-Survey	RWP Contam.
C 2	AGS Ring	.5 hr.	Swap out CF011 Video camera	HP-Survey	RWP Contam.
C 3	AGS Ring	.5 hr.	Install and setup E15 Video camera	HP-Survey	Mini RWP
C 4	AGS Ring	.5 hr.	Swap Pre-amp at G7 with High Gain Module	HP-Survey	Mini or Contam. RWP
C 5	AGS Ring	.5 hr.	Install modified PMT Base for A20 Flying Wire	HP-Survey	Mini RWP
C 6	Switchyard	1 hr.	Replace damaged cameras @ BF387 & CF223.	HP-Survey	Mini RWP
C 7	B-Line	1 hr.	Replace damaged cameras @ BF448 & Btgt	HP-Survey	Mini RWP
C 8	B-Line	.5 hr.	Instrumentation Setup - in B-Line A) Move Btgt SEC out of beam path -- mini RWP B) Swap out cables from B1W512 to B1W509 -- mini C) Remove BW480 out of the beam path -- mini	HP-Survey	
C 9	AGS	???	External to ring - Adjust gains/cap values as appropriate on the following devices: A) Current Transformers B) Long Loss Monitors C) BTA Harps		
C 10	AGS	1 hr.	External to ring- 1) Pump down IPM gas lines. 2) Reinsert Actuator for A20 MW.		
C 11	B-Line		External to Caves - Set-up/Test Inst. and signals for E925 and E948		
(AGS, BOOSTER, & "U" LINE)					
RS 1	AGS Ring	8 hrs.	UXF1 - Inspect Current Transformer - Test and Repair as necessary. Possibly 2 permits depending on fix.	HP-Survey	Mini RWP
RS 2	AGS Ring	4 hrs.	UF1 Video - Run cables in for backup system (Fiber / 2 Coax)	HP-Survey	Mini RWP
C 3	AGS Ring	2 hrs.	H10 Video - Swap out mount with new version and realign camera.	HP-Survey	Mini RWP

C	4	U-Line D/S	16 hrs.	1) Move and setup UW725 SWIC onto Reflector	EAG Survey Group	1 or 2 Mini RWP
				2) Move and setup Mercury Target motion camera		
				3) Rearrange video lighting in the Target Area to accommodate the Reflector and Collimator.		
				4) Install and setup 3 cameras and tripods for E945/E945A.		
				5) Install and setup position monitor camera for Mercury Tgt.		
C	5	AGS	???	AGS Vacuum System - All work external to ring. Repair Ion Pump Power Supplies - As time permits. List to follow if any work is done.		
RS	6	Booster	???	Booster Vacuum System - All work external to ring. Repair Ion Pump Power Supplies - As time permits. List to follow if any work is done.		
	7	AGS, A10, E18, H10 Houses		AGS Vacuum System - replace all air filters in Control Racks.		

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

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

For Maintenance Period March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
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 H2O	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 March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	AGS Fan Houses	6 hrs.	Soil samples from the dry sumps in Fan Houses A-E (Alan Raphael)	S&EP	RWP
C 2	AGS Fan Houses	8 hrs.	Thorough clean-up of Fan Houses A-E. Includes walls and windows.		RWP
C 3	AGS Fan Houses	8 hrs.	PM's for aircond. systems PM. (B. McKay, Galligan)		RWP
C 4	Booster	12 hrs.	Survey for BAF outer wall penetration and cut (torch) holes in wall for nine soil samples. (Karl, Rathjens, R. Lagattola)		RWP
C 5	Booster	.5 hr.	Contractor walk down of Booster Tunnel penetration for BAF. (Feldman)	Escort.	Mini RWP
RS 6	Booster 914	16 hrs.	Incorporate new three-way water valves for chilled water coils.	PE & MSG	RWP
IP 7	Booster 914	8 hrs.	PM's for air handling systems. 1 of 2 fan motors failed (burned out bearings in motor)	PE (McKay)	
C 8	913 Fan Houses A-E		Take soil samples of french drains.		
RS 9	913 Fan Houses A-E		Change lamps in Fan Houses		

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

**GROUP: Mechanical Services: J. deBoer (Ext. 4668 [4250], E. Dale (Ext. 7943 [0124]
B. Abel (Ext. 5711 [7119])**

For Maintenance Period March 9 - 12, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	Tower 1	6 mhrs.	Drain, clean tower and strainer	None	
C 2	RFPA-AGS Ring	6 mhrs.	Check flow all PA stations, replace bag filters.	None	PA, CP stations
C 3	Fan Houses	4 mhrs.	Inspect all condensate drums and check levels.	None	RWP
RS 4	LINAC-930	4 mhrs.	Trouble shoot and repair Rf level controller.		
C 5	Booster - 914	2 mhrs.	Replace bags filters in Booster main Magnet cooling system.		CP
C 6	RFMG-928	2 mhrs.	Trouble shoot and repair RFMG choke system expansion tank small air leak.		
RS 7	Booster - 942	4 mhrs.	Trouble shoot and repair argon leak in Booster on Station 1.		CP
C 8	Tower 5	6 mhrs.	Drain, clean tower and strainer		
C 9	AGS Ring		Siberian Snake - Turn on Water		
C 10	AGS Ring		Repair H10 Septum water leak (hose fitting)		

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

**GROUP: Operations Support: R. Zaharatos (Ext. 7205 [4281],
A. McNerney (Ext. 7693 [4222])**

For Maintenance Period March 9 - 12, 1999

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C 1	AGS Ring	6 hrs.	Repair/test K3 and G14 Hi gain PUE's and relocate ampl. away from Main mag. field (Ashby, Naase)		Mini RWP
C 2	AGS Ring	4 hrs.	Assist HP with placement of stanchions with rope barriers and signs for known long term high rad. Locations.		Mini RWP
C 3	Booster	3 hrs.	Provide fire watch for welder to cut outer wall holes for soil samples. (Gardner)		RWP
C 4	Booster	8 hrs.	Install/repair as required High gain BPM's for HI Gold run. (DiFranco, Dilg)		Mini RWP
C 5	HITL House II	6 hrs.	Install and test beam inhibit for Polarimeter. (DiFranco)		

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

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

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SIEMENS					
C	1	929	Clean contacts or replace relay in Rk LA2 left (relay A31d3).		
CAN	2		Look into putting AUX Contact from 52E C.B. in interlock string.		
C	3		Inspect and clean MG Set brush rigging.		
C	4		Inspect 95 switches oiler on the new 95 switches in basement.		
C	5		Repair sight glass on pedestal #3 on return flow pipe.		
C	6		Circuit breaker inspection in basement -52.-52R, -19S, -19R		
C	7		Clean up MG Room area.		
C	8		Clean up 929 area.		
C	9		Call in MMC to have light bulbs replaced in 928 - Rect. room, basement, etc.		
BOOSTER & AGS					
C	1	AGS Ring	2 hrs.	Remove old octupole magnet @ C15 location in AGS Ring.	
C	2	914, L18A		Open all PPA Power Supplies in 914 and L18A and clean water mats and check K9.	
C	3			BMMPS open power supplies and check on all snubbers, and interlock fiber optic trans. - receiver Brd. voltages.	
C	4			Inspect BMMPS 95 Switch filter and oils for proper oil level and remove any water from system.	
C	5			Check PEI power supplies for any blown transistors.	
C	6	921		Prep siberian snake power supply. Clean out and make it operational with signals to the Control Room. Test into Ring.	RWP
C	7	930A		Modify trench grating in Bldg. 930A (over 5,000V bus)	

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

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

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<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
RS	1 AGS	3 hrs.	A5 Kicker, inspect and repair, (A. Zhang)		RWP
C	2 AGS	.5 hr.	Tune Meter, change config. (Sanders)		
RS	3 Booster	1 hr.	F3 Kicker, inspect, (A. Zhang)		RWP
C	4 913S	.5 hr.	H10 Septum, rewire PASS System interlock, (Lockey)	Security	
RS	5 AGS	.25 hr.	F6 Septum, inspect, (Lockey)		
RS	6 PP HSE	2 hrs.	Test 1 Gamma TR P.S. to Power I17.		RWP
C	7 AGS	4 hrs.	Test H10 Septum (Install barrier for testing)		RWP
C	8 AGS		A10, A15, K15, - Inspect for future Tune Meter (Sanders)		RWP

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 March 9 - 12, 1999

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C 1	AGS Ring	Working Hours	Replace all air filters (10 Each)	No	Mini RWP
C 2	AGS Ring	Working Hours	Check all feedback amplifiers and replace if needed.	No	Mini RWP
C 3	AGS Ring	Working Hours	Check drive loop water	Yes, Pump Room	Yes
C 4	AGS Ring		Inspect gap dividers in C10 & D10		

AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

JOBS SCHEDULING REQUEST

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

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C	1	AGS Ring	32 hrs.	Install polarimeter @ C-15; LOTO, vent, installation, test, pump down, leak check, restore vacuum integrity. G. Mahler	Beam Components, Instrumentation	Survey Req'd
C	2	AGS Ring	6 hrs.	Install polarimeter spool ass'y @ C-20: will be done in conjunction w/job #1		Survey Req'd
C	3	AGS Ring	1 hr.	Repair air line fitting @ 002 sector valve (SPLITTERS)		Survey Req'd
C	4	AGS Ring	6 hrs.	Pump down section between 002 valve & C-10 ion chamber & open to "F". Pump down section between C-10 ion chamber & 039 valve & open to tanks.		Survey Req'd
C	5	AGS Ring	8 hrs.	Possibly assist in replacing C-10 ion chamber in SEB Line.	Beam Components, Instrumentation	Survey Req'd
CAN	6	AGS Ring	1 hr.	Check/adjust positioning of F-7 rough valve indicator.		Survey Req'd, RWP
IP	7	AGS Ring	12 hrs.	Inspect all valve air lines for damage.		Survey Req'd, Mini RWP
C	8	AGS Ring	8 hrs.	Replace D-17 roughing valve; LOTO, vent, installation, test, pump down, leak check, restore vacuum integrity.		Survey Req'd, Mini RWP
C	9	U-Line	2 hrs.	Check/adjust positioning of USV8 rough valve indicator. Check wiring of indicator.	Instrumentation	Survey Req'd
CAN	10	HEBT 2/3	16 hrs.	If time allows, replace 4 ion pumps in HEHT 2 & 3: LOTO, vent, installation, test, pump down, leak check, restore vacuum integrity.		Survey Req'd
C	11	Booster	8 hrs.	Sublimate entire ring.		
CAN	12	AGS	2 hrs.	Position F5 Septum for P/P operations, If leak occurs, glyptal if this fails change bellows.		RWP
C	13	Booster Ring		Spray bellows ups of BTA "I" Nom		
C	14	"U" Line		Remove 2 sections of "W" Line (sect W2)		
C	15	AGS Ring		Maint. on all Turbos		

16 AGS Sw.
Yard

Snap camera at C Foil

CAN 17

Spay F5 Septum Leak if required

C 18 G-2 Ring

Install chamber flanges and Pump down