

C-A MAINTENANCE, MODIFICATIONS, AND REPAIRS SCHEDULE
RESULTS

R. Zaharatos – January 28, 2002

Rev. 1
SCHEDULE SUMMARY

Program ends: 2400hrs January 24, 2002 - no later than 0200 January 25

Maintenance Begins: 0800hrs January 25, 2002

Maintenance Ends(est.): 1400hrs January 27, 2002

Machine Areas Access For :

| | |
|------------|---|
| AGS | Restricted Access - 0800hrs - 2000hrs Jan. 25 |
| Booster | Restricted Access - 0800hrs. Jan. 25 - 1400hrs Jan. 25 |
| SEB | Restricted Access - 0800hrs Jan. 25 - 1600hrs Jan. 26 |
| ATR/U Line | Controlled Access - No access (Access Controls recertification, 2 days) |
| Linac | Controlled Access - access 0900hrs Jan. 25 - 1000hrs Jan. 25 |
| RHIC | <u>Begin long shutdown</u> - Restricted Access all areas (includes W/X/Y lines) |

PRIMARY JOBS

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

EQUIPMENT TESTING

AGS RING:

C A5 Kicker
IP H2O Septum conditioning
C H2O drive
C Switchyard magnets
C F5 Septum
C F10 Ejector
C Transverse Dampers (Ring F20, P.S. F18 Hse.)

BOOSTER

C RF System
C Backlegs

AGS RING

C 1. Gamma TR - restore configuration to protons.
C 2. Pump-out sumps
C 3. Equipment and Instrumentation set-up for SEB (8hrs)
C 4. Test and re-certification of exhaust fans
C 5. Check water flow for F5 and F10 – Required back flushing of both.

AGS EXTERNAL EQUIPMENT

- C 1. Westinghouse Motor/Generator - Detailed cleaning and brushes installation

ATR/U LINE

- C 1. U Line Up/Dn - Access Controls recertification

BOOSTER RING

- C 1. Survey of BAF penetration
C 2. LIPA feeder up-grade - Booster Main P.S. must be off.
C 3. Repair F3 Sector Valve

RHIC

- IP 1. Begin cryo warm-up.
C 2. Set-up for magnet resistance tests (Coll. Elect. P.S. Grp/Ganetis)

SEB SWITCHYARD

- C 1. CF367 - remove/rebuild/replace motor assembly. Repair video.

SEB

A TARGET

- C 1. E951 - Replace existing instrumentation

C TARGET

- C 1. C Target instrumentation - replace CW475, install new target lighting, and replace cabling

C LINE

- C 1. E949 - Set-up and test instrumentation
CAN 2. E931 - Set-up and test instrumentation

LINAC

- C 1. Remove and clean protons source (2days)
CAN 2. Replace SNS transformer in HEBT chamber

DETAILED SCHEDULE

24-25 Jan.

2400 Turn-off Linac proton source
2400-0200 Polarized Beam off. Linac beam stops closed.
RHIC beam off for long shutdown.
All RHIC P.S.'s to off
???? - 0600 Linac studies - Polarized Source beam to HEBT polarimeter

25 Jan.

0001-0200 Turn-off all Booster and AGS equipment. Make certain Booster Main P.S. is off and LOTO'd by 0430hrs

1. Begin Restricted Access LOTO of the Booster
HP Surveys of SEB
(HP will have instructions and schedule for all surveys including job specific, all to be completed no later then 0730hrs)
2. Restricted Access LOTO of AGS during which HP surveys the Booster
NOTE: Put in place the Supplemental LOTO for the testing of A5 Kicker in the AGS Ring. A5 will remain LOTO'd until start of the test period as approved by the Maint. Coordinator. Ops Coord. holds keys to be passed to MC. Hold keys for Transverse Dampers for MC.
3. HP survey of AGS

Prepare for RHIC access (HP surveys as required) All of RHIC to Restricted Access including W/X/Y Lines.

0500 LIPA feeder switchover from preferred to alternate.
(Booster Main P.S. must be secured before 0430hrs)

0600 Turn-off Linac Polarized Source
Begin RHIC P.S. loto(R. Zapasek) as part of preparation for the scheduled testing for ring shorts.(Ganetis)

0700 HP survey of ATR/U Line(Controlled Access)

0730 The following areas to Restricted Access by 0730hrs:
AGS, Booster, and SEB.

0800 Maintenance/SEB Changeover period begins

0900 Move SEB RS LOTO to BTA(Kevin Brown)

1400 Sweep and secure Booster.

- 1530 Powered testing of Booster Backlegs
- 2000 AGS Ring - If all jobs have been completed, secure for beam and remove LOTO.
- 2200 Confirmation that LIPA has switched back to normal feeder

0800 Jan. 25-1200 Jan 27

Westinghouse Motor/Generator maintenance
Equipment and instrumentation set-up for SEB operation

NOTE: Schedule for turn-on is dependent on the completion of the Westinghouse cleaning and completion of all of the instrumentation set-up particularly in the SEB Switchyard. It is expected we'll be ready for set-up with beam sometime on Sunday the 27th but no later than 0800 on Monday, Jan. 28.

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)

| <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 | U Line Up/Dn | 2 Days | Recertification of U up and U down expires 1/30/02 | | Yes |
| C 2 | AGS/SEB | 2 Days | Recertification of Chipmunks | | Yes |

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

GROUP: Beam Components & Instrumentation: D. Lehn (Ext. 4095 [4276], A. Curcio (Ext. 4659 [4270])

| <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 | 8 hrs. | H20 Septum – inspect/test repair motion control | HP - Survey | |
| C 2 | AGS Ring | 1 hr. | H20 Septum Video – Replace/Repair video camera/light | HP – Survey Joel Scott | |
| C 3 | AGS Ring | 1 hr. | CF011 – Replace/Repair Video camera/light | HP – Survey Joel Scott | |
| C 4 | AGS Ring | 10 min. | Splitters – Inspect oil levels | HP – Survey | |
| C 5 | AGS Ring | 10 min. | H20 Septum – Inspect oil levels | HP – Survey | |
| C 6 | AGS TBH West | TBD | Splitters – Condition as necessary | | |
| C 7 | AGS H10 House | TBD | H20 Septum – Condition as necessary | | |
| RS 8 | AGS F18 House | 4 hrs. | Transverse Dampers – Adjust biases and retune as necessary | | |
| C 9 | AGS A10 House | 1 hr. | Multiwires – MW125, MW166, A20 – Switch back to standard gain for HEP Running | | |
| C 10 | AGS – 911B | 4 hrs. | Current Transformers – Setup gains for HEP running | | |
| C 11 | AGS Ring | 4 hrs. | A20 Flying Wire – Install High Intensity / Low Gain PMT | HP – Survey | |
| C 12 | AGS Ring | 4 hrs. | G7 PUE Preamp – Install new version for testing | HP – Survey | |
| C 13 | AGS Ring | 4 hrs. | Ring Grounds – Inspect/Repair Hybrids as necessary | HP – Survey | |
| C 14 | AGS Ring | 4 hrs. | Check Water Flows @ F-5 & F-10, backflush if needed – Back flushed both | HP- Survey | |
| C 15 | AGS Ring | 1 hr. | Inspect for future C15 Polarimeter Installation | HP - Survey | |
| C 16 | AGS Ring | 8 hrs. | A5 – Install new Loss Monitor and tie into BIS | HP - Survey | |
| C 1 | Booster Ring | 10 min. | C3 Inflector – Check oil level – (will be left empty) - Survey into place if necessary ? | HP – Survey Survey Group | |
| C 2 | Booster 930UEB, 914 | 30 min. | Multiwires – MW006, MW060, LTB035, LTB099 & LTB106 - Switch back to standard gains for HEP running | | |
| C 3 | Booster 930 LEB | 4 hrs. | C7 – Install new Loss Monitor and tie into FBI System | HP – Survey Linac Group | |

| | | | | | |
|---|----|--------------------|--|---|--|
| C | 1 | Switchyard | 1 hr. | CF157 – Replace/Repair video camera/light | HP – Survey |
| C | 2 | Switchyard | 1 hr. | CF223 – Replace/Repair video camera/light | HP – Survey |
| C | 3 | Switchyard | 8 hrs. | CF367 – Replace/Repair video camera/light - Remove/Rebuild/Replace motor assembly | HP – Survey EAG |
| C | 4 | Switchyard | 1 hr. | AF238 – Replace/Repair video camera/light | HP – Survey |
| C | 5 | C Target | 1 hr. | CF440 – Replace/Repair video camera/light | HP – Survey |
| C | 6 | C Target | 8 hrs. * already in progress | C Target Instrumentation – Remove/Replace CW475 - Setup CE474 - Install new target video lamps - Remove old cable - Install new cabling for above | HP – Survey EAG Electricians Joel Scott |
| C | 7 | LESB 3 Fox Cave | TBD * already in progress | LESB 3 Separator – Replace feedthrough - Condition as necessary - Inspect as necessary | HP – Survey Riggers |
| C | 8 | LESB 2 | TBD | LESB 2 Separator – Condition as necessary - Inspect as necessary | HP – Survey |
| C | 9 | C-Line | 80 hrs. * already in progress | E949 – Setup and test instrumentation needed for HEP run | HP – Survey |
| C | 10 | C-Line | 60 hrs. * already in progress | E931 – Setup and test instrumentation needed for HEP run | HP – Survey |
| C | 11 | A Target | 40 hrs. | E951 – Remove existing EPM/SWIC/SEC cables - Install new current transformer including cable - Install new video setup for A Target flag | HP – Survey EAG Joel Scott |
| C | 12 | A-Line | TBD | E951 – Setup and test instrumentation needed for HEP run | HP - Survey |
| C | 13 | A- Line | 1 hr. | AW290 - Replace leaking air regulator | HP - Survey |

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

GROUP: Controls – Bill Venegas (ext. 3917, BP 7241), Brian Oerter (ext. 2799)

| <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 – K18 | 1 hr. | Replace chassis fan in K18 Gamma TR controller | None | None |

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

GROUP: LINAC – B. Briscoe (ext. 5007, 5010, BP 4225) Vin LoDestro (ext. 5005, BP 7264)

| <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 | LINAC | 2 Days | Remove and clean protons source | None | None |
| C 2 | LINAC | 3 hrs. | Replace cap bank Jennings Mod3 | None | None |
| CAN 3 | LINAC | 4 hrs. | Repair SNS transformer in HEBT Chamber | Vac | None |
| C 4 | LINAC | 2 hrs. | Check Iggy in RFQ | None | None |
| C 5 | LINAC | 2 hrs. | Check voltage divider in RFQ | None | None |
| RS 6 | LINAC | 8 hrs. | Check fans in 50 KV PS | None | None |
| C,RS 7 | LINAC | 8 hrs. | Install circulators in driver carts – 3 of 9 finished | None | None |
| C 8 | LINAC | 8 hrs. | Check Buncher 2 RF System | None | None |
| C 9 | 930/930A BAF | 4 hrs. | Install telephone line for BAF Fire Alarm System | | |
| C 10 | LINAC | | Mod-Repair driver cart drive line elbow | | |

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]

| <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 | West. House | 3 days / 24 hours day | Thorough cleaning of Westinghouse Motor Generator | | |
| C 2 | | | F5 & F10 Testing and Heat Running | | |

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

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

| <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 | 913 Ring | 3 hrs. | Test and recertification of Ring exhaust fans | PE/AC Group | |
| C 2 | 913 Ring | 8 hrs. | Pump out ring sumps | Water Sys. Grp | |
| IP 3 | RHIC Ring | 8 hrs. | Repair fire alarm in Sect. 9Z1 | Fire Alarm El. | |
| C 4 | 913 Fan Hses | 8 hrs. | Complete the installation of sump alarms | FES | |
| RS 5 | 913 AGS Ring | 4 hrs. | Ring inspection of all systems | | |
| RS 6 | 942 Booster | 2 hrs. | Ring inspection of all systems | | |
| C 7 | 942 Booster | 2 hrs. | Survey of BAF Penetration | Survey Group | |
| C 8 | 913 Ring | | Move 3 Sextupoles from N. conj. Area to 919 | Riggers | |
| C 9 | 913 C & E | Fri & Sat | Repair steam leaks (3-4" water each sump) in fan houses E & C | | |

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

GROUP: POWER DISTRIBUTION – T. Nehring (Ext. 5275) [4246]

| <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 | Entire Site | 0500 – 2200 1/25/02 | Take site off a preferred feeder put on alternate | Main Control to turnoff booster | |
| C 2 | AGS – RF | 1000 – 1200 1/25/02 | Add oil to Xfmr with low oil level | RF Group | |

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

GROUP: PULSED POWER: R. Zapasek (Ext. 2189) [4263], A. Zhang (Ext. 5369) [7248]

| <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 | 2 hrs. | Gamma TR, restore connections | | |
| C 2 | AGS | 4 hrs. | A5 Kicker, Replace tailbite tube \$ Test | ALT Loto | |
| C 3 | AGS | 8 hrs. | G10 Kicker, Inspection (repaired loose connection) | Riggers | RWP |
| C 4 | AGS | | A10 Tune Meter / AC Dipole switched back to Tune Meter | | |

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

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

| <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> |
|--------------------|-------------------------|-------------------------|---|------------------------------|-------------------------|
| AGS | | | | | |
| C 1 | AGS Ring | | Fix station K (Air Problem) | | Yes |
| C 2 | AGS Ring | | Replace all air filters in pa's | | Yes |
| C 3 | AGS Ring | | Retube feedback amps | | Yes |
| C 4 | 914 | | RF Set-up for protons (Brennan – Zeno / Booster Beam) | | |

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

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

| <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 | Booster | 4-8 hrs. | Repair F-3 Sector valve in place | | |
| C 2 | 930 UEB | 2 hrs. | Check Booster ion gauge grid voltages | | |
| C 3 | AGS Ring | 4 hrs. | Open C20 Polarimeter – Install Monitor | | |
| C 4 | Booster | | A3 & F5 gauges bad. Disconnected and interlocks jumped. | | |

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])

| <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 | LTB Line Bldg 930 and Bstr | 32 mhrs. | Remove measurflo and surflow switches from DH1 thru DH5 magnets. Check primary flow switches, reconfigure hosing, fittings and perform flow checks. | None | Complete Survey of Area |
| RS 2 | Westinghouse Bldg. 911A | 4 mhrs. | Repair small leak on Hydraulic Line in PIT | Siemens Group | |
| C 3 | AGS Ring Bldg. 913 | 8 mhrs. | Drain AGS Sumps – (South & C, HEBT = No Water) | | |
| C 4 | AGS Ring Bldg. 913 | 1 mhr. | Check flows for F-5 and F-10 – Backflow required | | |
| C 5 | AGS Ring Bldg. 913 | 2 mhrs. | J-10 Beam Dump Bump, Check operating Pressure | | |
| C 6 | Booster Bldg. 194 | 3 mhrs. | Review D area for up coming BAF Modification | | |
| C 7 | Pump Room Bldg. 911A | 2 mhrs. | Test run spare special ejection pump | | |
| C 8 | Booster | | Vac. Valve airline oiler leak – Repaired | | |
| C 9 | Booster | | RF E7 P.A. – Clean Strainer (checked all = okay) | | |
| C 10 | AGS Fan House | | Fan Houses C & E – Drain sumps (Water from steam leak) | | |