

C-A SCHEDULED SHUTDOWN –WEDNESDAY FEBRUARY 18, 2004,
0700-1500HRS

R. Zaharatos –Tuesday Feb. 17, 2004

RESULTS – 1830HRS. FEB. 18, 2004

CONTROLLED ACCESS – AGS

BOOSTER – NO ACCESS

RESTRICTED ACCESS – RHIC, HEBT

ATR CONTROLLED ACCESS

Operations Schedule for Maintenance
Feb 18, 2004

Note: Lights in AGS ring sectors H and I, affected by Substation C shutdown.

Time Job	personnel
0630: Begin Controlled Access LOTO AGS. Close AGS Ring vacuum valves.	2CAS
0700: RHIC to RA all but dumps. RCA for dump survey. CAS to open STAR Breaker.	1HP,4CAS,1MCR.
0730: HP to enter AGS for surveys (F2 through L20)	1MCR/CAS
0745: After HP Completes RHIC survey. Dumps to RA.	
0800: AGS CA Access begins. Contact Pulsed Power to secure p.s. cables for FEB Extraction Bump (G09C and H11C).	1MCR/CAS
0815: Apply equivalent LOTO for FEB Bump cables.	2 CAS.
0830: RCA at U-upstream Stub tunnel line for HP Survey.	1HP,1MCR.

0845: Upon CA survey completion, U Up to RA.

1000: When HP available, survey TTB. Leave open. 1GW,1HP

1400: Sweep U Upstream and TTB Crossover

1430: Begin RHIC Sweeps.

**1600: Complete AGS Access, Bring on Booster,
Remove AGS LOTO, bring on AGS, RHIC.....**

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

RHIC JOBS

COLLIDER P.S. GROUP - ZAPASEK/BRUNO

Tunnel Work

Snake P.S. and QPA's - ALL COMPLETE

We need to access alcoves 3C, 9C, 5C, 7A, 7C, and 9A to do the following work:

- 1) Lockout yo9-snk7-2.3-ps. Remove yo9-snk7-2.3-qp for inspection. Inspection will take place in tunnel (**Rich C and Gregg**).
- 2) Turn on all snake and rotator p.s.'s. SET DCOC to 50A. Adjust Error to ???. After yo9-snk7-2.3.qp is inspected set the DCOC and error (**Rich C and Gregg**).

Correctors - COMPLETE

- 1) Swap node card cable for bo11-tv5-ps in Alcove 11C. We were getting STBY-ERROR, missing over-voltage faults. The supply never tripped to STBY-ERROR. (**Brian and Rich K**)

Fans - COMPLETE

- 1) Someone should walk tunnel and check for broken fans. (**Ed Wiegand and crew**)

Abort Kickers – COMPLETE

- 1) Check all capacitors

Service Building Work: ALL COMPLETE

Correctors

- 1) Run alcoves 7c and 9c to 5 amps. Save psall pages into WORD and then calculate resistances for alcove move. If time allows do other alcoves for records. (**Don**)

Joe P Software testing

- 1) Possibly run TAPE and watch if it changes command to 6000A quench switches from On to Charge.
- 2) Test New Timing resolver software. This new version will calculate the delays of each signal after the trip. (**Wing and Joe P**).

Main Power Supplies (Carl, Fred)

- 1) Work on Reg error problem on blue quad. This will require the links being up.
- 2) OCC SCR forward voltage monitoring.
- 3) Fix overshoot on mains.

6000A Quench Switch

- 1) Check snubber circuit (**Wing and Tom**).

Charlie –PLC Program

- 1) Anymore last command problems to look at? (**Don and Charlie**).

IR supplies and QPA's

- 1) Check connections between p.s. and qpa of yo9-dh0. There was a trip on 2/7/04 and the timing resolver indicated it was yo9-dh0 but no faults on either one. (**Jeff and Joe**)
- 2) Add relay straps to new aux relays in yo12-qd1, yi11-qf3, y12-q6, b12-dh0, and b12-dhx. Put Velcro in yo12-qd1. (**Jeff and Joe**)
- 3) If Mitch has something ready we would like to install new switches in some different types of QPA's during the maintenance day. (**Mitch and ?**)

1006B K-Lock

- 1) One k-lock for new quench signals to MADC may be questionable, maybe replace it. (**Rich K**)

Warm Dipole ps Work

Whatever needs to be done (**Joe and Don**).

IR Supplies, QPA's AND Sextupoles p.s.'s Low Priority - RESCHEDULE

- 1) If not done already, swap out yi10-q89-ps. The circuit breaker tripped on it at 20:08 on 2/8/04.
- 2) Check fans on dynapowers for yearly maintenance (Mitch and)
- 3) If there is time add lugs to wires on y8-q7-ps SSR2 (SEE Brain).
- 4) Test all spare sextupole current regulators in one sextupole p.s. with a ramp.
- 5) In 1010A remove node card cable on port 11 (from warm dipole p.s.) and replace this node card in rack R10AQD2. Ports 9 and 10 are bad.
- 6) In 1012A remove node card cable on node card number 12 port 11 for warm dipole. Make sure the warm dipole is connected to port 11.
- 7) Yi10-qf7 front panel AC on light no good. Replace it.
- 8) Check b12-dh0-qp controller card. CAS swapped it out on 1/17/04 and I want to make sure they did not miss anything.
- 9) In 1010A label node card cable that goes to port 11 (from warm dipole p.s.)
- 10) Check bo3-qd7 fan switches CAS replaced.
- 11) Keep an eye on bi9-tq4 fiber optic card (or curr reg card) . This p.s. had a 2 amp offset between the iref and wfg on 1/11/04
- 12) Check voltage lemo of yo9-dh0 and y12-dh0 and compare with buffer card reading. Voltage looks low on pet page.
- 13) AC Power line monitor problems at 12A and 8b. See PMViewer.
- 14) On 2/11/04 at 2:22:31 bi5-sxf-ps tripped on a lead flow interlock. For some reason this caused yo5-sxd-ps to also trip. Yo5-sxd-ps time stamp is 2:22:29. It should be later than bi5-sxf-ps. Yo5-sxd-ps only shows a quench fault. The current and voltage spike tripping the quench detector and that trips yo5-sxd-ps. There is some kind of crosstalk between these 2 p.s. that should be investigated.

Correctors

- 1) Maybe install more correctors in the tunnel with different types of fixes.
- 2) Bi8-oct3 and bi8-dod3 showed "Local/Reset Node card on 2/7/04 and 15:28:46. Keep an eye on this.

Other Lower Priority stuff - **RESCHEDULED**

ATR p.s.'s in service buildings

Try to put remote I/O alarm bit in for one PLC and try to test one PLC with Joe P to see if it works.

Keep an eye on but don't do anything yet.

- 1) **Keep an eye on bi12-qs3, it tripped on an error signal fault on 12/3/03 at around 10:20AM. It also tripped once on 12/4, 2x on 12/6 and once on 12/9. This one had C623 cut out of it so I guess it does not fix the error problem.**
- 2) **Bi8-sx3-ps tripped on an error signal fault once on 12/31/03 at 22:50:11. Looks like a current reg error. Keep an eye on.**

RF Group – N. Laloudakis

Sect. 4

- C 1. YS3.3 QEI – test under load
- C 2. Station X2 – check for failed tube and change PA
- C 3. Yellow Landau QEI – set up external limiter to prevent QEI Module failures
- C 4. RF external – water sys. down in am to repair valve.

Vacuum Group – S. Gill

- C 1. Sect.8, 9, 10, 11, & ATR - Check & drain air lines of H2O / install new drains where required.
- C 2. Sect. 8, 9, 10, 11 - sniff the JT valves and the power leads for helium loss. **Must be coordinated with Cryo Group**
- RS 3. Re-install rebuilt PPA's (locations to follow)
- RS 4. Sect. 8 – continue Bi8 bakeout set-up
- C 5. Sect. 4 - Finalize solenoid wiring & ps testing from 1004

Beam Components and Instrumentation – D. Lehn

Stochastic Cooling Sect. 4 & 11(8hrs.)

1. Pick-up tank in sect. 11
 - C a) Calibrate linear pots
 - IP b) Test inchworm controls – **Investigating controller problem in 1012A**
2. Kicker Tank -Sector 4
 - C a) Calibrate linear pots
 - C b) Test through BPL

- C 3. Gap Cleaning - check Chiller Reservoirs
- C 4. Jet Polarimeter – continue terminations/set-up
- CAN5. Sect. 9 – install 2 portable BLM's for beam dump monitoring
- C 6. Polarimeter – install pre-amps

High Frequency Instrumentation – B. Sikora

- C 1. Sect. 1 & 2 moveable BPM Schottky Cavity and Two Meter Kickers – access for fine tuning required after beam start-up.
- C 2. QMM(Quad Monitor) – will also require access for tuning

Controls Hardware(Venegas)

- C 1. 1006B – investigate Quench Link problem.(Michinoff/Koropsak)

Controls Software(Morris)

- C 1. Investigate and repair cfe-5c-ps3 network problems
- IP/RS 2. Test new madcGroupsoftware in 6b-ps3(reduce amount of memory allocation to avoid fragmentation) – **No new software released**
- IP/RS 3. Test new psWatch software in 6b-ps3(eliminate nuisance alarms with QLIs) – **Test complete. No new software released.**
- RS 4. Testing of new QD software(ADO & DSP) for snakes in 9 o'clock fecs
- C 5. Collimator manager test – new status parameters have been added
- C 6. Routine reset of RHIC alcove PS fecs & service building PS & BLM fecs

Tunnel Maintenance

- IP/RS 1. Water intrusion in Sect. 12 IR above Jet Target location(FES)

Water Systems(Deboer)

- C 1. 1008C – perform maintenance on tower temperature control
- C 2. 1010 Phobos – clean tower strainer

Other RHIC Access Jobs

- RS 1. Move two 8D8 Warm Magnet from sect. 10 to sect. 12(FES/RHIC PS)
- C 2. Check sound detectors at Ylw. And Blue Abort Kickers(Yugang Tan)

RHIC/FES Division – A. Pendzick

- C **STAR** - Access for experimenter(8hrs)
- C **PHENIX** - Experimenter access(<4hrs)
- C **BRAHMS** - Experimenter access(<4hrs)
- C **PHOBOS** - Experimenter access(<4hrs)

- 1. Bldg. 1004A RF air-compressor – install auto restart(R. Diaz)

AGS(external)

- C 1. Vacuum sys. E18 Hse. – LOTO EF for Snake work.
- IP 2. Vacuum – A10, E18, and H10 clear DNA read-backs.

- RS 3. Vacuum in A10, E18, and H10 Hse's - troubleshoot the Datacon networks for A3, D3, I3, J3 and J13 sector valve alarm problems (currently masked)
- C 4. H10 DC Bump – install modifications with vendor and test into dummy load. Final test into ring(Zapasek/Adessi)
- C 5. Replace Datacon Crate Controller in L18A and Multipole Room Eurocard Chassis (Controls Grp.)
- C 6. Connect E10 Hse. power feed for E20 Snake P.S.'s to sub-station C(8hrs/Nehring)
See C Substation Shutdown List of Effected Areas/Circuits(Attached)
- 7. Vacuum A10 Hse. - Troubleshoot interlock problem with L-9 ion pump
- 8. Vacuum Sect. 12 - Pick up eight 5" heat jackets for NEG pipe preparation and x-port to bldg 820
- 9. **Vacuum H10 Hse.** - Restore vacuum following 8 hr power interruption
- 10 Software/agsrhichome – add "outside" web server
- C 11 Siemens M/G – brush inspection
- C 12 Relocate MMPS crash button out of area where new exciter racks are going(Bannon)

AGS RING

- C 1. **E20 Snake Installation (LOTO of Woods Metals and Ion Pumps required).**
Perform compressed air leak test of water piping, fill, and check for leaks(PE).
Run monitoring cables from E10 Hse. and connect.(water flow and Klifixons)
Replace buss hardware
Wrap buss
Measure for buss covers
Check survey(2hrs.)
- C 2. L10 through C20 in and out – Inspect areas for proposed relocations of:
A20Harp/A20 Flying Wire/A20 Current Transformer, A10 Tune Meter, and BLIP Xformer interlock.(Bm. Comp.)
- C 3. RLRM – investigate RLRM problems at C8, D20, G16, and H14 (Bm. Comp.)
- C 4. Replace E20 and F1 Loss Monitors and modify argon lines.(Bm. Comp.)
- C 5. C15 Polarmeter – begin set-up for upcoming run(Bm Comp.)
- RS 6. Install new vacuum chamber storage rack in North Conj. Area.(Vacu Grp.)
- C 7. C-15 Polarimeter – install Target Box(Mahler/Vacuum Grp.)
- C 8. C20 Polarimeter – install Target Box(Mahler/Vacuum Grp.)
- C 9. AC Dipole – powered testing

ATR

- C 1. BLM System(Stub Tunnel) – verify position of ULM4.1 & 4.2 and test with current source(Bm. Comp.)

BOOSTER RING

Vacuum

- RS 1. Check & drain air lines of H20

BOOSTER EXTERNAL

RS BPM's/ Controls Grp.

1. Investigate A3(open) and C3(shorted)
 2. Filter assemblies above racks
 3. Install air filter assemblies.
 4. Repair exhaust fan on C Sect. Rack
 5. Phase match B4 cables
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- C 6. D6 Septum Powered testing(Lockey/Savatieri)
C 7. Controls 930UEB – update firmware in PSI Chassis(R. Schoenfeld)
C 8. Main Mag. test of bypass on merge cycle(Morris)

LINAC/HEBT ACCESS

Vacuum Group

- C 1. Restore vacuum in HEBT 2 & HEBT 3
C 2. BLIP 1 - Remove / install beam components / restore vacuum
RS 3. HITL X-Over - Check connections on ttb-29-i.g.-039

Linac

- C 1. Reinstall SEM 6 wires(HEBT 3)

TANDEM TTB(Carlson)

- C 1. Load object stripper foils at the entrance to TTB(4-5hrs)

C Substation Shutdown

Effected Areas and Circuits

Target Building

The north half of building, including the Magnet Enclosure, from Column 8 -
All 480/208/120 volt power.

Transfer Switch ATS 3 – Normal Power (Generator Will Come On)

Transfer Switch ATS 4 – Normal Power (Generator Will Come On)

AGS Ring

The AGS Ring Crane Power, from the Target Building north to Bldg 914

Outlets located at AGS Magnets E4, E7 and E12 – 480 volt power

H, and I Sectors – Lights (Possible part of G Sector)

H and I Sectors – 208/120 volt power

GH, H, HI, I, and IJ Sectors - 480 volt power

The North Conjunction Area – Heat and Air Conditioner power

AGS Fan House “A” – 480/208/120 volt power and power to the Fire Alarm circuits

Other Buildings

H18 House – Fed from Fan House “A” (Not in use) (Heat & Lights)

I18 House – Fed from Fan House “A” (Gamma TR P/S, Controls) (Heat & Lights)

H10 House – UPS Power (From ATS 3) (Vacuum Racks, Bump P/S PLC,
Controls Racks)

G18 House – UPS Power (From H10 UPS) (Controls)