

Project Progress Summary

28 August 1990

Announcements

Since Monday, 3 September is a holiday, please submit your status reports on Tuesday, 4 September for issue on Wednesday, 5 September. Have a SAFE weekend!

The radiation worker training scheduled for Wednesday, August 29, 1990 has been postponed. A new schedule will be issued shortly.

Injector and Front End Test

- The injector beamline has been completed through the gun valve, and re-evacuated. Pressure is again below 10^{-8} torr.
- Magnetic measurements have been completed on the injector lenses, which will allow them to be accurately described in models of the injector performance.
- Computational simulations of the injector bunch length for various geometries have been completed, permitting the injector girder to be located in its final place, and allowing us to fabricate the final vacuum components. It has been demonstrated by these simulations that we should be able to obtain a very short bunch while still having enough longitudinal space for an improved set of beam diagnostics at the 500 keV point. These diagnostics will include momentum analysis and bunch length measurement.
- Work is underway to modify the gun high voltage power supply for long pulse operation.
- High voltage power supplies for the HPA 8-seaters have been delivered and set up in position with the HPAs in the injector service building.
- Pumping for injector service building is being installed; headers are in, connection to supply and HPAs, etc., TBD.
- Initial setting and alignment of the quad stands have reached Station 150.
- A sample of the FET shield wall has been constructed in the tunnel for review by the CEBAF Radiation Safety Review Panel.

WBS 1

- Mark Wiseman presented results of the Cryobench Loss of Vacuum Accident test. The results gave us a good idea of heat loads for this type of accident and confirm the sizing of the two relief valves.
- The Production Chem Room Acid Transfer System has been installed and should be completed today.
- Cavity pair IA007/IA008 tested good last week, but developed a gate valve leak; needs reprocessing. IA012/IA013 are being tested today and tomorrow. C003/C006 have been processed and assembled but a small weld leak on C003 needs repair. The last of the received Interatom cavities (IA014/IA015) will be processed this week.
- A pressure sensitivity test on a reactor grade niobium cavity was done over the weekend. There was no plastic deformation seen on the couplers or cells at 45 psig.
- The cryomodule is cold and full and was tested over the weekend. The replacement cavities IA001/IA005 were retested and the Q's improved slightly. All feedthroughs are working.
- 60 production HOM loads are thermal cycling.
- Continuing with the braze alloy RF window tests. Trying other reducing agents to increase yield.

N 2

- Successfully tested simplified sextupole.
- Checked quadrupole centerline results with survey/alignment instruments.
- Reqs and drawings signed for quads for rest of N & S linacs and for Arc 1.
- Reqs and drawings signed for quadrupole arc stands.
- Drawings signed for S/R dipoles.
- Checked accuracy of BPM alignment fixture for warm region stands.

WBS 3

CF Controls:

- First of the 18 volt power supplies have been delivered, three sets of equipment racks 90% complete.
- Work is started on design of the Master oscillator and frequency distribution system.
- 2.5 watt amplifier delivery slipped another week, now scheduled for 27 August.

CF Power:

- Two cathode power supplies from Hipotronics delivered. Power supplies and HPAs have been moved into place, and installation of power, control wiring, and waveguides have started. We plan to install the crowbar and start DC testing next week.
- First eight Ferrite circulators delivered on site. BUT the first circulator failed during power testing at the test stand with only 1 kW RF. (The circulators were not power tested at factory.) We are working with FCI to solve the problem. The circulator is of the same basic design as the units previously delivered, that worked flawlessly, but the integral load is of new design.

WBS 4

- Received bulk power supplies for use in Front End Test trim system.
- Received first production utility chassis for use in FET trim system.
- 4" x 4" box duct installation complete for FET Security/ODH systems.
- 12-inch cable tray transition installed in North Linac area.
- AC power rack bases completed in injector service building.

WBS 5

Monitors:

- Assembly of harps started (three more needed, one for FET).
- Assembly of fifty viewers started.
- BPM prototype test finished. Electro-welding taken into consideration.
- New type of cameras tested: can operate in high radiation and magnetic fields.

Safety Systems:

- The first 20 FSD modules have been received. One has been stuffed and is undergoing acceptance tests.
- The BLM module artwork has been completed. Photoplots for the analog and digital boards will be ordered today.
The card readers for the Personnel Safety System have been installed. The cards to be used for the FET have been ordered.
- All ODH monitor components in the MCC have been installed.

- The contract for the controlled area radiation monitors should be awarded this week.

Diagnostics:

- The photoplots for 100 MHz BPM detector boards have been ordered.
- The 1500 MHz BPM tunnel board artwork will be complete today.
- 1500 MHz BPM detector board design is complete.
- 100 MHz modulator and distribution system design for the FET will be complete this week.
- Injector Service Building diagnostics racks have been set in place. Cross connect wiring should begin late this week.

WBS 6

- RFP for Hall C support structure to be published August 29.
- Hall C dipole RFP to be published ~September 5.

WBS 7

- Third sections of CHL south supply/return transfer lines are being welded. Leak checking in progress.
- CHL LN2 Bayonet can #1 has been set and anchored in place.
- Dual 80 K purifier for CHL is 80% complete.
- Second stage C4/C5 compressors inspected along with the first stage machines. No foreign material found that could compromise operation.
- Grating installation initiated.
- Power shutdown in W-5 and CHL 9/8/90 to connect K-15 and the recovery compressor.

WBS 8

Test Lab: Main Chem Room ceiling is completed.

Accelerator Enclosure: South Linac tunnel backfilling is complete. Contractor is fine-grading the roads and parking areas in preparation of paving next week (weather permitting). LCW system in North Access Building is polishing water now for 1 megaohm. Anticipate it can be furnished to the injector building by 3 September.

End Stations (underground): Excavation is complete at Halls A and C. Mud slab at Hall A is complete and started on Hall C. Concrete walls being poured on counting house. Underground electrical ground system complete at Halls A and C.

EEL: Parking area has been paved. Topsoil has been placed. Chilled water lines have been activated from the Test Lab. Checkout of HVAC systems underway. Interior painting continues.

Linac Installation

No report received.