PM 7.2

# Project Progress Summary

7 August 1990

## Injector and Front End Test

-Continuous Electron Beam Actually Functioning! Injector tests were completed successfully 31 July. Several diagnostics were successfully validated for future FET operation. Up to $\sim 550\ \mu$A CW was accelerated in the SRF cavities.
-Following testing, the injector low-energy line was disassembled and is undergoing cleaning prior to reassembly in the tunnel.
-Injector move to tunnel started 1 August. By week's end the injector girder, all injector racks, and both two-seater HPAs had been moved.
-Injector girder, all injector racks, and both two-seater HPAs were moved to tunnel and injector service building, as appropriate, by 3 August.
-Cable pulling and coordination thereof continue.
-Plans and schedule for FET shield wall have been finalized.
-Kinney pump has been delivered.
-Magnet stands have been installed in the tunnel.
-Schedule-critical boards in RF system have been placed at vendor and are due 24 August.

## WBS 1

Facilities (C. Reece): John Brawley has finished welding parts for the in-house cavities—about four fundamental power couplers (FPCs) and other pieces. He is now getting the fixturing together for pair-parts welding. The elbow, beam tube, and FPC extension welding fixture parts have been designed and are on order. The elbow trimming fixtures are done. A uniform thickness at the weld step has been achieved by moving the joint out 15 mils. There is also less thinning because of smaller blanks.

Cryomodules (W. Schneider)

- The C′ leak has been located on the outlet end of the cryounit at the indium seal; this is between the beam pipe niobium and stainless steel.
- A new cryounit—the first for the second cryomodule—has been welded together and the heat shield connections are being made.
- Pat Kelley visited Calorstat last week to bring back prototype waveguides. They will be fatigue-tested and feedback will be provided to Calorstat.
- The quarter-cryomodule has the beam pipe connected to one end.
- The cryomodule is being tested. The new system of automatic switching for cavity rf measurements is operational. Three transmission cables—#2, #5, and #6—are open again at the SMA connector, resulting in signal attenuation. Compensating amplifiers will be provided.

RF Windows (L. Phillips): Work continues on the 10 windows. One window tested fine; a second window has a low $Q$. This test was repeated two times. A bulge on the eyelet touches the side frame. The other windows are being brazed to fix leaks. Brazed a lead-tin eyelet assembly; however, it was not fully melted.

## WBS 2

-Christoph Leemann, Gene Desaulniers, and Leigh Harwood visited the vendor who pro-

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tested the common arc dipole coil contract to explain our position. Work continues on schedule.
-The spreader/recombiner dipole drawings have been made ready for sign-off.
-Work on the final version of the linac quadrupole package continued.
-The mounting and aligning of the first FET magnets on their girders continued.
-The work of the arc stand tops and bottoms continued, and the design philosophy of mounting the BPMs to the quads in the arcs was debated with no conclusion reached.
-FET magnet production continues on schedule with Al Guerra visiting the QD assembly vendor to assure conformance to specifications.
-Work continued on the addenda to the song sheets from the sign-off session.
-Work on the requirements drawing for the injector and linac tunnel water system continued, and the bids were received for the injector service building water system.
-The prototype sextupole was tested and passed all magnetic requirements. A second configuration is being made to assess manufacturing requirements.
-The survey group started the skeleton traverse of the entire tunnel.

## WBS 3

Twenty-nine klystrons have been received. HPA will be delivered 16 August. Module tests are done.

## WBS 4

-The cable system QA plan has been completed and is in review by all affected systems.
-Prototype trim system rack has been populated with 32 regulator cards. A 32-channel dummy load is being finished so that the entire 32-channel system can be run.
-Assembly work on FET trim system rack continues.
-Installation of AC power in north linac service building continues.
-Prepared a drawing showing vacuum pump and valve locations in the injector in preparation for generating cable-run information for WBS 2.

## WBS 5

Safety: Beam loss monitor module artwork is being reviewed. First 20 fast shutdown boards due next week. Installation of personnel safety system continues. Area radiation monitor RFQ out; responses due 20 August.
Beam Diagnostics: Schematics for production of 100-MHz BPM detector boards are being updated. Schematics for 1500-MHz BPM electronics and system drawings for FET diagnostics have been started. Cable lists for FET diagnostics have been given to WBS 4.
Computers and Cabling: Additional $4 \times 4$ wireway has been received. Rolf Bork is at LLNL reviewing the crate controller design. Computers are being mounted in the injector service building and the MCC control room.

## WBS 6

Hall C procurements: Dipole RFP being finalized, with issue scheduled for mid-August. Spectrometer support structure RFP to go out in late August.

## WBS 7

-20,000-gallon $LN_2$ dewar received.

-Kinney 15 g/s vacuum pump for the FET received.
-Transfer line to south linac being loaded in sleeves.
-The $3\frac{1}{2}$-in. lines in north linac NW quadrant supply transfer line welded and being leak checked.
-Four of the six supply transfer lines for the NE quadrant are complete.

## WBS 8

Tunnel

- Water service design for the W-5 (NW arc service building) Kinney pump has been completed. Service lines are scheduled to be complete by 1 September.
- Bids on LCW lines to injector service building were to be opened yesterday. The contract effort would last two weeks, with completion on or about 22 August.

End Stations, Package A: Mud slab first placement made at Hall A; 420 linear feet of beamline tunnels constructed, with 350 LF remaining; pump room walls have been poured; excavation continues for halls B and C.

Test Lab: The 250-ton chiller was put into service on 2 August. The main chem room ceiling is essentially complete; new air diffusers are due 17 August.

EEL: Exterior basically complete; exterior site concrete work complete; parking lot to be paved this week, weather permitting.

## Linac Installation

-The next Systems Meeting will be held on Tuesday, 14 August, in the CEBAF Center conference room, L104, rather than today as previously announced.
-The conceptual design for the temporary shielding wall will be distributed soon. Planning is in process for a safety review. Blocks are being ordered.
-Instrument air schematics are being revised for comments.
-Tunnel wet floor safety is being evaluated. A recommendation for rubber overshoes during wet conditions is being developed.

## Accelerator Division Support Services

Machine Shop: Completed and delivered two pedestal cavity holders (WBS 1). Electronic timesheet and stockroom terminal installed. Two BL magnet assemblies completed (WBS 2). Five harps 80% complete (WBS 5).
Stockroom: Total business for July was $94,844.13. Electronic timesheet implemented. Participating in the internal audit of special process spares for WBS 7. Kitting function continues for electronic boards.
Document Control: Additional personnel sought for master file maintenance. Document control task force developed.
External Fabrication: HPA water supply lines finalized (WBS 3). Four HOM flange transitions awarded; 10 August delivery (WBS 3). Five P-2 panels for FET are complete and in (WBS 3).

## Power Outage

A power outage is scheduled for Saturday, 8 September. A memo with details has been distributed. Call Mike Willard (7684) or Bob Rice (7673).

## Training Opportunities

All staff requiring radiation badges must attend one of the radiation worker training sessions scheduled for 21 August, 29 August, or 18 September in the CEBAF Center auditorium.

For all of the following, further details are available in a blue pamphlet called *Training Activities for August & September 1990*, available from the training office (7502) in Personnel:

-ODH, 9:30–11:00, 53/55, 9 August (this Thursday).
-DOS/PC Operating System Users Forum, 2:00–4:00, 47, total 8 hours: 14 & 28 August and 11 & 25 September.
-Procurement User Orientation, 9:30–11:30, 53, 15 August.
-How to Use Electronic Mail at CEBAF, 2:00–4:00, 47, 21 August.
-Safety Workshop, 9:00–10:45, 53/55, 11 September.
  - Hazard Communication Training, 9:00–9:45.
  - Lock & Tag Procedures, 10:00–10:45.
-Employee Orientation, 9:300–11:30, 53, 12 September.
-Respirator Training, 2:00–3:00, SRF Conference Room, 13 September.
  - Self-Contained Breathing Apparatus (SCBA), 2:00–2:30.
  - Emergency Escape Appliances (EEA), 2:30–3:00.
-Fire Prevention, 1:30–3:00, 47, 17 September.
-Symbols and Logicals, 9:00–10:30, 53, 19 September.
-Computer-Aided Software Engineering, 9:30–11:30, 47, 26 September.