

Project Progress Summary

21 August 1990

Safety

Effective August 27, 1990, Carter Ficklen assumes the position of Environmental Safety and Health (ES&H) Manager in the Administration Division. This position includes the role of Safety Officer. Tom Hassler, who has provided dedicated service as Safety and Quality Assurance Officer since he joined CEBAF in 1987, becomes the Laboratory Quality Assurance Officer in the Project Management Office. CEBAF thanks Tom for his tireless efforts in support of the line organization to help keep CEBAF a safe place to work.

Injector and Front End Test

- Electron gun and associated vacuum system installed on girder in tunnel, and by 8/20, pressure was below 10^{-8} torr.
- Magnetic measurements on injector elements well under way.
- About 1/2 of required new pieces for vacuum system are now fabricated.
- Most computer work necessary to position the injector elements is complete.
- HPA 8-seater racks have been delivered and set up in the Injector Service Building. High Voltage power supply shipped 8/15.
- Assembly and installation plans for BPM/SRF interface assembly have been coordinated and scheduled for early September.
- Cable pulling and coordination thereof continues at a heavy pace. New 12" trays have been installed in front end test area.
- Water has been plumbed to Kinney pump.

WBS 1

- Charlie Hughes is setting up a clean welding area on the second floor of the Test Lab in the Tech Shop. The EBW is having some hardware modifications done. A new execute program has some QA features allowing a print-out of beam weld parameters at certain points. Still evaluating the CCD cameras. Determined there is no degradation in the radiation environment inside the welding chamber. Weld parameters are being established for the cold RF windows.
- Assembled IAG07/IA008 cavity pair last week. They will be tested today. Tested cavity pair IA009/IA011. They will be turned over to the cryo unit assembly area by Wednesday.
- The first cryo unit for the new cryomodule is in the helium vessel. The 6 field probes on the old cryomodule have been replaced. The pumps have been replaced to fit the tunnel configuration. The cryomodule goes into the Test Cave today and will be tested the next 2 weeks. The 1/4 cryomodule is almost complete and waiting to be tested.
- The cryomodule waveguide vacuum interlock drawing is being signed off.
- Continuing to thermal cycle 50 production HOM loads with no failures to date. 124 brazed loads are RF tested. Flanges and ceramics have been received for the next brazing scheduled for October. This will be 150 - 200 loads.
- RF tested 2 more windows: #23 and #24. They will be delivered today. Continuing to metallize more ceramics. Exploring the low temperature braze to increase yield and decrease losses.

WBS 2

- A major portion of the Spreader/Recombiner Dipole drawings were partially signed off, and the remainder of the batch were in preparation for sign off. Design work started on the Special Dipoles.
- The first five quadrupoles used in the Injector (QJs) were measured to determine their magnetic center for aligning them on their girders, and all the associated corrector dipoles were measured. Tooling to do the alignment is in process.
- The drawings for the Arc Stand tops and bottoms were signed off. Work continued on the Arc Dipole and quadrupole production drawings. The method of mounting the BPMs to the Quads in the Arcs using a captured pilot portion of the beam pipe was worked on.
- The addenda to the first song sheet drawing 28401E 0003 on sheets 01, 02, 08, and 09 were completed and made ready for a "for comments" distribution.
- Work on the requirements drawing for the Injector and Linac Service Tunnel Water System continued, and the contractor for the Injector Service Building Water System started work.
- The Survey Group continued work on the skeleton traverse of the entire tunnel and fiducialized the first cryomodule. Work on the design of the dial gage mounts for the arc stands nears completion.

WBS 3

Klystrons and Power:

- The first two 8-seater HPAs have arrived and are now in the Injector Service Building. The shipment arrived Friday morning at about 9 a.m. Mark Augustine and crew had no problems off-loading and moving them into position. Other than some paint damage, they appear to have arrived in excellent condition.
- Hipotronics shipped the first two power supplies last Friday.
- Six additional klystrons have been received, bringing the total to 35. Circulators meet or exceed CEBAF specifications, though we must perform the high power testing. First article components for waveguide transitions and directional couplers should be ready for delivery September 10. The company is small, but should be able to provide for our needs. Production has begun on waveguides flex pieces.
- Waveguide gaskets are being installed in both 2-seater HPAs.

RF Control Module:

- Raymond Liu has joined WBS 3 and will be involved in test stand work. Calibration of phase reference for CPMs is difficult because the two inputs cannot be controlled separately. Approaches to the distribution system are presently under discussion.
- Cryomodule heater power supply is under evaluation. Evaluation of first article crate and modules has resulted in only minor changes. Production of remaining units to begin Friday, 8/17. First rack assembly is progressing well.

CAD: Design of arc detector board is basically finished.

Software: An initial list of screens for the FET is complete.

WBS 4

- Installed WBS 4 DC cable for FET.
- Started RAD/ODH installation work.
- Rack supports for HPAs and power supplies in Injector Service Building were completed.
- Received "Best and Final" response for Bulk Supply procurement.
- Wiring of RF racks in Injector Service Building.

WBS 5

- RF microprocessor calibration table download software developed and tested.
- Up to 18 knobs can now be attached per console.
- Serial highway components installed for cryogenics; should be tested this week.
- Additional computer screens installed in CHL and system dated.

Safety:

- First key box has arrived and is being installed.
- North Linac racks are installed.
- Bids for Area Radiation Monitors due today.
- First article Run/Safe Box received.
- ODH components being installed in MCC.

Diagnostics:

- Photoplots for 100 MHz BPM detector boards being procured.
- Photoplots for tunnel boards will be procured this week.
- 1500 MHz tunnel board schematic complete. CAMAC board design 75% complete.
- All long lead items for BPM electronics are on order.
- Cabling for FET diagnostics will begin this week.
- 16 bit ADC for Beam Current Monitor has been received from LLNL.

WBS 6

Hall C dipole RFP to be released ~22 August. Written specifications distributed for internal review.

WBS 7

- Six-inch line in tunnel being leak checked. Pulling water out of line.
- Leak checking 12" return transfer line to South Linac.
- Found leak at base of the 10,000 liter helium dewar neck. Receiving fabrication drawings from CVI this week to be used for repair.
- Planning to place six transfer lines in tunnel today for northeast quadrant. One supply transfer line section will also be loaded at CHL Building for the south linac.
- LN2 Bayonet can #1 projected to be finished on Wednesday. Second unit is presently being worked on.
- Work on installing the electrical controls and power to the FET Kinney Vacuum pump systems is progressing.
- In the process of wiring the CHL gas management control valves and LN2 dewar instrumentation.

WBS 8

VARC: Contractor working on extension of Hofstadter Road to SCOT Road. Contract has been awarded to replace gas line to the VARC boiler room.

Accelerator Enclosure: LCW system in the North Access Building should be operational by 8/24/90. It has passed the 225 psi static test. LCW piping in Injector Service Building is scheduled to be completed 8/24/90.

End Station - Underground: Excavation for Halls is approximately 85% complete. Mud slabs are being placed at Hall A. Sixty percent of the beam tunnels have been poured (440 LF of 700 LF). Second concrete lift at Exit Stair is being formed. Counting House basement slab has been poured.

End Station - Aboveground: Design review nearing completion.

EEL: Both 5-ton cranes have been load tested. Retest may be required on one in event gear box noises require repairs. Painting interior is under way. Topsoil being placed on site. Doors approximately 90% complete. BOD in October 1989 still holding.

Linac Installation

-Materials for the North Linac shielding wall have been received.

-Instrumentation on tunnel Standard Operating Procedures will begin the week of 27 August.

Accelerator Division Support Services

Machine Shop: New prototype BPM completed (WBS 5).

Document Control: Filing system for ECOs and specifications for all WBSs to begin.

External Fabrication: Run/safe box first article approved (WBS 5).

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.

Detailed information on the following is available in a blue pamphlet called *Training Activities for August & September 1990*, available from the training office (7502) in Personnel:

-DOS/PC Operating System Users Forum, 2:00-4:00, 47, total 8 hours: 14 & 28 August and 11 & 25 September.

-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, 9:30-11:30, 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.