

PROJECT PROGRESS SUMMARY

March 5, 1991

WBS 1

- The interlocks have been installed and checked out on dewar 8 in the vertical test area. The RF switches, cable assembly, and signal routing must be completed before the final OSP is formalized.
- Three cavity pairs were assembled last week. One has been turned over to the cryo unit area, another was tested and passed, and one is being tested. Another pair will be tested this week. Four cavity pairs from the cryo units in the cryomodule assembly area were returned for leaks and are being reworked. Two pairs will be processed and assembled this week.
- Two tests have been completed on a single-cell, reactor-grade cavity using the slow cooldown cycle which causes degradation in cavities made of high-RRR niobium. No degradation was seen; in fact, the Q improved slightly between tests. This confirms that reactor grade cavities do not suffer from the Q disease.
- The niobium for cavities #180 to 240 was shipped to Interatom.
- One-hundred eighty beam-pipe flanges have been water-jet cut and should arrive this week. These are for cavity pair tests.
- Tuners have been installed on a cavity pair delivered last week. This pair will be installed into a helium vessel today. The other pair now in the cryo unit area will be complete by the end of the week.
- A team has visited Koch in Boston to try to expedite the end can delivery.
- The cryomodule will be assembled by the end of the week. The beam pipes and helium pipes are connected. It still needs final alignment and welding of the bridging components. Testing will be done in the test cave starting next week, and the cryomodule will be taken to the tunnel on 1 April.
- Assembly of HOM loads with heaters continues.
- Evaluation of the new HOM material continues. Large tiles have been received and initial tests indicate the dielectric constant is higher than that of the R&D pieces. Work continues with shape and etching variations.
- Windows #49 to 52 have been tested. Eight more will be tested this week. An additional 24 windows will be brazed this week.

WBS 2

Magnets

- Received 17 more 1-meter arc dipoles (BEs).
 - All 50 required for arc lines 1 and 3 are now in hand.
 - Vendors are manufacturing 2-meter dipoles for lines 2, 4, and 5.
- Nearing completion of the redesign of the spreader/recombiner and dogleg dipoles that will reduce their cost.

Vacuum:

- Produced the preliminary set of drawings and specifications for the vacuum pipes for the arc quadrupoles.

Survey and Alignment:

- Performed final alignment for the magnetic elements in the front end test.

Stands:

- Bids for the east arc dipole stands have been received and are under evaluation.
- Received the first batch of girder extrusions.
- Signed off the west arc dipole stand drawings and the installation contract drawing and specification.

Cooling Water System, Low Conductivity Water (LCW):

- Signed off the drawings for linac service building LCW systems.

Quality Assurance:

- Signed off the procedure for magnet receiving inspection and mechanical acceptance.

WBS 3

RF Power:

- We received six more klystron power supplies this week. These units have the modified transformers installed.

- Several additional minor changes to the power supply need to be checked here at CEBAF.
- Twenty MOM filters and eight circulators were shipped last week.
- A Varian klystron, during tests in the CEBAF test stand, was run to over 8 kW output power. This test was initiated to determine the maximum useable output power available from a CEBAF-type tube.
- The SCR board (to replace the thyratron in the power supplies) was tested and works properly. Forty-four units will be built for installation in all power supplies.

RF Controls:

- Interrupt service routines for interlock management were tested on the hardware, and worked as planned.
- The PC boards for the LVDT frequency tuner readout were shipped from Eastern Manufacturing Corp.
- ECO and changes for the CPU board are signed off.
- Version 11 of the Micro software installed and under test in the service building.

WBS 4

- Received bids for CAMAC 32-channel scanner module.
- Completed installation of AC power in EEL tech shop.
- Finished 4 x 4 duct installation through service building W4.
- Mounted a prototype breaker lock on a breaker panel in the north linac service building.
- Five trim racks have been completed with the first one now going through burn-in testing.
- Seventeen reworked EMI bulk power supplies have been received from the vendor and are going through acceptance testing. The first five of the seventeen have passed.

WBS 5

Safety:

- Run/safe boxes for the north linac have been installed.
- Status display panels have been received.
- North linac FSD system layout has been completed.
- Contract has been awarded for the assembly of additional run/safe boxes and interface chassis.
- First-article tests of controlled area radiation monitors were witnessed by CEBAF personnel. The first five units will be delivered 8 March.

Diagnostics:

- Purchase requisitions for the assembly of the north linac BPM electronics have been placed.
- North linac beam viewers cables have been pulled.
- Beam profile monitor successfully tested with beam.

Controls:

- Purchase requisition for CAMAC crate controllers has been sent to Procurement.

Software:

- Second TAOL User Group Meeting was held last week at the SSC (SSC, Lawrence Livermore, MIT/Bates, BNL, Texas Accelerator Center, University of Texas, Grumman Corp.).

WBS 6 No report received.

WBS 7

- Diffusion pump has been fixed and is ready to operate for final leak test of the 4-K cold box.
- The suspect leak is downstream of the 20-K adsorber and just upstream of the turbine #4 bypass valve. Testing to "pinpoint" the leak(s) will be initiated on 4 March.
- We hope to be operational in two weeks (approximately 18 March).

WBS 8

- Completed slab on grade for truck access tunnel C.
- Started forming the third-lift wall sections in Hall A. This will bring the walls up to the elevation of the dome tension ring.
- Continued placing concrete wall sections for truck access tunnel A.
- Started waterproofing lower levels of walls in Halls A and C.

Support Services

Machine Shop:

- Inspected the internal dimensional quality of helium vessel #44 for WBS 1.
- Modifying a #8 IPS flexible metal hose for WBS 7 to provide flow relief capability.
- Manufacturing "multiple restraint devices" for WBS 7 transfer lines using the Hurco NC milling machine.
- Computer interface cable to link the Hurco NC mill to a local PC has been installed. Capability to up-load and down-load NC programs will be available.

Stockroom:

- Withdrawal activity for the week: \$51,133.22.
- Total month expenditures: \$176,670.08.
- Wyle equipment racks delivered to users; 50 more due 1 March.

External Fabrication:

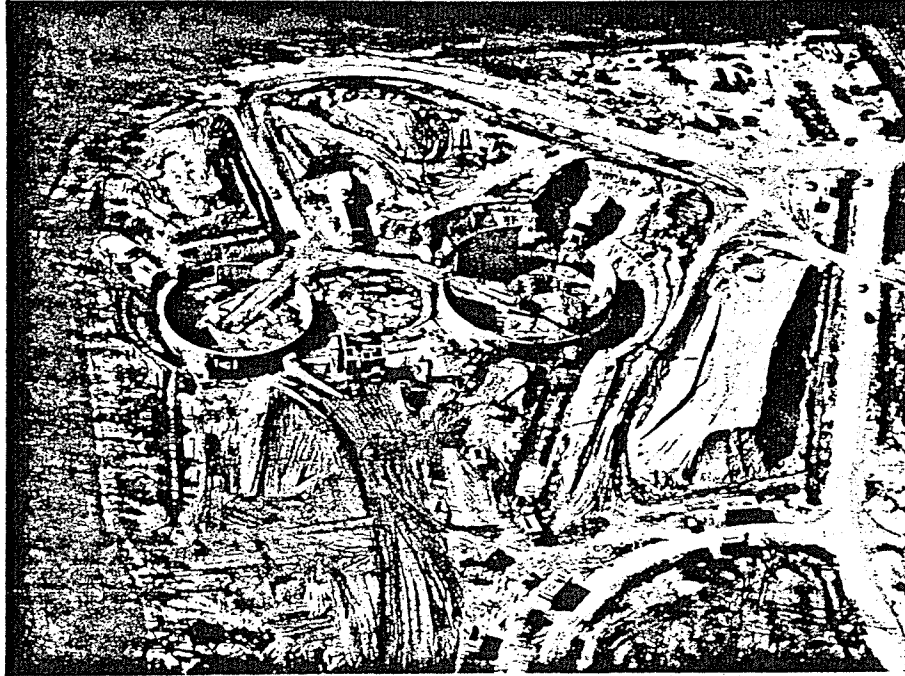
- QB/BPM alignment gauge and bracket sent to machine shop to fabricate one assembly (WBS 2).
- Received 80 blower housings (PD145D) and delivered to WBS 4.
- Back and front plates for three beam viewers assemblies have been given to the machine shop (WBS 5).

Document Control:

- Two additional master file storage cabinets have been obtained to alleviate storage problems.
- Microfilm card reader/printer is being evaluated for its potential to provide versatile capability to users.
- Procurement of a "direct imaging" high-throughput printer has been completed. Delivery is scheduled for 18 March.

Announcements

- The next DOE Monthly Progress Meeting will be held this Thursday, 7 March.
- At the CEBAF Science Series presentation -- 7 p.m. this Wednesday, 6 March -- Roy Whitney, Rita Chambers, and Chip Watson will conduct a demonstration and discussion of scientific computing. The Science Series is for students in grades 7 to 12, but others are welcome, too.
- Deadline for returning forms indicating benefits choices is 15 March.
- For anyone who files copies of the *Project Progress Summary*: correct dates of the last two issues are 20 and 26 February.
- The first pilot-program class in BEAMS was held successfully last week. The next class will be here March 18 to 22, and four additional classes will be coming during two other weeks later in the spring. Becoming Enthusiastic About Math and Science seeks to spark students' interest in and awareness about the world of science and technology.



A recent aerial view of end station construction.