

PROJECT PROGRESS SUMMARY

March 19, 1991

Based on data through February from the Performance Measurement System, the project is 59% complete.

WBS 1

- The EBW is down for one week for repair of a leak in an O-ring.
- Tested two cavity pairs last week; one may have a leak. This will be checked using a 10^{-10} Torr-liters/second detector. Assembling two pairs this week. Cooldown for testing begins today.
- Testing of the cryomodule (traveler #5) in the test cave will be finished by the end of this week. There is a small leak in the helium-to-waveguide vacuum; however, no arc problems have been seen. All cavities have the copper flanges with clamps.
- One cavity pair which had been assembled into a cryo unit was found to be leaking at the 10^{-10} level. The leak will be localized, and the pair returned for rework.
- The HOM load production experienced some problems last week. The ceramics from a lot previously determined to be within specs have not performed well. Also, scratched flanges needed rework, and tin-canning during furnace brazing dislocated ceramics on two of four loads.
- Eight RF cold windows are ready to electron-beam weld. Three of these have solid flanges. RF windows numbers 53 to 60 have been delivered.

WBS 2

Magnets:

- Measurements of integrated field vs. current using the first 1-m arc dipole showed excellent agreement with calculated strength.
- The final review of the corrector dipole for the linac (BT) was held.

Stands:

- The general design of the girder for magnetic elements in the south linac was formulated to accommodate the final design of the linac quadrupoles (QBs) and the linac corrector dipoles (BTs) above.

System Integration:

- Extensive analysis of the schedule was performed, showing that the system could meet the two upcoming milestones of the north linac test and the test of the first beam line of the east arc.

WBS 3

RF Power:

- The LCW contamination from the injector flow meter was analyzed and was found to be predominantly iron oxide. This may have been an initial contamination, and may not be a problem after all of the oxygen is removed from the water.

RF Controls:

- Version 12 of imbedded code was installed on the RF control microprocessor. This version allows download of RF calibration parameters and remote testing of the arc detector.
- Test stand move to trailer is physically complete, but the system is not fully operational yet.

Fabrication/Installation:

- Received the new automated cable test system, and we are setting it up at the Blue Crab Road cable shop. It will be operational this week.
- All PC boards for "buffer", "backplane", and "midplane" are in-house. All boards meet specification, and Tri Circuits, Inc., delivered on time.
- Eighty-two IF boards were shipped last Friday; we expect this order to be complete two weeks ahead of schedule.

WBS 4

- Received an additional 32 trim system card cages.

- Completed south linac section I cable tray installation (to 2790').
- Have received a total of 20 rev. A bulk power supplies. All 15 units tested so far have passed.
- WBS 4 designers have started work on rack layout, cable tray runs, and box power supply location for E6, south access building.

WBS 5

Safety:

- Forty interface chassis delivered to EDL for assembly. The first 20 are due in 30 days.

Diagnostics:

- Six of seven 100-MHz FET BPMs are fully operational. The remaining system will be operational following the replacement of the cryomodule.

Controls:

- RF microprocessor calibration table download software installed, tested, and operational.
- Enhanced datalogger software installed and tested.

WBS 6

- The bid review process is under way for the Hall A dipoles. Contract awards are expected by 1 September for the iron pole/yoke and by 1 October for the coil/cryostat.
- The expected award date for the four large $\cos 2\theta$ quadrupoles for the Hall A spectrometers is 3 July. RFP for the two smaller quads is expected by 15 June.
- Contract placement for the major components of the Hall A HRS support structure will begin by the end of this month.

WBS 7

CHL:

- Leaks repaired and pumping down.
- Controls expected to be ready by Wednesday, 20 March.
- Start purification on Wednesday.
- Start cooldown on Monday, 25 March.

Transfer Line:

- Return header being welded to 2-K cold box.
- Injector return line: line in place behind cryomodule.
- SE supply: shield being leak checked.

Cryomodule controls:

- North linac cable pull in progress.

WBS 8

- Five third-lift wall sections on Hall A are now complete. This brings these wall sections up to the elevation of the dome tension ring.
- Wall sections for Hall A truck access ramp are now complete. Now forming and placing roof.
- Continued waterproofing the lower levels of walls in Hall A and C.
- In Halls A and C, continued working on connections to beam dumps, beam-line tunnels, and personnel access tunnels.
- End station above-ground construction contract to be transmitted to DOE/CSO this week for approval.

Support Services

Machine Shop:

- Sixteen fundamental waveguide windows for the linac cryostats have been fabricated for WBS 1.
- Four mounting brackets for the beam transport arc dipole vacuum tube restraint system have been fabricated for WBS 2.
- A prototype camera lens tube designed to reduce reflected light has been fabricated for WBS 5.

Stockroom:

- Withdrawal activity for the week: \$50,851.51.
- Total month expenditures: \$70,017.86.

External Fabrication:

- Received quotes for magnet mounting bracket casting for WBS 2.
- Assisted WBS 1 in the installation of the first production HOM filter support brackets.
- Drawing almost complete for electrical breaker safety lock-outs for accelerator groups.

Announcements

Dr. Helmut Piel of the University of Wuppertal, Germany, will give a seminar on "Recent Experimental Activities in RF Superconductivity at the Universities of Darmstadt and Wuppertal" at 3 p.m. Friday, 22 March, in the auditorium.

Science Series and ATOMS Planning for 91/92 School Year:

- CEBAF and other southeastern Virginia scientists and engineers are needed to serve as CEBAF Science Series presenters next year. The Science Series brings kids who like science together with practitioners who are good at making science, math, or technology not only informative, but fun. The Science Series is particularly interested in continuing to include women and minority presenters. If you would like to volunteer or if you can suggest someone to recruit, please call Steve Corneliussen at 7582.
- CEBAF's participation in the Peninsula's ATOMS (Adventures in Technology = Options in Math and Science) program will likely increase next year. ATOMS technical role-model teams visit middle schools to stimulate kids' aspirations for technical careers and for math and science education. This year's members of CEBAF's two teams are Phil Adderley, Teresa Beatty, Susan Esp, Ed Stitts, Scott Williams, and Marty Wise. If you are interested for next year, please call Steve Corneliussen at 7582.