

PROJECT PROGRESS SUMMARY

February 25, 1992

FET Operations

- Experiments were conducted with 100 keV and 500 keV beam to set up and optimize the bunch length and longitudinal phase space. The agreement with computer simulation of the beam performance is very good.

SRE

Cavities:

- Reassembling IA110/IA114 and IA095/IA099 this Tuesday and Thursday. Disassembly showed no problems with the cavities. One pair was re-chemistried and all stains have been removed. The other pair appeared to have cocked couplers, which will be corrected.
- Reassembled IA182/IA185 Friday. No problems were noticed through the borescope.
- Assembled IA100/IA115 Wednesday; it was successfully tested Friday.
- Transferred IA116/IA126 to the cryo unit area Friday.

Cryomodules:

- Cryomodule traveller #10 delivered to the tunnel position NL3 on Wednesday.
- Cryomodule traveller #11 had the bridging rings welded Friday. It will be aligned this week and the insulating vacuum established. It will go to the staging area by Friday for wiring check, final leak check, and gas cleanup. Cryomodule traveller #11 will be installed in the tunnel by 3 March 1992.
- The cavity pair for the second cryo unit for cryomodule traveller #12 was transferred to the cryo unit assembly area.
- The three warm windows that were replaced on the tunnel cryomodules are leak tight to 5×10^{-10} .

HOM Loads:

- Completed flange assembly evaluations from various vendors are done. A summary write-up will be turned in to Procurement.
- The fifth tile from Ceradyne was returned after additional grinding for the dielectric constant. This will be ground into 85 sets by the end of February.

RF Windows:

- We are switching to the backup braze vendor (Ceradyne). Eight RF windows with Ceradyne ceramics were successfully electron-beam welded.
- An RFQ for 100 complete braze assemblies from Ceradyne is being worked. Three of Ceradyne's TPA windows will be used for the window stress test.
- Kosmo shipped the first set of flanges since the start-work order. The threads look good.
- The VTA test stand is completed and installed and will be used for production window testing this week.
- Ten RF windows were electron-beam welded Friday. There are an additional ten ready to weld. There are seven completed windows on the shelf.

Arcs

Magnets:

- The final machining began on the first A/R dipoles.
- Arc girder assembly continues; quad field measurement is a bottleneck that will be fixed within a week, now that the 1" field probe is operational.
- A pole-end bevel was developed which reduces the dodecapole field component in the laminated quads. The "fixed" magnets are now better than spec by a factor of 2. All "on-hand" magnets will be fixed in the shop, and the ones coming from the vendor will have the modification incorporated before shipment.

Alignment:

- The stack of dipoles in the east arc was aligned. The reproducibility tests continued; the jury is still out on the results. Work has shifted from full-scale testing and has moved to production alignment.
- A cryomodule, two warm girders, and a fast valve were aligned for vacuum hookup.

Diagnostics:

- A test of the reproducibility of a harp wire was done. It found the wire comes back to the same location to within about 2 μm .
- Work on reducing the noise problems on the harps was done. An isolation amplifier was tried which reduced the noise. The next test will be to "float" the harp relative to the beam pipe.

Linac

RF:

- Installation of the north linac master oscillator stands is nearly complete.
- RF checkout of NL03 will be completed by next week. Low-level checkout in progress in NL05.
- The final design review for the master oscillator is scheduled for 27 February 1992.
- The RFQ for rack cooling has been sent to Procurement.

Ops Electronics:

- Safety:
 - The safety audit of the north linac RF test area has been completed.
 - Testing of alternative ODH cells is in progress. The initial results look promising.
- Diagnostics:
 - Diagnostic system wiring in the E3 and E4 buildings has been started. All east arc BPM cross connects are complete. The last of the BPM cable for the accelerator has been ordered and is due at the end of March.
- Controls:
 - All documentation for machine controls and fibers is complete and has been signed off.

Cryogenics:

- Locations for the concrete piers for the ESR transfer line have been surveyed, and digging of the holes has started. The first load of concrete will be poured next week.
- CVI has progressed well with their work all week.
- Heat and temporary power have been installed in the ESR building. The design of the ESR warm GHe piping has been completed and a design review held. Installation of this piping will begin next week.

Software:

- HP720 computers for the south linac have been ordered.
- Work has started on automatic resetting of window arc trips.
- Continued testing STAR and SLAN schemes for supervisory computer communications.

Physics

- The Data Acquisition Group is conducting Beta tests of their CODA (CEBAF on-line data acquisition, Version 1.0). This distributed data acquisition system supports FASTBUS and CAMAC; it has a motif/X-Windows graphical users interface. This is an early release of the CODA which will eventually support event rates of up to 10 kHz and over 100 MBytes per second. Hall C is currently conducting tests for their detector applications; Halls A and B are in the process of preparing their own system tests of CODA.
- The Hall A dipole coil/cryostat contract was approved by DOE on 20 February and has been forwarded to the contractor for signature.

Civil Construction

End Stations:

- Continued erecting SB #1 structural steel.
- Completed foundation slab and now forming retaining wall at emergency equipment pad.
- Continued preparing to place the slab on grade for beam dump cooling building C.
- Continued installing sprinkler system piping, electrical conduits and lights in all tunnel areas, and started the same in the halls.

Engineering/Plant Services:

- Service requests received fiscal year to date: 1587. Requested completed: 1827.

Safety and Health Physics

- Final session, Assigned Radiation Monitor Training: Thursday, 27 February 1992.

CEBAF Open House, 21 March

- CEBAF needs volunteers for the CEBAF Open House, Saturday 21 March 1992, 9 a.m. - 4 p.m., rain or shine. Tours of the EEL, the test lab, and the end stations are planned, as are continuous presentations and hands-on science activities. Please call Tom Hassler at x7601 and volunteer.

Science Series

- The next CEBAF Science Series presentation, "What IS the Speed of Light Anyway?" will be held in the auditorium at 7 p.m. on Thursday, 12, March.