

PROJECT PROGRESS SUMMARY

January 15, 1991

Multidisciplinary Appraisal

- DOE Oak Ridge Operations will be conducting an ES&H and QA appraisal of CEBAF from 22 January to 1 February. One group leader will be present the entire time; reviewers for specific areas will be present for either the first or second week. Specific areas to be covered are as follows, with the number of reviewers in parentheses after each topic:

Week 1

- Construction and Industrial Safety (1)
- Industrial Hygiene (1)
- Facility Safety (non-radiation) (3)
- Fire Safety (1)

Week 2

- Groundwater (3)
- Health Physics (1)
- Quality Assurance (2)

Next Week's Project Progress Summary

- The blue sheet will slip a day next week to accommodate the Monday holiday; input due by close of business Tuesday (rather than COB Monday).

WBS 1

- Received five cavity pair assembly fixtures.
- Received 300 bellows for dish valve assembly.
- Cryomodule #2 and #3 helium vessels are being cut out. Starting to repair the HOM flanges. The backing plates are on order and due in this Friday.
- Ordered the cryomodule cutting machine; due this Thursday.
- Qualifying the first article tuners from McSwain (vendor).
- Assembled and tested three HOM loads with heaters. Two additional loads will be done in the next few days with a total of ten by the end of the week. Continue to evaluate materials and samples.
- Twelve windows are ready for beam welding.

WBS 2

Magnets:

- The spreader/recombiner dipole solicitation was cancelled because bids for cores and assembly exceeded cost estimate. A visit to Process Equipment Corp. to discuss their response to the solicitation revealed many ways to decrease cost. Redesign and respecification were initiated to achieve the desired quality magnets within budget.
- Design reviews were held for the redesigned linac quadrupole (QB) and the newly designed arc sextupoles (SA & SB).

Survey and Alignment:

- The bolt patterns for the stand positions on the ceiling and the floor in the east arc were marked.
- The fixture for survey and alignment of the quadrupoles in the arcs was signed off.

Vacuum:

- The two universal connection port assemblies were signed off for use as part of the arc vacuum pipes of the quadrupole girders.

Stands:

- First piece inspections of the adjustment cartridge assemblies and the tops and bases for all the magnet stands were performed at Scientific Engineering's plant in Salina, Kansas.
- An internal design review of the girder assemblies for the arc quadrupoles was held.

Build and commission CEBAF within cost and on schedule to meet performance objectives.

Low Conductivity Water (LCW) System:

- The LCW pipes were installed in the injector tunnel.

WBS 3

RF Controls:

- Choppers 1 & 2 are running with the new control modules; there are no obvious problems.

RF Power:

- Sixteen HOM filters received as promised from Gamma Microwave; we are ready to install them.
- Fifty-four waveguide couplers and transitions are ready for shipment at Unique Systems. We plan to ship 720 ft. of waveguide to Unique for fabrication into the next batch of couplers and transitions.
- Varian Klystron serial no. 006 was lent to SRF for high-power cavity testing.
- System print for capture HPA has been signed off.

Fabrication:

- Horizontal waveguide runs (with elbows and flex sections) are being assembled at Blue Crab, to be installed in the tunnel as complete units.

Installation:

- Concrete cutting for the RF reference distribution cable is complete.

General:

- The CAD group is updating the drawing database and cross checking all files for completeness and accuracy.

WBS 4

- Received seven 75-kVA transformers - one for EEL and six for south linac.
- Three trim system racks are now assembled.
- 4" x 4" box duct installation is about 98% complete.
- Completed loading two shunt regulator boards and started debug.
- Finalized vendor and incoming acceptance testing procedures for trim system regulator cards.

WBS 5

RF Controls:

- Meetings held with WBS 3 to define remaining specs, set schedules, and assign tasks.

Injector:

- Received specs for high-energy line display applications and began work.

Safety:

- Documentation in process for Personnel Safety System Operator's Manual. Includes overview of system, operator responsibilities, sweep instructions, QA documentation, PLC program documentation. Still requires documentation of operator displays and key control policy.

General Controls Software:

- Working on SLAN problems:
 - Found and repaired hardware problem in LAN repeater causing system slowdown.
 - Found and repaired software problem of multiple adds of running systems causing system failure.
 - Working on problem of system recovery after failure: 90% of time system recovers properly; troubleshooting reasons for 10% improper recovery.

I&C

Safety Systems:

- Six FSD (fast shutdown) modules received from EDL. This completes the order of eighty modules for the accelerator.

Build and commission CEBAF within cost and on schedule to meet performance objectives.

- Safety interface chassis contract awarded. Forty-six chassis will be delivered 1 March. This order is for the balance of the chassis for the accelerator.
- Run/safe box contract awarded. Forty boxes will be delivered 1 March. This order is for the balance of the boxes for the accelerator.
- Preliminary Safety System User's Manual is 80% complete.

Diagnostics:

- 100-MHz BPM modulator installed in injector gun cage.
- North linac diagnostics cable runs and locations given to WBS 4. Cable installation will begin 1 February.

WBS 6 - No report received.

WBS 7

- Punch list for FET in progress.
- Pipe installation under way in south linac.
- Fabrication of supply transfer line under way.
- Started fabrication of the return header in the CHL.
- 2-K cold box was shipped 14 January to arrive 16 January.

WBS 8

Accelerator Enclosure:

- Continued correcting punch list items. 85% of the original list has been corrected.

End Stations:

- Continued backfilling beam line C as weather permitted.
- Continued placing concrete walls in Hall A. Eight sections are complete to elevation 27'-6".
- Continued placing concrete walls in Hall C. Five sections are complete to elevation 24'-6".
- Continued mud slab and under-slab grounding system in Hall B.
- Continued backfilling counting house and beam line A rework area as weather permitted.

Systems Integration/Installation

- There will be a Systems Integration Meeting on Friday, 18 January, at 10:30 a.m. in CEBAF Center Room L104.

Accelerator Division Support Services

Machine Shop:

- Machine shop 100% operational; 90% electrically connected.
- In-house welder for turn-key fabrication/welding jobs available.
- Completed welding fixture for type PM-M15 beam position monitor (WBS 5).
- Began manufacturing of prototype beam position monitor type PM-M20 (WBS 5).

Stockroom:

- Database update near completion.
- Purchasing all electronic kits for WBS 3.
- Upgrading all Material Safety Data Sheets (MSDS).

Substandard and Counterfeit Parts

- Several DOE labs have received refurbished circuit breakers sold as new and counterfeit bolts which did not have their advertised strength. Be alert when you receipt-inspect ordered items.

SURA Visiting Committee:

- The review committee convened by SURA to evaluate CEBAF progress and status will be at CEBAF on Thursday, 17 January, 1991. Members of this review committee include directors of similar DOE laboratories. The review committee will be touring the test lab and accelerator site from 10 to 11:30 a.m. Committee members are:

| | |
|--|---------------------------|
| Dr. Alvin W. Trivelpiece, Chairman, ORNL | Dr. John C. Browne, LANL |
| Dr. Robert A. Eisenstein, Univ. of Ill. | Dr. Arthur K. Kerman, MIT |
| Dr. John Peoples, FNAL | Dr. Burton Richter, SLAC |
| Dr. Nicholas P. Samios, BNL | Dr. John P. Schiffer, ANL |
| Dr. John W. Townsend | |

Volunteer Needed to Videotape Science Series Presentation:

- For the five monthly CEBAF Science Series evening presentations January through May, a volunteer is needed to operate the videocamera from the back of the auditorium. Easy to learn how. Total voluntary time commitment: one hour per month. Please call Steve Corneliussen at 7582.

Next CEBAF Science Series Presentation:

- Tuesday, 22 January, 7 p.m. -- "Is Something Wrong With the Weatherman?" For students grades 7-12. Parents, teachers, and others welcome as well.