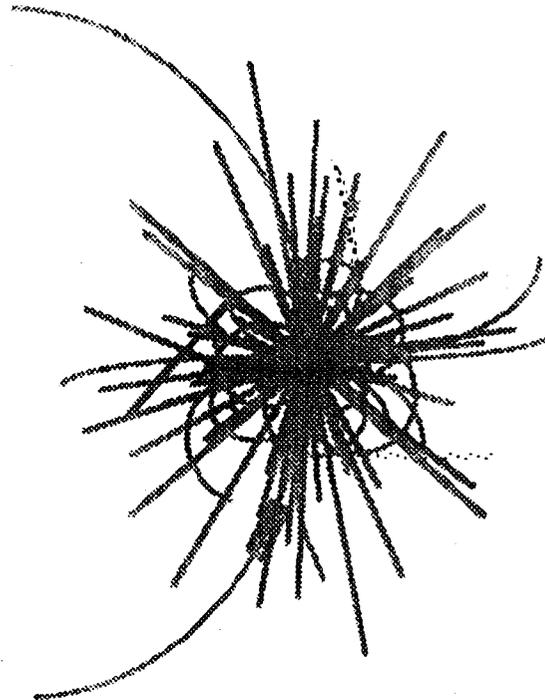


Pat Krietz

MS 2010

SSCL #488

SUPERCONDUCTING SUPER COLLIDER LABORATORY



**SSC PROJECT
MONTHLY PROGRESS REPORT
December 1991**

Introduction

The SSCL Monthly Progress Report (MPR) highlights each Division's progress for the specified month. A composite status has been developed for each of the major accelerator components ("machines") and is included in the Project Management - Accelerators section of this report. The format of the January MPR will be revised slightly to more effectively represent laboratory status.

This report is intended to provide a brief summary of Laboratory activities and is issued to various organizations within and outside of the Laboratory. The majority of the Monthly Progress Reports are distributed electronically. All authorized SSCL personnel can access distribution via a locked folder on the PMO server. All DOE recipients will receive a copy via QuickMail. Hard copies will be provided to other Laboratory and University personnel who are PC based, or do not have computers for E-mail. Retrieving, printing, and security of the Monthly Progress Report will become the responsibility of the authorized recipients.

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PROJECT OVERVIEW

PROJECT STATUS REPORT PART I	PROJECT OVERVIEW
2b. PROJECT MANAGER'S NARRATIVE HIGHLIGHTS	(See item 5 for details on problems and variances)
ASST	Successfully completed piping and pressure test. Held Critical Design Review (CDR) for ASST controls (final ASST design review). Completed first industry assembled ASST magnet (currently on test at FNAL). Installed first magnet stands in ASST facility.
N15 (E1) Infrastructure	Completed construction of N15 Perimeter Road, now open to traffic. Awarded Low Conductivity Water (LCW), plant construction contract, and received cooling tower.
Experimental Facilities	Submitted east campus siting to DOE for approval; received tentative approval for planning purposes.
Linear Accelerator	Held PDR for Linac RFQ Amplifier.
Magnet Test Lab	Awarded foundation package; awarded steel procurement.
Low Energy Booster	Held CDR for LEB RF Cavity and Preliminary Design Requirements Review (PDRR) for LEB/MEB pulsed power systems.
Collider Tunnel	Received bids on N15 to N20 Basic Tunnel contract. Transmitted revised SSC Project Land Requirements to DOE. Initiated first (N15 - N20) tunnel finish-out design.
Specifications	Sixteen (of 22 3A & 3B) specifications are complete. Three are in sign-off cycle, one is in formal review. Two are not scheduled to be complete until next year.

PROJECT STATUS REPORT PART I			PAGE TWO PROJECT OVERVIEW
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUPS
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
ASST - Building Construction	Current schedule projects a delay in the BOD of the Compressor Building, primarily due to lack of infrastructure.	Management to review list of open items and develop completion plan to support need dates.	CCD, ADOD, PB/MK, ASD
Collider - Magnet Installation	Delay in the collider dipole program is currently affecting the following Level 1 milestones: Start first half sector CDM delivery, start magnet installation - first half sector, and first collider half sector start cooldown.	MSD developing recovery plans to support Level 1 milestones. Study underway to evaluate the benefits of an early cryo loop test (which could satisfy the initial cooldown requirements).	
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
N/A	N/A	N/A	N/A

**CCB ACTION ITEMS
December 1991**

CCB Date	Description	Impact		CCB Action	Comments	DOE Action
		*Dollars	Sched			
12/11/91	<i>ECR E20-000156</i> Continuation of Central Facility Build-out <i>CCSR E12-000066</i> Continuation of Central Facility Build-out	\$4,930,000		Approved		
12/11/91	<i>ECR E20-000163</i> Support of Central Facility Phase 2 <i>CCSR E12-000068</i> Support of Central Facility Phase 2	\$7,225,000		Approved		
12/18/91	<i>ECR E20-000155</i> Rev A Change in Elevation of the Collider Main Ring Tunnel and Additional Land Acquisition at East and West Campus Complexes <i>CCSR E12-000065</i> Rev A Change in Elevation of the Collider Main Ring Tunnel and Additional Land Acquisition at East and West Campus Complexes			Approved	To DOE for approval of change to Collider footprint.	

DESCRIPTION	BASELINE (DEC 90)	PROJECTED (A indicates actual date)	MILESTONE DEFINITION
First Collider Half Sector - Start Cooldown	MAR95	JUL96	Cooldown of the first complete half sector (E1-F1) and the concurrent power safety check of a full half sector. Requires last magnetic component (472 15M, 8 13M, 96 CQM & 96 spools) delivered to tunnel 4 months prior to this date.
LEB Start Commissioning	OCT95	SEP95	Beginning of the LEB beam commissioning installation and suitable checkout of the subsystems and safety signoff. Requires the LINAC to be able to provide test beam.
Beneficial Occupancy of Large Experimental Halls	JAN96		Beneficial occupancy of the experimental (interaction region) halls. This BOD includes lighting, power & ventilation, etc. and is 9 months after the first BOD where just the unfinished chamber is turned over for technical survey.
MEB Start Commissioning	JUN96	JUL96	Beginning of the MEB commissioning after installation and suitable checkout of the subsystems and safety signoff. Requires the LEB to be able to provide test beam.
HEB Start Installation	AUG96	JUL96	HEB installation of major technical components after completion of tunnel out fitting (e.g. power, lights, ventilation) technical components include piping, electrical components cryogenic components, spools, magnets etc.
MEB Test Beams Available	JAN97	JAN97	Completion of the MEB and test beam commissioning activity so that beam for detector component testing is available some fraction of the time.
HEB Start Commissioning	SEP98	AUG98	Beginning of the HEB commissioning after installation and suitable checkout of the subsystems and safety sign off. Requires the MEB to be able to provide test beam.
West Detectors - Start Commissioning	MAR99		Beginning of the Detector commissionings. Includes operable beamline through detectors to support Collider commissioning.
Collider - Start Commissioning (Beam)	MAR99		Beginning of the full Collider beam commissioning after sector testing is successfully completed. Requires the HEB to be able to provide beam. Requires accelerator components to be previously installed and checked in both IR halls.
Beam to Exp. (End of Project/Begin Operations Phase)	SEP99		Completion of the Collider and West detectors and Collider commissioning activities. The SSC is now ready to perform experiments in two experiment (interaction regions) halls.

Variance Remarks

I = CCB request in process

ADMINISTRATION DIVISION

DIVISION PROJECT STATUS REPORT
PART I
2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS

REPORTING DIVISION
Administration
(QUARTERLY ACCOMPLISHMENTS)

WBS 881.18821

Finance - The Finance organization has assisted PMO in the conversion to the new WBS structure, including prior year data conversions and the development of the new code of account structure and the corresponding support system. Successful completion of annual audit by Ernst & Young. Implemented FIS transmission.

Procurement - Received DOE approval of a Blanket Detector Collaboration Acquisition Plan, which will shorten review steps ranging 30 - 60 days on covered Detector Procurements. Thresholds for Computers and Telecommunications equipment were increased to \$100,000 and \$25,000 respectively, reducing the number of required reviews. December purchase orders and Subcontract Awards exceeded requisitions received for the first time since early September. Small Disadvantaged Business (SDB) Outreach Presentation has been completely revised to add more "technicolor" and useful information. The Supplier Update newsletter has been drafted for the Winter issue to perpetuate the good response received.

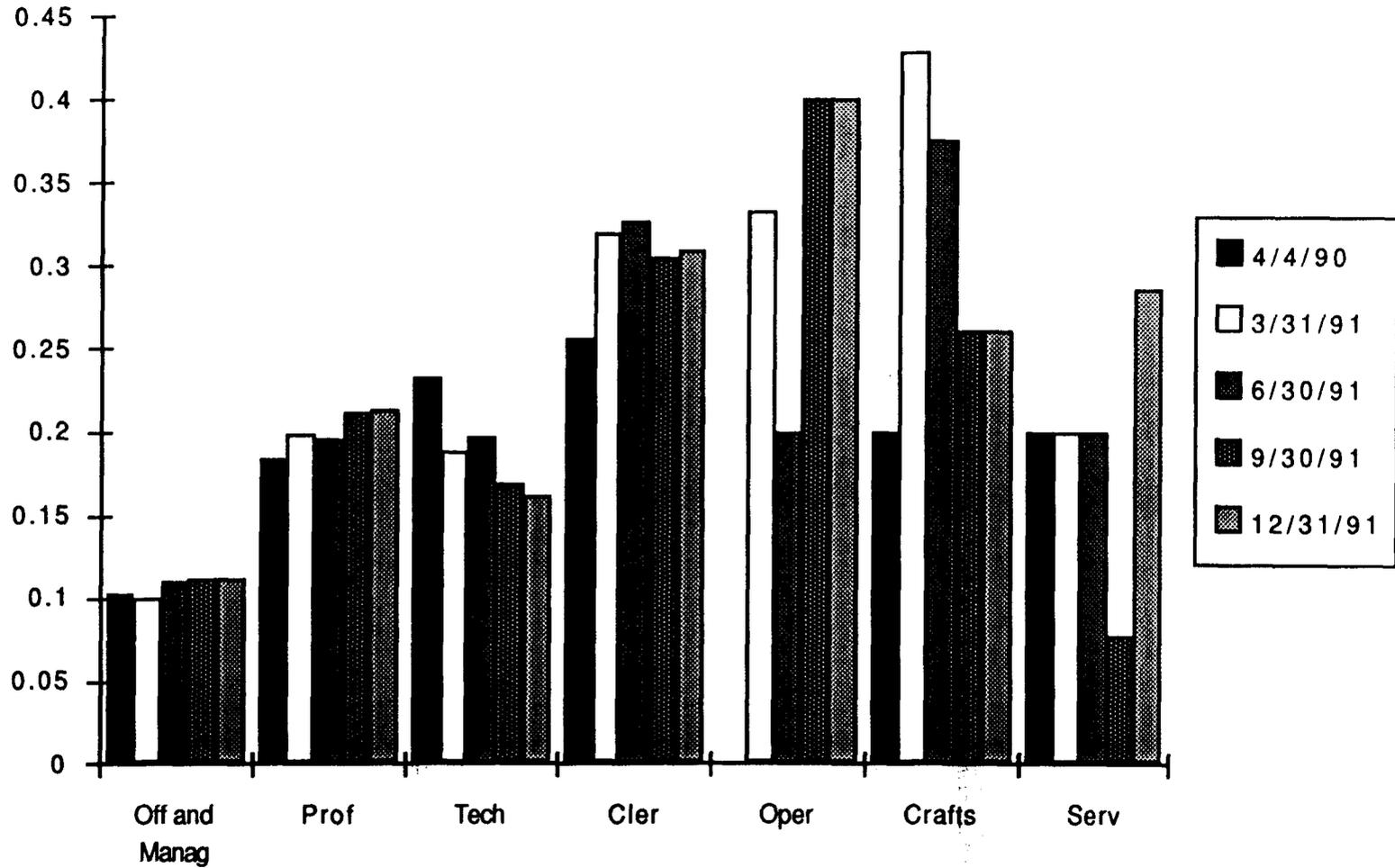
Personnel - Obtained a second GEM (National Consortium For Graduate Studies for Minorities in Engineering, Inc.) membership for 1992 and candidate selection is underway. The Laboratory will have 4 GEM students participating this summer. Intensive activity in the Benefits area have resulted in the development of a totally new medical and dental benefits plan. The new plan continues excellent coverage with prudent cost-containment features.

MIS - Continued to provide support and system enhancement to the MIS user community. Implemented several new enhancements to support Human Resources, Month-end Reporting, Travel and Forecasting.

Minority Affairs - Recommended the nomination of the SSCL for the Secretary of Energy's Special Award due to achievement of 179% of goal in small business procurements (\$84 million vs \$48 million goal) and 132% of goal in small disadvantaged business procurements (\$34 million vs \$26 million goal).

Records Management - All Divisions have been trained on using the Uniform Record Indexing System. Approximately sixty file liaisons have received training on the use of the Central Tracking System. Revisions to the system were implemented in December. These revisions have enhanced the retrievability and usage of the indexed data. All records currently transferred to the Records Management Group Retention Center (350 boxes) have been inventoried and data has been entered into a database for retrieval and retention scheduling. Final Draft of the Records Management Plan was completed and upper management review began.

Minorities As A Percentage Of The SSCL Workforce

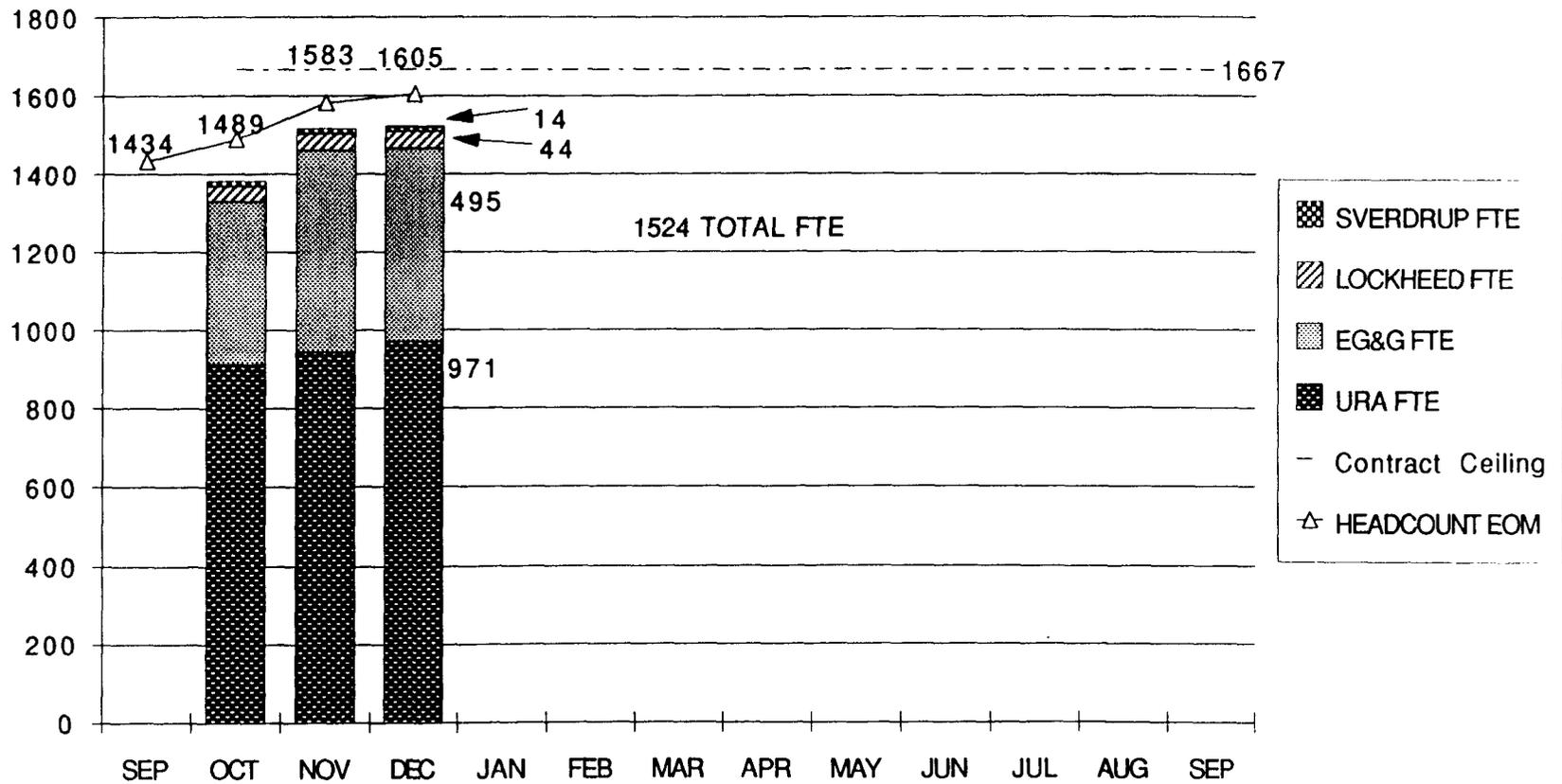


**DECEMBER FY92
AVAILABLE FUNDING
KS FUNDS - M\$**

	DOE	TEXAS	OTHER	TOTAL
FY91 UNCostED CARRYOVER	45.9	41.8	0.0	87.7
FY92 APPROPRIATION	483.7	130.0	20.0	633.7
SUBTOTAL	529.6	171.8	20.0	721.4
DOE SET ASIDE	(13.2)	0.0	0.0	(13.2)
CONTINGENCY	(38.2)	0.0	0.0	(38.2)
PHYSICS R&D	0 *			0 *
EXPECTED AVAILABLE FISCAL FUNDING	478.2	171.8	20.0	670.0

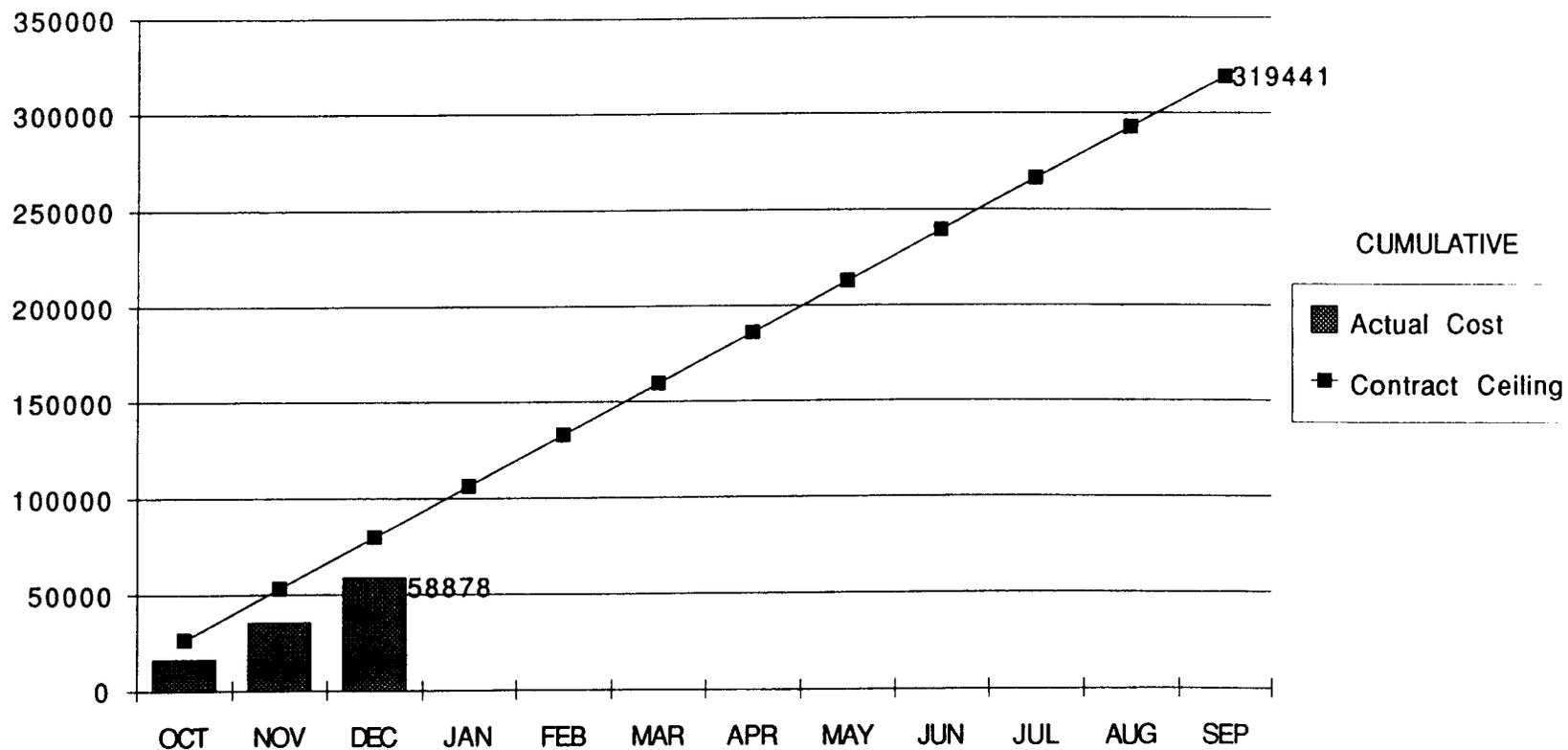
* AMOUNT TO BE DIRECTED BY DOE OUTSIDE OF THE CONTRACT.

DECEMBER FY92 COST CEILING BY ELEMENT FULL TIME EQUIVALENTS



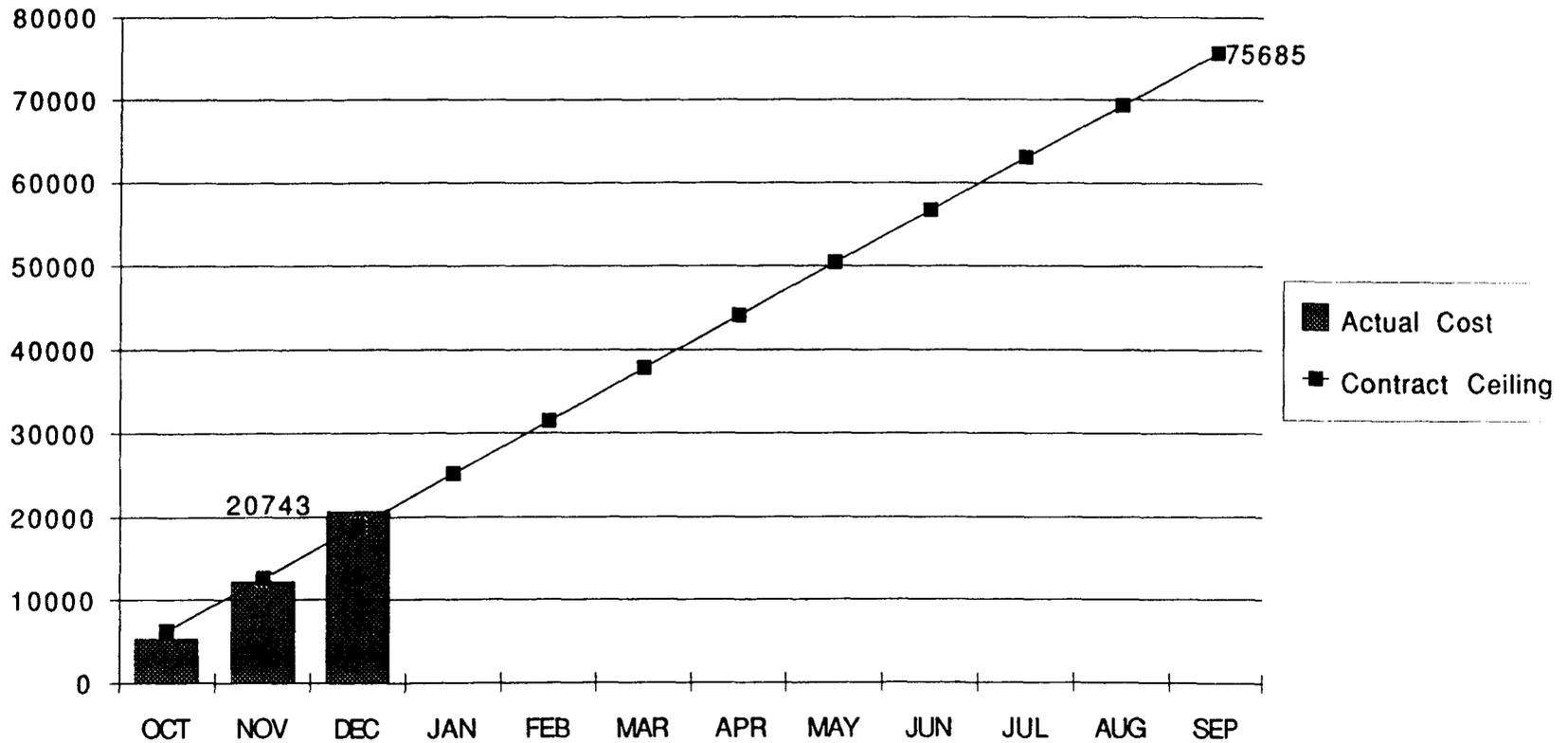
2/5/92

**DECEMBER FY92
COST CEILING BY ELEMENT
SUBCONTRACTOR COST
KS FUNDS - K\$**



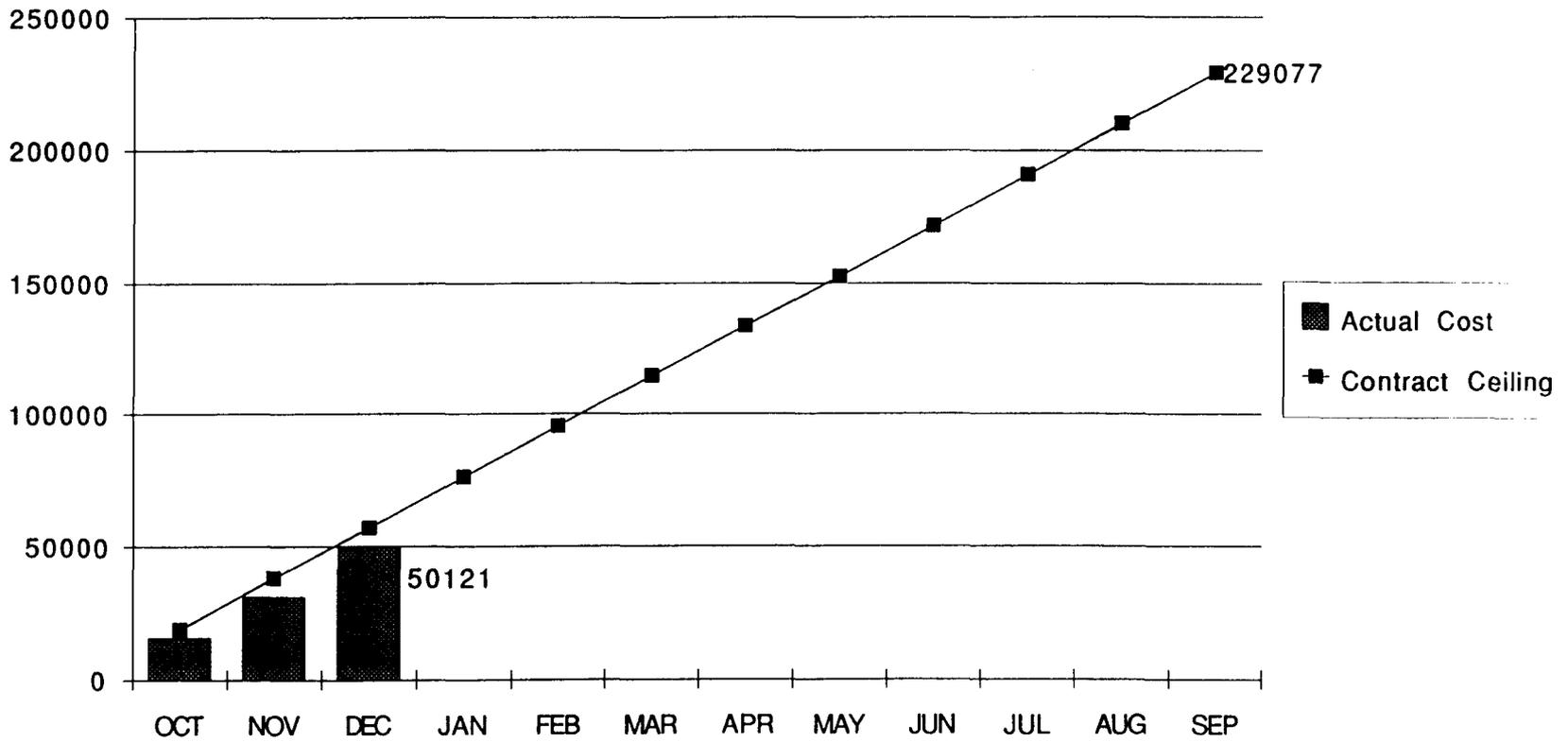
2/5/92

**DECEMBER FY92
COST CEILING BY WBS
SSCL MANAGEMENT
KS FUNDS - K\$**



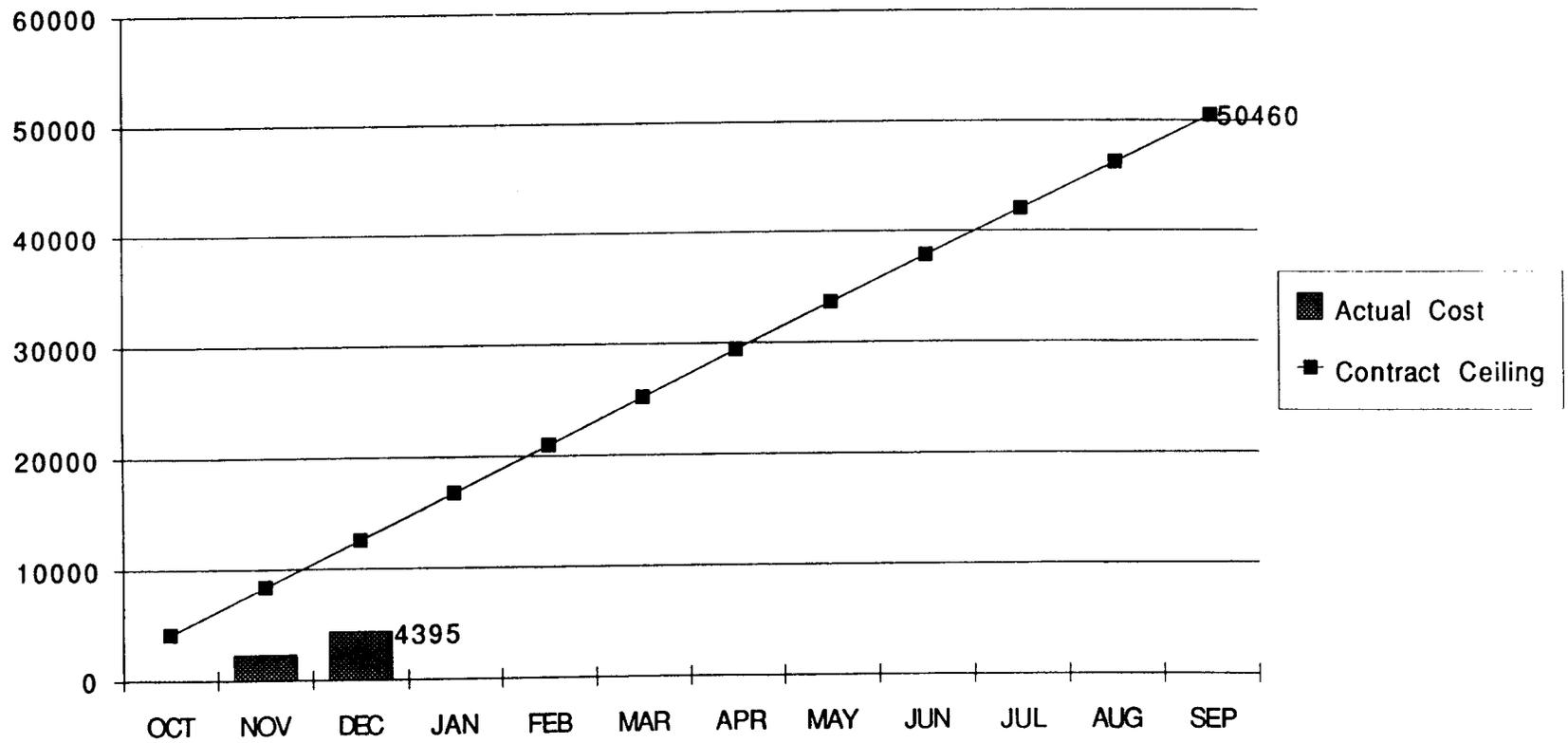
2/5/92

**DECEMBER FY92
COST CEILING BY WBS
SUPERCONDUCTING SYNCHROTRONS
KS FUNDS - K\$**



2/5/92

**DECEMBER FY92
COST CEILING BY WBS
EXPERIMENTAL SYSTEMS & DETECTORS
KS FUNDS - K\$**



2/5/92

PROJECT MANAGEMENT - ACCELERATORS

**PROJECT MANAGEMENT - ACCELERATORS
Accelerator System String Test (ASST)**

Goal	Demonstrate collider operation of a half-cell of industrially produced magnets.	
WBS Elements	Description	
325	ASST	
325.3160	Buildings (string enclosure/N15 service buildings)	
Accomplishments	<p>Last design review (controls) for ASST subsystems held December 12. Walk through for the Compressor Building held December 16. Building construction now 96% complete with only punch out items remaining for completion. Temporary 500kVA delivered to ASST buildings on December 18. DCA311 delivered to MDL on December 18. DCA207 ramp down test performed at BNL on December 20, saw no quenches up to 520 A/s. DCA312 successfully power tested on December 6. Started cable tray and piping installation.</p>	
Issues and Concerns	<p>There is concern that the SPR spool be cryo tested at BNL before installation in ASST as it is the only ASST component without a backup. Slip in refrigerator schedule has caused the elimination of the two dipole test.</p>	
Corrective Action	ASD must assign someone to watch over spool test at BNL and coordinate with MSD.	
Condition	Green	
POC	Thomas Dombeck	Date January 17, 1992

**PROJECT MANAGEMENT - ACCELERATORS
Linear Accelerator (LINAC)**

Goal	Design, construct and commission a 600 MeV H ⁻ Linac with high reliability and low transverse emittance to supply beam to the Low Energy Booster (LEB).		
WBS Elements	Description	WBS Elements	Description
221.9	Accelerator Engineering Design and Procurement Acceptance	214.3	Linear Accelerator Conventional Construction (including beam transfer to LEB)
Accomplishments	First low-Cesium operation of ion source. PDRR/PDR for RFQ power amplifier systems completed. Successful review of new CCL configuration by outside experts. CCD received and reviewed 60% Title II (final) Design Review submittal; returned comments to PB/MK.		
Issues and Concerns	Cost and schedule control, budget and Work Package situation.		
Corrective Action	Negotiating with ASD Departments on Work Packages. Reviewing ASD budget submissions.		
Condition	Green		
POC	L.W. Funk	Date	January 10, 1991

**PROJECT MANAGEMENT - ACCELERATORS
Low Energy Booster (LEB)**

Goal	Commissioned LEB FY95.		
WBS Elements	Description	WBS Elements	Description
223.9	Phys Design/R&D Mgmt	224.31	Low Energy Booster Conventional
221.9	Accelerator Engineering Design and Procurement Acceptance		Construction (including beam transfer to MEB)
Accomplishments	Sample Quadrupole laminations received/checked. Corrector Magnet Power Supply PDRR held. Title I received from PB/MK and reviewed. LEB cavity/tuner PDR held. Completed Critical Design Review for the RF cavities. 3A and 3B specifications are complete.		
Issues and Concerns	LEB cavity/tuner PDR showed potential for increasing the complexity of design.		
Corrective Action	Machine Leader in consultation with ASD RF Group to develop and implement viable LEB cavity/tuner program.		
Condition	Green		
POC	Richard C. York	Date	January 10, 1991

**PROJECT MANAGEMENT - ACCELERATORS
Medium Energy Booster (MEB)**

Goal	To provide an accelerator which will accelerate protons from 12 GeV/c to 200 GeV/c for injection into the HEB and to provide test beams, on a schedule to meet major milestones.		
WBS Elements	Description	WBS Elements	Description
231	MEB	231.91,233.91	Accelerator R&D
231.107	MEB Dipole	234	MEB Conventional Constuction
231.108	MEB Quadrupole		(including beam transfers to HEB bored tunnel for Test Beam)
Accomplishments	2D dipole and quadrupole designs solidified. RF cavity design choice work underway. Magnetic field quality specification analysis. Space charge induced emittance growth analysis (simulation indicates negligible growth). Magnet test facility proposal initiated.		
Issues and Concerns	Tunnel width question. Shaft radiation shielding.		
Corrective Action	Meetings scheduled Wednesday, January 15 from 1:00 - 3:00 p.m. and Thursday, January 16, from 11:00 - 12:30 p.m.		
Condition	Green		
POC	Rod Gerig	Date	January 10, 1991

**PROJECT MANAGEMENT - ACCELERATORS
High Energy Booster (HEB)**

Goal	To design and manage the construction and commissioning of the HEB.		
WBS Elements	Description	WBS Elements	Description
311	HEB System	313	Accelerator R&D
312	HEB Transfer Line/Abort	314	HEB Conventional Construction
Accomplishments	Started 3B Accelerator Specifications sign-off. Awarded Dipole design/development/prototype contract. Signed Quadrupole design/development contract. Completed Draft Interface Control Document.		
Issues and Concerns	None.		
Corrective Action	N/A		
Condition	Green		
POC	David E. Johnson	Date	January 10, 1991

**PROJECT MANAGEMENT - ACCELERATORS
Test Beams**

Goal	Design and Build 200 GeV Test Beams		
WBS Elements	Description	WBS Elements	Description
561	MEB Proton Beams	562	Target & Target Halls
565.3	Test Beams Conventional Construction	563	Secondary Beams
Accomplishments	Converged on a design for Target Pile. Accommodates 3×10^{13} ppp at 8 sec. Technical Schedule completed, with some errors.		
Issues and Concerns	Acceleration of Design start to April 1992. Responsibility for technical equipment in ASD. IPS needs to include some resource information.		
Corrective Action	Need decision on start of design.		
Condition	Green		
POC	John McGill	Date	January 10, 1991

SUPERCONDUCTING SUPER COLLIDER

LONG TERM COMPARATIVE SUMMARY BARCHART

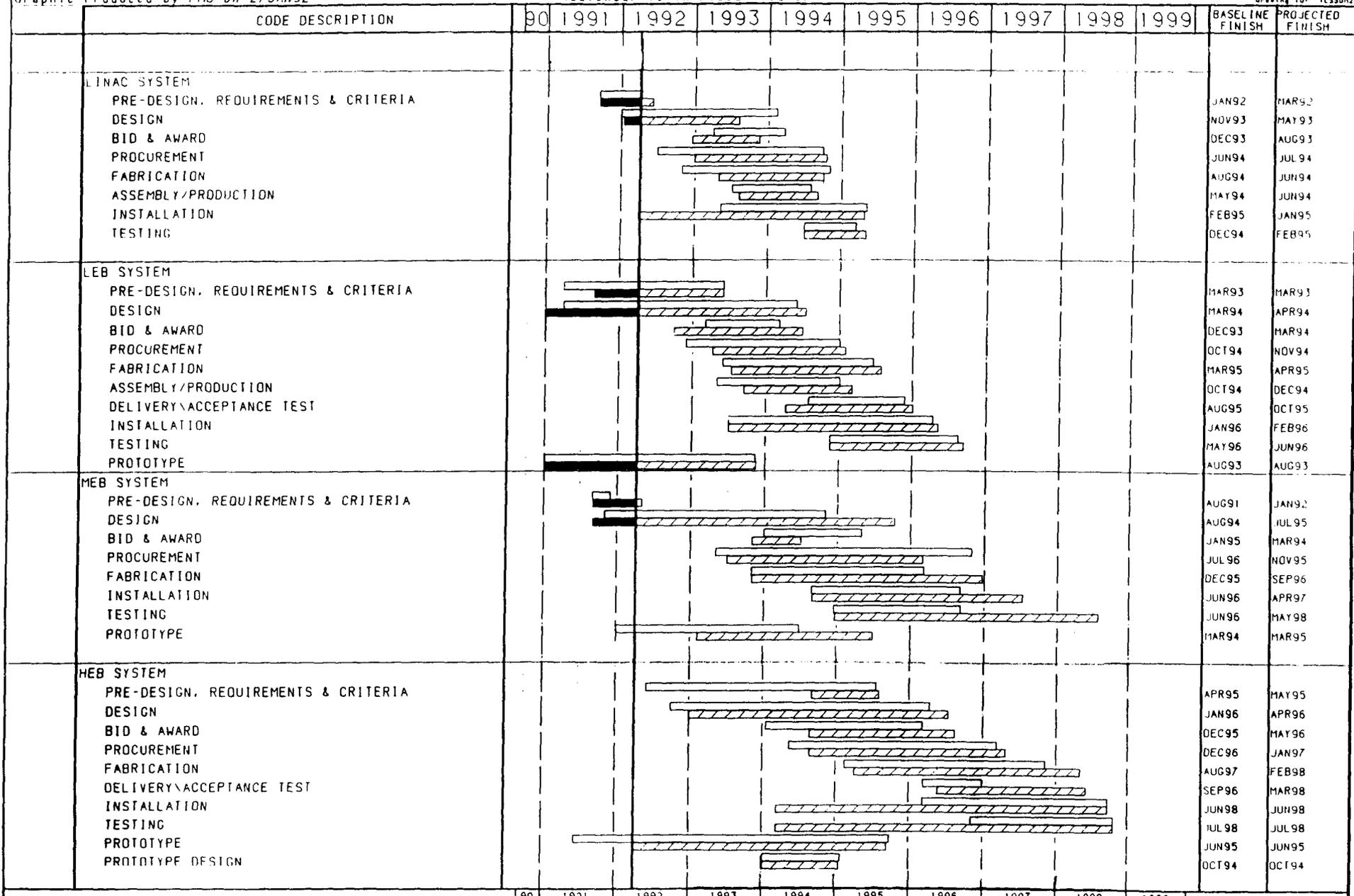
PRELIMINARY INTEGRATED PROJECT SCHEDULE

Network Status Date: 29DEC91
Graphic Produced by PND on 27JAN92

TMR: TRANSFER LINES w/Lev. 1 MS
(Calendar is in Fiscal Years)

SSCL REVIEW SUMMARY BY WBS

Drawing ID: 1LSSUN2



BASELINE ACTIVITY ACTUAL ACTIVITY PROJ. CRITICAL ACT. ORIG. CRITICAL MS PROJECTED MILESTONE

 ORIG. CRITICAL ACT. PROJECTED ACTIVITY *BASELINE MILESTONE ACTUAL MILESTONE PROJECTED CRITICAL MS

CCD
Collider Tunnel and Shafts

Goal To provide ASD with the first tunnel half sector and its servicing shafts by March 1994.
To provide ASD with additional tunnel half sectors and a second magnet delivery shaft by September 1994.

WBS Elements **Description**
324.31 N15 Shafts and N15 to N20 Tunnel Segment; N20 and N25 Shafts and N20 to N30 Tunnel Segment; N30 to N45 Shafts and N30 to N45 Tunnel Segment; N45 to N55 Shafts and N45 to N55 Tunnel Segment

Accomplishments The revised SSC Project Land Requirements (the Blue Book) was transmitted to DOE on December 18, 1991. On December 18, 1991 bids were received on the N15 to N20 Basic Tunnel contract. Low bid = \$17.8M. Change action for tunnel elevation change was approved by the lab CCB. The N20 to N25 basic tunnel contract was advertised for construction on January 10, 1992. Title II intermediate design has been completed for N25 to N40. Title I design has been completed for N40 to N55. N15 to N20 tunnel finish out design was initiated.

<i>Cost Status</i>	<i>BCE</i>	<i>EAC</i>		<i>BCE</i>	<i>EAC</i>
N15 to N20	\$17.0M	\$21.6M	N30 to N45	\$43.0M	\$43.0M
N20 to N30	\$30.2M	\$30.2M	N45 to N55	\$28.4M	\$28.4M

Issues and Concerns DOE has not yet approved the tunnel elevation change.
DOE has not yet approved the niche spacing from 540m to 450m change.
DOE has not yet approved the sight pipe change.
Collider tunnel contracts in the North Arc will have to be reconfigured to reflect revised tunnel location. Schedule shows condition red; baseline must be reconciled with IPS.
Radiation shielding for shafts appears to be resolved. Hammerhead configuration awaiting approval & implementation.
Design requirements for S40 to S50 contract are late. Deadline was November 6, 1991. Awaiting hammerhead implementation.
The addition of a dump switch niche in every half sector has not yet been approved by CCB.

Corrective Action Change action for the Three Shaft (now the hammerhead) scenario is in process but has not yet been executed. SSCL management must help to achieve DOE approval of the tunnel elevation, niche spacing, & sight pipe changes. DOE CCB approval required before implementing IPS change. This should omit schedule red condition. Technical divisions and Project Manager's office must endorse the hammerhead configuration. ASD has been tasked with assembling dump switch niche change package. CCD portion completed. Change actions are being assembled by CCD.

Condition Red (schedule)
POC Tracy K. Lundin Date January 10, 1992

**PROJECT MANAGEMENT - ACCELERATORS
FY91/92 Deliverables**

Goal	To supply the necessary deliverables to support the project milestones.		
WBS Elements 2XX.9	Description Linac, Beamlines, LEB, MEB	WBS Elements 3XX.9 5XX.9	Description HEB, Collider Beamlines
Accomplishments	<p>Continued progress on specification preparation.</p> <p>Signed off: Linac Segment 3A, Linac Facilities 3B, Linac Accelerator 3B, Linac Beam Transfer 3B, LEB Segment 3A, LEB Facilities 3B, LEB Beam Transfer 3B, MEB Segment 3A, HEB Beam Transfer 3B, MEB Facilities 3B, MEB Accelerator 3B, HEB Segment 3A, HEB Magnet 3B, LEB Accelerator 3B, Collider Segment 3A, and ASST 3B.</p> <p>In signature process: Collider Accelerator 3B, MEB Beam Transfer 3B, and HEB Accelerator 3B.</p> <p>In formal review: Collider Magnet 3B.</p> <p>First draft: All complete.</p> <p>Final draft: All complete.</p>		
Issues and Concerns	All 3A and 3B specifications are not yet signed off.		
Corrective Action	Expedite formal review and signature cycle for remaining specifications.		
Condition	Green		
POC	Gerry Dugan	Date	January 10, 1992

ACCELERATOR SYSTEMS DIVISION (ASD)

**ASD
ACCOMPLISHMENTS
October - December 1991**

October:

ER String test power supply commissioning complete.
PSI/Trinity — started installation of the N15 and ASST Cryogenic systems.
ASST Plan B Refrigerator ordered.
CDR for ASST cable trays and racks.
CDR for ASST electrical systems.

November:

PDRR — Linac RFQ Support Systems.
Started ASST Piping Installation.
CDR — ASST LCW.
Cold box and Helium tanks for ASST installed at E1 site.
PDRR — Linac DTL/CCL RF Modulators.

December:

RFI for next 11 cryogenic systems released.
ASST piping pressure test completed successfully.
CDR — LEB RF Cavity.
CDR — ASST Controls.

**ASD
December Manpower**

Group	Offer or On Board November	Offer or On Board December	Change	Remaining FY92 Hires	Year-End FY92 Total
Controls	38	40	2	4	44
Electrical Engineering	50	50	0	25	75
Division Office	56	54	-2	9	63
Cryogenic Systems	49	52	3	19	71
Mechanical Engineering	133	139	6	39	178
RF Engineering	38	40	2	4	44
Beam Instrumentation	23	23	0	12	35
Total	387	398	11	112	510

FY92 Manpower Requirements: Manpower starts for December in ASD were 8 people, with 11 new offers extended. Currently, we have 423 people on board including collaborators, guest scientists, Lockheed personnel, and temporaries. Additionally, there are 26 offers pending, outstanding, or accepted.

**ASD
FY92 Deliverable Milestones**

WBS	Milestone	Baseline Schedule	Current Projection	Condition Appraisal
325	Two Spools completed for ASST	Mar 92	Jan 92 & Feb 92	Green
310	ASST Cryogenic 4 K Plant — Commissioning Complete	Apr 92	Apr 92	Green
231	Start MEB power supply design	Oct 91	Nov 91 ^A	Complete
231	Start MEB Magnet prototypes	Nov 91	Nov 91 ^A	Complete
310	Preliminary specification for N25 Cryoplant	Feb 92	Feb 92	Green
221	Award LEB RF Anode power supply prototype	Mar 92	Mar 92	Green
221	PDR for LEB ring magnet power supply	May 92	May 92	Green
221	LEB Magnet Design complete	Sep 91	Jun 92	Red
231	Start MEB RF System prototypes	Jun 92	Jun 92	Green
310	E2 Cryoplant — start procurement	Jun 92	Jun 92	Green
231	MEB Magnet CDR	Sep 92	Sep 92	Green

FY92 Deliverable Milestones: Every deliverable milestone is on schedule except as noted below:

LEB magnet design complete has moved from September 1991 to June 1992 because of collaboration with the USSR. MEB power supply design started in November 1991 as scheduled. MEB magnet prototypes started in November 1991 as scheduled.

^A Indicates actual date

MAGNET SYSTEMS DIVISION (MSD)

DIVISION PROJECT STATUS REPORT
PART I

REPORTING DIVISION
MSD

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS

(QUARTERLY ACCOMPLISHMENTS)

WBS

112.02 PROGRAM MANAGEMENT - Continuing the evaluation of alternate program plans to cope with reduced budgets without inducing additional program risk. Assisting in the contracting and contract changes arena.

311.21 HEB MAGNETS

Dipole Magnets: Source selection process continuing with award expected by December 31, 1991. Held coordination meetings on model magnet build-to-print drawing content and status. Defined objectives and success criteria for initial subcontractor reviews.

Quadrupole Magnets: Signed contract with CEN/SACLAY and forwarded to DOE on December 5, 1991. Engineering personnel preparing to start work in France. FY92 internal budgets in final review; work authorization pending MSD approval. Continuing to conduct interconnect control meetings.

321.22 COLLIDER RING MAGNETS

Collider Dipole magnets: Conducted monthly program reviews with General Dynamics (GD) and Westinghouse. Issued contract mod to GD to cover model magnets work. Received GD cost proposal for ASME code implementation. SSCL audit of WEC accounting system sent to WEC for corrective actions. Lack of 3B specifications impacting GD program.

Quadrupole Magnets: Lack of 3B specifications impacting the B&W program. A model magnet program is being developed with B&W/Siemens. Cost neutrality will be achieved by reducing the number of prototypes. The LBL model magnet program is being modified to provide additional design data. Received B&W cost proposal for ASME code implementation.

Make Magnets: Currently reviewing and analyzing past magnet build data from other laboratories. Fine tuning and calibrating all required equipment and instrumentation. Planning, scheduling and sequencing all magnet builds to accommodate installation schedules. Defining, sourcing and procuring all long lead materials.

721.24 MAGNET FACILITIES EQUIPMENT AND TOOLING

MDL: The Collaring Press installation is complete and the unit is functional. The Cable Wrapping Line installation is complete.

MTL: DC power link box design is complete; fabrication is underway in the LTS shop. The strain gage measurement system is being debugged in the MDL Collaring Press.

323.23 MAGNET R&D

FNAL: Magnet DCA311 completed test, shipped and was received at SSCL. Magnet DCA312 started cold test. Magnet DCA313 started installation for test. All other magnets continue the assembly process.

BNL: Magnet DCA207 has completed cold test. Magnet DCA208 continuing in cryostating process. Magnet DCA209 has completed end dome welding. All other magnets continue assembly process. Completed special tooling for Kapton on Kapton outer coils.

LBL: Magnet QCC403 was shipped on December 2, 1991 to SSCL for cryostating. Magnet QCC404 is in cold test, with shipment to SSCL planned for January 27, 1992.

**MSD
HEB Dipole Magnets**

Goal	Provide reliable HEB dipole magnets on schedule and within budget.	
WBS Elements 311.2111	Description HEB Dipole Magnets	
Accomplishments	Source selection continuing. FY92 internal budget reviews in final review; work authorizations pending MSD approval. Held coordination meetings on model magnet build to print drawing content and status. Defined objectives and success criteria for initial subcontractor reviews.	
	<i>Cost Status</i>	<i>CFY</i>
	BAC	\$ 9,406K
	EAC	\$ 13,206K
Issues and Concerns	FY92 budget reduced \$3.8M from request. Firmness of December 31, 1991 contract award date.	
Corrective Action	Rescope FY92 tasks and move production deliveries 4 months further into the future. Expedite tasks needed to allow contract award by December 31, 1991 as scheduled.	
Condition	Yellow (Condition due to FY92 budget reductions.)	
POC	Dave Fortunato	Date December 29, 1991

MSD
HEB Quadrupole Magnets

Goal	Provide reliable HEB Quadrupole magnets on schedule and within budget.		
WBS Elements 311.2121	Description HEB Quadrupole Magnets		
Accomplishments	CEN/SACLAY subcontract forwarded to DOE December 5, 1991. Engineering personnel arranging move process to start work in France by January 6, 1992. FY92 internal budget reviews in final review; work authorizations pending MSD approval. Continued interconnect control meetings.		
	<i>Cost Status</i>	<i>CFY</i>	
	BAC	\$ 3,892K	
	EAC	\$ 3,892K	
Issues and Concerns	Establish firm FY92 budget. Contract award by January 1, 1992.		
Corrective Action	Provide required funding for FY92. Expedite contract review and award process.		
Condition	Green		
POC	Dave Fortunato	Date	December 29, 1991

**MSD
Collider Quadrupole Magnets**

Goal	Provide reliable Collider Quadrupole Magnets on schedule and within budget.						
WBS Elements 321.2221	Description Collider Ring Quadrupole Magnets						
Accomplishments	<p>Meetings held with B&W/Siemens to organize content of Model Magnet program with objective to develop magnet with quench performance with acceptable training prior to start of prototype phase. Program will consist of 8 magnets of 2 basic design concepts. Program is being initiated with directed change; cost neutrality will be maintained by reducing number of prototypes based on expectation that model activity will reduce need for as many prototypes.</p> <p>Activity initiated with LBL to modify existing model magnet to provide added data in assessment of collar/yoke interface. Additional model magnet activity using LBL assets under evaluation.</p> <p>Proposal received for implementation of ASME Boiler and Pressure Vessel Code with ROM cost and definition of issues which need to be resolved in concert with SSCL as part of implementation.</p> <p>SSCL supported B&W in development of Integrated Schedule; feedback from B&W on clean up expected mid-January. Facilities decision on Siemens prototype build location provided.</p> <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 20px;"><i>Cost Status</i></td> <td><i>CFY</i></td> </tr> <tr> <td>BAC</td> <td>\$ 19,540K</td> </tr> <tr> <td>EAC</td> <td>\$ 23,755K</td> </tr> </table>	<i>Cost Status</i>	<i>CFY</i>	BAC	\$ 19,540K	EAC	\$ 23,755K
<i>Cost Status</i>	<i>CFY</i>						
BAC	\$ 19,540K						
EAC	\$ 23,755K						
Issues and Concerns	<p>Restoration of FY92 budget to level allowing program to proceed on schedule.</p> <p>Definition of a low training magnet design prior to initiation of prototype phase.</p> <p>Cost and schedule impact of ASME code compliance.</p> <p>Continuation of close coordination of B&W Integrated Schedule planning process.</p> <p>Approval of B&W procurement system.</p> <p>Lack of the 3B specifications for the 180 T/M magnets will impact magnets development and ultimately the required magnets deliveries.</p>						
Corrective Action	<p>Receipt of additional funding required to keep program on schedule.</p> <p>Magnet training issue being attacked with model magnet program at B&W/Siemens and modification and test of existing LBL assets.</p> <p>Expedite the delivery of the required 3B specifications.</p>						
Condition	Red (Condition due to FY92 budget reductions and the lack of 3B specifications)						
POC	<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Sol Shapiro</td> <td style="width: 20%; text-align: right;">Date</td> <td style="width: 20%; text-align: right;">December 29, 1991</td> </tr> </table>	Sol Shapiro	Date	December 29, 1991			
Sol Shapiro	Date	December 29, 1991					

**MSD
Superconducting Cable**

Goal	Qualify conductor vendors for the SSCL superconducting magnet programs.																		
WBS	Description	WBS	Description																
321.23	Complete process optimization to ensure adequate fabricability	311.21 321.22	Supply prototype and preproduction conductor for magnet programs requiring 6um Conductor																
Accomplishments	<p>All suppliers on or ahead of schedule except Teledyne SC. Proposed billet size not possible due to planning error. Proposed work around plan is in review. Sumitomo's first 5 multi-filament billets successfully extruded. Good results achieved so far. First quarterly program review held December 17, 1991 with magnet contractors. Full funding authorization for FY92 completed.</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"><i>Cost Status</i></td> <td style="width: 35%;"><i>CFY (WBS 321.23)</i></td> <td style="width: 30%;"></td> <td style="width: 5%;"></td> <td style="width: 30%;"><i>CFY (WBS 311.21, 321.22)</i></td> </tr> <tr> <td>BAC</td> <td>\$ 7,499.4K</td> <td></td> <td>BAC</td> <td>\$ 5,387.6K</td> </tr> <tr> <td>EAC</td> <td>\$ 7,499.4K</td> <td></td> <td>EAC</td> <td>\$ 5,387.6K</td> </tr> </table>				<i>Cost Status</i>	<i>CFY (WBS 321.23)</i>			<i>CFY (WBS 311.21, 321.22)</i>	BAC	\$ 7,499.4K		BAC	\$ 5,387.6K	EAC	\$ 7,499.4K		EAC	\$ 5,387.6K
<i>Cost Status</i>	<i>CFY (WBS 321.23)</i>			<i>CFY (WBS 311.21, 321.22)</i>															
BAC	\$ 7,499.4K		BAC	\$ 5,387.6K															
EAC	\$ 7,499.4K		EAC	\$ 5,387.6K															
Issues and Concerns	<p>Assignment of cables from eight suppliers to magnet programs with limited prototypes. Must define detailed qualification criteria for Phase II start. Must develop responsibility transfer to magnet contractors at LRIP start. Provision for adequate analysis support for magnet contractors.</p>																		
Corrective Action	<p>Working group established with the magnet contractors to assign cables to prototypes. Final assignment completion by next review (March 1992). Working group established with the magnet contractors to develop final qualification criteria. Working group established with the magnet contractors to define program requirements ahead of prototype fabrication. Working group for LRIP planning will begin at next review (March 1992).</p>																		
Condition	Green																		
POC	Don Capone		Date	December 29, 1991															

MSD
MTL Equipment and Tooling

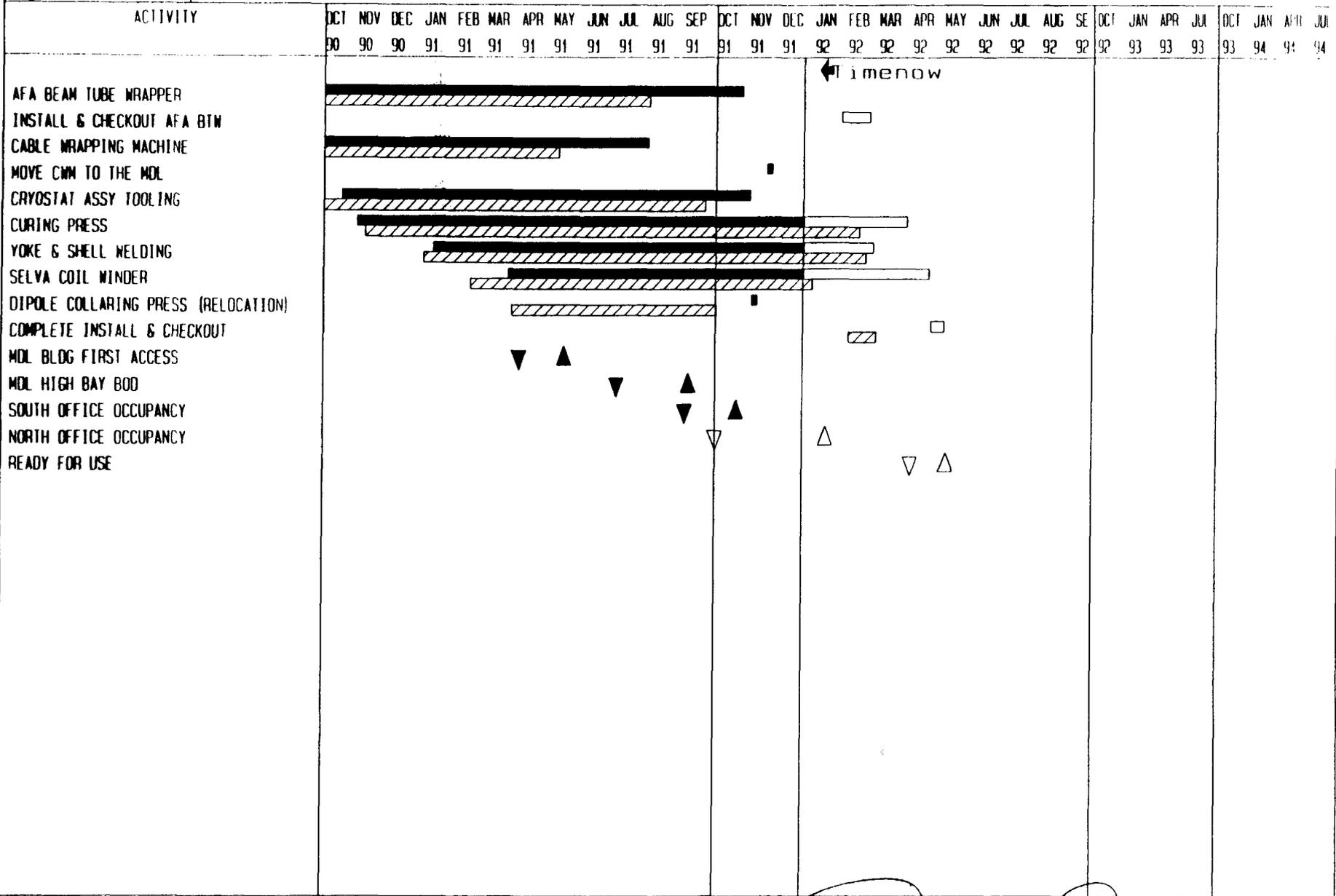
Goal	Design and test the measurement and control instrumentation which will be used to evaluate superconducting magnet performance in the MTL.	
WBS Elements 721.2421	Description MTL equipment and tooling	
Accomplishments	Spot heater firing unit boards due in December 27, 1991. DC power link box design complete; fabrication in the LTS shop is underway. Three isolation amplifier boards to be complete by year end. Strain gage measurement system being debugged in MDL collaring press.	
	<i>Cost Status</i>	<i>CFY</i>
	BAC	\$ 10,789K
	EAC	\$ 10,789K
Issues and Concerns	Delays in construction of MTL may delay readiness for cooldown of first magnet. 33 mm ID for CDM beam pipe impacts magnet measurement instrumentation design. No bids received in response to RFQ for feed can.	
Corrective Action	Alternate components for a reduced diameter magnetic field harmonic measurement system are being evaluated. Consider modifying ASST feed can design for use in MTL, recontact vendors.	
Condition	Yellow (Condition due to MTL building construction schedule slippage)	
POC	Mark Coles	Date December 29, 1991

**CCD
Magnet Test Lab (MTL)**

Goal	Support MSD with a BOD of June 15, 1992 (High Bay MTL).		
WBS Elements 721.339	Description Magnet Test Lab		
Accomplishments	Mod 25 approved by DOE for full construction funding (award). Integrated MSD changes to trenches and pit in rebid documents. Awarded foundation package. Steel procurement awarded; to be delivered after foundations completed.		
	<i>Cost Status</i>		<i>CFY</i>
	Baseline Cost Estimate		\$ 7.5
	EAC		\$ 7.3M
Issues and Concerns	Initial bidders disqualified. Job split into foundation package and building packages to attempt salvage of PBOD. Foundations now under construction. MTL building package received 1/17/92. Low bid is within baseline.		
		<i>Original</i>	<i>Revised - per Rebid</i>
			<i>(Substantial Completion)</i>
	MTL	15 June	31 July 92
	Compressor B1	15 March	30 June (31 May - no joint occupancy)
	Refrigeration B1	15 March	30 June (31 May - no joint occupancy)
	<i>Shared Occupancy</i>		
	MTL (High Bay)	1 April	15 June 92
	Service Bldgs	15 Jan	18 May
Corrective Action	Rebid of general package opens January 16, 1992.		
Condition	Green		
POC	Craig N. Trimble	Date	January 10, 1992

SSC LAB - MAGNET DIV
 Report: XGRAFLMR
 Project: MDLMASTS
 Date: DEC91
 Page: 1

MAGNET DEVELOPMENT LAB MASTER SCHEDULE



Milestone:
 Scheduled: ▽
 Complete: ▾
 Slipped: △
 Early: ◊

Current:
 Baseline:
 % Complete:

Approval signature: *M. [Signature]* 12/30/91
 Revision 5

48b

**MSD
Make Magnets Program**

Goal	Provide the in-house build magnets on schedule and within budget.						
WBS 321.2213 321.2235	Description BV1- Magnets QL5 - Magnets						
Accomplishments	<p>Currently reviewing and analyzing past magnet build data from other laboratories. Fine tuning and calibrating all required equipment and instrumentation. Planning, scheduling and sequencing all magnet builds to accommodate installation schedules. Defining, sourcing and procuring all long lead materials. Model QSE101 (model for QL5) practice coils completed. Will complete cold test April 27, 1992. Model DSC101 (model for BV1-) cross section being finalized.</p> <table border="0" style="margin-left: 40px;"> <tr> <td><i>Cost Status</i></td> <td style="text-align: center;"><i>CFY</i></td> </tr> <tr> <td>BAC</td> <td style="text-align: center;">\$ 5,961K</td> </tr> <tr> <td>EAC</td> <td style="text-align: center;">\$ 5,961K</td> </tr> </table>	<i>Cost Status</i>	<i>CFY</i>	BAC	\$ 5,961K	EAC	\$ 5,961K
<i>Cost Status</i>	<i>CFY</i>						
BAC	\$ 5,961K						
EAC	\$ 5,961K						
Issues and Concerns	<p>Lack of 3B specifications for all specialty magnets will impact development start and production deliveries. Lattice configuration must remain fixed and construction /installation plans must remain fixed to maintain magnet build and sequencing plans.</p>						
Corrective Action	Expedite delivery of 3B specifications for all specialty magnets.						
Condition	Red (condition due to lack of 3B specifications for all specialty magnets)						
POC	<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Jay Jayakumar</td> <td style="width: 20%; text-align: center;">Date</td> <td style="width: 20%;">December 29, 1991</td> </tr> </table>	Jay Jayakumar	Date	December 29, 1991			
Jay Jayakumar	Date	December 29, 1991					

**MSD
FY92/93 Deliverables**

WBS	Milestone	Baseline Schedule (Note 1)	Current Projection	Condition Appraisal
323.2313	Quad string test magnets delivered to ASST	Mar 92	Mar 92	Green
323.2211	All string test magnets delivered to ASST	May 92	May 92	Green
721.2411	Complete installation of magnet lab tooling	Sep 92	Sep 92	Green
323.2321	Complete phase I of cable qualification program	Sep 92	Sep 92	Green
321.22	PDR for 15m dipole magnets	Apr 92	Apr 92	Green
321.22	General Dynamics initiates mobilization at Hammond	May 92	May 92	Green
321.22	SDR for collider quadrupole magnets (Note 2)	Feb 92	Nov 91 ^A	*
321.22	Start assembly of 1st CQM prototype (Note 3)	Aug 92	Oct 92	Green
311.2121	Start HEB quadrupole development by SSCL/SACLAY (Note 3)	Oct 91	Jan 92	Yellow
311.2111	Start HEB dipole development by industry (Note 3)	Nov 91	Jan 92	*

^A Indicates actual date

CONVENTIONAL CONSTRUCTION DIVISION (CCD)

DIVISION PROJECT STATUS REPORT
PART I

REPORTING DIVISION
CCD

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS

(QUARTERLY ACCOMPLISHMENTS)

Accomplishments - Continued Title II design on LINAC facility, Title I design for LEB facility, and Title I design for MEB facility. Completed construction and BOD of ASST refrigeration building with control room. Completed Title II design for second (N20-N25) and third (N25-N40) tunnel contracts, and completed Title I design for fourth (N40-N55) tunnel contract.

Started Title I design on first tunnel (N15-N20) contract finish.
Started Title I design for Test Beam tunnel (WP0-WP8) and surface building.
Completed Exploratory Shaft pilot hole; continued shaft reaming and instrumentation installation.
Awarded N15 Site infrastructure construction subcontract. Completed and opened Perimeter Road and continued New Arrowhead Road construction.
Awarded contract for N15 LCW plant construction; cooling tower delivered.
Continued Title I design on roads for Injector infrastructure. Advertised for bids for LINAC Stream Relocation.
Completed all MDL construction and turnover of facility to SSCL.
Advertised and received bids for first tunnel contract (basic tunnel, N15 to N20) and selected low bidder.
Conducted workshops to define conceptual design for GEM and SDC experimental facilities.
Continued excavating Exploratory Shaft and commenced instrumentation installation.
Awarded MTL structural steel package and foundation contract; re-bid general contractor contract.
Completed installation and connection of 480v temporary power to N15 site.
Transmitted to DOE the revised SSC Project Land Requirements (the Blue Book).
Completed final draft Master Plan and Site Development Plan.
Issued initial FY92 NTPs to PB/MK.
Completed SSCL Independent Cost Estimate of A-E/CM costs.

Issues/Concerns - Development of integrated cost and schedule systems.
Baseline cost estimate does not cover all A-E/CM costs.
Experimental facilities configuration uncertain; impacting on design & construction schedule; estimated costs exceed baseline.
Campus Complex design on hold.
Tunnel elevation change not approved by DOE.

Corrective Action - PMO activities underway to develop integrated cost and schedule systems.
Change Control action to reconcile A-E/CM PM&A costs to cover scope of subcontract as negotiated.
PRD actions to redefine Experimental Hall requirements; will then re-baseline schedule costs for facility design and construction.
SSCL management review of campus requirements, acquisition plan and timing underway.
PMO to follow up tunnel elevation change request with DOE.

**CCD
Exploratory Shaft (IR1 Location)**

Goal To provide large scale, in-situ, test input for the design of underground structures in Eagle Ford Shale rock strata.
To provide shaft access to the utility bypass and/or experimental facilities, at the IR1 location. Final function and finish-out to be determined.

WBS Elements **Description**
545 Exploratory Shaft (IR1)

Accomplishments Instrument installation underway.
Pilot hole complete (265'). Widening of shaft continuing: 8' ream to 242', 16' 6" ream complete to 195'.

<i>Cost Status (CFY)</i>	<i>Baseline Cost Estimate</i>	<i>EAC</i>
Title I & II Design (100% complete)	\$ 169K	\$ 147K
Title III	\$ 239K	\$ 219K
Construction Man. (70% complete)	\$ 120K	\$ 136K
Construction/Instrumentation	\$ 2,611	\$ 2,637
(estimated % of completion: shaft 80%, adit 0%)		

Issues and Concerns One month behind schedule due to unusually rainy October and December. Additional delay is expected from difficulties working in shale: unstable due to overbreaking.

Corrective Action Request for 24-day extension being negotiated. Contractors working 8-to-12-hour shifts, six days a week.

Condition Green

POC Ed Crumpley

Date January 10, 1992

**CCD
IR8 Experimental Facilities
SDC Detector**

Goal	To provide Physics Research Division with Experimental Hall and Surface Facilities.		
WBS Elements 543.3	Description	IR8 Underground Hall Shaft Structures and Surface Facilities	
Accomplishments	Siting on East Campus submitted for DOE approval, tentative approval for planning purposes received.		
Issues and Concerns	Significant scope and cost increases over baseline for Experimental Facilities. Delay beginning of underground Title I until March 1992 pending definition of scope/schedule/cost and CCB action.		
Corrective Action	Cost and scope reconciliation action being undertaken. Preparing information/documentation for CCB action. PB/MK preparing study for optimization of hall design and acceleration of construction.		
Condition	Red (Technical requirements and schedule)		
POC	Ed Crumpley	Date	January 10, 1992

CCD
Collider Infrastructure Other than N15 (E1)

Goal Provide necessary infrastructure to support BOD of each completed facility.

WBS Elements **Description**
 741.3 Infrastructure - Primary
 Infrastructure - Secondary

Accomplishments Title I site grading submitted for N20, N25, N30, N35, N40 with collider tunnel packages.

<i>Cost Status</i>	<i>CFY</i>
Baseline Cost Estimate	\$ 20.1M
EAC	\$ 20.1M

Issues and Concerns Off-site road improvements (county roads).

Corrective Action DOE working with TNRLC on off-site county roads.

Condition Green

POC Richard Wiebe

Date January 10, 1992

**CCD
East Campus (East Detector) Infrastructure**

Goal Provide necessary infrastructure to support BOD of each completed facility.

WBS Elements	Description
712.3	Infrastructure - Primary
713.3	Infrastructure - Secondary

Accomplishments NTP submitted to DOE for funding as part of Mod 26.

<i>Cost Status</i>	<i>CFY</i>
Baseline Cost Estimate	\$16M
EAC	\$16M

Issues and Concerns Delayed approval of Mod 27.

Corrective Action None.

Condition Green

POC Richard Wiebe

Date January 10, 1992

**CCD
Site Development (Master Plan)**

Goal	Develop a fully coordinated Site Development Plan to guide project planning and design.		
WBS Elements 117.0770	Description	Site Development Plan (Master Plan)	
Accomplishments	Printed site development plan.		
	<i>Cost Status</i>	<i>CFY</i>	
	Baseline Cost Estimate	\$ 0.9M	
	EAC	\$ 0.9M	
Issues and Concerns	Schedule slippage.		
Corrective Action	Have A-E/CM audit NTP and identify entry errors and correct. Complete SDP in-house through LTS (schedule TBD, anticipated completion week of January 17, 1992).		
Condition	Yellow (Schedule)		
POC	Robert W. Sims	Date	January 10, 1992

PHYSICS RESEARCH DIVISION (PRD)

PRD
Library and Information Services

Goal	Develop distributed information access and delivery system to avoid costly duplication of resources in remote locations Develop efficient and cost-effective methods for complying with DOE contract requirements concerning serials expenditures.
WBS Elements	Description
881	Library & Info Services
Accomplishments	<i>Reference/Public Service:</i> Total monographic circulation was 305 items; interlibrary loan requests totaled 122. <i>Serials:</i> Checked in 879 issues; placed 51 new orders; provided Table of Contents Service and photocopied articles for several departments; completed processing of major Faxon renewal invoice for FY92. <i>Cataloging/Processing:</i> Cataloged 280 new records; 161 additional copies; completed cataloging of the Software Evaluation Collection; completed processing of all DLC copy; continued work on the QCD reclass project. <i>HEP Documents:</i> Received 419 preprints; added 342 new titles to the database which contains over 12,100 preprints; posted 36 conference announcements; began updating records in Preprints/Reports database. <i>Acquisitions:</i> Ordered 155 monographic items and received 207 monographic items; total for 1991 was 4330 monographic items ordered and 3273 monographic items received; began setting up display of IRS forms. <i>Newsclipping/Media Coverage:</i> Clipped and distributed 40 newspaper articles. <i>Special Collections:</i> Continued organizing the records of the Central Design Group; transferred material from several units including External Affairs and Technical Publications.
Issues and Concerns	A continuous problem is inadequate space. As the library collection increases our very limited amount of spaces decreases, causing very crowded and inadequate working conditions.
Corrective Action	Find additional space as the Laboratory expands and personnel are relocated to the Central Facility.
Condition	Green
POC	P. Kreitz
	Date January 17, 1992

**PRD
Detector R&D**

Goal	To carry out detector R&D necessary to establish technologies for the initial SSC detectors.		
WBS Elements	Description		
51X	Detector R&D		
Accomplishments	The SSC Detector Subsystems R&D Committee met for the second time this fiscal year in Dallas on December 3 - 4, 1991. At this meeting the Committee reviewed the remaining progress reports on FY91 activities and proposals for FY92. Unlike the October meeting of the Committee, the GEM and SDC R&D engineering plans were in hand and the Committee was able to make final recommendations on the funding levels for the proposals that fall outside of those plans. At the end of the meeting the Committee established first and second priority rankings for those efforts that it considered worthy of support. The total funding available is between one and two million dollars and the sum of the funds recommended for the first priority proposals falls in this range.		
Issues and Concerns	None.		
Corrective Action	None.		
Condition	Green		
POC	F. Gilman	Date	January 17, 1992

PRD
Experimental Detectors

Goal	Decide on initial experimental program and support the management, engineering, design, and construction of SSC detectors.	
WBS Elements	Description	
52X	SDC	
Accomplishments	<p><i>Physical Sciences Laboratory (PSL) - Muon</i> - A preliminary design for support of the muon chambers has been achieved. Mechanical tests and cosmic ray studies are continuing on prototype chambers. Cost and schedule efforts are continuing.</p> <p><i>Physical Sciences Laboratory (PSL) - Trigger</i> - Studies of the calorimeter trigger system are continuing. Pre-amplifiers for the trigger-readout system have been designed and prototyped. The global clock and control system has been reviewed and revised.</p> <p><i>Fermi National Laboratory (FNAL)</i> - A Muon Alignment and Position Monitor system report was completed. Efforts are continuing on development of specific position monitoring devices. The parameters of the calorimeter design were reviewed and revised. Design work is continuing on the solenoid and associated cryogenics.</p> <p><i>Argonne National Laboratory (ANL)</i> - Work centered on optimization of the Lead Scintillator Plate Calorimeter parameters and associated design. A number of beam studies were performed with development modules in the Fermilab test beam.</p> <p><i>ICF Kaiser Engineers (KE)</i> - The preliminary design of the forward toroid steel and the toroid transport mechanism was initiated.</p> <p><i>Lawrence Berkeley Laboratory</i> - Options for the placement of electronic crates were reviewed and efforts continued on electronic access issues. Scintillating Tile Calorimeter design efforts focused on a replaceable hadronic end-plug module and on an alternative concept for the endcap EM section.</p> <p><i>University of Chicago</i> - Work is continuing on Monte Carlo simulations regarding subsystem participation in the trigger system and their impact on trigger rates. Concept development of the overall trigger system architecture was initiated.</p> <p><i>Martin Marietta</i> - The total muon system cost estimate was updated based on design changes. A magnetic analysis of the solenoid and muon toroid was performed. A plan for overall system installation was developed.</p>	
Issues and Concerns	None.	
Corrective Action	None.	
Condition	Green	
POC	M. Gilchriese	Date January 17, 1992

**PRD
FY92 Deliverables/Milestones**

WBS	Milestone	Baseline Schedule	Current Projection	Condition Appraisal
5.5	Test beam facility requirements set	Jan 92	Jan 92	Green
	Test beam shielding and radiation safety system requirements set.	Apr 92	Apr 92	Green
	Complete concepts for technical proposal	Apr 92	Apr 92	Green
	Detector facility conceptual designs complete	May 92	May 92	Green
	Proceed with equipment design procurement and installation.	Sep 92	Sep 92	Green
	Alternatives for Early test beams examined	Jan 92	Mar 92	Yellow, SDC cannot establish requirements until Spring
	Hall Title I designs reviewed	Apr 92	Jun 92	Red, Start of Title I is delayed
	Detector surface facility requirements updated	Apr 92	Apr 92	Green

A Complete

**PRD
FY92 Deliverables/Milestones**

WBS	Milestone	Baseline Schedule	Current Projection	Condition Appraisal
52X (cont.)	Complete conceptual design reports for large detectors which include: A. Establishment of detector hall rqmts B. Establishment of facility rqmts	Nov 91	Apr 92	Red (SDC & GEM behind but proceeding; could cause delays in overall experimental program)
	Complete PAC reviews for large detectors and associated facilities	Feb 92	Jun 92	Red (Same as above)
	Start procurement of magnet and steel for large detectors	Mar 92	Jun 92	Red (Same as above)
	Complete the detailed technical evaluation and review of large detector proposals	Sep 92	Oct 92	Yellow
53X	Acquire and install up to 4000 MIPS of distributed, UNIX-based computing hardware for detector simulation	Sep 92	Sep 92	Green
	Establish full physics simulation effort at SSCL	Sep 92	Sep 92	Green

A Complete

DIRECTORATE DIVISION

DIRECTORATE DIVISION

Goal	To oversee and direct Laboratory activities.		
WBS Elements	Description	WBS Elements	Description
881.8831	Director's Office	881.8831	Planning Office
881.8831	ES&H Oversight		
Accomplishments	<p>The Program Advisory Committee (PAC) met from December 15 -17 at the SSCL in Dallas. The PAC heard a progress report from the SDC, and a presentation of the GEM collaboration's LOI. The PAC recommended that the SDC request for R&D funds in FY92 be supported, and that the GEM collaboration be supported to proceed towards the development of a Technical Design Report.</p> <p>An interim Oxygen Deficiency Hazard policy was formulated this month primarily for working with ASST cryogenes. An ES&H Oversight staff member finished a channeling experiment at State University of New York, Albany, which shows that single silicon crystals will survive radiation damage long enough to be useful for extracting a small fraction of the proton beam from the Super Collider.</p> <p>Inspections were performed for Phase III and IV occupancy and for RF cavity operations at Central Facility. The monthly hazardous materials inventory for each SSCL building is being placed in the Haz Mat boxes for use by the Fire Department in an emergency.</p> <p>An ES&H Oversight staff member attended a meeting in Washington, D.C. to discuss the new draft DOE ES&H Order for accelerator facilities and a LAMPF workshop on accelerator beam safety at Los Alamos.</p> <p>Preparatory work was undertaken for the Field Task Proposal/Agreement (FTP/A). Efforts focussed on setting up the task force and informing Associate Directors about the report plan and schedule.</p> <p>Efforts continued on development of the SSCL Operations and Commissioning Plan in preparation for upcoming HEPAP reviews. A draft of the criteria for final approval of major detectors was developed for discussion at the next PAC meeting. In cooperation with the Physics Division, a cover letter was developed to expedite DOE approval of Memorandum Purchase Orders and Purchase Orders to institutions involved in the major detector collaborations. Efforts continue in the development of the Solenoidal Detector Collaboration Management Plan.</p> <p>Coordinates of the underground "stratified fee estate" to be acquired by the State of Texas were re-examined as a result of the change in ring elevation.</p> <p>Planning Group personnel are assisting the organization of the detailed program for the 1992 International High Energy Physics Conference.</p>		
Issues and Concerns	None.		
Corrective Action	None.		
Condition	Green		
POC	Raphael Kasper		Date January 17, 1991

LABORATORY TECHNICAL SERVICES (LTS) DIVISION

LTS

Goal	Provide high quality technical support services within approved manpower and budget guidelines.
WBS Elements	Description Laboratory Technical Services
Accomplishments	Completed Phase III in the Central Facility. Drywall plans for the Mezzanine and the Annex Building were approved by PMO and the DOE. Drawings and formats were prepared for the LINAC Source Lab and the ION Source Lab. The Magnet Development Laboratory was turned over to LTS for full operation and maintenance. Construction Safety Procedures for Subcontracts were approved and issued. The welding/assembly sequence of the Accelerator Test Spool was completed. The unit passed the pressure test and was shipped to FNAL for the final testing program. The Document Control Manager, under the direction of the Project Management Organization, is preparing guidelines and procedures on file naming, engineering documentation change procedures, and preparation and updating of specifications. Five employees took the American Society for Quality Control (ASQC) Certified Auditor examination.
Issues and Concerns	None.
Corrective Action	None.
Condition	Green
POC	Jack Story
	Date January 16, 1992

COMPUTING DIVISION

COMPUTING DIVISION
Computer Protection Program Mgmt/Acquisition

Goal To be the clearinghouse for all (1) computer hardware paperwork and (2) laboratory software.

WBS Elements **Description**

893.8932 Computer Acquisition Group

Accomplishments Submitted the following acquisition plans to DOE during the month of December for review:
FY94 - FY98 Information Resources Management Plan;
Data communications gateway/routers for Computing Division;
Intergraph CAD/CAE Workstations for PRD;

Received DOE approval for the following acquisition plans:
Procurement and General Ledger MIS System-hardware and software;
PDSF Sun/SGI Upgrades;
PDSF Tertiary Storage Equipment;
Source Code Management System (CMZ).

The following acquisition plans have been cancelled by the requisitioner:
Material Safety Data System for LTS.

Issues and Concerns No major issues to discuss at this time.

Corrective Action N/A

Condition Green

POC Bob Hahn

Date January 16, 1992

**COMPUTING DIVISION
Operations Center**

Goal	To provide (1) operation support for central computers and (2) installation and repairs for computers.	
WBS Elements 893.8934	Description Computing Operations Support	
Accomplishments	Successfully accomplished Christmas backup schedule. Completed modification to the archive routine that allows backup up of all the system files via batch. Performed numerous conversions of data files while upgrading DELTEK to version 3.3. Removed and replaced the old version of the Poisson codes with the new versions. Completed installation of MRP system on SSCUX2 (the first MIS system on a UNIX platform at the SSCL).	
Issues and Concerns	No major issues to discuss at this time.	
Corrective Action	N/A	
Condition	Green	
POC	Ken Damrau	Date January 16, 1992

**COMPUTING DIVISION
Networking Services**

Goal	To plan, install, administer, and maintain general network hardware.
WBS Elements 893.8936	Description Computing Networking Support
Accomplishments	Completed communications wiring evaluation for the ASST. Completed communications wiring evaluation for the N15 Site ADOD trailers. Completed wiring of two trailers prior to their being moved from Stoneridge to the N15 Site. Completed installation of networking equipment in the Phase III area of the Central Facility.
Issues and Concerns	No major issues to discuss at this time.
Corrective Action	N/A
Condition	Green
POC	Terry Johnson
	Date January 16, 1992

PROJECT MANAGEMENT (PM) DIVISION

PMO Cost/Scheduling Reporting

Goal 1) Develop an Integrated Project Schedule (IPS) at Tier II detail by June 1991. 2) Develop and implement a new WBS by October 1991. 3) Implement Integrated Cost and Schedule Program (CS²) by October 1991.

WBS Elements 115.0530 **Description**
Cost/Scheduling Reporting

Accomplishments

- 1) IPS is integrated and in review cycle with task managers for concurrence on logic, durations and milestones.
- 2) WBS is with DOE for approval. Mapping of financial data to new WBS is complete. WBS dictionary is under development. Responsibility Assignment Matrix (RAM) is complete. The new WBS is being incorporated into the IPS.
- 3) PMO is preparing revised draft Laboratory Management System (LMS) System Description consistent with DOE's guidance. The development of procedures has also been initiated. The Divisions have been provided all necessary data to begin assigning cost to the IPS to resource level schedule and to develop Performance Measurement Baseline data.

Issues and Concerns

- 1) The review time for concurrence is taking too long. Milestones need review for logic and detail.
- 2) DOE requires WBS dictionary to complete review. Dictionary is still being reviewed by Divisions.
- 3) Due to FY92 budget review process continuing with no finalization, no planning data will be provided in Cobra for the month of October. Not all divisions are submitting cost at the IPS level.

Corrective Action

- 1) PMO will initiate a review process to ensure durations, milestones, and logic are accurate, and ensure all WBS elements are represented in the IPS.
- 2) WBS dictionary current forecast completion is February 1992.
- 3) FY92 budget reviews must be finalized and targets provided for divisions to input into the Cobra cost processor. The cost needs to be assigned at the IPS level to provide resource leveling. PMO will assist all Divisions that have not assigned cost to the IPS. Forecast completion is February 1992.

Condition Red (Technical)

POC Larry Sluiter Date January 17, 1991