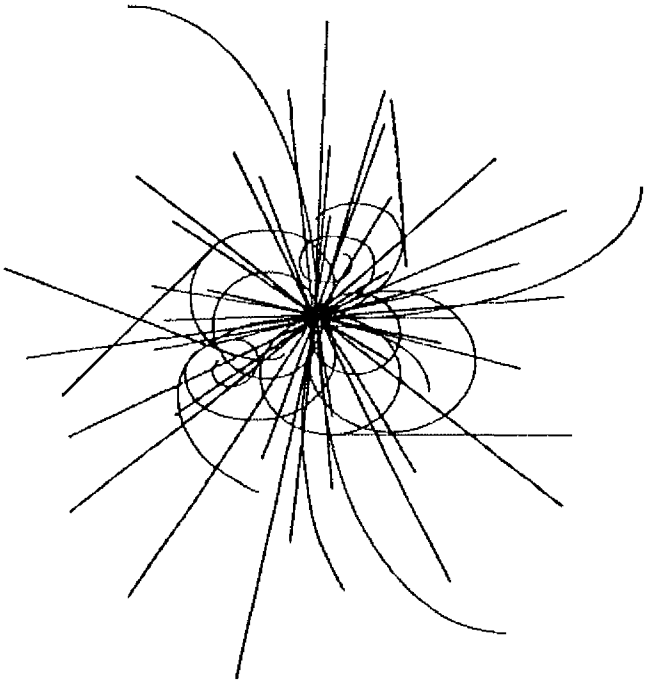
SSCL-291

SSC PROJECT

MONTHLY PROGRESS REPORT

SEPTEMBER 1990



SSC LABORATORY

PROJECT MANAGER'S PROGRESS REPORT
PART I

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
Superconducting Super Collider Laboratory DE-AC02-89ER40486

1b. REPORTING PERIOD
August 27, 1990 - September 30, 1990

1c. MANAGING DOE FIELD LOCATION

SSC Project Office
2550 Beckleymeade Ave., MS1020
Dallas, Texas 75237

1d. PROJECT SPONSOR/PROGRAM OFFICE CONTACT

Joseph R. Cipriano

1e. PROJECT MANAGER

Paul Reardon

1f. PERFORMING ORGANIZATION(S)

Universities Research Association, Inc.
1111 19th St. N.W., Suite 400
Washington, D.C. 20036

2a. SUMMARY STATUS

Green	Yellow	Red
G	Y	R

	LAST PERIOD	THIS PERIOD
COST	G	G
SCHEDULE	G	G
TECHNICAL	G	G
OVERALL PROJECT	G	G

DCormell/9/19/90

PROJECT MANAGER'S PROGRESS REPORT PART I	PROJECT TITLE: *Superconducting Super Collider Laboratory*

2b. PROJECT MANAGER'S NARRATIVE HIGHLIGHTS AND KEY ISSUES (See item 5 for details on problems and variances)

- Public hearing on the SEIS were held on September 19 and 20. No new issues or concerns were reaised.
- The Scientific Policy Committee's subcommittee on foreign collaborations met with DOE and State Department representatives to discuss foreign participation in the SSC.
- The laboratory added 68 new employees, bringing the total to 815.
- A contract was awarded for the refrigeration plants for the Magnet Development Laboratory and the E1 complex support facilities, by the Cryogenic Engineering group of the ASD.

PROJECT MANAGER'S PROGRESS REPORT PART I	PROJECT TITLE: Superconducting Super Collider Laboratory

3. SUMMARY FUNDING/COST STATUS (000) (See item 5 for Variance Analysis)

3a. TOTAL PROJECT

ITEM	BASELINE	FUNDING	CURRENT EST
Total Project Cost (TPC)	176,676	176,676	176,676
DOE	176,676	176,676	176,676
Texas			
Other: Foreign			
Other: Industry			
Total Est'd Cost (TEC)	58,863	58,863	58,863
DOE	58,863	58,863	58,863
Non-DOE			

3b. CUMULATIVE TO DATE

ITEM	AMOUNT
Remaining Contingency	
Approved TEC of Current Subprojects	176,676
Appropriations (DOE Fin-Plans)	176,676
Appropriations (Texas)	
Appropriations (Other - Foreign)	
Appropriations (Other - Industry)	
Contractor Commitments	26,600
Contractor Incurred Costs	141,151

3c. BASELINE DOCUMENTATION:

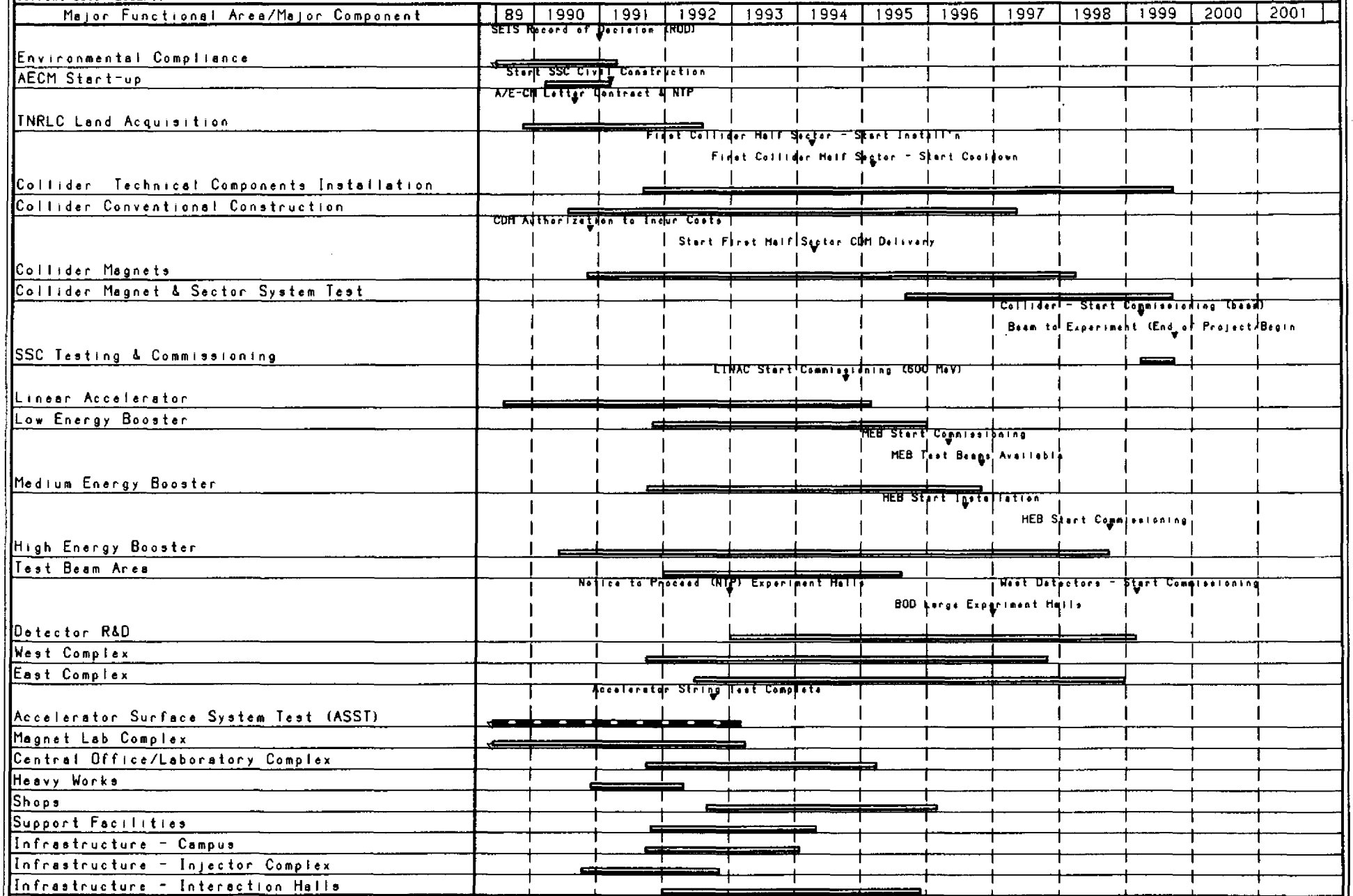
DOCUMENT TITLE _____ APPROVING OFFICIAL _____ DATE _____

Superconducting Super Collider
Summary Barchart
Current date: 20SEP90

Technical Baseline Master Schedule: Ver12.6A

Summary Master Schedule

PROJSUMS
BL12R6



General SSCL Actions
Critical Segment
Milestone

KEY ASSUMPTIONS:
Magnet CDM Authorization to incur cost Nov.1990.
A/E-CM Letter Contract & NTP on 17 August 1990.
DOE has SEIS ROD on 30 DEC 1990 & no EAs/Ltrs.
Award of Cryogenic Plant contract in NOV 1990.

APPROVALS:

Tech Dir: DATE:
PMO DPM: DATE:
PMO PMGR: DATE:
Director: DATE:

Superconducting Super Collider

Technical Baseline Master Schedule: Ver12.6A

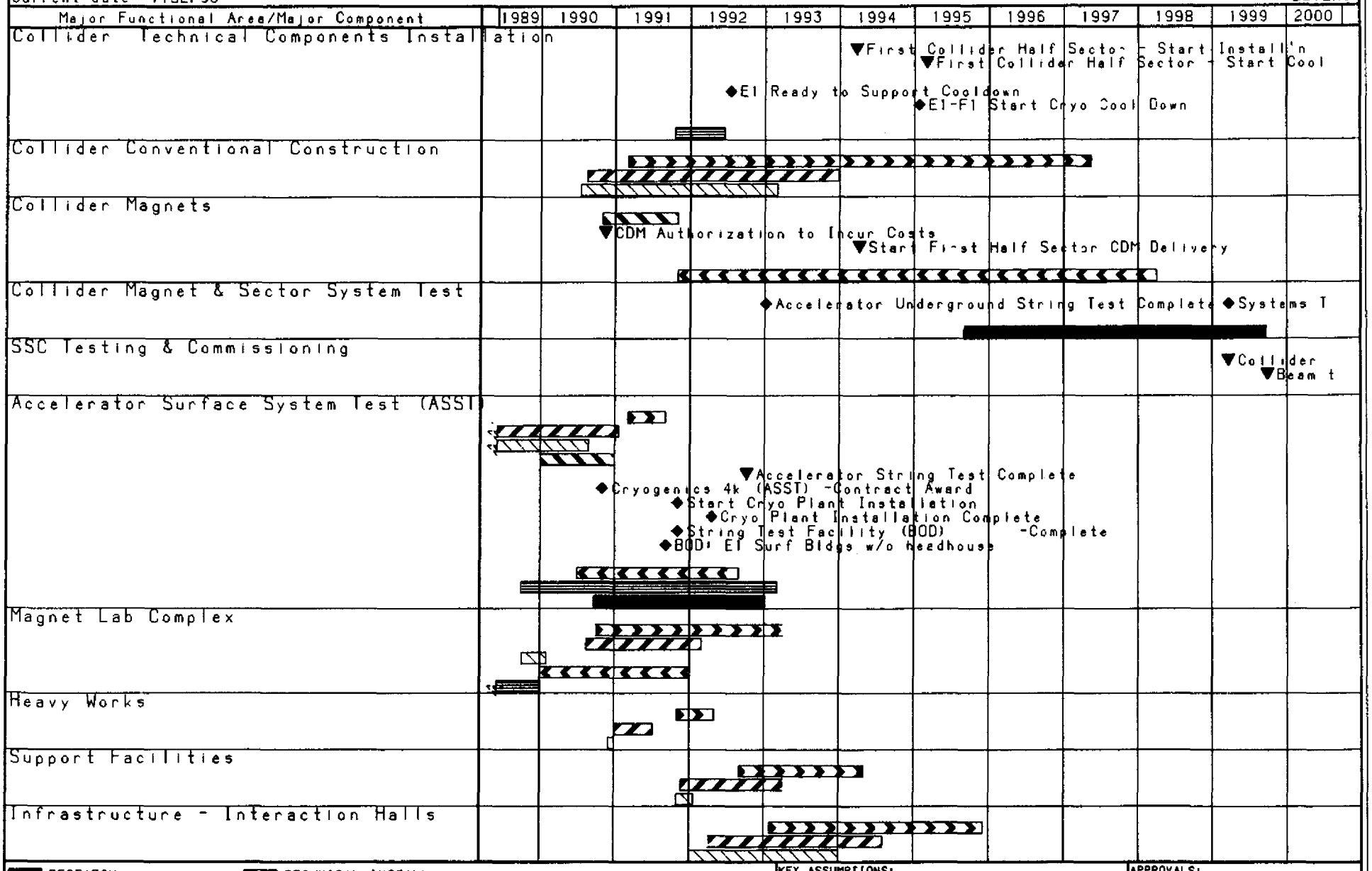
SUMMARY SCHEDULE

COLLIDER RING

sun-col

BL12R6

Current date: 11SEP90



RESEARCH
TECHNICAL DESIGN
PROC./FABRICATION
FAC.PREDESIGN/CRITER
A/E DESIGN
CONV. CONSTRUCTION
TECHNICAL INSTALL
TEST & ACCEPTANCE
DOE MILESTONE
LEVEL 1 MILESTONE

KEY ASSUMPTIONS:

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DOE has SEIS ROD on 30 DEC 1990 & no EAs/Ltrs.
Award of Cyrogenic Plant contract in NOV 1990.

APPROVALS:

CCD ADir: DATE:
ADiv. AD: DATE:
Tech Dir: DATE:
PMO DPM: DATE:
PMO PMGR: DATE:

Data Transmitted to PMGR on:

Superconducting Super Collider

SUMMARY SCHEDULE

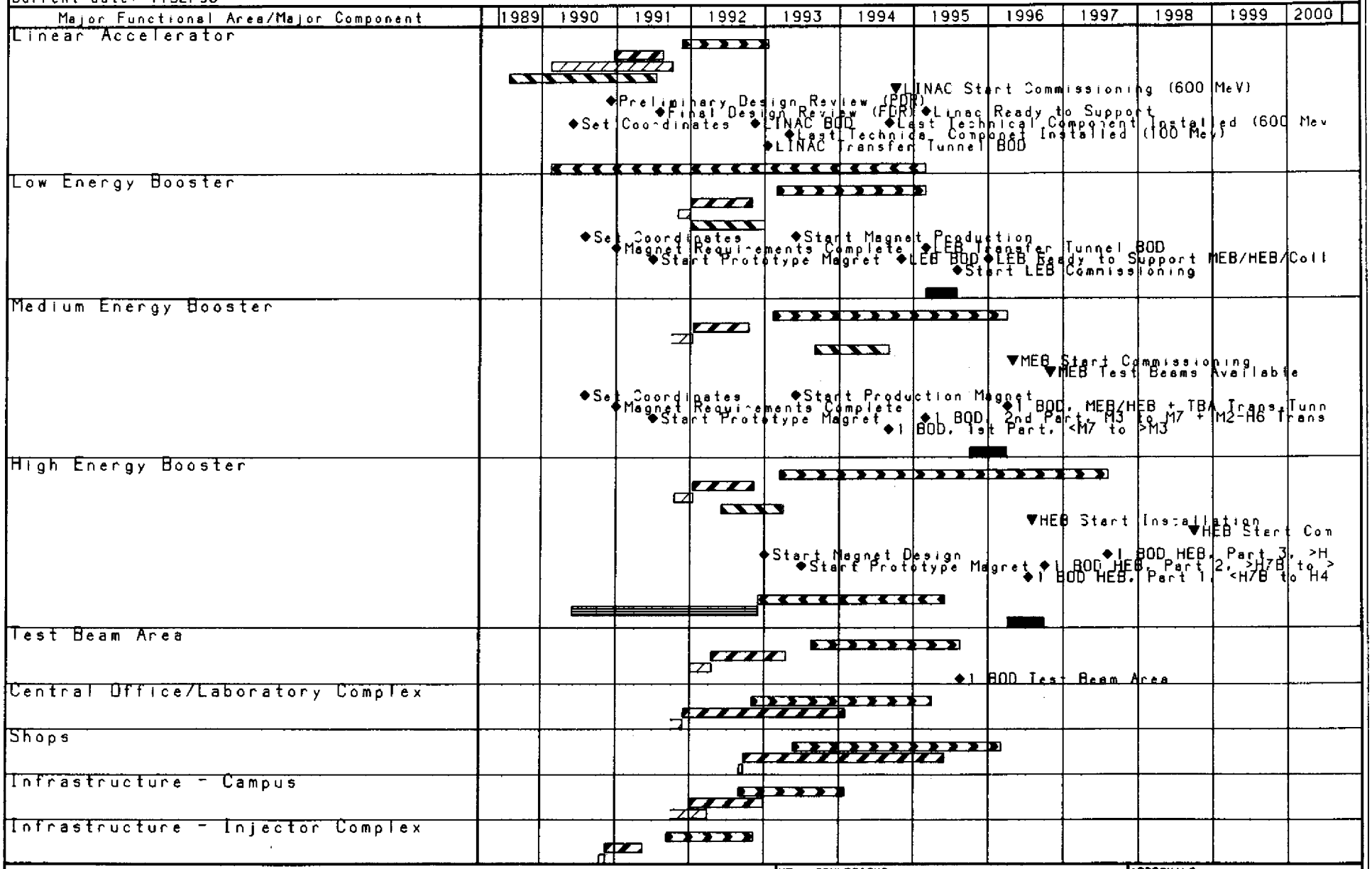
Current date: 11SEP90

INJECTOR

Technical Baseline Master Schedule: Ver12.6A

SUM-AC1

BL12R6



RESEARCH
TECHNICAL DESIGN
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APPROVALS:

CCD ADir: DATE:
ADiv. AD: DATE:
Tech Dir: DATE:
PMO DPM: DATE:
PMO PMGR: DATE:

Data Transmitted to PMRS on:

Superconducting Super Collider

SUMMARY SCHEDULE

Current date: 11SEP90

EXPERIMENTAL

Technical Baseline Master Schedule: Ver12.6A

SUM-EXI

BL12R6

Major Functional Area/Major Component	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Detector R&D												
Experimental Facilities				Experiment Facilities: Stage I Approvals	Notice to Proceed (NTP) Experiment Halls		80D Large Experiment Halls	East Experiment Halls	West Detectors - Start Commis East Detectors - Start Commi			
West Complex												
West Complex												
IR-4 Experimental Facility												
IR-1 Experimental Facility												
East Complex												
East Complex												
IR-5 Experimental Facility												
IR-8 Experimental Facility												
Infrastructure - Interaction Halls												
Infrastructure - West Experiment Facilities												
Infrastructure - East Experiment Facilities												
Infrastructure - East Experiment Facilities												

RESEARCH
TECHNICAL DESIGN
PROC./FABRICATION
FAC.PREDESIGN/CRITER
A/E DESIGN
CONV. CONSTRUCTION
TECHNICAL INSTALL
TEST & ACCEPTANCE
DOE MILESTONE
LEVEL I MILESTONE

KEY ASSUMPTIONS:

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APPROVALS:

CCD ADir: DATE:
ADiv. AD: DATE:
Tech Dir: DATE:
PMO DPM: DATE:
PMO PMGR: DATE:

Date Transmitted to PMCS on:

PROJECT MANAGER'S PROGRESS REPORT PART I	PROJECT TITLE: Superconducting Super Collider Laboratory		
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
5b. *ITEMS REQUIRING SSCL/CUSTOMER ACTION*			
Timely SSCL proposal analysis and recommendation of CDM contracts and quick DOE approval to incur costs	*Possible delay of Dipole Magnet Industrialization Program and impact on delivery times of contractor produced magnets for installation.*	*Focused effort by MSD and SSCL Procurement, frequent monitoring by PMO and DOE/OPO, and prompt review and commence by OSSC.*	
Timely approval of key salaries by DOE for controls group leader and ASD section heads.	Missed schedule for ASST in controls and electrical engineering.	Better focused rollups submitted to DOE by SSCL.	

CONTRACTOR: SSC LABORATORY LOCATION: DALLAS,TX RDT&E [X] PRODUCTION [ ]	COST PERFORMANCE REPORT - WORK BREAKDOWN STRUCTURE CONTRACT TYPE/NO: DE-AC02-89ER40486 PROGRAM NAME/NUMBER: REPORT PERIOD From: 27-AUG-90 To: 30-SEP-90	SIGNATURE,TITLE & DATE 30-SEP-90	FORM APPROVED OMB NUMBER 22R0280

QUANTITY	NEG COST	EST COST AUTH UNPR	TARGET PROFIT/FEE	EST PRICE	TGT PRICE	SHARE RATIO	CONTR CEILING	EST CEILING
0	$0	$0	$0/ 0.00%	$0	$0		$0	$0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE			LATEST REVISED EST	
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET		VAR
1 TECHNICAL SYSTEM	8922	8922	2503	0	6419	27051	27051	13586	0	13464	27051	27051	0
2 CONVENTIONAL CONSTRUCTION	7247	7247	2859	0	4387	23779	23779	19045	0	4734	23779	23779	0
3 PROJECT MANAGEMENT & SUPPORT FUNCTION	1674	1674	727	0	947	8365	8365	6227	0	2138	8365	8365	0
4 R&D & PRE-OPERATIONS	17105	17105	14762	0	2343	106015	106015	95229	0	10786	106015	106015	0
5 EXPERIMENTAL SYSTEMS	41	41	12	0	29	303	303	299	0	4	303	303	0
7 ESCALATION & CONTINGENCY	0	0	0	0	0	0	0	0	0	0	0	0	0
COST OF MONEY						CONTINUED							
GEN AND ADMIN (NON ADD)													
UNDISTRIBUTED BUDGET													
SUBTOTAL													
MANAGEMENT RESERVE													
TOTAL													

CPR Format 1 DOLLARS IN THOUSANDS Page: 1

CONTRACTOR: SSC LABORATORY LOCATION: DALLAS,TX RDT&E [X] PRODUCTION [ ]	COST PERFORMANCE REPORT - WORK BREAKDOWN STRUCTURE CONTRACT TYPE/NO: DE-AC02-89ER40486	PROGRAM NAME/NUMBER:	REPORT PERIOD From: 27-AUG-90 To: 30-SEP-90	SIGNATURE,TITLE & DATE 30-SEP-90	FORM APPROVED OMB NUMBER 22R0280

QUANTITY	NEG COST	EST COST AUTH UNPR	TARGET PROFIT/FEE	EST PRICE	TGT PRICE	SHARE RATIO	CONTR CEILING	EST CEILING
0	$0	$0	$0/ 0.00%	$0	$0		$0	$0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
6 LAB OPERATIONS SUPPORT	2472	2472	1414	0	1059	8567	8567	6772	0	1796	8567	8567	0
COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0
GEN AND ADMIN (NON ADD)	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDISTRIBUTED BUDGET											0	0	
SUBTOTAL	37461	37461	22278	0	15183	174079	174079	141158	0	32921	174079	174079	0
MANAGEMENT RESERVE											2598	2598	0
TOTAL	37461	37461	22278	0	15183	174079	174079	141158	0	32921	176677	176677	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 2

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
1 TECHNICAL SYSTEM	8922	8922	2503	0	6419	27051	27051	13586	0	13464	27051	27051	0
1.1 ACCELERATOR SYSTEMS	1348	1348	0	0	1348	2444	2444	0	0	2444	2444	2444	0
1.1.1 MANAGEMENT/SUPPORT	1348	1348	0	0	1348	2444	2444	0	0	2444	2444	2444	0
1.1.2 LINAC SYSTEM	0	0	0	0	0	0	0	0	0	0	0	0	0
1.1.3 LEB SYSTEM	0	0	0	0	0	0	0	0	0	0	0	0	0
1.1.4 MEB SYSTEM	0	0	0	0	0	0	0	0	0	0	0	0	0
1.1.5 HEB SYSTEM	0	0	0	0	0	0	0	0	0	0	0	0	0
1.1.6 COLLIDER SYSTEM	0	0	0	0	0	0	0	0	0	0	0	0	0
1.1.7 TEST BEAMS	0	0	0	0	0	0	0	0	0	0	0	0	0
1.1.8 GLOBAL ACCELERATOR S YSTEM	0	0	0	0	0	0	0	0	0	0	0	0	0
1.2 MAGNET SYSTEMS	7574	7574	2503	0	5070	24606	24606	13586	0	11020	24606	24606	0
1.2.1 SYSTEM MANAGEMENT	3025	3025	1278	0	1746	12093	12093	8215	0	3878	12093	12093	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 3

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
1.2.2 HIGH ENERGY BOOSTER (HEB) MAGNET PRODUCT	0	0	8	0	-8	25	25	35	0	-10	25	25	0
1.2.3 COLLIDER RING (CR) M AGNET PRODUCTION	4549	4549	745	0	3804	11860	11860	3974	0	7886	11860	11860	0
1.2.4 SSCL EQUIPMENT/TOOLI NG	0	0	472	0	-472	629	629	1363	0	-734	629	629	0
2 CONVENTIONAL CONSTRU CTION	7247	7247	2859	0	4387	23779	23779	19045	0	4734	23779	23779	0
2.1 CONVENTIONAL CONSTRU CTION ACCELERATOR	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1.1 CONVENTIONAL CONSTRU CTION ADMINISTRATION	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1.2 LINAC	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1.3 LEB	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1.4 MEDIUM ENERGY BOOSTE R (MEB)	0	0	0	0	0	0	0	0	0	0	0	0	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 4

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
2.1.5 HEB	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1.6 COLLIDER	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1.7 TEST BEAM	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2 CONVENTIONAL SYSTEM, EXPERIMENTAL	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2.1 WN REGION	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2.2 WS REGION	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2.3 EN REGION	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2.4 ES REGION	0	0	0	0	0	0	0	0	0	0	0	0	0
2.2.5 SUPPORT FUNCTIONS	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3 SITE & INFRASTRUCTURE	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3.1 PRIMARY SYSTEMS - OF F-SITE	0	0	0	0	0	0	0	0	0	0	0	0	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 5

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
2.3.2 PRIMARY SYSTEMS - ON -SITE	0	0	0	0	0	0	0	0	0	0	0	0	0
2.3.3 SECONDARY SYSTEMS - ON-SITE	0	0	0	0	0	0	0	0	0	0	0	0	0
2.4 CAMPUS	0	0	0	0	0	0	0	0	0	0	0	0	0
2.4.1 CENTRAL LAB/OFFICE A REA	0	0	0	0	0	0	0	0	0	0	0	0	0
2.4.2 MAGNET LABORATORY	0	0	0	0	0	0	0	0	0	0	0	0	0
2.4.3 ACCELERATOR FACILITI ES	0	0	0	0	0	0	0	0	0	0	0	0	0
2.4.4 ENVIRONMENTAL HEALTH FACILITE	0	0	0	0	0	0	0	0	0	0	0	0	0
2.5 AE/CM	7247	7247	2859	0	4387	23779	23779	19045	0	4734	23779	23779	0
2.5.1 ARCHITECTURAL ENGINE ERING	2497	2497	16	0	2481	7146	7146	3611	0	3536	7146	7146	0
2.5.2 CONSTRUCTION MANAGEM ENT	4749	4749	2843	0	1906	16633	16633	15434	0	1199	16633	16633	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 6

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
3 PROJECT MANAGEMENT & SUPPORT FUNCTION	1674	1674	727	0	947	8365	8365	6227	0	2138	8365	8365	0
3.1 PROJECT MANAGEMENT	1165	1165	540	0	625	5877	5877	4393	0	1484	5877	5877	0
3.1.1 PROJECT MANAGEMENT O FFICE	155	155	188	0	-33	1474	1474	1450	0	23	1474	1474	0
3.1.2 PLANNING	380	380	49	0	331	1501	1501	885	0	616	1501	1501	0
3.1.3 PMRS	183	183	56	0	127	1043	1043	788	0	255	1043	1043	0
3.1.4 ENGINEERING STANDARD S	236	236	94	0	143	615	615	289	0	326	615	615	0
3.1.5 ENVIRONMENTAL AFFAIR S	210	210	154	0	57	1243	1243	980	0	264	1243	1243	0
3.1.6 OFFICE OF TECHNICAL DIRECTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
3.2 Projects Systems Eng ineering	509	509	187	0	322	2488	2488	1834	0	654	2488	2488	0
4 R&D & PRE-OPERATIONS	17105	17105	14762	0	2343	106015	106015	95229	0	10786	106015	106015	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 7

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
4.1 ACCELERATOR PRE-OPERATION	0	0	0	0	0	0	0	0	0	0	0	0	0
4.2 RESEARCH & DEVELOPMENT	11627	11627	9516	0	2110	70964	70964	62378	0	8587	70964	70964	0
4.2.1 ACCELERATOR R&D	4612	4612	3761	0	852	24696	24696	20693	0	4003	24696	24696	0
4.2.2 MAGNET R&D	6714	6714	5612	0	1101	45115	45115	40689	0	4426	45115	45115	0
4.2.3 PHYSICS R&D	301	301	144	0	157	1153	1153	995	0	157	1153	1153	0
4.3 LAB ADMINISTRATION SERVICES & SUPPORT	1397	1397	1517	0	-120	11561	11561	11624	0	-62	11561	11561	0
4.3.1 LAB ADMINISTRATION SERVICES & SUPP OFFIC	563	563	616	0	-53	3810	3810	3731	0	79	3810	3810	0
4.3.2 LAB ACCOUNTING & FINANCE	216	216	188	0	29	2165	2165	2144	0	22	2165	2165	0
4.3.3 LAB PROCUREMENT & CONTRACTS	323	323	301	0	22	2715	2715	2661	0	54	2715	2715	0
4.3.4 LAB TRAVEL SERVICES	32	32	23	0	9	153	153	127	0	25	153	153	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 8

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
4.3.5 LAB HUMAN RESOURCES	118	118	322	0	-204	2169	2169	2569	0	-400	2169	2169	0
4.3.6 LAB ADMINISTRATION SYSTEM & SUPPORT SERV	38	38	0	0	38	73	73	0	0	73	73	73	0
4.3.7 LAB MINORITY PROGRAMS	107	107	68	0	38	477	477	392	0	85	477	477	0
4.3.8 LAB INTERNAL AUDIT	0	0	0	0	0	0	0	0	0	0	0	0	0
4.4 LAB TECHNICAL SUPPORT	2881	2881	2498	0	383	15445	15445	13389	0	2056	15445	15445	0
4.4.1 LAB TECHNICAL SUPPORT MANAGEMENT	263	263	192	0	71	1607	1607	1519	0	88	1607	1607	0
4.4.2 LAB FACILITIES ENGINEERING SERVICES	386	386	482	0	-96	4280	4280	4169	0	111	4280	4280	0
4.4.3 MATERIAL & LOGISTIC SERVICES	145	145	132	0	13	1011	1011	919	0	92	1011	1011	0
4.4.4 LAB FABRICATION SHOPS	255	255	226	0	29	601	601	342	0	259	601	601	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 9

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
4.4.5 LAB GENERAL COMPUTER SERVICES	545	545	329	0	215	3380	3380	2837	0	544	3380	3380	0
4.4.6 DESIGN SUPPORT	290	290	184	0	106	1054	1054	768	0	286	1054	1054	0
4.4.7 LAB COMMUNICATIONS	672	672	722	0	-50	2357	2357	1953	0	404	2357	2357	0
4.4.8 ENGINEERING SUPPORT	104	104	46	0	57	448	448	326	0	122	448	448	0
4.4.9 METROLOGY LABORATORY	78	78	37	0	40	247	247	141	0	106	247	247	0
4.4.10 PROTECTIVE SERVICES	5	5	0	0	5	10	10	0	0	10	10	10	0
4.4.11 STAFF SERVICES	140	140	148	0	-8	448	448	414	0	34	448	448	0
4.5 LAB DIRECTORATE	290	290	690	0	-400	5088	5088	5636	0	-548	5088	5088	0
4.5.1 LAB DIRECTOR'S OFFICE	129	129	439	0	-310	3071	3071	3543	0	-473	3071	3071	0
4.5.2 LAB EXTERNAL AFFAIRS	48	48	100	0	-52	567	567	600	0	-33	567	567	0
4.5.3 LAB LEGAL SERVICES	22	22	91	0	-68	347	347	432	0	-85	347	347	0
4.5.4 LAB RESEARCH & TECHNICAL ASSESSMENT	-0	-0	0	0	-0	0	0	1	0	-1	0	0	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 10

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
4.5.5 LAB USERS' OFFICE	16	16	-25	0	41	251	251	212	0	39	251	251	0
4.5.6 LAB ENVIRONMENT HEALTH & SAFETY	39	39	62	0	-23	504	504	522	0	-18	504	504	0
4.5.7 LAB PLANNING OFFICE	36	36	24	0	12	348	348	325	0	22	348	348	0
4.5.8 LAB INTERNATIONAL COORDINATION	0	0	0	0	0	0	0	0	0	0	0	0	0
4.6 EXPERIMENTAL FACILITIES SUPPORT	726	726	540	0	186	2587	2587	2203	0	384	2587	2587	0
4.6.1 PHYSICS LIBRARY SERVICE	420	420	270	0	150	1409	1409	1159	0	250	1409	1409	0
4.6.2 TECHNICAL INFORMATION & PUBLICATIONS	306	306	68	0	238	1178	1178	842	0	336	1178	1178	0
4.6.3 EXPERIMENTAL FACILITIES ADMINISTRATION	0	0	202	0	-202	0	0	202	0	-202	0	0	0
4.7 LAB PRIME CONTRACTOR FEES	185	185	0	0	185	370	370	0	0	370	370	370	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 11

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
5 EXPERIMENTAL SYSTEMS	41	41	12	0	29	303	303	299	0	4	303	303	0
5.1 EXPERIMENTAL SYSTEMS RESEARCH & DEVELOPM	41	41	12	0	29	303	303	299	0	4	303	303	0
5.1.1 GENERAL RESEARCH & D EVELOPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0
5.1.2 SUBSYSTEMS RESEARCH & DEVELOPMENT	0	0	0	0	0	0	0	0	0	0	0	0	0
5.1.3 APPROVED EXPERIMENTS RESEARCH & DEVELOPM	0	0	0	0	0	0	0	0	0	0	0	0	0
5.2 DETECTORS	0	0	0	0	0	0	0	0	0	0	0	0	0
5.3 EXPERIMENTAL SYSTEMS COMPUTERS	0	0	0	0	0	0	0	0	0	0	0	0	0
7 ESCALATION & CONTING ENCY	0	0	0	0	0	0	0	0	0	0	0	0	0
7.1 ESCALATION: 1/2/3	0	0	0	0	0	0	0	0	0	0	0	0	0
7.2 ESCALATION: 4/5/6	0	0	0	0	0	0	0	0	0	0	0	0	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 12

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
7.3 CONTINGENCY	0	0	0	0	0	0	0	0	0	0	0	0	0
6 LAB OPERATIONS SUPPORT	2472	2472	1414	0	1059	8567	8567	6772	0	1796	8567	8567	0
6.1 PHYSICS PROGRAM SUPPORT	2472	2472	1414	0	1059	8567	8567	6772	0	1796	8567	8567	0
6.1.1 PHYSICS ADMIN AND SUPPORT	244	244	100	0	143	944	944	775	0	169	944	944	0
6.1.2 PHYSICS THEORY	213	213	7	0	206	412	412	50	0	362	412	412	0
6.1.3 EXPER. PHYSICS	996	996	970	0	27	3451	3451	3135	0	317	3451	3451	0
6.1.4 COMPUTING AND DATA ANALYSIS	1019	1019	337	0	683	3759	3759	2812	0	947	3759	3759	0
6.1.5 ACCELERATOR PHYSICS	0	0	0	0	0	0	0	0	0	0	0	0	0
6.2 LAB OPERATIONS OVERHEAD	0	0	0	0	0	0	0	0	0	0	0	0	0
6.3 ACCELERATOR OPERATNS	0	0	0	0	0	0	0	0	0	0	0	0	0

CPR Format 1 DOLLARS IN THOUSANDS Page: 13

CONTRACTOR: SSC LABORATORY LOCATION: DALLAS,TX RDT&E [X] PRODUCTION [ ]	COST PERFORMANCE REPORT - FUNCTIONAL CATEGORIES			SIGNATURE,TITLE & DATE	FORM APPROVED OMB NUMBER 22R0280
	CONTRACT TYPE/NO: DE-AC02-89ER40486	PROGRAM NAME/NUMBER:	REPORT PERIOD From: 27-AUG-90 To: 30-SEP-90	30-SEP-90	

QUANTITY	NEG COST	EST COST AUTH UNPR	TARGET PROFIT/FEE	EST PRICE	TGT PRICE	SHARE RATIO	CONTR CEILING	EST CEILING
0	$0	$0	$0/ 0.00%	$0	$0		$0	$0

ORGANIZATIONAL OR FUNCTIONAL CATEGORY	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERF	VARIANCE				
	Work Sched	Work Perf		Sched	Cost	Work Sched	Work Perf		Sched	Cost	BUDGET	LATEST REVISED EST	VAR
DIRECTORATE	475	475	690	0	-215	5458	5458	5636	0	-178	5458	5458	0
PROJECT MANAGEMENT	1674	1674	727	0	947	8365	8365	6227	0	2138	8365	8365	0
ACCELERATOR SYSTEMS	6261	6261	3904	0	2357	28293	28293	21688	0	6605	28293	28293	0
CONVENTIONAL CONSTR	7247	7247	2859	0	4387	23779	23779	19045	0	4734	23779	23779	0
TECHNICAL SERVICES	2881	2881	2498	0	383	15445	15445	13389	0	2056	15445	15445	0
ADMINISTRATIVE SRVC	1397	1397	1517	0	-120	11561	11561	11624	0	-62	11561	11561	0
PHYSICS RESEARCH	3239	3239	1966	0	1273	11457	11457	9273	0	2183	11457	11457	0
MAGNET SYSTEMS	14287	14287	8115	0	6172	69722	69722	54276	0	15446	69722	69722	0
SUBTOTAL	37461	37461	22278	0	15183	174079	174079	141158	0	32921	174079	174079	0
COST OF MONEY	0	0	0	0	0	0	0	0	0	0	0	0	0
GEN AND ADMIN (NON ADD)	0	0	0	0	0	0	0	0	0	0	0	0	0
UNDISTRIBUTED BUDGET											0	0	
SUBTOTAL	37461	37461	22278	0	15183	174079	174079	141158	0	32921	174079	174079	0
MANAGEMENT RESERVE											2598	2598	0
TOTAL	37461	37461	22278	0	15183	174079	174079	141158	0	32921	176677	176677	0

CPR Format 2

DOLLARS IN THOUSANDS

PROJECT MANAGER'S PROGRESS REPORT PART II	PROJECT TITLE: Superconducting Super Collider Laboratory	
8. MILESTONE LOG		
SIGNIFICANT MILESTONES ACCOMPLISHED SINCE LAST REPORT	BASELINE DATE	ACTUAL DATE
ASST/E1 Cyrogenics Contract Award	July 90	28 Sep 90
SIGNIFICANT MILESTONES OPEN	BASELINE DATE	FORECAST DATE
KEY MILESTONES UPCOMING - NEXT THREE MONTHS	BASELINE DATE	FORECAST DATE
SEIS Record of Decision	31 Dec 90	31 Jan 91
CDM Contracts Authorization to Incur Costs	15 Nov 90	15 Nov 90

PROJECT MANAGER'S PROGRESS REPORT PART II	PROJECT TITLE: Superconducting Super Collider Laboratory

9. TECHNICAL PERFORMANCE PARAMETERS

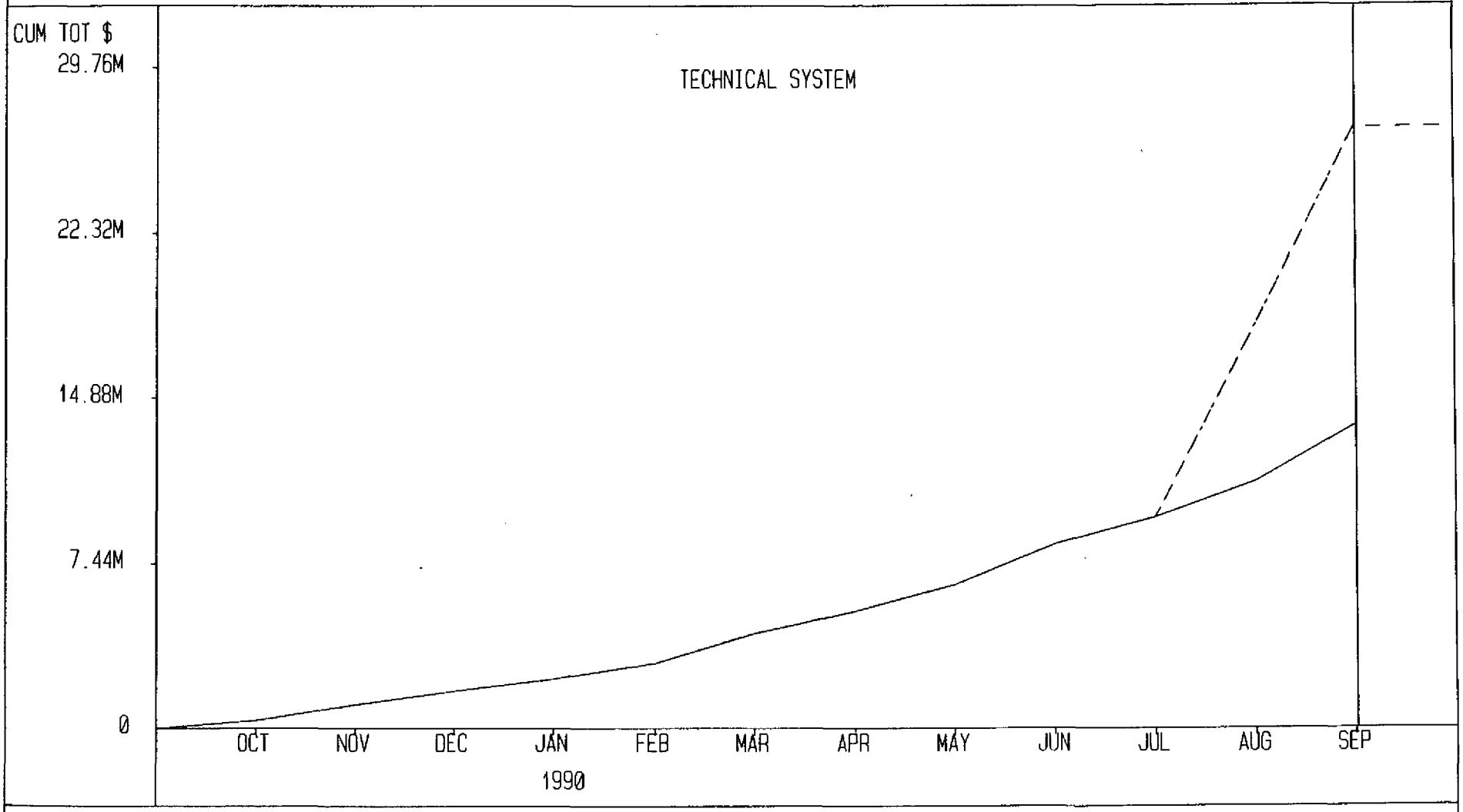
ITEM	BASELINE DESCRIPTION	FORECAST

PROJECT: SSC-LAB

TECHNICAL SYSTEMS

08-15-1990
16: 40: 38

WBS ID: 1



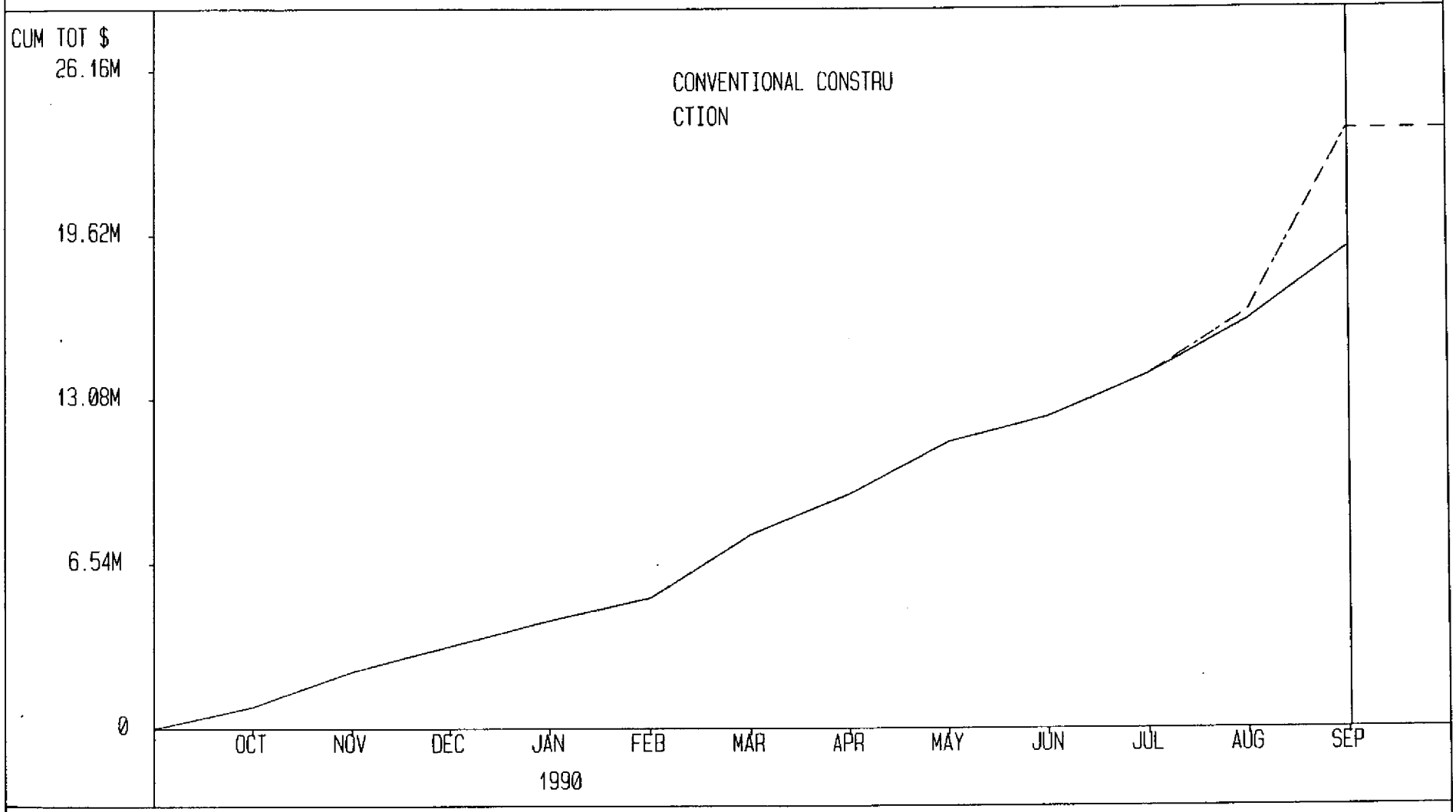
- - - - - -	BCWS	343K	1054K	1675K	2219K	2941K	4284K	5278K	6452K	8284K	9471K	18M	27M
----------	BCWP	343K	1054K	1675K	2219K	2941K	4284K	5278K	6452K	8284K	9471K	18M	27M
————	ACWP	343K	1054K	1675K	2219K	2941K	4284K	5278K	6452K	8284K	9471K	11M	14M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	7045K	13M

PROJECT: SSC-LAB

CONVENTIONAL CONSTRUCTION

08-15-1990
16:43:54

WBS ID: 2



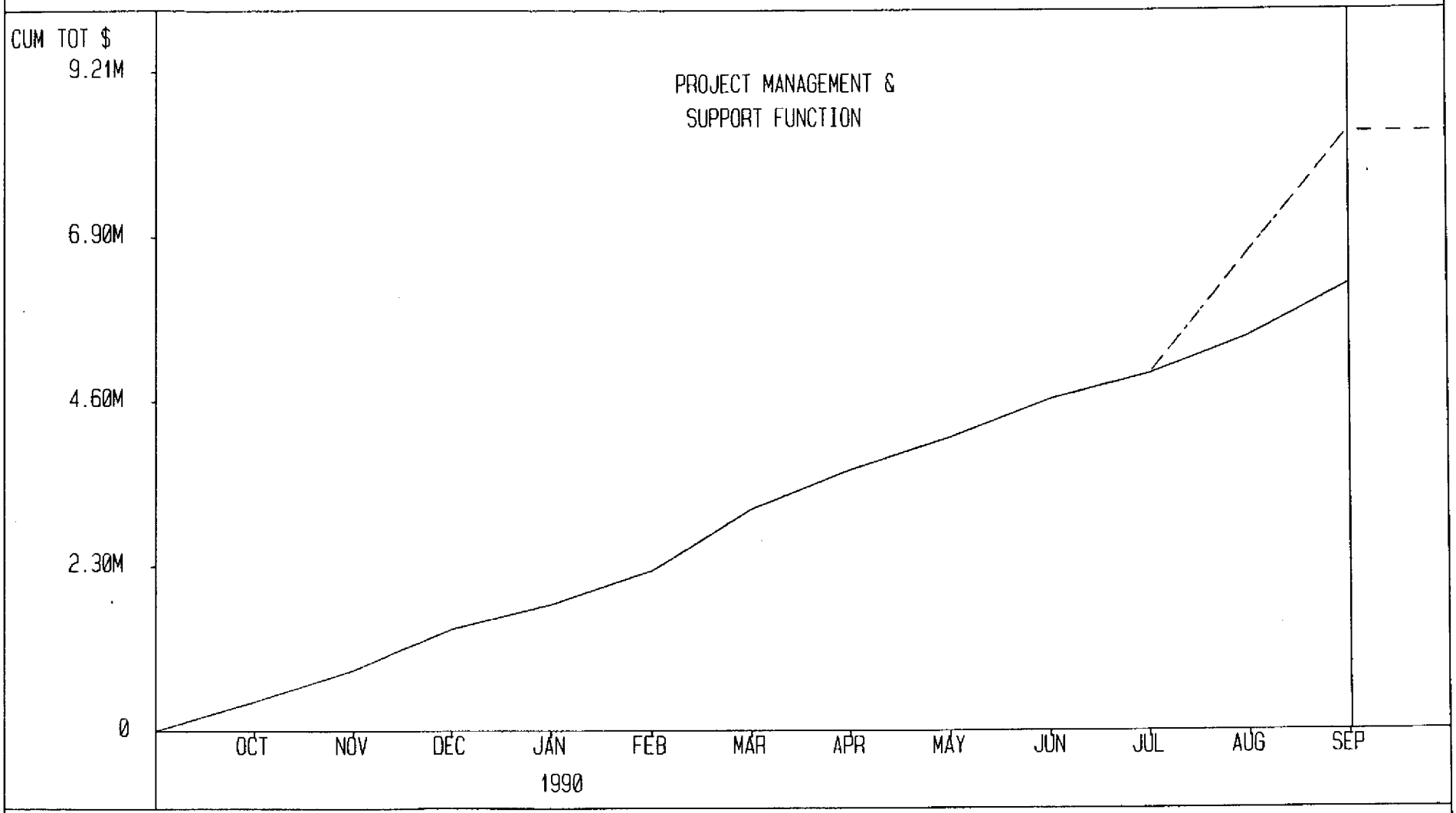
- - - - -	BCWS	875K	2257K	3292K	4287K	5200K	7704K	9310K	11M	12M	14M	17M	24M
----------	BCWP	875K	2257K	3292K	4287K	5200K	7704K	9310K	11M	12M	14M	17M	24M
————	ACWP	875K	2257K	3292K	4287K	5200K	7704K	9310K	11M	12M	14M	16M	19M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	347K	4734K

PROJECT: SSC-LAB

PROJECT MANAGEMENT & SUPPORT FUNCTION

08-15-1990
16: 48: 23

WBS ID: 3



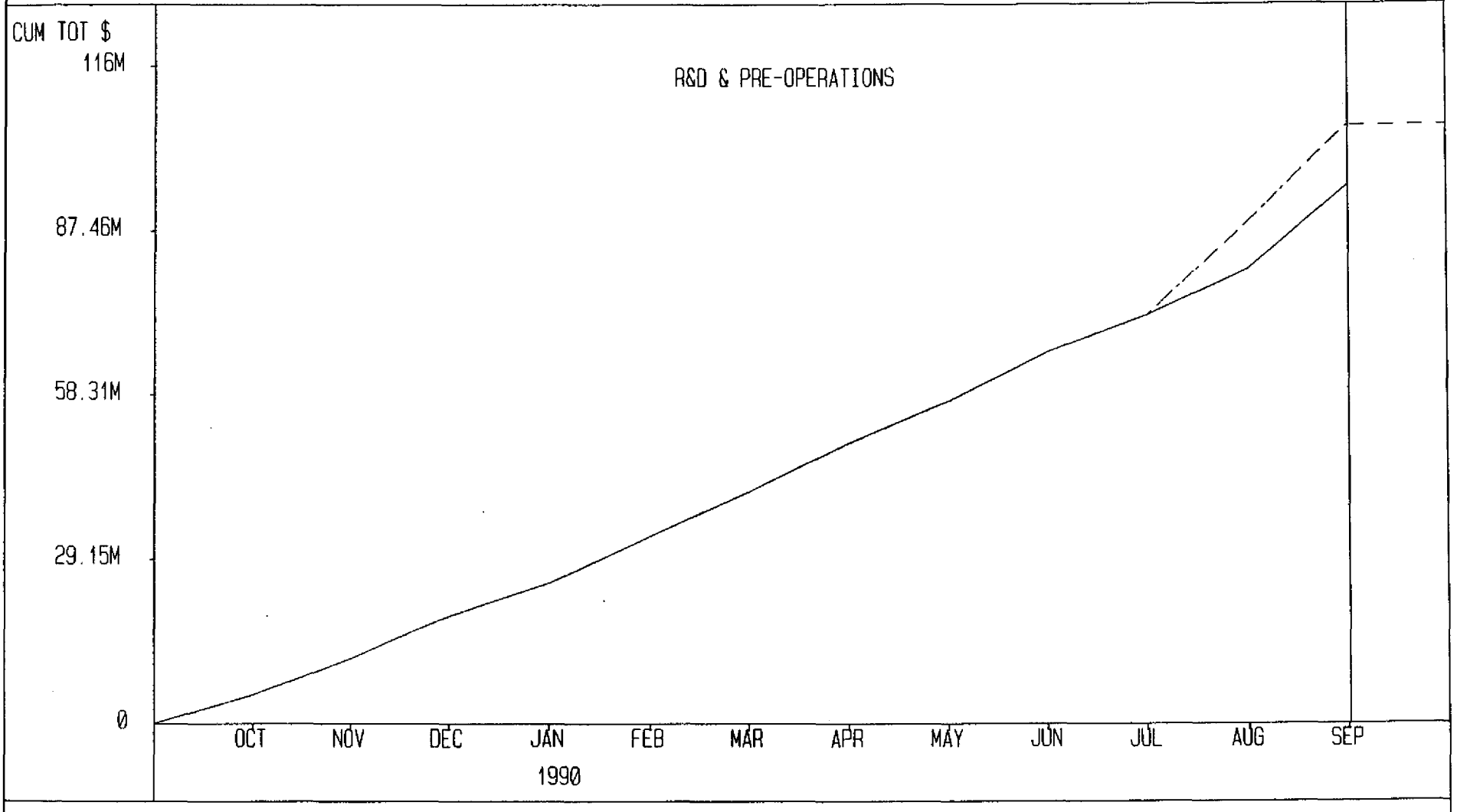
- - - - -	BCWS	412K	847K	1430K	1769K	2239K	3101K	3639K	4096K	4629K	4981K	6691K	8365K
----------	BCWP	412K	847K	1430K	1769K	2239K	3101K	3639K	4096K	4629K	4981K	6691K	8365K
————	ACWP	412K	847K	1430K	1769K	2239K	3101K	3639K	4096K	4629K	4981K	5500K	6227K
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	-1	-1	1191K	2138K

PROJECT: SSC-LAB

R&D & PRE-OPERATIONS

08-15-1990
16:51:10

WBS ID: 4



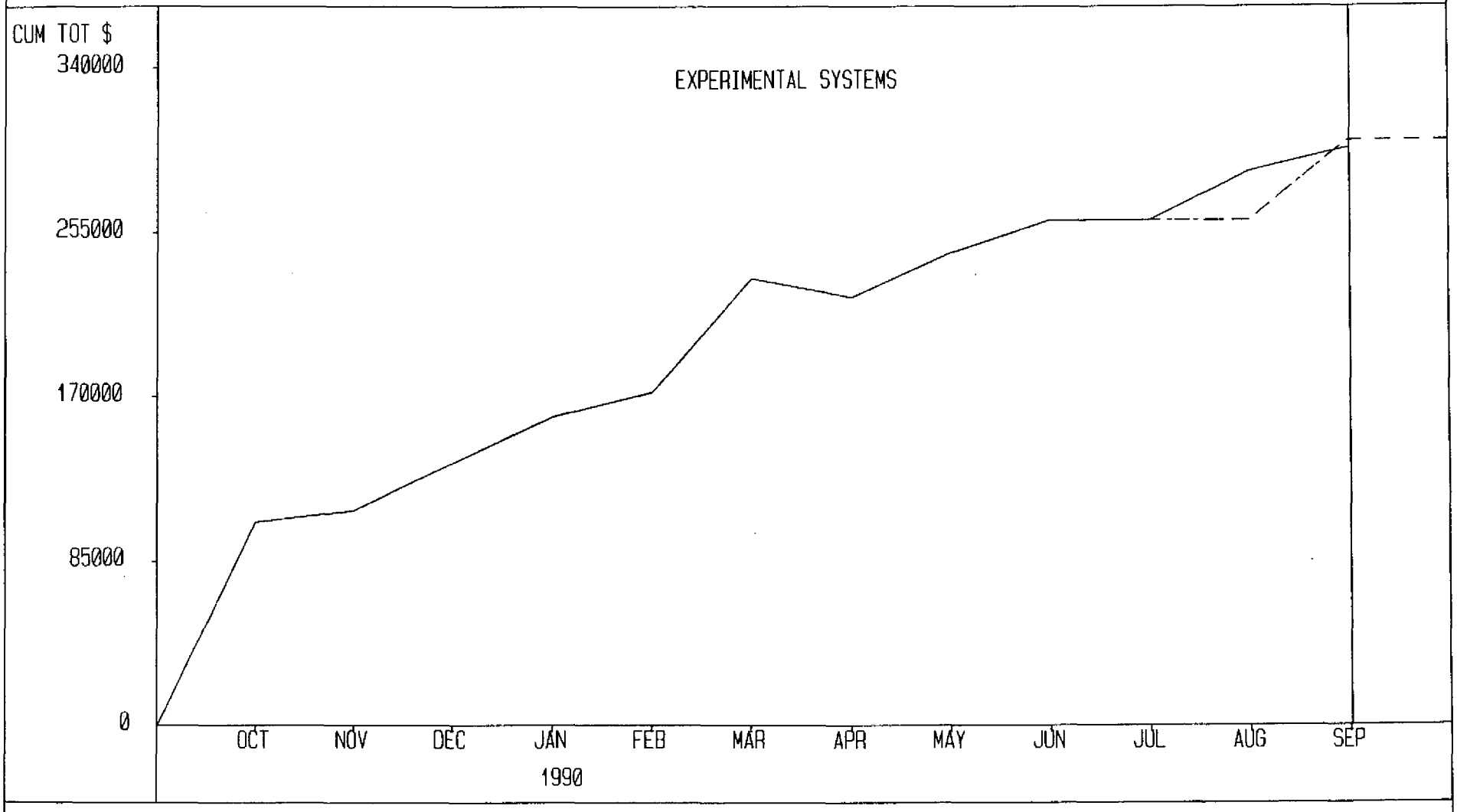
- - - - -	BCWS	5092K	12M	19M	25M	33M	41M	50M	57M	66M	72M	89M	106M
----------	BCWP	5092K	12M	19M	25M	33M	41M	50M	57M	66M	72M	89M	106M
————	ACWP	5092K	12M	19M	25M	33M	41M	50M	57M	66M	72M	80M	95M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	-1	-1	-1	-2	-2	-2	-3	-3	-3	8443K	11M

PROJECT: SSC-LAB

EXPERIMENTAL SYSTEMS

08-15-1990
16:53:07

WBS ID: 5



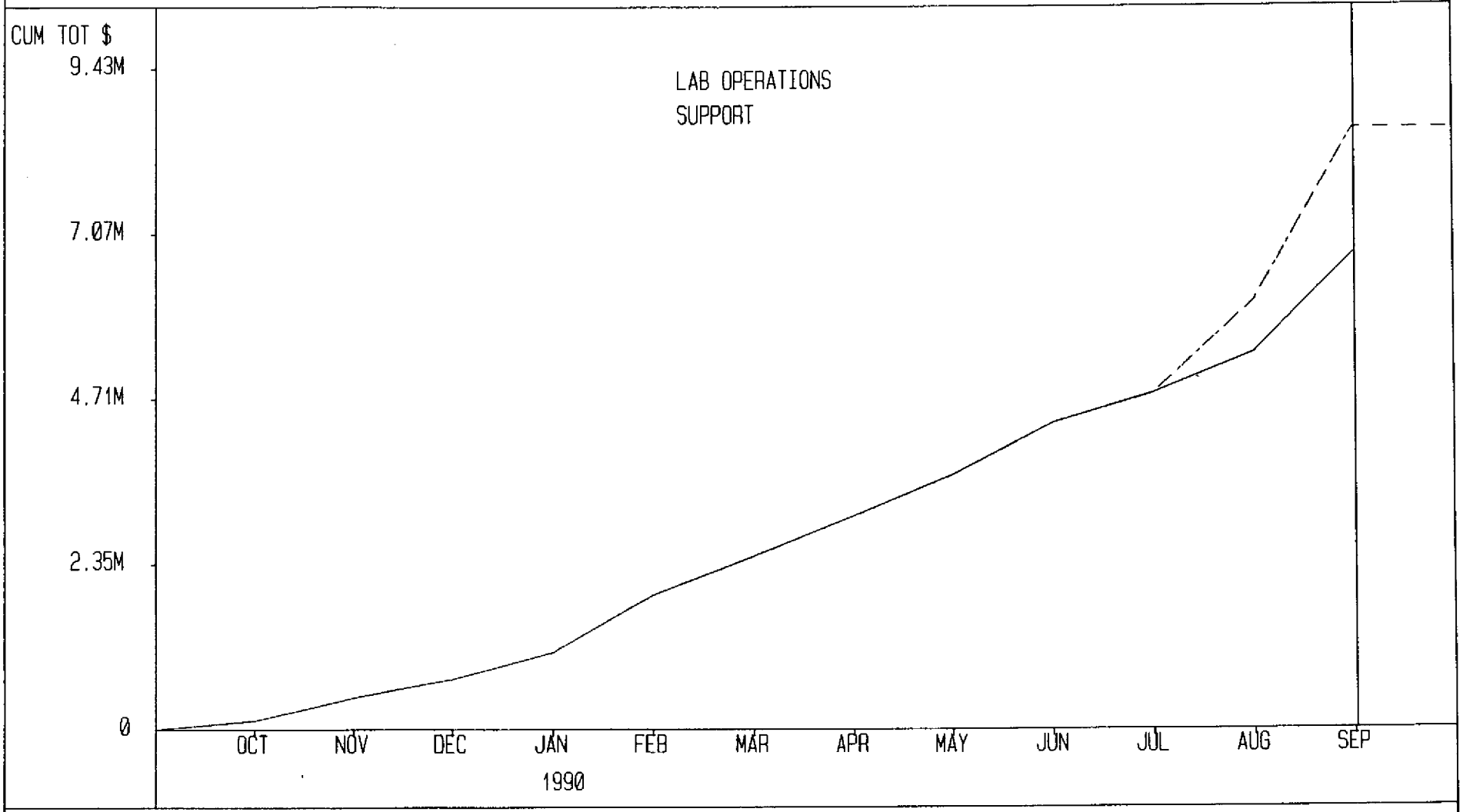
- - - - -	BCWS	105K	111K	135K	160K	172K	231K	221K	244K	261K	261K	261K	303K
. . . . .	BCWP	105K	111K	135K	160K	172K	231K	221K	244K	261K	261K	261K	303K
————	ACWP	105K	111K	135K	160K	172K	231K	221K	244K	261K	261K	287K	299K
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	-25K	3843

PROJECT: SSC-LAB

LAB OPERATIONS SUPPORT

08-15-1990
16:56:58

WBS ID: 6



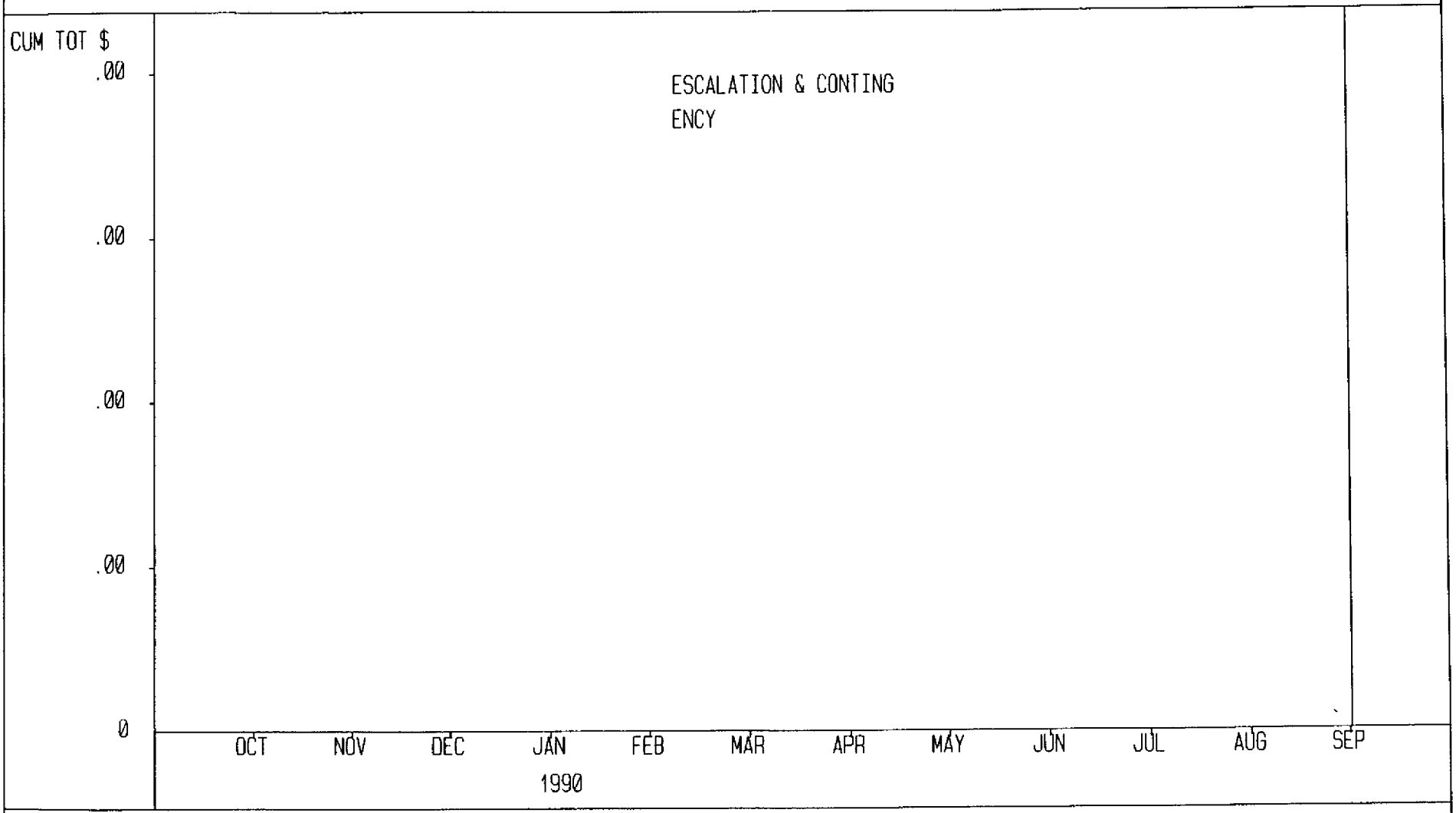
- - - - -	BCWS	129K	454K	719K	1102K	1920K	2470K	3040K	3624K	4365K	4787K	6095K	8567K
----------	BCWP	129K	454K	719K	1102K	1920K	2470K	3040K	3624K	4365K	4787K	6095K	8567K
————	ACWP	129K	454K	719K	1102K	1920K	2470K	3040K	3624K	4365K	4787K	5358K	6772K
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	737K	1796K

PROJECT: SSC-LAB

ESCALATION & CONTINGENCY

08-15-1990
17:00:47

WBS ID: 7

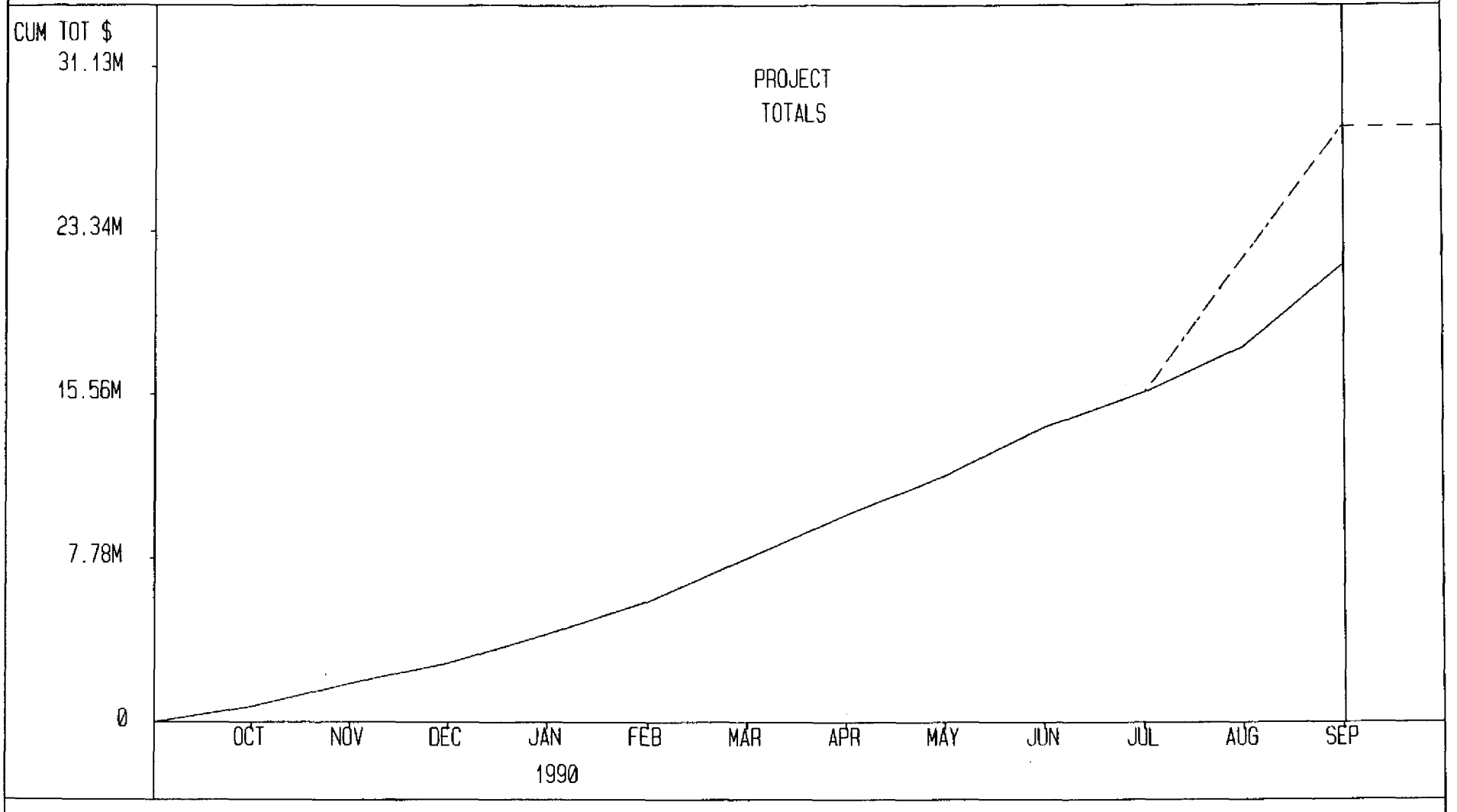


— — — — —	BCWS	0	0	0	0	0	0	0	0	0	0	0	0
- - - - - - - - -	BCWP	0	0	0	0	0	0	0	0	0	0	0	0
————	ACWP	0	0	0	0	0	0	0	0	0	0	0	0
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	0	0

PROJECT: SSC-LAB

ACCELERATOR SYSTEMS

08-15-1990
17:10:32

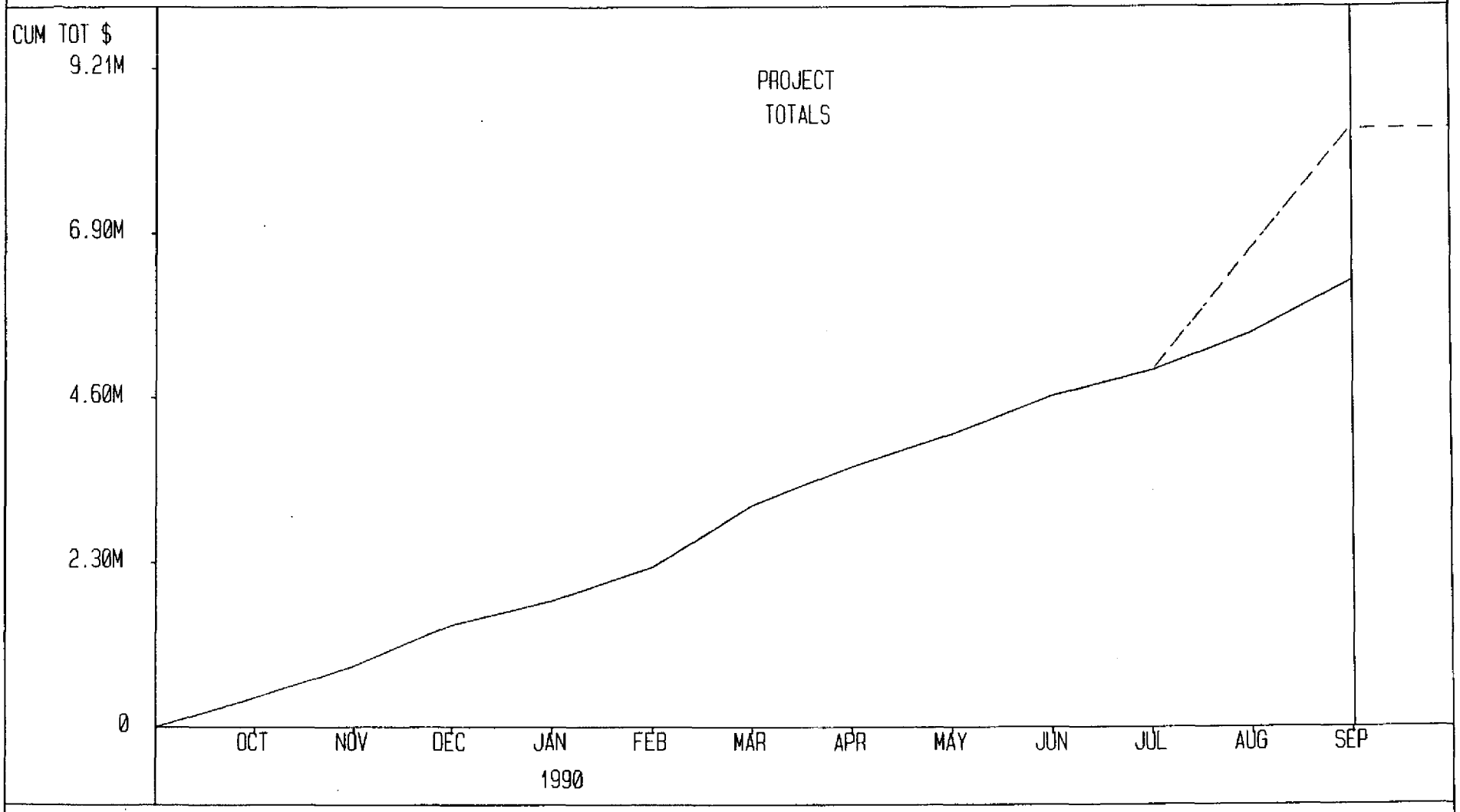


- - - - -	BCWS	721K	1821K	2810K	4172K	5742K	7794K	9854K	12M	14M	16M	22M	28M
----------	BCWP	721K	1821K	2810K	4172K	5742K	7794K	9854K	12M	14M	16M	22M	28M
————	ACWP	721K	1821K	2810K	4172K	5742K	7794K	9854K	12M	14M	16M	18M	22M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	4248K	6605K

PROJECT: SSC-LAB

PROJECT MANAGEMENT

08-15-1990
17:07:34

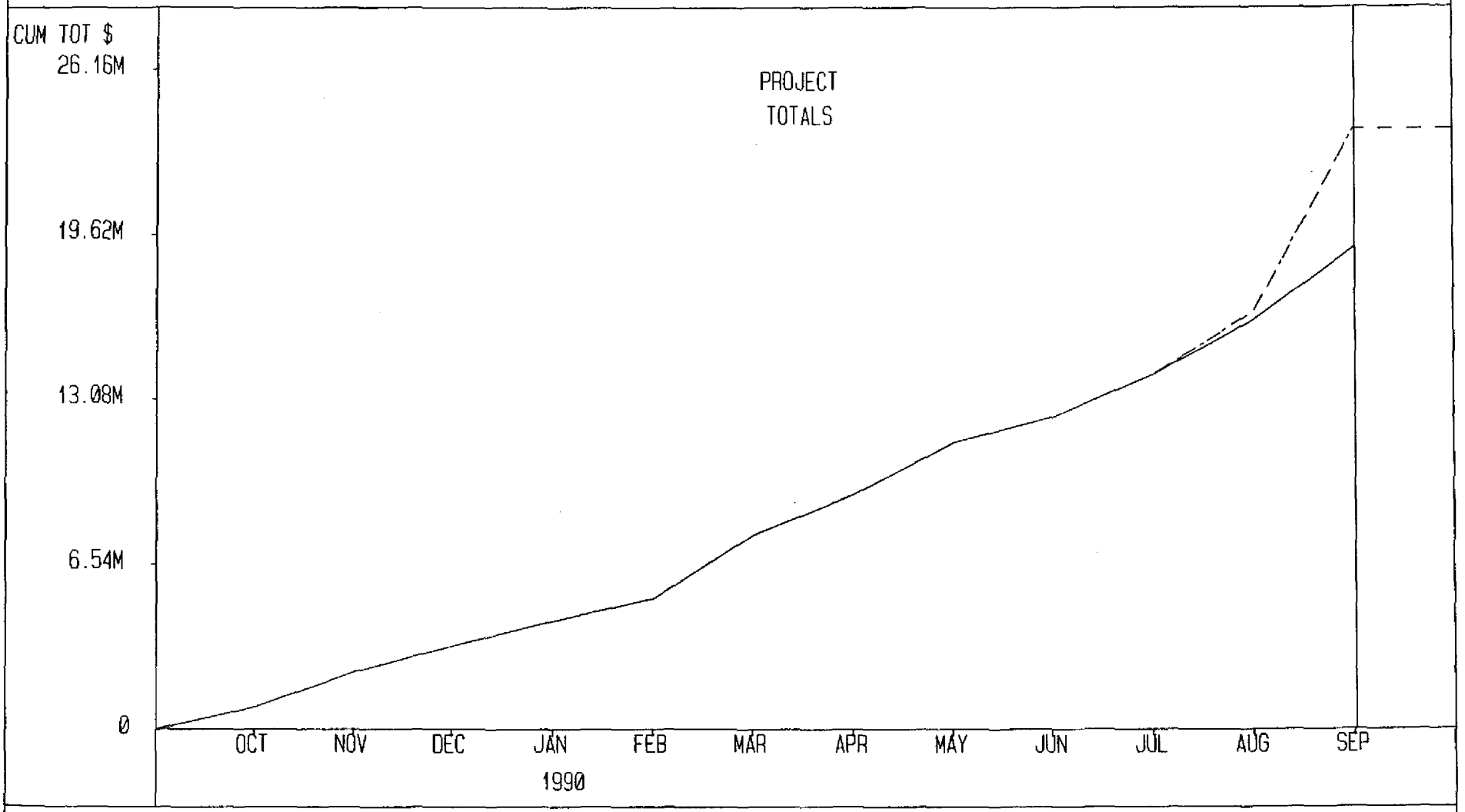


- - - - -	BCWS	412K	847K	1430K	1769K	2239K	3101K	3639K	4096K	4629K	4981K	6691K	8365K
----------	BCWP	412K	847K	1430K	1769K	2239K	3101K	3639K	4096K	4629K	4981K	6691K	8365K
————	ACWP	412K	847K	1430K	1769K	2239K	3101K	3639K	4096K	4629K	4981K	5500K	6227K
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	-1	-1	1191K	2138K

PROJECT: SSC-LAB

CONVENTIONAL CONSTRUCTION

08-15-1990
17:12:33

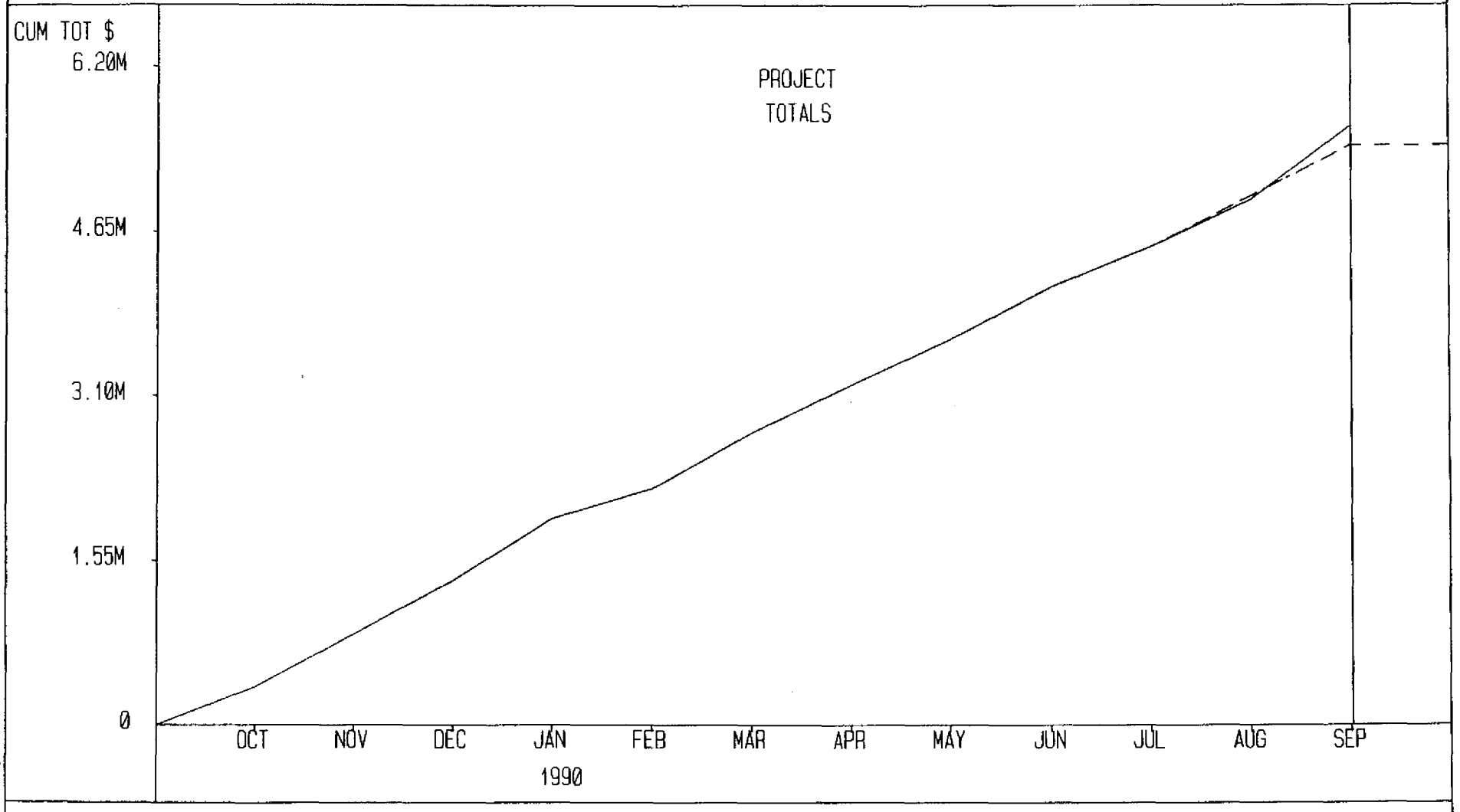


- - - - -	BCWS	875K	2257K	3292K	4287K	5200K	7704K	9310K	11M	12M	14M	17M	24M
----------	BCWP	875K	2257K	3292K	4287K	5200K	7704K	9310K	11M	12M	14M	17M	24M
————	ACWP	875K	2257K	3292K	4287K	5200K	7704K	9310K	11M	12M	14M	16M	19M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	0	0	347K	4734K

PROJECT: SSC-LAB

DIRECTORATE

08-15-1990
17:04:33

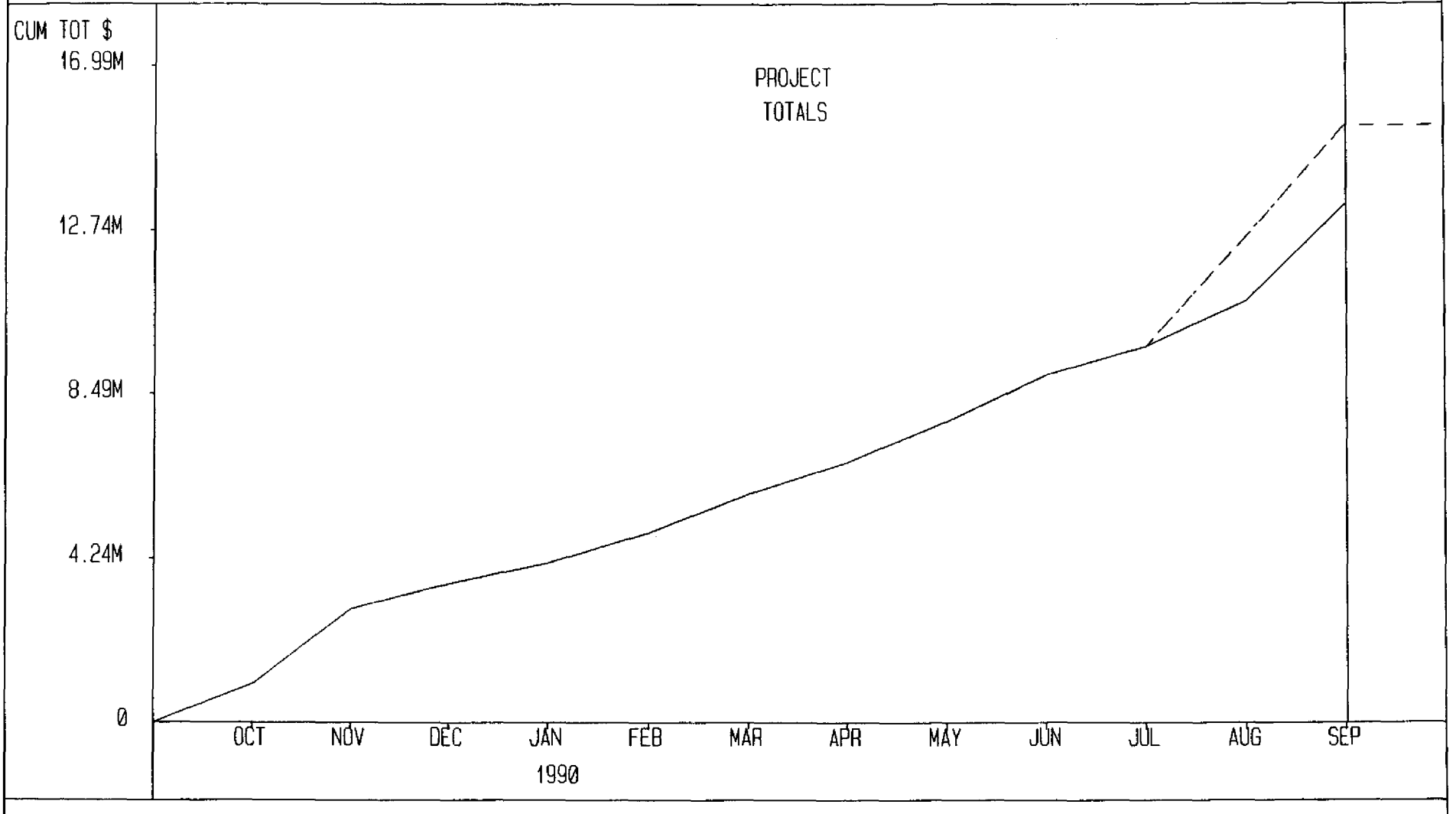


- - - - -	BCWS	360K	854K	1358K	1945K	2227K	2754K	3208K	3638K	4130K	4506K	4983K	5458K
----------	BCWP	360K	854K	1358K	1945K	2227K	2754K	3208K	3638K	4130K	4506K	4983K	5458K
————	ACWP	360K	854K	1358K	1945K	2227K	2754K	3208K	3638K	4130K	4506K	4946K	5636K
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	-1	-1	-1	-1	37K	-178K

PROJECT: SSC-LAB

TECHNICAL SERVICES

08-15-1990
17:24:12

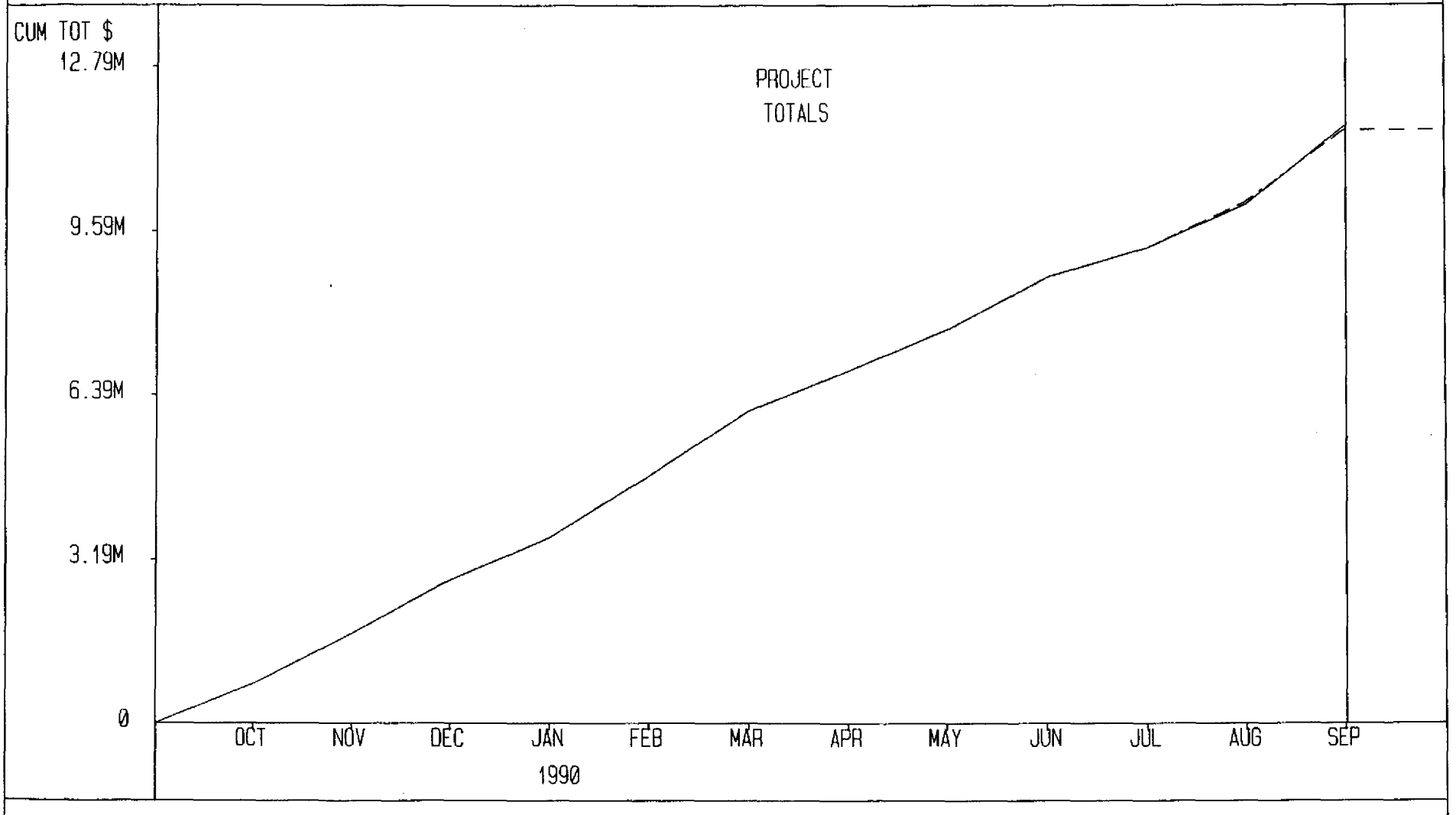


- - - - -	BCWS	993K	2934K	3592K	4133K	4907K	5919K	6732K	7792K	8988K	9724K	13M	15M
----------	BCWP	993K	2934K	3592K	4133K	4907K	5919K	6732K	7792K	8988K	9724K	13M	15M
————	ACWP	993K	2934K	3592K	4133K	4907K	5919K	6732K	7792K	8988K	9724K	11M	13M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	-1	-1	-1	-1	-1	1673K	2056K

PROJECT: SSC-LAB

ADMINISTRATIVE SERVICES

08-15-1990
17: 27: 15

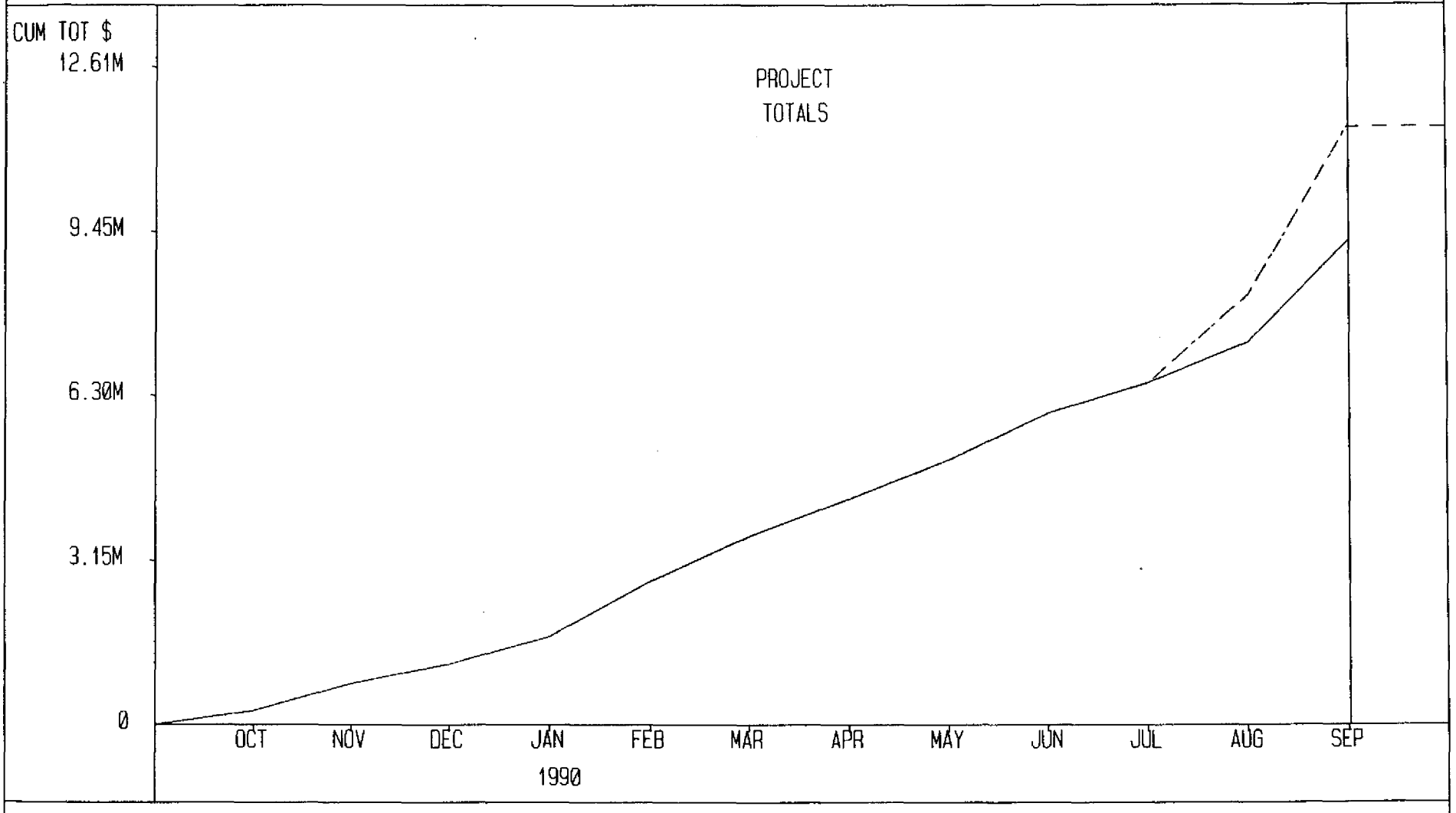


- - - - -	BCWS	766K	1741K	2798K	3617K	4825K	6098K	6872K	7672K	8698K	9268K	10M	12M
. . . . .	BCWP	766K	1741K	2798K	3617K	4825K	6098K	6872K	7672K	8698K	9268K	10M	12M
————	ACWP	766K	1741K	2798K	3617K	4825K	6098K	6872K	7672K	8698K	9268K	10M	12M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	-1	-1	-1	-1	58K	-62K

PROJECT: SSC-LAB

PHYSICS RESEARCH

08-15-1990
17: 29: 37

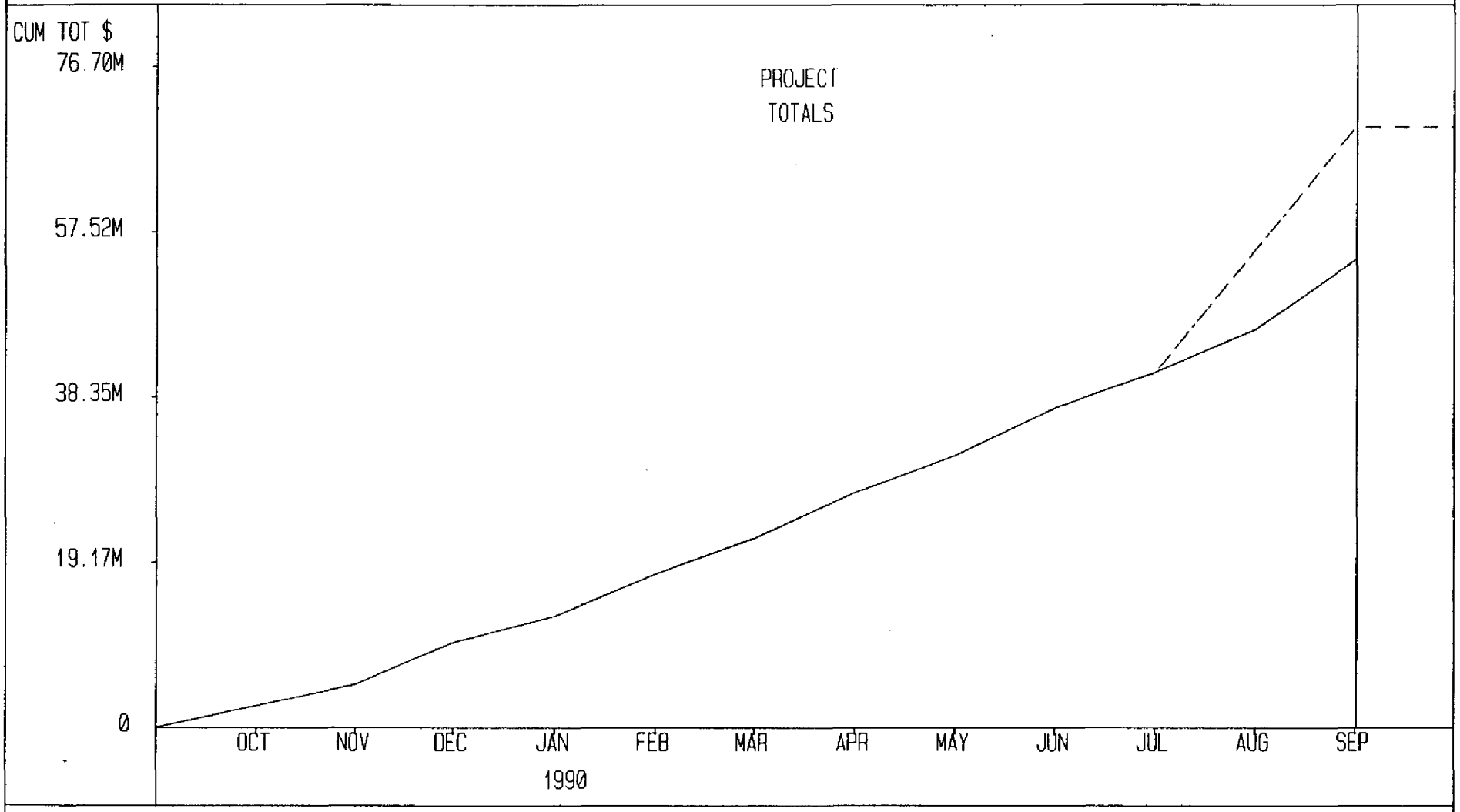


- - - - -	BCWS	268K	789K	1166K	1696K	2755K	3611K	4332K	5077K	5971K	6536K	8218K	11M
. . . . .	BCWP	268K	789K	1166K	1696K	2755K	3611K	4332K	5077K	5971K	6536K	8218K	11M
———	ACWP	268K	789K	1166K	1696K	2755K	3611K	4332K	5077K	5971K	6536K	7307K	9273K
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	-1	-1	-1	910K	2183K

PROJECT: SSC-LAB

MAGNET SYSTEMS

08-15-1990
17:35:09



- - - - -	BCWS	2562K	5016K	9900K	13M	18M	22M	27M	32M	37M	41M	55M	70M
----------	BCWP	2562K	5016K	9900K	13M	18M	22M	27M	32M	37M	41M	55M	70M
————	ACWP	2562K	5016K	9900K	13M	18M	22M	27M	32M	37M	41M	46M	54M
	SV	0	0	0	0	0	0	0	0	0	0	0	0
	CV	0	0	0	0	0	0	0	0	-1	-1	9274K	15M

Table of Contents

Technical Systems WBS 1.0

Accelerator Systems 1.1

(SEE SECTION 4.0 - R&D, PRE-OPERATIONS, AND ADMINISTRATION AND SUPPORT)

DIVISION PROJECT STATUS REPORT

DESIGN ☐ PRODUCTION ☐
CONSTRUCTION ☐ RESEARCH & DEVELOPMENT ☐ PART I

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER

1b. REPORTING PERIOD

1c. MANAGING DIVISION

Magnet Systems Division

1d. DIVISION/OFFICE CONTACT

Roosevelt Baker, etx. 2084

1e. DIVISION MANAGER

Tom Bush

1f. PERFORMING ORGANIZATION(S)

Engineering
Test & Data Analysis
Production
Quality Assurance
Business Management

2a. SUMMARY STATUS

Green	Yellow	Red
G	Y	R

	LAST PERIOD	THIS PERIOD
COST	NA	G
SCHEDULE	NA	G
TECHNICAL	NA	G
OVERALL PROJECT	NA	G

DCornell/10/3/90
DIVISIONAL

DIVISION PROJECT STATUS REPORT PART I	PROJECT TITLE:

2b. NARRATIVE HIGHLIGHTS AND KEY ISSUES (See item 5 for details on problems and variances)

WBS 1.2.1 Program Management: Continued search for CDM & CQM Product Managers. Continued development of critical path schedules.

WBS 1.2.2 HEB Magnets: The Acquisition Strategy is under review. Supporting a KEK initiative to review effects of ramp induced heating and smaller filament size.

WBS 1.2.3 Collider Ring Magnets: Continued efforts on the technology transfer to industry plan. Continued preparation of the draft Collider Quadrupole Magnet RFP. Received industry proposals for the Collider Ring Dipole Magnets. The Source Selection Evaluation Board is reviewing the proposals.

WBS 1.2.4 Magnet Facilities Equipment and Tooling: Requisitions and purchase orders have been issued for major equipment items to meet Apr. 91 BOD and Jul. 91 activation date for the MDL.

WBS 4.2.2 Magnet R&D:

FNAL: Test program for DD0027 was resumed with good initial performance, tooling and production parts for the 50mm industry demo program are being designed and procured.

BNL: Testing of DC0201 continued. DC0203 into cryostat assembly. DSS021 and DS0201 completed successful testing.

LBL: Delivered 15,000 feet of cable. Began testing of the second 1M Quadrupole completed assembly of coil collaring press.

Superconducting Cable: RFP for Vendor Qualification Program was released. Conductor and cable deliveries continue to meet requirements.

Conventional Construction WBS 2.0

Conventional Construction Accelerator 2.1

Injector

Programming for the Linear Accelerator (LINAC) and LEB continues. Incorporated into this work was the beginning of detailed CAD modeling of the tunnel technical system structures and supporting systems. This work will help to clearly define functional requirements of the supporting conventional enclosures and systems.

Collider

Programming for the collider continues. Underground machine enclosures in the collider are being modeled on CAD and outfitted with conventional and technical system components. Collider tunnel cross section tolerance diagrams are being developed which consider construction tolerances and TBM survey tolerances. This work will help to clearly define functional requirements of the supporting conventional enclosures and systems. Assembly of design requirements for the E1 shaft was initiated in September. Immediately after design requirements for the E1 shaft are transmitted to the A-E/CM their design requirements for collider underground components will be developed.

Two workshops were held during the month of September which addressed shafts and systems housed in underground enclosures. These half-day workshops were conducted to allow communication of information between the laboratory and the A-E/CM, Parsons Brinckerhoff/Morrison Knudsen.

Conventional Systems, Experimental 2.2

Two supplemental reports on the availability and cost of additional heavy lift systems were completed. Supplemental report providing recommendations on the size and weight of loads which can be transported over Texas highways was started. Work continued with detector collaborations on size and configuration of Interaction Region Halls.

Site and Infrastructure 2.3

Surface Transportation Study

Access routes were reviewed relative to public comment.

Definition of E-1 area utility program is under review. E-1 area utility program infrastructure requirements will be developed once E-1 program becomes fixed.

Utility Requirements

Electrical utility companies were briefed regarding the general electrical requirements for the project and the specific requirements for the E-1 site. Working group meeting with the electrical utilities was held to further define the electrical requirements at the E-1 site for construction service and interim service. BPEC and HCEC are planning to install a 69kV transmission line to E-1 site to provide power for interim service.

Application for MDL interim water service was submitted to the Buena Vista Bethel WSD.
Reviewed the requirements for the E-1 sanitary sewage treatment plant with Texas Water Commission.

Real Estate

FY-91, Phase II—Work with TNRLC continued regarding acceptance of improvements on real estate to be acquired and conveyed to DOE. A review of "fee simple" requirements was conducted with a draft response for Project Management to send to DOE.

Campus 2.4

Programming criteria for space and equipment (utility) interface requirement documentation continues on the design of the ASST and the MTL and their respective housing of cryogenic systems in compressor buildings. Programming requirements are developing in greater detail for the structure's associated cryogenic systems, technical systems, and surface facilities on a functional area by functional area basis.

The ASST structure, as currently envisioned, will consist of a surface structure approximately 200 meters in length, in which strings of magnets can be assembled and tested. It will share surface facilities which will subsequently be utilized for the E-1 site to support the collider ring. Based upon cost modeling and personal safety issues, the envelope of the string was determined to match the 12-ft inside diameter of the tunnel.

Site configuration of surface facilities has been analyzed for final schematic configuration for the ASST and MTL with consideration for all future facilities at N15. This process requires detailed analysis of infrastructure loads at N15 and siting of these and future facilities which must interface at short distances with cryogenic systems (i.e., accelerator shop building).

Input was provided to the new baseline scheduling effort and to the Engineering Standards Committee. Scheduling input took the form of estimating contract packaging for the collider tunnel construction contracts.

A pre-master planning effort was continued, termed the West Campus Concept Plan, which is an in-house effort from which to launch the A-E/CM in master planning integrated with the initial build-out of the N15 site. Numerous in-house presentations have been made to SSC management and TNRLC. The draft document is due out 15 October, 1990.

CCD staff continued technical clarification data preparation and negotiation strategies prior to negotiating the first 27 months worth of work with the A-E/CM.

Magnet Development Laboratory 2.4.2.2 (PB/MK)

Completed design for MDL site preparation and foundation contract package, and steel erection and building enclosure contract package.

The following design packages are in progress and are expected to be completed in October: general building package, passenger elevator, and traveling bridge crane.

A-E/CM Selection & Contract Administration Support 2.5.1

Weekly CCD coordination meetings were held at PB/MK's offices involving senior leaders from DOE, TNRLC, SSCL, and PB/MK. Continued discussions focus on the facilities at the N15 (E-1) area, particularly the Magnet Development Laboratory (MDL) and now the Accelerator Systems String Test (ASST) facility.

PB/MK reviewed, evaluated and responded to the CCD's proposed FY-91 budget plan.

Preparation of AE/CM Project Management Plan and Project Procedures were continued and a property control procedure was drafted.

An MDL Site Safety and Health Plan was prepared and published.

Systems have been set up for accounting, payroll, correspondence and filing. Procedures have been set up and implemented and coordinated with the SSCL for billing and cost reports. Employee benefits policies and procedures have been produced. PB/MK personnel moved into permanent office space at 7220 S. Westmoreland Road.

Supported CCD in the development of their Quality Implementation Plan (QIP). The CCD QIP is currently in final draft stage. Prepared A-E/CM Quality Assurance Plan (QAP).

Ongoing design coordination meetings with the SSCL and project architect, CRSS. Progress this month included participation in design, procurement and construction efforts in support of the Magnet Development Lab (MDL), including the MDL cost reduction effort, design reviews, preparation of technical documents for construction and long-lead procurement packages, and review of proposals submitted by prospective vendors and/or construction subcontractors for the MDL.

A draft environmental construction plan and list of actions requiring permits for the MDL were submitted to SSCL. PB/MK actively participated on the DOE - chaired Permit Committee which successfully obtained the permits needed to start MDL construction. DOE mitigation measures and other environmental commitments were incorporated in construction packages.

Estimating, scheduling and cost control activity has consisted of: scheduling and estimating efforts in support of the design, construction and procurement of the MDL facility and long-lead items; preparation of funding projections made for first quarter 1991 and submitted to CCD; continued coordination with SSCL regarding the Work Breakdown Structure; weekly Accrued Cost Estimates Report prepared and distributed; and biweekly Cost Summary prepared and distributed.

Prepared MDL Construction Management Plan. Reviewed, modified, and accepted Government Insurance Plan documentation for MDL work.

In response to the request received from SSCL, participated in preparing for the DOE and SSCL requirements, Cost and Schedule Control Systems (CSCSC) reporting including the use of Open Plan and MicroTECS for the initial submission of reports to SSCL by October 15, 1990.

Advertised and received bids for fabrication of MDL structural steel. Upon bid evaluation and inspection of vendor facilities, the purchase order was awarded on September 25, 1990 to American Steel and Aluminum Co., Inc., Grand Prairie, Texas.

Advertised and received bids for MDL site preparation and building foundation (SC-C42-1004). Upon bid evaluation and review, prepared SSCL recommendation for award to The Nay Company, Waxahachie, Texas. Award was made on September 28, 1990.

Issued advance notice to IFB (SC-C42-1008) on September 20, 1990 for MDL steel erection and building enclosure. Began preparation of IFB.

Completed qualifications based selection on September 24, 1990 of survey firm for MDL initial surveys. Western Group Consultants, Houston, Texas was selected and contract is in preparation.

Technical packages for purchase of special equipment items (e.g.,MDL bridge crane) were prepared and reviewed.

Division Management & Administration 2.5.2

Pre-negotiation activities continued in preparation for A-E/CM contract negotiations with the PB/MK Team. The 180-day Letter Subcontract was approved by DOE, and PB/MK commenced design work on the MDL and ASST.

The Magnet Development Lab (MDL) design requirements were essentially finalized through a series of meetings between CCD, PB/MK and Technical Division representatives.

The update of the Conventional Construction Procedural Guidelines, issued as an Advance Draft in May, continued with a pre-final internal draft document produced on September 28. The A-E/CM Work Authorization System was approved in concept by the SSCL Project Manager and DOE Project Manager, and the Work Package Authorization for the first feature (ASST) was developed.

SEIS Support Management

Participated in Draft SEIS Public Hearings and began preparation of comment responses.

Project Management and Support WBS 3.0

Project Management 3.1

Project Management Office 3.1.1

Budget planning. The first cut of the FY 91 budget planning exercise has been completed based on a funding level of $401.3M, including all sources of funds. As of the this writing however, we are still starting the FY91 year under a continuing resolution. Because of this fact and the FY91 budget uncertanty we are still enforcing a "hiring chill." Under this plan we are only posting for (and potentially hiring) essential technical personnel and replacements in administration.

We started the process of reviewing and rewriting the Project Management Plan based on revisions submitted by DOE reflecting changes incorporated by OCCS and OPO. We anticipate that the final plan will be ready for negotiation and signatures in early October.

Project Planning 3.1.2

A cost estimate for the MDL has been completed based upon the preliminary design documents provided by the AE/CM, and manpower and material comparison charts for the Magnet Division were prepared. The group has also been working with the Magnet procurement Source Evaluation Board to evaluate the vendors proposed cost compared to the Baseline Cost Estimate, as well as the collider dipole magnet costs. The "SSC Site Construction Jurisdictional Agreement" and the "Site Construction Stabilization Agreement" is being prepared in conjunction with the Legal department and PB/MK. Additional options and a more detailed report to DOE of the Funding Profile have been prepared. A summary estimate for the ASST has been completed, and a database for actual prices of commodities for Accelerator Systems is being designed. A rough estimate on amounts of carbon and stainless steel required for the SSC Program has also been prepared.

Project Cost, Scheduling and Reporting Systems 3.1.3

The August CPR was produced using Microframe for input into the Monthly Progress Report, and a meeting was also held with TNRLC and DOE OPO to familiarize them with the new format. FY90 costs and commitments were successfully closed out for the fiscal year end, and Work Authorization Packages for FY91 planning were prepared with Cost Account Managers. The requirements for Cost Accounts and Work Packages for the Dipole magnets subcontract were reviewed with the Magnet Division. A training session for senior level C/S management was held on September 12. Weekly meetings with PB/MK are continuing, and a session involving Procurement, Finance, and CCD was devoted to discussion of mechanics and procedures on C/S enactment and compliance for PB/MK. A draft of the Business Practices and Procedures Plan has been completed. Meetings were held with the TNRLC's Computer Service Manager in regards to SSCL Project Management Cost and Schedule Systems. Work is continuing with Cost Estimating to adjust the 10 year schedule to support the funding profile, and milestones for the 10 year program schedule were updated.

Engineering Standards 3.1.4

Conversion of the A&E drawings were completed and placed on the PM server. The Engineering Guidelines are still in preparation, with several are completed and under review. Work is continuing on the MIS Review group, with a report given to the Directorate stating the opinion that the primary control should be vested in the functional areas. The Document Control Numbering System Standard is completed and has been signed off by the Chief Engineer. The Strategic CADD/CAE Integration

Philosophy was presented to the Document Control Working Group, noting this is viewed as an integration effort, not a control function. Work on the plan is continuing.

R. Hedderick attended a working session of the ASQC task force to develop a national consensus standard for R&D Quality Assurance activities. As there is currently no nationally recognized standard available for R&D Q&A, it is the charter of this task force to develop such a standard and have it published by ANSI. The ASQC Energy Division Conference was held the second week in September, and copies of pertinent papers were distributed to appropriate SSC staff. Meetings have been held with W. Mansell to discuss and clarify the DOE OPO's Quality Assurance objectives and priorities. A letter from the OPO was forwarded to division managers, along with an internal QA memo explaining those requirements that will flow down to the divisions. DOE is currently preparing a QA plan which will be passed down to the SSCL.

Environmental Affairs 3.1.5

The public hearing process was concluded this month, with hearings held in Waxahachie and Ennis on September 19 and 20. As expected, the comments reflected the nearly universal concerns about ground water and radiation. With no further surprises in comments received from other Federal agencies, Argonne should be able to meet or improve upon their part of the schedule. ER-93's new schedule calls for an ROD in mid-April, but January conclusion is still being worked on. The first draft of the annotated outline of the SSC Mitigation Action Plan was hand carried to OSSC on September 28.

Systems Engineering and Integration 3.2

Systems Engineering (SE) Management 3.2.1

The Configuration Management Plan was revised to include appendices describing spec tree, spec approval, and descriptions of reviews and change process. A change request for scope (square footage) requirements for the ASST has been developed, and a discussions with the Associate Directors resulted in a need to separate cost and schedule and technical change, because they often have a different level of approach. After studying the MDL requirements, the first Configuration Change Control Board memo was distributed, suggesting two documents be controlled to form the MDL baseline. A Systems Safety Project Plan has been initiated and will be worked closely with the ES&H office. A safety requirement for specifications is also underway. A Prime Item Development Specification (PID) for the Drift Tube Linac (DTL) is being prepared to be ready for review the first week in October.

SE Support to ASD 3.2.2

Schedules and the requirements for the ASST project have been developed, to enable the AE/CM to start design on the ASST E-1 facilities. The functional requirements documents for the refrigerator and compressor buildings have been compiled. The Superconducting Wire Specification was updated and is now in the final review/signature cycle.

SE Support to MSD 3.2.3

Background information related the 50mm Utility Region quadrupole magnets is being compiled, as these are some of the first magnets scheduled to be developed under the 50mm program. The FermiLab design (Yellow Book) for the 50mm Collider Dipole Magnet was coordinated and copies provided to key individuals in the Magnet and Accelerator Divisions for review and comment. SE will compile the inputs received and make recommendations for approval of the design. A new Configuration Management procedure entitled Engineering Change Process was developed and is being circulated for comment. A total of five procedures are now in the review cycle. A letter on formal release of drawings has been

forwarded by the Associate Director to the FermiLab Project Manager. The Failure Modes, Effects and Criticality Analysis was reviewed and comments incorporated. A reliability engineering briefing was presented to the Senior Project Leaders resulting in two formal action items: a definition of the baseline mission profile for accelerator operation and to acquire and utilize an effectiveness model for the evaluation of design and operation alternatives on system availability. The Yoke Lamination Steel spec was compiled and is under review by the Acting Quadrupole Product Manager.

SE Support to Physics 3.2.4

The document tracking and storage system for Physics Research and the Solenoidal Detector Collaboration (SDC) has been defined, specified and the hardware and software orders placed. A package is being prepared for DOE OPO on WBS 6.0 cost and milestones, specifically operating costs for the test beams. A draft specification tree for Facility Requirements has been prepared and discussed, in order to have sufficient details to prepare accurate Resource Requirements data for PAC meeting in December.

SE Support to CCD 3.2.5

Support has been given to help rewrite the Conventional Construction Procedural Guidelines, and a final draft was delivered to the CCD Division Leader. Work continues with the Controls Requirements Task Group, including a recent meeting with the cryogenics personnel to identify the requirements they will place upon the control system.

R&D, Pre-Operations, & Administration & Support WBS 4.0

Management Services 4.2.1.1

The following is a table summarizing people on-board for the past 6 months:

April	115
May	124
June	135
July	142
Aug	160
Sep	173

In addition to permanent staff, this number includes 3 Guest collaborators from India, who will help out in cryogenics, rf engineering and mechanical engineering.

Two large requisitions were approved recently, related refrigerators to the Accelerator Systems String Test (ASST) and the Magnet Test Laboratory (MTL). During FY91 we plan to purchase $7.9M of equipment for the ASST refrigerator, and $7M for the MTL refrigerator system. There will be additional purchases for these systems during FY92.

The schedule for ASST technical design, development, installation and integration has been completed. Technical systems represented include: control systems, magnet power systems, magnet stands, magnet handling systems, spool pieces, water systems and cryogenic systems.

The project plan for Accelerator Systems Division (ASD) support to the ASST is approximately 70% complete. This plan details the items to be delivered, the method for developing or procuring the item, quality assurance, safety, reliability and installation requirements.

We presented the ASD requirements for the Compressor Building and the Refrigeration Building at location E1 to Helen Edwards and all interested parties. These requirements are to be a part of the Work Authorization Package to be negotiated with the AE/CM.

The new safety officer has examined the Ion Source Test Stand and written a safety report. The Stand is not a safety hazard if maintained and operated in accordance with procedures in place. He has also written the first draft of sections of the ADS Safety Manual related to personal protective equipment, manual load handling, fire safety, and job safety analysis. These drafts have to be reviewed and approved by management.

LINAC 4.2.1.2

The H^- magnetron source test stand subsystems are being checked out and the safety systems have been installed and approved by ES&H. The source commissioning will proceed in October. Los Alamos was given the go ahead to build the first RFQ for the SSC. Delivery of the monolithic 4-vane RFQ structure is scheduled for February 1992. The DTL study of FOFODODO versus FODO focusing is continuing. It appears that they are essentially equivalent from a beam dynamics standpoint, but the fabrication of the magnets with the FOFODODO may be simpler. Similar studies indicate that doublet focusing in the CCL would increase its cost and complexity. The extra costs of the magnets and the longer bridge couplers are not overweighted by the reduction by on rf system due to the smaller transverse beam size. Most of the linac group attended the Linac Conference in Albuquerque and presented several papers on the SSC linac design.

LEB 4.2.1.3

During the last month, significant effort with respect to the LEB has been in the evaluation of alternative lattice designs directed toward achieving a high (W.R.T. extraction) real or an imaginary transition gamma, and reducing the machine circumference from the SCDR value (540 m) to 480 m. The ramifications of ramp rate with respect to magnet and rf Power systems were explored. In particular, a magnet power system which could be used for 1 Hz (non-resonant) operation and easily switched to 10 Hz (resonant) operation was evaluated. In addition, the space available for hardware in an imaginary transition gamma, 480 m LEB was evaluated.

Based upon this work, the efforts in the near future will concentrate on the detailed evaluation of the rf system construction schedule including the R&D cycle, and initial specification of hardware including such items as vacuum system, magnets, correction elements, and beam diagnostics.

MEB 4.2.1.4

LEB design work has proceeded using circumferences of 4320 m and 4500 m. Standard FODO latices have been designed, and work continues on a sample imaginary transition gamma lattice so that the impact of this lattice type on other accelerator issues can be evaluated.

The FODO lattices have been implemented with 90 cells and insertions have been provided for the high energy transfers. Associated with these designs has been the emphasis on creating more dipole length, thus reducing the needed peak field from 1.7 T (as in the SCDR) to values around 1.5T.

HEB 4.2.1.5

At the request of the Civil Construction Division, an effort was started to examine the consequences of increasing the vertical separation between the HEB and the collider rings from 14 m to 20 m. With the current 14 m spacing, parts of the transfer-line enclosure and HEB tunnel are in the Eagle Ford Shale formation and present more construction problems than if they were entirely in Austin Chalk. Increasing the separation to 20 m will place all of the tunnel comfortably in the Austin Chalk, although the transfer line will still go through the shale. One problem with increasing the vertical separation is that the vertical bend angle at either end of the transfer lines will be increased and also the amount of vertical dispersion produced by the bends will be increased. Preliminary designs for transfer lines with a 20 m separation have been completed and are under study. An issue of concern in the transfer lines is the necessity of using cryogenic elements. It appears that the vertical bend strings will need to use superconducting dipoles for in a larger safety margin for the dipoles. further studies of the two separations, as well as general design studies of the transfer lines are underway.

A slightly modified HEB lattice has been designed. The major change from the Site Specific Design Report is that the half-cell length was decreased from 38.875 m to 38.065 m. This change was permitted as the free space in each half cell designated for the correction and cryogenic spool piece had increased due to magnet changes, and could now be reduced. The original design had four dipoles per half cell and a relatively long quadrupole. In order to be more similar to the collider design, the dipole length was doubled, leading to two dipoles per half cell. Also, the quadrupole gradient was increased to that used in the collider, thus shortening the quadrupole. These changes increased the space available for the spool piece by nearly a meter per half cell. The new design has a spool-piece length of 4.575 m, the length of the standard collider spool. In addition to the cell length change, the overall circumference was reduced form 10,890 km to 10,800 km. This allows for easier cogging and transfer from the HEB into the collider.

Project Administration and Support 4.3

Administration Systems and Support 4.3.1

The year-end closing was well managed with the result of maximizing funds available for carryover to FY91. The indirect cost distribution system has been implemented for FY91 and the annual salary review process was successfully completed.

A strong emphasis will be placed on upgrading and extending the Administration Divisions management information systems with the objectives of reducing lead time, increasing efficiency and improving reporting.

Significant progress continues to be made in upgrading the effectiveness of our Procurement operations.

Finance 4.3.2

The Budget Section concentrated its efforts on two main objectives: year end closing and FY91 Budget Planning. The year end closing activities included thorough review of all subcontracts insuring, that all FY90 costs are properly accrued. In addition, this effort included the review of all outstanding subcontract commitments and initiating paper work for needed corrections. The section personnel worked closely with Divisional Management and Procurement to insure that all critical program activities are funded and that laboratory obligations are within DOE funding limits. Also during this month, guidances for the FY91 budgeting process was developed and issued to the laboratory. This involved an extensive coordination effort with the Project Management Staff in order to streamline the laboratory budget activities.

The Financial Information Systems section worked on the following:

- Designed and implemented the institutional budget system based upon organizational breakdown structure.
- Designed, programmed, and implemented the expanded chart of account capability which allows the use of 12 levels of WBS.
- Trained users on both systems.
- Furnished input design for the subcontract and property accounting systems.
- Initiated testing of internal chart of account approvals.
- Tested fixed to Deltek's accrual and TRACS program.
- Tested Deltek's purge journal toolkit for year-end close and assisted MIS in establishing link of current and history files of purged data for historical reporting purposes.
- Developed Powerhouse reports to assist in requisition tracking and year-end housekeeping, payroll, and general accounting internal and external reporting.

The Accounting and Financial Control section accomplished the following objectives:

General:

- Scheduled, coordinated and carried out all year end close activities:
- Addressed and resolved systems problems/issues associated with year end close.
- Drafted the new Transaction Code list.
- Developed and implemented the year end Chart of Accounts conversion.
- Processed all FY90 outstanding invoices.
- Analyzed all FY90 outstanding accrued costs on delivered goods and made necessary correcting entries.
- Performed a comprehensive review of FY90 costs and accrued estimates in the area of travel, relocation, insurance, employee benefits, etc.

- Conducted year end analysis of all general ledger and subsidiary accounts.
- Facilitated preliminary audit work performed by Ernst and Young.
- Finalized FY91 goals and objectives.
- Finalized policy and procedures and handling of honoraria paid to committee members from foreign countries.
- Compiled estimates for FY91 budget scenarios.

Policy & Procedures

- Revised and finalized proposed Indirect Cost Allocation Policy.
- Drafted, revised and finalized new Suffix and Transaction Code Definitions.
- Redrafted Petty Cash policy for manual from procedures already issued.
- Drafted and revised Budget Forecasting Procedures.

Property Accounting

- Worked to establish the policy that Centralized Services budget for, control, and maintain copiers.
- Completed the required audit schedules for the preliminary phase of the external audit.
- Reviewed 662 purchased requisitions consisting of 1,441 line items.

Travel

- Paid reimbursement checks to 301 travelers.
- Reimbursed (through EFRS) $55,240 to travelers' Diners Club accounts and $14,707 to individual checking accounts.
- Implemented delinquent travel voucher reporting system. Received positive responses.

Payroll

- Processed 886 regular payroll checks for 2 paydays.
- Processed $117,960 of relocation payments and adjustments.

Procurement 4.3.3

During September, the Procurement Department made awards totalling $11,582,433, of which $1,666,134 was to Small Business and $230,533 was to Small Disadvantaged Business as defined in Public Law 101-101.

The $11,582,433 total includes a $2,000,000 commitment to Koch Process Systems, Inc., the selected supplier for the Cryogenics System(s). A letter of authorization to proceed with certain long-lead items, and other tasks was approved by DOE and Koch was notified accordingly.

Another significant event occurred in September relating to DOE approval of the SSCL's proposed Consultant Agreement, Terms and Conditions and Consultant Policy. In its letter of September 26, DOE approved the documents and commended the SSCL for its efforts relative to the completed consultant documents.

Negotiation plans were completed the last week in September for the upcoming negotiations with PB/MK for the A-E/CM Subcontract. These negotiations are aimed toward definitization of the Letter Subcontract currently in force between URA and PB/MK.

In late September, plans were finalized to relocate the Procurement Department to the main contingent at the Stoneridge complex. This should be completed the first week of October, and will lend toward better communication and interface with Procurement's customers.

Procurement's involvement in public Outreach Seminars continued during September with attendance at the following:

9/21/90 Seminar sponsored by Small Business Development Center-Procurement Office (SBDC) of Bryan-College Station, Texas.

9/22/90 Seminar sponsored by City Mayor's Office for Small Business Utilization, Los Angeles, California.

9/27/90 Seminar sponsored by the Ellis County Business Forum, Waxahachie, Texas.

9/28/90 Seminar sponsored by Shelby State Community College, Entrepreneurial Development Institute Network, Memphis, Tennessee.

Good progress is being made toward development of a complete and workable Procurement System. At least thirteen (13) draft procedures were prepared and are currently in the review process. Formats were also drafted for a standard FFP Subcontract, Requests for Quote and other contractual documents. Progress was also made concerning the issue of "internal training", and a draft format for a proposed Buyer/Subcontract Administrator Training Session was completed.

Also in September, proposals were received for the first (Phase I) 500 MIPS ADPE acquisition for physics simulation in hardware/software. Price and technical evaluation is currently in process.

Personnel 4.3.5

We coordinated 54 interviews with hiring managers this month. Sixty-eight new employees joined the Laboratory for a total employee population of 815 as of September 30, 1990.

The Personnel Department's Operations Section assumed major responsibility for implementing the relocation/hospitality portion of the China/Indian Guest Collaboration program. Through personal contact and additional special efforts by the staff, the first six scientists who arrived in September were afforded a very smooth transition into the SSCL culture and local support systems. Other house-hunting, relocation and housing issues continued at a high rate throughout the month for the many staff arriving at the Laboratory each week.

A second round of EEO/Affirmative Action training sessions was held this month with 38 supervisors attending the make-up sessions of this mandatory training program. Major progress was made on planning for presentation of the Sexual Harassment Awareness Training for supervisors and employees which will be held in late October.

Recruiting activity remains high in the scientific and technical areas. Particular emphasis on changes to our applicant tracking system has resulted in improved sorting and classification of applicants which allows for more timely distribution to managers and responses to applicants.

The Compensation Section completed all analysis associated with the October 1 annual salary review. Through close communication and interaction with all Divisions, equity and classification issues were resolved in a timely manner. Salary notification letters were prepared and delivered to the Divisions for October 1 distribution to staff.

The Compensation staff continued its work with the Classification Specification Advisory Groups throughout the month and are on schedule in their analysis of a new job classification structure.

The URA Benefits staff is working closely with EG&G Human Resources on planning for the annual SSCL Health Fair which is to be held in December.

The new combined Travel Authorization/Reservation form and the Cash Advance form were distributed to all Divisions for use after October 1. These improved forms were a result of recommendations by the Travel Task Force convened earlier this year.

Foreign Travel was a major topic of discussion between key Laboratory staff and DOE this month. Through these meetings, we hope to significantly streamline the approval process for all foreign travel supported by the Laboratory.

Minority Affairs 4.3.7

During the month of September, the Office of Minority Affairs personnel continued an active role as participants and guest speakers in performing the SSC Laboratory's local and national outreach to business groups including the minority business community, civic and other interested organizations.

The SSC Laboratory was a "Bronze Sponsor" for the Dallas Hispanic Chamber of Commerce Annual Installation Banquet with the following SSC personnel and spouses in attendance:

Dr. Dick Briggs, Deputy Director
Dr. Raphael Kasper, Directorate
Ms. Kathy Anderson, Directorate
Mr. Dick Russell, Director of Procurement
Mr. James H. Richardson Gonzales, Director of Minority Affairs
Mr. Henry Nelson, Manager, EEO/AA, Office of Minority Affairs

The Director of Minority Affairs conducted numerous meetings with potential vendors and participated as speaker at several functions including the National Hispanic Heritage Day Celebration in Bonham, TX. The theme for the observance was "Education: The Key to Excellence." The Director of Minority Affairs spoke at the regular membership meeting for the Asian-American Chamber of Commerce in Addison, TX. The Minority Affairs Director also met with Apple Computer representatives to discuss potential procurement requirements for the SSC Lab and how "Corporate America" can involve minority vendors in their SDB/corporate bidding strategies.

The Manager of EEO/AA participated in several meetings concerning co-op college students. It was resolved that the SSC Laboratory Co-op College Program would begin in the spring semester of 1991. He also met with Dr. Pearl Chase, the Vice-President for Academic Affairs at Paul Quinn College; she has requested assistance in identifying SSCL employees who would be interested in part-time teaching positions in the curriculum areas of physics and high level mathematics. A competitive salary will be offered.

The final classes of Phase I offered by the SSCL Minority Affairs Office on EEO/AA has been completed. Feedback from participants was positive, with recommendations that training session periods be extended to place more emphasis on case studies.

The Manager of EEO/AA was involved with the recruiting section of the SSC Personnel Office in reviewing and revising the present "applicant tracking system."

The SADBU Manager attended a one day Management Training Seminar entitled "DISC I/ Managing Your Interpersonal Style."

The SADBU Manager was involved in a series of meetings with procurement division management level personnel to discuss the SDB/WOB program; it's functions and mandates. Discussions were held with the AE/CM SSC procurement manager to review the P.B.M.K., SDB Sub-Contracting Plan. He also participated in a meeting with Apple Computer representatives, SSC procurement personnel and the requisitioner from the Lab to review a potential (set-aside) SDB procurement projected requirement. He, in concert with SSC procurement personnel, have made several on-site visits to local SDB computer vendors for the purpose of ascertaining their company's capability to compete in a potential "set-aside" major computer hardware procurement activity.

The SADBU Manager has been asked to participate as a member of the SSCL "MIPS 500" Source Evaluation Board of the Computer Acquisition Working Group. He is also involved in the review and evaluation of the Collider Dipole Magnets Proposals - SDB/WOB subcontracting effort.

The SADBU Manager traveled to Washington, D.C. and Boston, Mass. to participate in meetings with the Department of Energy, Society of Hispanic Professional Engineers and the Latin American Manufacturers Association. He participated as a speaker and met with potential SSCL vendors at the New England Minority Enterprise Development Week Conference.

SDB/WOB Outreach continues in all phases, as per our plan.

Technical Services 4.4

Technical Support Management 4.4.1

Preliminary FY91 budget allocations were received from Project Management and detail division planning activities have started..

Recommendations for October 1, 1990 salary actions were collected, reviewed, and forwarded to Compensation for presentation to AD's.

Completed four Ethics Training Sessions and five EEO/Interviewing Management Training Seminars.

Facilities Engineering Services 4.4.2

Finish out of Stoneridge Building #3 was completed ahead of schedule. This new office and laboratory/shop space has been occupied by a portion of the Physics Research Division, Technical Publications, Lab Technical Services Division shops, and Facilities Engineering Services. The majority of the Procurement function will move into the remaining space the first week in October.

This brings the Laboratory's inventory of interim space to a total of 304,940 square feet. Lab/shop space now totals 35,565 square feet, warehouse space 51,490 square feet, and office space 217,885 square feet.

Construction of the cooling tower building for the Accelerator Division was completed the first week of September.

Action continues or was initiated on several projects, including:

• Other projects for the Accelerated Division include a welding shop, a materials storage building, and a gas cylinder storage area. All are presently being bid with bids due October 1st.

• A change in the scope of work for upgrading the power to the Accelerator Division laboratories was made in September. Procurement action will be initiated early in October.

• Bids for the furnishing and installation of an uninterruptible power supply for the Laboratory's main computer system were received. Award is expected mid-October.

• A contract for additional finish out work for laboratory space in Stoneridge Building #2 for the Magnet Division should be awarded mid-October.

• Continued reconfiguration of systems furniture throughout all facilities to optimize space use.

• Assist in the resolution of issues and concerns relating to land acquisition for the permanent site.

• Bids for the two portable modular offices for warehousing and incoming inspection functions received and evaluated. Delivery and installation is scheduled for late October.

• Initiated procurement action for the renovation of the Medical Center in preparation for the arrival of a new doctor in November.

• A set of generic requirements for additional leased interim office and warehouse space was developed.

• Plans and cost estimate to place an exit in the west side of Stoneridge Building #4 were made. Specifications will be developed in October.

Materiel Management 4.4.3

The 31 Aug 90 Inventory Records of Capital and Sensitive Equipment at the SSCL have been completed and submitted to Property Accounting for reconciliation and transmittal to DOE. The SSCL currently has 5400 items of controlled equipment, valued at over $13M. During the month of September, $405,000 of controlled equipment was placed into inventory. Equipment at other DOE laboratories under contract to the SSCL is additive to these values.

Warehouse facilities currently provide 50,000 sq. ft. of storage space and are at 85% of capacity.

An internal audit was completed during Aug 1990 in the Material and Logistics Services group. Three minor discrepancies were noted and corrective action scheduled. These included; (a) providing better physical protection and security for hi-value equipment in Receiving, (b) new procedures for handling of spares and equipment held for future projects and, (c) revised stores procedures.

Fabrication Shops 4.4.4

Building III Shops finish out was completed in mid-September as scheduled. All submitted equipment and M&S purchase orders were successfully placed with the various vendors. Some of the items have arrived on site, with the remainder being scheduled from now through the end of November.

Interviewing sequence for the core technicians is in process. Some selections have been made and are being cycled through the hiring sequence. We are planning to have personnel in place by late October to start the activity in the shops.

Purchase request's for the Magnet Development Laboratory Shops Capital Equipment items have been generated and are awaiting job numbers. This is concurrent with a beneficial occupancy of early April 1991.

Capital Equipment specifications are being developed for the MTL Shops system.

Budgeting packages for the Fabrication Shops system were submitted and approved for the October through December time frame of the FY 1991.

General Computing 4.4.5

MIS Support

MIS Services has a total of 80 projects (six of which are inactive). A total of 17 projects and/or service requests were completed during the month; seven involved Laboratory-wide applications support. Ten were user specific requests. This activity does not include the heavy support for year-end activities.

MIS Administrative projects and tasks completed include the following:

- Implemented new MIS MENU Configuration on the Deltek Security & Menu screen.
- Submitted MIS requirements input for the SSCL Short Range plan.
- Received and distributed Inquisitive manuals.
- Established weekly reporting for contract programming activity.
- Three MIS staff members received introductory Powerhouse training.
- Supported Deltek maintenance tasks.

- Designed and distributed Production Change Control record procedure forms.
- Prepared Finance Quiz reports and Commitments Analysis reports.
- Enhanced Change Chart of Accounts system and Budget forecast entry system.
- Used Changed Chart of Accounts WBS Translation in test area as a production application.
- Helped alleviate maximum simultaneous access problems in Deltek.

Ongoing service request projects and their status are as follows:

PC/Mac Software Tracking Database	To be signed off.
Property/Asset Accounting System	To be signed off.
Action Item Database	To be signed off.
OBS/WBS Database Conversion	To be signed off.
Outstanding commitments reports	To be signed off.
Budgets vs. Commitments report	To be signed off.
Internal Chart of Approvals	On hold pending year-end processing.
EG&G Electronic Timesheet	In final testing.
EG&G DELTEK Vendor ID Change	Near completion.
EG&G Automated Payroll Edits	Near completion.
Property/Asset Accounting, Phase II	Near completion.
Subcontract/Commitments System	Phase I in final testing.
PO Commitments/Multi Year Funding	Final enhancements being developed.
Procurement Projects	Near completion are:
• VAX Requisition Status Log	•10 Day Report Enhancement
• Requisition Inquiry Search by Buyer	•Requisition Inquiry Search by Name
• Inquisitive Training	•Vendor Contract Report by State Breakout

Technical Support

Purchase of integrated database management software tools to enhance computer user productivity with ad hoc query and reporting is currently on administrative hold.

The MIS Strategic Review Committee issued its long-range report regarding the MIS Strategic Implementation Program which identifies, implements and integrates all MIS required at the SSCL.

The Supplemental Procurement and Finance Information System will be ready to process PRs and POs once final changes to the PR and PO modules are made. The Receipts function is nearly complete. A user review consisting of an on-line walkthrough was performed. The Deltek custom interface to its G/L detail file is expected before the end of October.

ADP Planning, Standards and Procedures

The following acquisition plans received formal approval from DOE for procurement:

Doc. No. 6235-L90-005: Sun CAD/CAE Workstations for Accelerator Systems Division
Doc. No. 6235-L90-012: Intergraph CAD/CAE Workstations for Physics Research Division
Doc. No. 6235-L90-015: Relational Data Base Management System for LTS Division
Doc. No. 6235-L90-017: VME Module EE Workstation for Accelerator Systems Division

The following acquisition plans were submitted to DOE for review and approval:

Doc. No. 6235-L90-026: Major Item of Equipment for SSCL Physics Detector & Simulation Facility
Doc. No. 6235-L90-027: UNIX Server for SSCL Computer Operations VAX Clusters
Doc. No. 6235-L90-028: Upgrade of SUN ANSYS Server for Magnet Systems Division
Doc. No. 6235-L90-029: Strategic & Short Range Plan for ADP Resources for SSC Laboratory

Security Guidelines for Unclassified Microcomputers have been issued to approximately 800 users Laboratory-wide. These Guidelines have been developed for internal use at the SSCL to define each user's responsibilities regarding security issues when they are assigned a personal computer.

The SSC Laboratory Strategic Plan and Short-Range Plan has been submitted to DOE for review and approval. The Strategic Plan addresses all areas of support involving the operation, communication and control of ADP resources through FY98. The Short-Range Plan identifies the need and acquisition method related to new Laboratory computing resources over $25K for FY91/92.

At the initial meeting, representatives from each Laboratory organization were provided with an outline on how to prepare the input for these plans. In addition, at individual divisional meetings, instructions and examples were provided to assist each representative in the preparation of the plan. After a period of six weeks, during which initial draft documents were prepared by each division, the ADP Group edited the input and compiled these plans into an overall plan for the Laboratory.

The following is a summary of the Automated Data Processing (ADP), Automated Office Support Systems (AOSS), Computer-Aided Design/ Engineering (CAD/CAE) and Data Communications (COMM) resources identified by each division as being future needs:

TABLE 1: SSCL SUMMARY TOTALS BY ACQUISITION STRATEGY AND FUNDING SOURCES

Organization	FY91 Acquisition	FY91 Competitive	FY91 Sole Source	FY92 Acquisition	FY92 Competitive	FY92 Sole Source
ASD Totals	$7,758,000	6,273,000	1,485,000	$7,037,000	4,557,000	2,480,000
Capital	6,167,000	4,712,000	1,455,000	6,787,000	4,307,000	2,480,000
M&S	1,591,000	1,561,000	30,000	250,000	250,000	
CCD Totals	$215,000	5,000	210,000	$123,000	20,000	103,000
Capital	168,000		168,000	61,000		61,000
M&S	47,000	5,000	42,000	62,000	20,000	42,000
LTSD Totals	$7,631,000	5,391,000	2,240,000	$5,409,000	3,209,000	2,200,000
Capital	3,716,000	2,645,000	1,071,000	3,289,000	2,059,000	1,230,000
M&S	3,915,000	2,746,000	1,169,000	2,120,000	1,150,000	970,000
MSD Totals	$6,728,000	3,911,000	2,817,000	$4,362,000	2,353,000	2,009,000
Capital	5,015,000	3,911,000	1,104,000	3,492,000	2,353,000	1,139,000
M&S	1,713,000		1,713,000	870,000		870,000
PMD Totals	$90,000		90,000			
Capital						
M&S	90,000		90,000			
PRD Totals	$6,929,000	5,610,000	1,319,000	$12,193,000	10,630,000	1,563,000
Capital	5,208,000	4,475,000	733,000	10,317,000	9,480,000	837,000
M&S	1,721,000	1,135,000	586,000	1,876,000	1,150,000	726,000
SSCL Totals	$29,351,000	21,190,000	8,161,000	$29,124,000	20,769,000	8,355,000
Capital	20,274,000	15,743,000	4,531,000	23,946,000	18,199,000	5,747,000
M&S	9,077,000	5,447,000	3,630,000	5,178,000	2,570,000	2,608,000

* The figures for the Magnet Systems Division (MSD) are preliminary estimates that have not been formally submitted with the rest of the plan for review and approval by DOE.

The Short Range Plan is designed to provide DOE with enough information regarding future plans so they can pre-approve proposed acquisitions prior to the year in which they will be needed. This should significantly reduce the number of acquisition plans currently prepared in lieu of this plan.

User Services

A total 145 hardware service requests and 126 software service requests were handled by User Services Project Group I. A new staff member has joined the group to establish the current ratio of Laboratory personnel to User Support personnel at 117 to 1.

Computer Operations 4.4.5.6

Project Design Support 4.4.6

Administration

Two candidates for drafting supervisor position in Accelerator Systems Division were interviewed.
Input regarding future CAD/CAE acquisitions has been provided for the SSCL Short-Range plan.
The Laboratory Standards Committee endorsed the release of a document numbering policy now used by all SSCL divisions. Adoption of a commercially available drafting standards manual, which will be supplemented by internally written procedures, has been endorsed by the committee.

CAE/CAD Operations and Support

The new Unigraphics Application support specialist has consolidated user reports of operational problems and made well-received recommendations. A new workstation will enable the specialist to write application support routines in Unigraphics which will provide productivity enhancing tools for all Unigraphics users. A computer operator is needed in the CAD operations area to relieve the principal support personnel. An Intergraph support specialist is needed to support the growth in CCD and PRD. A significant increase in CAD support requests from CCD and PRD is expected with their addition of a server, two plotters and several workstations.

A Versatec 8900 series color-electrostatic plotter was acquired to solve current output problems. A comprehensive review of Intergraph's AEC software and information handling systems indicates that these products will provide equally necessary tools. New 669 MB disk drives were installed on selected workstations to provide additional operating and storage space. Two of these drives are being configured into a file and plot server configuration on a Sun Microsystems SparcStation .

An evaluation and selection committee is writing a system specification and necessary justification to begin the competitive procurement of an initial ECAE/CAD system.

Design Drafting Support

Two new full-time drafters are supporting the LINAC development engineers and physicists. A part-time drafter assists facility engineering personnel with layouts and conceptual design work. Other designers and drafters continue to support the ASD mechanical engineering efforts in magnet and spool piece design. Administration is being assisted in the production of a new comprehensive SSCL organization chart.

Technical Data Management and Reproduction

The Laboratory Document Manager has relocated to LTS from PMO. He will set up a pilot project to collect released technical design data into a central system for storage and dissemination while continuing

to work with PMO in specification and guideline development. A Xerox 7085 was installed in the document control and reproduction center to reproduce engineering drawings.

Communications 4.4.7

FDDI fiber-optic termination arrangements for the FDDI ring of the 500 MIPS Detector Simulation system are being reviewed. Since most PRD personnel moved to Bldg 3, an extension of the FDDI ring to their new location is being considered. This activity is an extension of the planned upgrade of the LAN backbone for the campus.

A total of 386 trouble, reconfiguration and installation calls (average of 18 per day) were handled.

Telecommunications

An arrangement was negotiated with Southwest Bell to install a microwave link to Waxahachie from any location specified in the E-1 area. Temporary data and networking services will be provided to facilities under construction in the E-1 area using short range I/R and microwave links.

Visual Media

Several universities have expressed interest video teleconferencing. Harvard and Argonne are about to acquire systems and it will be extended to KEK (in Japan) and INFN (In Italy). Due to the complexities in developing a global video networking capability, a working group has been established to define an architecture which encompasses the needs of the SSCL and HEP. A weekly video teleconference has been established to work towards developing unified plans.

Administrative Support

New procedures are being written and the following actions taken to improve productivity:

- The primary PBX operator will handle incoming calls to the SSCL and update the directory.
- Another PBX operator will serve as the Bldg. 2 receptionist and as a secondary operator.
- The Help Desk was moved from PBX to another room and one person assigned to log requests.
- User Services is formatting a multiuser software package for all requests and completions.
- Templates are being created for technicians to enter service information and track requests.

Engineering Support/Standards 4.4.8

Tasks Completed in August

During the month of September, the following tasks were completed:

- The SSC Laboratory procedures for the Document Numbering System and the Part Numbering System were approved by the Project Manager.

- The Technical Reports Standard was submitted to Program Management for review. The Standard establishes the procedures for report preparation, identification, approval, publication and distribution; provides a general outline for technical reports; and details the requirements for safekeeping technical reports.

- The *Modern Drafting Practices and Standards Manual* was distributed to the Documentation Control Committee for review and comments.

Procedures in Process

The Engineering Drawing Preparation Standard provides drafting standards for the preparation of engineering drawings and related documents used in the definition phase, the design, and the construction of the superconducting super collider and laboratories

The Engineering Drawing Preparation Supplement will provide drafting standards for architectural and civil documentation. These standards will be utilized in the preparation of engineering drawings and related documents for the definition phase, the design, and the construction of the superconducting super collider and the laboratories.

Plans for October

- Complete the Engineering Drawing Preparation Standards and Engineering Drawing Preparation Standards Supplement. Effort will be directed toward the supplemental data required by drafting. The first major effort will be the standardization of the general notes.

- Continue effort with Management Information Systems for the MRP System.

- Work with Program Management to implement the engineering standards on drawing standards.

Metrology Lab/Calibration and Repair Labs 4.4.9

Receiving Inspection and Calibration/Repair Lab

During the month of September, the following assignments were completed:

- The Calibration Lab was moved into Building 3, resulting in more room and better working conditions.

- Receiving Inspection was granted access to the DELTEK system. Receiving Inspection will be notified when a purchase requisition for measuring and test equipment is entered into the system.

- Completed purchase requisitions on FY 91 capital and materials and supplies equipment budgets. The requisitions will be held until the Lab budget is clarified.

- Calibration Recall Notification forms were sent to all measuring and test equipment (M&TE) user/owners who requested instrument recall service.

- The evaluations for the Incoming Inspection and Calibration/Repair Lab. modular building evaluations were completed and sent to Procurement.

- Twelve oscilloscopes were calibrated during the month.

Metrology Laboratory

During the month of September, the following assignments were completed:

- The Metrology Lab was moved to Bldg. 3 in an effort to improve the temperature and humidity control of the standard measurement instruments.

- The 337MB PC arrived and is being set up as the Calibration Management Support System for the Metrology Lab.

- Several Metrology Quality Assurance programs and data bases were established.

- Several Calibration Management Systems were evaluated and one program was selected and will be incorporated into the SSCL Metrology Lab Management Support System..

Staff Services 4.4.11

Central Files

Documented and interfaced with Records Coordinators problem of lack of Central Files cooperation so as to implement corrective action.

Created and condensed Central Files Procedures and distributed them via memo to SSCL Record Coordinators for implementation and reference. Documented Central Files Procedures concerning the "Control of Confidential Documentation" maintained in Central Files and created Central Files Access Form to be utilized during document retrieval.

CENTRAL FILES CODING/SHELVING PROGRESS: Approximately (1,000) documents have been coded and shelved (more documents are in hand in addition to those completed and data captured). Process is currently very time consuming due to requirement for secondary subject coding during logging process. This process should "speed up" with time.

Began "reach out" training program for Records Coordinators; Administration visited initially. Will continue this training to boost fluidity of Central Files processes.

GSA/Lease Vehicles

Data has been continually received as concerns the GSA survey and vehicles are being prepared for issuance in accordance to input. FY91 order/letter request presented to

Obtained Federal Regulations and laws pertaining to the utilization of Government vehicles for study and assistance to Human Resources/Lee Graw.

VEHICLE TRANSITION: (4) D&M vehicles returned and (1) GSA vehicle received and processed from GSA. Five (5) vehicles acquired from Economy Rents; these vehicles are being utilized by relocating employees. D&M vehicle fleet size down to nine (9) vehicles.

Special Projects: FY91 vehicle plan and policy for the use of rental vehicles; coordination/support with L. Graw. Plans being formulated for vehicle representative training in Oct 90.

Mail Room

SSCL service related improvements/accomplishments this reporting period were files updating and maintenance, study/proposal of new mail route system for E-1 site and County Farm, Photo I.D. support for User's Office.

Repositioning/layout of mail room planned due to loss of space to Magnet. Equipment being moved and mail room being realigned. Working.

Facility Support

Set up hard offices, cubicle chairs, conference rooms, copiers, facsimile machines, etc., in Building 3, and relocated part of the Physics Department, Technical Publications, and Facilities Engineering.

Coordinated set-up of Procurement relocation to Building 3 (to take place Monday, October 1 at 5:00 p.m.).

Medical Office

There were a total of 292 health care visits during the month of September consisting of:

Occupational Injuries, Lacerations	1
URA Pre-Employment Physicals	41
EG&G Pre-Employment Physicals	35
Blood Pressure Checks	20
Non-Occupational Illness, Etc.	195
TOTAL	292

Thirteen (13) employees attended CPR/Basic First Aid Class and were certified.

Status of pre-employment physicals: EG&G files are current and complete, URA files are current with two remaining pre-physicals to be done and they have been scheduled.

Food Service/Special Events

Cafeteria sales continue to be above previous highs. Daily sales are now in the $800/$1000 dollar range. Breakfast sales have increased to an average of $150 per day. Employee attendance is around 200 during the day and most days the seating capacity during lunch is at a maximum. Average daily sales this month are at $850 per day with only 16 working days this month. (Sales to date for September are $14,571.) Projected $60,000 will be used FY91 for catering to Staff needs for meetings and working lunches. Approximately $10,000 of this should be reimbursed by the Users Office for their Seminars. Proposals are in for maintenance agreements on equipment, the service contracts have been furnished to Procurement for selection and a budget of $5000 projected.

Security

Storage/Security of magnet outside of a secure facility was discussed with Magnet Lab Management.

Meeting was held with vendors from Unicor to view samples of signs - sizes/decals that could be used in the future.

Warden Training Class was conducted.

Met with Safety/Engineering on fire alarm system. The fire alarm system in Building #4 was tested.

Meetings with Emergency Preparedness Manager and Alternate Coordinators on Policies/Procedures for Emergency Plan.

Technology Transfer 4.4.12

Work was completed on the first draft of the monograph outlining the contributions of high energy physics and the SSC to technology and the U.S. economy. Discussions were held with URA and SSCL External Affairs staff to better define potential audiences, and acquisition of photos to accompany the text was begun

A visit was made to Oak Ridge National Laboratory to learn more about its highly regarded technology transfer program. Discussions were held with the General Patent Counsel, the Director of Guest and User Interactions, staff members in the Office of Technology Applications, and others involved in technology transfer.

Computer Operations 4.4.13

Computer Operations is currently working on several projects including preparation for the 500 MIPS implementation; updating the SSCL Computer User's Guide and the Operations' Guide; contributing to various LTS documentation efforts; cleanup of user accounts and disk space on the SSCL systems; and continued development of UNIX expertise.

The Administrative VAXcluster system has been on-line for 33 days (100% uptime). The Scientific VAXcluster was rebooted once this month during *non-prime* hours for a total of 20 minutes downtime during the month. The heavy use analysis tools on SSCVX1 has lead to a monthly CPU utilization of greater than 80% (based on 24 hours, 7 days/week) as shown below:

System	# of Users	Availability
SSCVX1	848	99.95%
SSCAD1	369	100%

Due to ongoing disk space problems on the Scientific VAXcluster, a version limit of three has been placed on file creation. This means a user cannot have more than three files with the same name in a directory. The implementing procedure recovered large amounts of badly needed disk space. In addition, a scratch disk is now available for large, temporary data files that result from analysis.

Meetings were held with Magnet Engineering and Accelerator Controls to determine the level of system support they require from Computer Operations. Changes to current support levels include the addition of backups for Accelerator Controls systems. Magnet Engineering is buying additional hardware and will continue to require full support for their LAN. Magnet Test has notified Operations that they will assume responsibility for the backups on their LAN.

Steps being taken to ensure a smooth implementation of the Detector Simulation System include an implementation plan that establishes the dependencies and the deliverable of components critical to Computer Operations such as user documentation, hardware/software installation and networking. Systems Integration established a working group for the purpose of coordinating the Detector Simulation software interface development with the Computer Operations requirements.

The SSCL Computer User's Guide is in the draft review process with distribution scheduled for late October. The SSCL Operator's Guide, which will cover all supported operating systems, is also being rewritten to provide the system operators, new or old, with set procedures on performing system backups, shutdowns, creating new terminal queues, queue maintenance, trouble calls, and various types of security alarms that can be expected.

SSC Laboratory Directors Office 4.5

The Subcommittee on Foreign Collaboration of the Scientific Policy Committee meet with the DOE Assistant Secretary for International Affairs and other representatives from DOE and the State Department on September 7 to discuss foreign participation in the SSC.

A major effort was devoted to efforts directed toward compliance with the National Environmental Protection Act. Public hearings were held for the draft Supplemental Environmental Impact Statement. Discussions were held with various state agencies regarding environmental permits for the Magnet Development Laboratory. Discussions were also started with the State of Texas on water rights.

A meeting with about 50 representatives from Universal Field Series, Inc. was held in Waxahachie to discuss safety issues associated with the SSC project.

A brochure entitled "The Supercollider: Health, Safety, and the Environment" was published in late September. It attempts to answer some of the most common safety questions about the SSC, and will be made available to the public.

Physics Research 4.6

Library Services 4.6.1

A great deal of time was spent this month by Library staff and in consultation with the Library Committee planning budget cuts for FY91. The Library needed 1.9M for FY91 but originally received only 1.5M. This has now been raised to 1.7M but it still means the Library will not be able to meet the Laboratory staffs' information needs in the most cost-effective ways. The present cut to 1.7M will result in cuts in staffing, a slow-down in the development of the Library's collections and in purchasing needed equipment to make the Library's catalogs and databases accessible to the Laboratory staff over the network.

No space has been made available to accommodate the Library's growth in FY91 and we are presently out of space. The Library Manager and the Library Committee have been working closely in developing alternative strategies for finding the needed space.

Circulation of Library materials continues to circulate; a total of 177 were checked out during the month of September.. Approximately 47 ILL requests were filled for library patrons. Presently the Filemaker dBase consists of 5818 preprints. During the month of September 323 preprints were received and 551 preprints were added to the database.

Two cataloging projects began this month. The Incomplete Records project was completed by Donald LeBlanc a Library and Information Science student intern from the University of North Texas. The second project is still in process, 522 empty records have been deleted from the online catalog and over 1900 records/preprints have been identified to be removed from the catalog and added to the Preprints database. During the month 376 new books and other library materials were cataloged and processed.

Acquisition activity for September included orders for 336 items and 159 items received. An acquisitions shelf has been established in the library for users to offer ordering suggestions.from new publishers catalogs and review copies of journals.

Serials activity consisted of developing procedures for handling standing orders and continuations; checking in 409 periodicals, claiming 138 issues and ordering 13 titles. The current periodical shelves were shifted in order to accommodate growth of the periodical collection. Procedures were also developed and implemented to pull material for binding.

The SSC library served as host to the Dallas County Library Association's monthly meeting. Following the business meeting the Library staff shared information about the SSC Library and conducted tours for the group of 35 librarians.

Staff development during the month of September consisted of several staff members attending the Laboratory's computer training classes; a DIALOG /INSPEC training class; and an RLIN(Research Libraries Information Network) workshop.

Library site visits were made to Los Alamos and SLAC Laboratories focusing on procedures, work flow and quality control.

Technical Information and Publications 4.6.2

The newly created Forms and Report Coordination Group. has designed,developed and approved a Quality Assurance Form . The forms will be stored in an air conditioned warehouse within the SSC complex. Additionally, the DOE project office QA plan forms have been completed.

The group is in the process of procuring bids to publish the Proceedings of the Third Annual International Industrial Symposium on the Super Collider (IISSC) which is scheduled for FY91.

The Technical Information and Publication Group is collaborating with the Video Media group to produce video tapes for the Lab. The tapes currently in process are for Quality Assurance, Safety, Property Management, Security, and Medical. A video tape has been recently generated on the Air Products presentation at the Lab.A working library of video tapes is presently being established for use by the scientists and engineers and is available through the Video Media group.

Experimental Facilities 4.6.3

In September, the Experimental Facilities group continued preparations in anticipation of the submittal of Letters of Intent from the detector collaborations. Procedures were implemented to standardize the cost estimating process for detectors, so as to be better able to compare cost between the different detectors. A team of engineers within the group, with help from the collaborations, was assembled to plan for the construction of heavy steel in the detectors. This includes the muon steel in SDC, the magnet structure in EMPACT / TEXAS and the magnet structure in L*. Work also continued on the development of generic utility configurations, including those for cryogenics support, detector gas systems, and water and power distribution systems.

Test beam work continues to concentrate on the design of beam optics for the Switchyard and the secondary beam-lines. The configuration continues to stress an independent 200 GeV capability.

New people in the group include Warren Kampmeyer who is an electrical engineer, Bob Levalle, who is a systems engineer and will concentrate on safety issues, Mary Stringfellow and Emile Sabin are designers and Pat Jarvis will help with the administrative tasks.

Experimental Systems WBS 5.0

Experimental Systems R&D 5.1

The laboratory received progress reports and requests for continued support in FY 1991 of eleven Detector Subsystem R&D projects that had been funded in FY 1990. One of those, the "Project on Program Benchmarking" was judged to be more appropriate to the Computing group and was referred to them for consideration. In addition, ten proposals were received for support of other efforts. Of these, some in fact, were essentially reworkings of proposals rejected last year. Each of the proposals was assigned to two research Division staff physicists for close reading. All were reported on and discussed, for instructional purposes, at a series of meetings. The complete set of thirty documents were duplicated and distributed to members of the International R&D Advisory Committee for consideration. The results of their reviews and evaluations will be presented at their meeting that will take place in Dallas October 18–20. Recommendations to the Director will follow.

Detectors 5.2

September saw a continued high level of activity among the collaborations involved in the large, general purpose SSC detectors as they moved toward preparation of Letters of Intent describing downscoped designs in response to the recommendations of the Program Advisory Committee. The SDC had an intensive meeting at the Laboratory in mid-September to make some of the required decisions on a smaller detector than in the corresponding Expression of Interest and to set the stage for choices later in the fall which will lead to the design to appear in the Letter of Intent. The EMPACT and TEXAS collaborations merged, so that Letters of Intent are now expected from three groups: SDC, L*, and EMPACT/TEXAS.

The first pulse of funds from the SSCL for engineering, systems integration, and coordination work for these three collaborations was made available in September from FY90 funds. It is expected that a second installment will follow near the beginning of the new fiscal year. Letters were sent to each of these collaborations requesting the nomination of a magnet engineer who would be resident in the Laboratory from October through December. A chief coordinating engineer was designated for each of the collaborations. In addition, contact was made with the collaborations on the cost estimating processes and a set of people inside the Laboratory assigned to this aspect of the detectors and to be in contact with the collaborations (see also Experimental Facilities in this regard).

Lab Operations Support WBS 6.0

Physics Program Support 6.1

Division Office 6.1.1

The August cost actuals from DELTEK were distributed to the task managers including the outstanding purchase orders and requisitions being indicated for a closer review. Close tracking of all expenditures for the month of September was performed in preparation for the FY 90 year end activities.

Work package planning forms were prepared by the cost account managers in preparation for the FY 91 budget planning process. Evaluation of the overall impacts of the ten year schedule are being evaluated and planned. New cost codes have been prepared for tracking the costs. The new format of the cost codes will allow direct correlation to the WBS.

Theory 6.1.2

Discussions continued with several theorists through the month on visits to the Laboratory during the next fiscal year. Preliminary plans were being made to hold another theory workshop in the spring of 1991.

Experimental Physics and Facilities 6.1.3

September was an important month in that several additional physicists and visiting scientists joined the Research Division and the new set of offices, and most importantly, laboratory and shop space became available in Building 3 on September 17th. Research activities there will include work in calorimetry R&D for SSC detectors, electronics, tracking, and detectors for test beams. The installation of the necessary apparatus and machine tools began almost immediate. Much additional equipment for these labs is on order and should arrive in the near future so that this space can become fully operational. Discussions with CDF continued on a potential SSC Laboratory group joining that collaboration and on precisely what role they would play in the effort in preparing for the next run and in future upgrades of CDF.

Computing and Data Analysis 6.1.4

Physics Support

The Systems Development section continued its support to the Computer Acquisition Working Group for the 500 MIP Detector Simulation Facility. The project plan and schedule for acquisition of the 500 MIP resource is being reworked to accommodate an accelerated acquisition. Current planning calls for a mid January, 1991 delivery with full implementation shortly afterward.

Vendor offerings responding to the 500 MIP Request for Proposal have been evaluated for mandatory qualifications for hardware and software specifications. The second round of benchmarks, containing physics and graphics code only has been prepared and will be sent to qualified vendors. A final test of graphics software will be tested by the local staff at a later date.

Analysis and design work is currently being performed on the subsystems identified for the 500 MIP project. Top level systems analysis of the software to support the project is complete. Design level analysis should continue until implementation which is scheduled to begin in four to six weeks.

A plan for parallelization of physics software on the 500 MIP computer resource has been developed. Parallel software will be implemented on an experimental basis on a smaller system independent of the

selection process. An overall plan for support of High Energy Physics code, both parallel and non parallel, has also been prepared.

The Cooperative Processes Software (CPS) developed by the Fermilab Computing Division has been demonstrated on several workstations and is being used at the process level on distributed computing software. Two staff members are now supporting the CPS software and a project is now underway to port physics code to run with CPS. A new analyst has joined the Physics Software Support Group from SCRL/FSU to work on parallelization of simulation tools and applications. Specifically, he will have the responsibility for event parallelism of GEANT3 on the 500 MIP computer, starting with GEANT3, Version 3.14, and using CPS.

Systems integration support for this 500 MIP project has been reformulated to accommodate the new schedule. Systems data requirements analysis is in progress with systems database design scheduled to begin in early October.

Software Support

A major upgrade of the GEANT3 detector simulation tool is now in beta test on the UNIX workstations by the Physics Software Support group. The GEANT3 Version 3.14 will become officially available at the end of October. A detailed set of release notes is available in the Computing Science Library for interested users. The printing of the new GEANT3 manual is scheduled for December.

With GEANT 3.14 being released, work on the next version of GEANT, Version 3.15, is already underway. The main interest for SSC collaborators in Version 3.15 is the proposed developments for a Detector Description Package with a geometry data base and interface to CAD/CAM engineering software. The PSS group will take strong interest in this development during the coming year. A prototype of the CAD interface already exists.

Further work has been done on actual GEANT3 application for the SDC collaboration on the Apollo DN10000 (SSCAPO), as well as on SUN (SUN SparcStation) and VAX/VMS. The SDC detector description package and tracking is now working with graphics on the Apollo and a demonstration is being prepared for the SSC Conference in Fort Worth next month. This application also uses upgraded versions of the PYTHIA and JETSET physics generators.

Beta testing and development of pre-release CERN Program Library, version CNL200, placed emphasis on GEANT 3.14 and HIGZ/X. Bugs reported to responsible parties at CERN. The CERN Program Library software is scheduled to be released at the end of the October. It contains several upgrades of importance for physics software, in particular several upgrades to all physics generators. In addition, enhanced support for the UNIX environments is forthcoming.

ULTRIX Version 4.0 on proton.ssc.gov was installed on DECstation 2100. Also installed were FORTRAN for RISC V2.1, DEC GKS-3D V1.1, DECwindows, Motif V. 1.0, DECnet-ULTRIX V. 4.0, and DEC FORTRAN for ULTRIX (RISC) field test 2. The CERN Program Library was generated under ULTRIX Version 4.0 on DECstation 2100 to test compatibility and check for bugs. DEC FORTRAN for ULTRIX (RISC) appeared unusable in a brief test. Debugging is underway for difficulties encountered with FORTRAN for RISC V. 2.1.

Difficulties with IBM RS/6000 X11 and Apollo UNIX support.were reported to the appropriate IBM Systems Engineer and local Apollo office. X11-based GEANT/HIGZ display capabilities were demonstrated. HIGZ/X11 versions were implemented on SGI, DECstation and the IBM RS/6000. Simultaneous displays of BCD GEANT events were shown from an SGI Personal Iris, DECstation 2100 and IBM RS/6000 on an IBM RS/6000 display.

The Magnetic Fusion Energy Computer Center (MFECC) has requested support from SSCL in implementing the CERN Program Library on the CRAY-2 mainframe.

Physics Research Research & Development subsystem proposal reading/discussion groups were presented with an overview of the Silicon Pixel Detector collaboration's R & D proposal.

Support for Mathematica on Personal Iris and acquisition of LAT from Ki Research remained open though Mathematica support was received in late September. Work is in progress to pursue licensing agreements between Fermi National Accelerator Laboratory and Ki Research which can be duplicated to resolve the Ki Research difficulty.

SSC PROJECT

FY90 STARTUP (NEAR TERM) MILESTONES

MIL NO.	WBS NO.	MILESTONE DESCRIPTION	COMPLETION DATE ORIGINAL PLAN	COMPLETION DATE CURRENT PLAN	COMPLETION DATE ACTUAL	COMMENTS
1	2.0	AE/CM Criteria	3/89		4/89	
2	2.0	Start Geotech	5/89		6/89	First Phase Complete
3	3.0	SE/I RFP Issued	6/89		6/89	
4	2.0	Footprint Fixed	8/89		8/89	
5	3.0	SE/I Contract Award	8/89		10/89	
6	3.0	First Draft PMP Issued To DOE	8/89		8/89	Subject of Semi Annual Review
7	4.0	DOE Approval To Proceed With In-House Design For Early Critical A-E/CM Activities	8/89		8/89	Official 10/2
8	2.0	Land Acquisition Footprint Specification Documentation Complete	8/89		9/89	
9	1.0	MIP RFP	9/89		5/90	Draft
10	3.3	Key Finance Staff Hired	9/89		9/89	
11	2.0	First Tunnel Section Location Set	9/89		9/89	
12	1.0	Tunnel Cross Section Defined	9/89		10/89	
13	3.0	First DOE Semi Annual Review	9/89		9/89	

As of: October 19, 1990

SSC PROJECT

FY90 STARTUP (NEAR TERM) MILESTONES

MIL NO.	WBS NO.	MILESTONE DESCRIPTION	COMPLETION DATE ORIGINAL PLAN	COMPLETION DATE CURRENT PLAN	COMPLETION DATE ACTUAL	COMMENTS
14	3.3	SSCL Accounting System In WBS Format Shown in August Monthly Report	9/89		11/89	In October Report
15	3.3	Deltek Accounting System Operational	9/89		9/89	October 1 Initialization
16	3.3	Key Procurement Staff Hired	9/89		9/89	All Key Positions Filled
17	3.3	Procurement Policies Procedures Manual Complete and Issued	9/89		9/89	Submitted To DOE-CH For Review And Approval
18	3.3	Deltek Purchasing Module Operational	9/89		9/89	
19	3.4	SSCL Vax Delivered	9/89		10/89	
20	3.1	PMRS Software Installed and Tested	9/89		9/89	
21	3.1	Eng. Mgmt. System Plan - Final Draft Issued	9/89		4/90	
22	2.0	First SEIS Draft Issued	10/89		10/89	
23	2.0	AE/CM Contract Award	10/89		5/90	
24	3.1	PMRS Implementation Complete	10/89		10/89	Software Implementation
25	3.4	MIS Hardware Operational	10/89		10/89	
26	3.1	Config. Mgmt. Plan Complete	10/89		1/90	
27	3.4	Draft Document Control Plan Issued	10/89		10/89	

As of: October 19, 1990

SSC PROJECT

FY90 STARTUP (NEAR TERM) MILESTONES

MIL NO.	WBS NO.	MILESTONE DESCRIPTION	COMPLETION DATE ORIGINAL PLAN	COMPLETION DATE CURRENT PLAN	COMPLETION DATE ACTUAL	COMMENTS
28	2.6	AE/CM-SSC Performance Objectives & Syst. Requirements Revisions Complete	10/89		5/90	Draft
29	3.0	Issue First Funding Directive	10/89		10/89	
30	3.0	First C/SCS Report Test	10/89		11/89	October Data
31	1.0	Collider Dipole Criteria Established	10/89		4/90	
32	3.0	Initial Baseline Issued	11/89		5/90	
33	3.1	First Monthly Report With Automated PCSR	11/89		9/90	First Draft
34	3.1	Baseline Cost Estimate Complete	11/89		1/90	
35	3.2	SEMP Approved and Issued	11/89		2/90	
36	3.1	PMP - Final Draft Issued	11/89	11/90		
37	3.1	Key QA Staff Hired	11/89		1/90	
38	3.5	ES&H Management Plan Draft	11/89		1/90	
39	3.5	ES&H Final Draft Issued	11/89	11/90		
40	3.1	SSC WBS/WBS Dictionary Complete and Issued	11/89		5/90	
41	1.0	Prototype Dipole Specification Complete	11/89		3/90	
42	1.0	Magnet Criteria Complete	11/89		3/90	

SSC PROJECT

FY90 STARTUP (NEAR TERM) MILESTONES

MIL NO.	WBS NO.	MILESTONE DESCRIPTION	COMPLETION DATE ORIGINAL PLAN	COMPLETION DATE CURRENT PLAN	COMPLETION DATE ACTUAL	COMMENTS
43	3.3	Deltek Procurement Interface Pgrm Imp	12/89		2/90	
44	3.1	Configuration Mgmt Policy Statement Issued	12/89		2/90	
45	3.4	Document Control Policy Statement Issued	12/89		1/90	
46	2.6	CCD-Procedures Manual Second Draft Issued	12/89		3/90	
47	3.0	Supplemental Site Specific CDR Issued	12/89		12/89	
48	3.0	Start Baseline Validation	1/90		1/90	
49	3.1	QA Policies and Procedures Complete	1/90		5/90	Draft
50	3.1	QA Data Base Requirements Document Issued	1/90		5/90	
51	2.1	A-E/CM-Complete Near Term Work Auth Packages	1/90		8/90	Letter Contract NTP
52	4.0	First Land Tract Available	1/90		7/90	
53	1.0	Award Magnet Prototype Contract	1/90	11/90		
54	2.0	Award MTL/ASST Fac Cold Test Fabrication Contract	1/90		9/90	
55	3.3	Final AAAP Approved and Issued	2/90	10/90		
56	3.1	DOE CSCSC Readiness Review	2/90	6/91		Determined by DOE

As of: October 19, 1990

SSC PROJECT

FY90 STARTUP (NEAR TERM) MILESTONES

MIL NO.	WBS NO.	MILESTONE DESCRIPTION	COMPLETION DATE ORIGINAL PLAN	COMPLETION DATE CURRENT PLAN	COMPLETION DATE ACTUAL	COMMENTS
57	3.1	PMP Approved and Issued	2/90	11/90		
58	2.6	CCD-Procedures Manual Issued	2/90		5/90	Preliminary
59	3.0	Baseline Validation Complete	2/90		8/90	
60	4.0	Supplemental Environmental Impact Statement Issued	2/90	12/90		
61	2.0	A-E/CM On Board	2/90		8/90	Letter contract

Baseline Schedule (Sep 90)
Major Project Milestones

Number	WBS	Description	Date
M1-1	2.1.1	A-E/CM Letter Contract & NTP	AUG-90
M1-2	3.0	Baseline Validation Complete	JUL-90
M1-3	1.2	CDM Authorization to Incur Costs	NOV-90
M1-4	3.0	SEIS Record of Decision (ROD)	DEC-90
M1-5	2.1.1	Start SSC Civil Construction	MAR-91
M1-6	1.1.8.8.23	Accelerator String Test Complete	OCT-92
M1-7	1.2	Start First Half Sector CDM Delivery	APR-94
M1-8	5.0	Notice to Proceed (NTP) Experiment Halls	JAN-93
M1-9	1.1.6	First Collider Half Sector - Start Installation	MAR-94
M1-10	1.1.2	LINAC Start Commissioning (600 MeV)	OCT-94
M1-11	1.1. 6	First Collider Half Sector - Start Cooldown	MAR-95
M1-12	1.1.4	MEB Start Commissioning	APR-96
M1-13	5.0	Beneficial Occupancy of Large Experiment Halls	JAN-97
M1-14	1.1.5	HEB Start Installation	AUG-96
M1-15	1.1.4	MEB Test Beams Available	OCT-96
M1-16	1.1.5	HEB Start Commissioning	OCT-98
M1-17	5.0	West Detectors - Start Commissioning	MAR-99
M1-18	1.1.6	Collider - Start Commissioning (beam)	MAR-99
M1-19	1.1.6	Beam to Exp. (End of Project/Begin Op)	SEP-99

MEETINGS/CRITICAL EVENTS

Date	Meeting Subject	Participants	Location
Nov 30 - Dec 1	Machine Advisory Committee	25-30	SSCL
Dec 13-15	Program Advisory Committee	30	SSCL
Dec 14-15	Scientific Policy Committee	25	SSCL