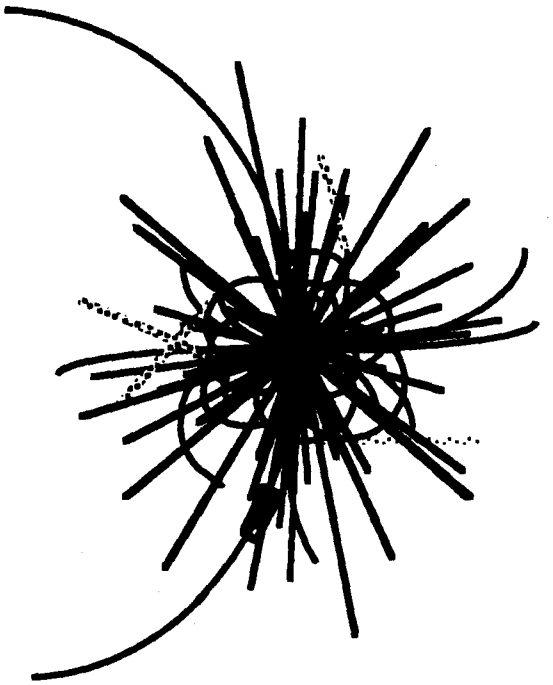
SUPERCONDUCTING SUPER COLLIDER LABORATORY



SSC PROJECT
MONTHLY PROGRESS REPORT

JANUARY 1991

INTRODUCTION

The January 1990 Monthly Progress Report contains divisional status reports which include: Division Identifiers, Summary Status, Narrative Highlights, Significant Problems, Variance Analysis, Milestone Log, and Technical Parameters as they are being implemented.

The Cost Performance Report for January 1990 will include actuals only, due to the fact that in Fiscal Year 1991 there is no official cost/schedule baseline approved from DOE as of the closing date for this report.

Technical Performance Parameters have been generated by some of the Divisions and are being reviewed by the Technical Directors prior to inclusion in the Monthly Progress Report.

We are implementing electronic distribution of the Monthly Progress Reports. For all authorized SSCL personnel, distribution is via a locked folder on the PMO server. All DOE recipients will receive a copy via QuickMail. The various other Laboratories and Universities that have been receiving hard copy, will be sent a "MacIntosh" version via the VAX. Those personnel who are PC based or do not have computers for E-mail will be provided with hard copies. We are developing a PC version for electronic distribution, but it is not yet ready. All authorized personnel will be receiving instructions regarding retrieval of the report. Retrieving, printing, and security of the Monthly Progress Report will become the responsibility of the approved recipients.

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PROJECT MANAGER'S REPORT

PROJECT MANAGER'S STATUS REPORT

DESIGN	☒	PRODUCTION	☒
CONSTRUCTION	☒	RESEARCH & DEVELOPMENT	☒

PART I

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
December 1990 - January 1991

1c. MANAGING DIVISION
Project Management Division

1d. OFFICE CONTACT
Robert Morse

1e. PROJECT MANAGER
Paul Reardon

1f. PERFORMING ORGANIZATION(S)
Accelerator Design & Operations Division
Accelerator Systems Division
Magnet Systems Division
Conventional Construction Division
Physics Research Division
Project Management Division
Laboratory Technical Services Division
Administration Division
Directorate

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green	Yellow	Red
G	Y	R

	LAST PERIOD	THIS PERIOD	
COST	G	Y	Needs Tx funding
SCHEDULE	G	R	Needs Control MS Correction
TECHNICAL	G	G	
OVERALL PROJECT	G	G	

PROJECT STATUS REPORT PART I	REPORTING DIVISION: **Project Management**

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

WBS

1.2.3 The draft collider quadrupole magnet RFP was released to industry for comment and a bidders briefing was held.

2.1 Started Title I design of the N15 (E1) shaft and first tunnel segment.

2.5 Awarded definitized A/E-CM contract to the PB/MK team.

3.1.1 Distributed FY91 Work Authorizations to divisions to begin detailed budget planning.

Established a lab-wide MIS Strategic Plan for central planning and design/implementation standards for all Management Information Systems automation at the SSCL.

3.1.5 The SEIS Record of Decision was signed the first week of February 1991.

3.2 The Project Management Plan has been completed and approved by DOE, TNRLC and SSCL.

4.2.2 The first 50mm dipole magnet (DSA321) was successfully tested at Fermilab.

5.2 Large detector proposal process: SDC approved to proceed, L^* held for further review, EMPACT/TEXAS not approved.

PROJECT STATUS REPORT PART I		REPORTING DIVISION: **Project Management**	
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
1.1.5 Change HEB peak energy from 2 TeV to 1.8 TeV and increase magnet aperture from 5 to 6 cm.	No anticipated cost or schedule impacts - increases performance and operability.	Review proposed change at SSCL Change Control Board.	ADOD/PMO /DOE
3.1.3 Correct DOE control milestone error in baseline master schedule.	Correctly show MEB Test Beams available 6 months, not 3 months, after MEB Start Commissioning.	Prepare and process change request.	PMO/DOE
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
3.1 Lack of adequate office space.	Threatens worker safety and productivity and ability to add to staff in accordance with the hiring plan.	Acquire additional space.	PMO/ Directorate/ DOE/ TNRLC
3.1 Receive full Texas FY91 funding to SSCL contract.	Limits necessary committment authority to remain on project schedule.	Consummate funding agreement by all parties. Transfer BA to SSCL contract ASAP.	Directorate/ DOE/ TNRLC
3.1 Act on SSCL Approved Change Control Actions described above.	Corrects baseline technical specs and/or schedule.	Review and process change requests.	PMO/DOE

PROJECT STATUS REPORT PART II	REPORTING DIVISION: **Project Management**	
8. MILESTONE LOG		
SIGNIFICANT MILESTONES ACCOMPLISHED SINCE LAST REPORT	BASELINE DATE	ACTUAL DATE
2.5 Awarded A/E-CM definitized contract	June 1990	4 January 1991
3.1.5 SEIS Record of Decision signed	January 1991	1 February 1991
5.2 SDC proposal for Large Detectors approved	January 1991	4 January 1991
SIGNIFICANT MILESTONES OPEN	BASELINE DATE	FORECAST DATE
3.1.5 Approval of the SSC Mitigation Action Plan	N/A	15 February 1991
5.2 Decision on second Large Detector proposal	January 1991	March 1991
KEY MILESTONES UPCOMING - NEXT THREE MONTHS	BASELINE DATE	FORECAST DATE
2.0 Start SSCL Civil Construction	March 1991	April 1991
1.2.3 CDM Contract Award	February 1991	April 1991

SUMMARY PROJECT SCHEDULES

(Under separate file, see Prjsumwk1.pict and Prjsumwk2.pict)

Superconducting Super Collider

COMPARATIVE BARCHART

Baseline Master Schedule: Ver. 12, Rev. 6

REVIEW SUMMARY BY WBS

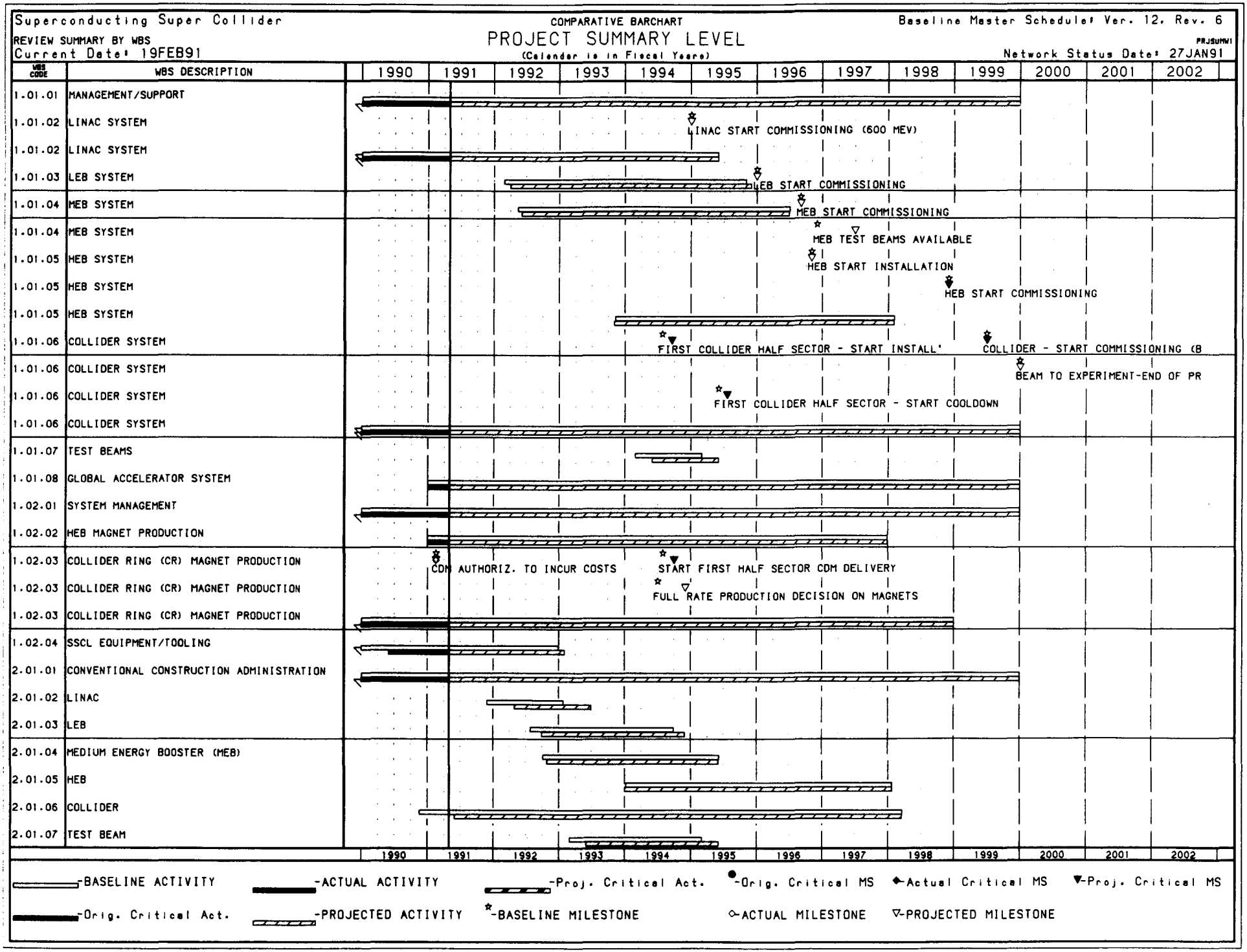
PROJECT SUMMARY LEVEL

PRJSUMW1

Current Date: 19FEB91

(Calendar is in Fiscal Years)

Network Status Date: 27JAN91



Superconducting Super Collider

COMPARATIVE BARCHART

Baseline Master Schedule: Ver. 12, Rev. 6

REVIEW SUMMARY BY WBS

PROJECT SUMMARY LEVEL

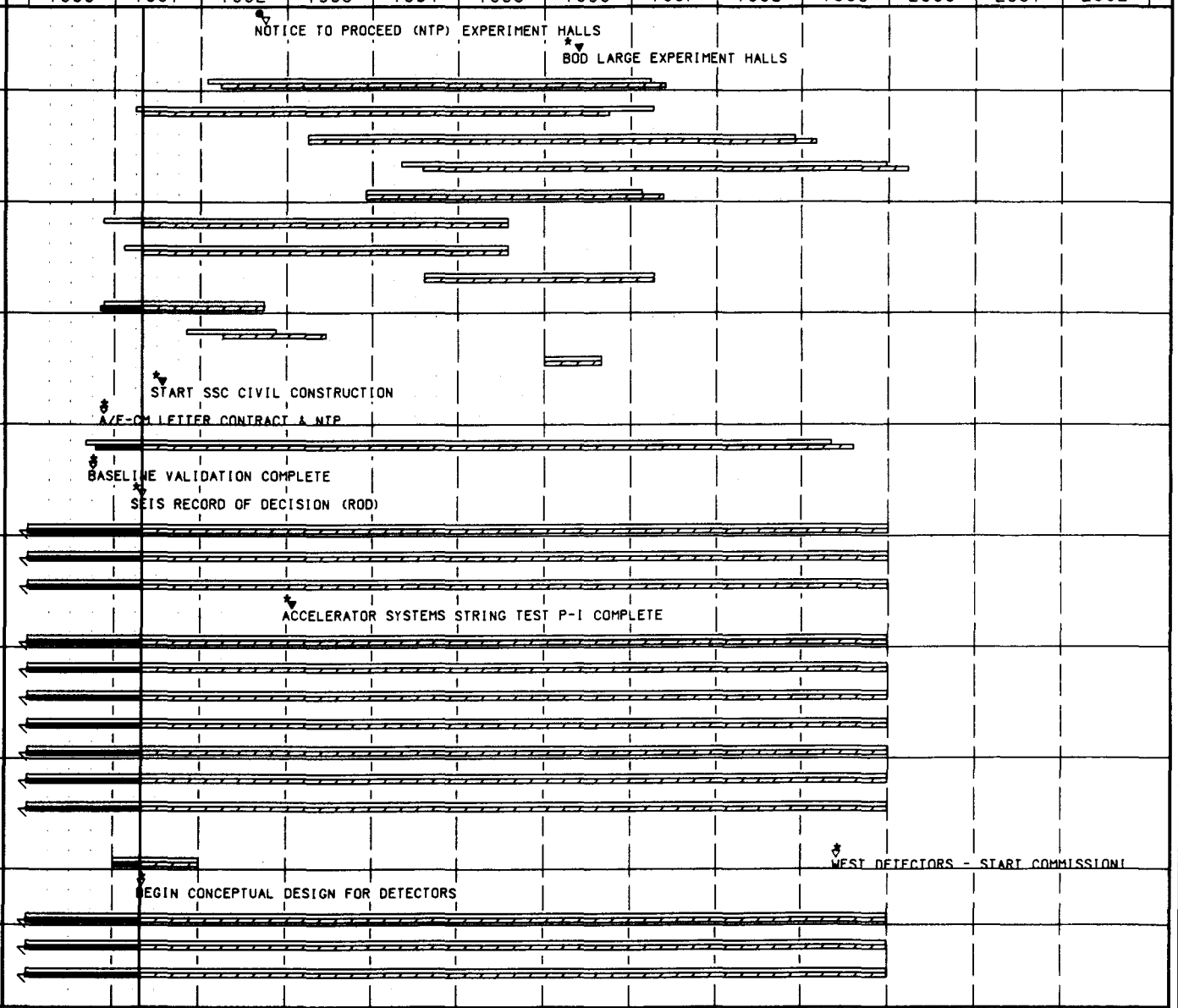
PRJSUMW2

Current Date: 19FEB91

(Calendar is in Fiscal Years)

Network Status Date: 27JAN91

WBS CODE	WBS DESCRIPTION
2.02	EXPERIMENTAL FACILITIES
2.02	EXPERIMENTAL FACILITIES
2.02.01	WN REGION
2.02.02	WS REGION
2.02.03	EN REGION
2.02.04	ES REGION
2.02.05	SUPPORT FUNCTIONS
2.03.02	PRIMARY SYSTEMS - ON-SITE
2.03.03	SECONDARY SYSTEMS - ON-SITE
2.04.01	CENTRAL LAB/OFFICE AREA
2.04.02	MAGNET LABORATORY
2.04.03	ACCELERATOR FACILITIES
2.04.04	ENVIRONMENTAL HEALTH FACILITIES
2.05.01	ARCHITECTURAL ENGINEERING
2.05.01	ARCHITECTURAL ENGINEERING
2.05.01	ARCHITECTURAL ENGINEERING
3.01.01	PROJECT MANAGEMENT OFFICE
3.01.01	PROJECT MANAGEMENT OFFICE
3.01.01	PROJECT MANAGEMENT OFFICE
3.02.01	SYSTEMS ENGINEERING
4.01	ACCELERATOR PRE-OPERATIONS
4.02.01	ACCELERATOR R&D
4.02.01	ACCELERATOR R&D
4.02.02	MAGNET R&D
4.03	LAB ADMINISTRATIVE SERVICES
4.04	LAB TECHNICAL SUPPORT
4.05	LAB DIRECTORATE
4.06	LAB EXPERIMENTAL SUPPORT
4.07	PRIME CONTRACTOR'S FEES
4.08	FY88 & FY89 COSTS
5	EXPERIMENTAL SYSTEMS
5.00	EXPERIMENTAL SYSTEMS
5.01	EXPERIMENTAL SYSTEM R&D
5.02	DETECTORS
5.03	EXPERIMENTAL SYSTEM COMPUTERS
5.04	FY88 & FY89 COSTS



-BASELINE ACTIVITY -ACTUAL ACTIVITY -Proj. Critical Act. -Orig. Critical MS -Actual Critical MS -Proj. Critical MS

-Orig. Critical Act. -PROJECTED ACTIVITY -BASELINE MILESTONE -ACTUAL MILESTONE -PROJECTED MILESTONE

BASELINE SCHEDULE (Dec 90)
Major Project Milestones

WBS	Description	Baseline	Projected*	(A indicates actual date)
3.0	Baseline Validation Complete	JUL-90	1JUL-90A	Completion of documents and briefings on Baseline Cost Estimate & Schedule and Supplemental Concept Design Report.
2.5.1	A-E/CM Letter Contract & NTP	AUG-90	17AUG-90A	DOE Approval and release of a letter contract, pending a full contract, for PB/MK to begin formal design & construction work.
1.2	CDM Authorization to Incur Costs	NOV-90	FEB-91	DOE permission for the CDM contractors to incur costs toward their contract in beginning the Collider Dipole Magnet industrial program.
3.0	SEIS Record of Decision (ROD)	JAN-91	1FEB-91A	Secretary signature and formal filing of the Environmental Record of Decision. This allows non-reversible project construction to begin.
5.0	Begin Conceptual Design for Detectors	FEB-91	FEB-91	Start the detector concept design and Title I conventional facilities design effort.
2.1.1	Start SSC Civil Construction	MAR-91	APR-91	The first construction notice to proceed after the SEIS ROD. The first facility is currently the ASST.
5.0	Notice to Proceed (NTP) Experiment Halls	JUN-92	JUL-92	The first notice of proceed for construction of the experiment (interaction region) halls; this is currently planned to be IR-4.
1.1.8.8.23	Accelerator String Test Complete	OCT-92	OCT-92	Cooldown and power up and testing of the 1/2 cell with accelerator components including the string test of 5 Collider Dipole magnets of industrial fabrication.
1.2	Full-rate Production Decision on Magnets	APR-94	JAN-95	This is the decision by the SSCL, with DOE approval, for formal notice to the magnet (CDM & CQM) contractors to go to full scale production from a low rate production.

1.2	Start First Half Sector CDM Delivery	APR-94	MAY-94	Delivery of the first contractor production magnet (CDM) at the installation shafts after testing and acceptance in the MAAS and MTL.
1.1.6	First Collider Half Sector - Start Installation	APR-94	JUL-94	Start installation of major technical components after completion of tunnel out (e.g. power, lights & ventilation) technical components include piping, electrical components cryogenics, spools, magnets, etc.
1.1.2	LINAC Start Commissioning (600 MeV)	OCT-94	OCT-94	Start commission with beam is of the full 600 MEV LINAC and signoff after suitable checkout of engineering and safety systems.
1.1.6	First Collider Half Sector - Start Cooldown	MAR-95	AUG-95	Cooldown of the first complete half sector (E1-F1) and the concurrent power safety check of a full half sector.
1.1.3	LEB Start Commissioning	OCT-95	OCT-95	Beginning of the LEB beam commissioning installation and suitable checkout of engineering subsystems and safety signoff. Requires the LINAC to be able to provide test beam.
5.0	Beneficial Occupancy of Large Experiment Halls	JAN-96	FEB-96	Beneficial occupancy of the first experiment (interaction region) halls, currently IR-4. This BOD includes lighting, power & ventilation, etc. and is 9 months after the first BOD where just the unfinished chamber is turned over. 1 BOD means turnover of bare facility without power, cable tray, ventilation, etc. installed.
1.1.4	MEB Start Commissioning	JUN-96	JUN-96	Beginning of the MEB commissioning after installation and suitable checkout engineering subsystems and safety signoff. Requires the LEB to be able to provide test beam.
1.1.5	HEB Start Installation	AUG-96	AUG-96	HEB installation of major technical components after completion of tunnel out fitting (e.g. power, lights, ventilation) technical components include piping, electrical components cryogenic components, spools, magnets etc.
1.1.4	MEB Test Beams Available	SEP-96	APR-97	Completion of the MEB and test beam commissioning activity so that beam for detector component testing is available some fraction of the time.

1.1.5	HEB Start Commissioning	SEP-98	SEP-98	Beginning of the HEB commissioning after installation and suitable checkout engineering subsystems and safety sign off. Requires the MEB to able to provide test beam.
5.0	West Detectors - Start Commissioning	MAR-99	MAR-99	Beginning of the first Detector (currently IR-4) commissioning activity after assembly of some engineers subsystems and safety subsystem review.
1.1.6	Collider - Start Commissioning (beam)	MAR-99	APR-99	Beginning of the full Collider beam commissioning after sector testing is successfully completed. Requires the HEB to be able to provide test beams.
1.1.6	Beam to Exp. (End of Project/Begin Op)	SEP-99	OCT-99	Completion of the Collider and West detectors commissioning activities. The SSC is now ready to perform experiments in two experiment (interaction regions) halls.

* These dates are current projected dates from schedule updates and pending Change Control Board proposals.

COST PERFORMANCE REPORTS
FORMAT 1 AND 2

CONTRACTOR: SSC LABORATORY LOCATION: DALLAS, TX RDT&E [X] PRODUCTION [ ]	COST PERFORMANCE REPORT - WORK BREAKDOWN STRUCTURE		SIGNATURE,TITLE & DATE 01-NOV-90	FORM APPROVED OMB NUMBER 22R0280
	CONTRACT TYPE/NO: DE-AC02-89ER40486	PROGRAM NAME/NUMBER:	REPORT PERIOD From: 29-OCT-9 To: 25-NOV-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	$0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
W/	0.0	0.0	17549.6	0.0	-17549.6	0.0	0.0	65564.6	0.0	-65564.6	0.0	0.0	0.0
LABOR	0.0	0.0	4080.6	0.0	-4080.6	0.0	0.0	16167.6	0.0	-16167.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	13469.1	0.0	-13469.1	0.0	0.0	49396.9	0.0	-49396.9	0.0	0.0	0.0
1													
TECHNICAL SYSTEM	0.0	0.0	2561.4	0.0	-2561.4	0.0	0.0	9320.6	0.0	-9320.6	0.0	0.0	0.0
2													
CONVENTIONAL													
CONSTRUCTION	0.0	0.0	2898.4	0.0	-2898.4	0.0	0.0	12332.7	0.0	-12332.7	0.0	0.0	0.0
3													
PROJECT MANAGEMENT &													
SUPPORT FUNCTION	0.0	0.0	129.0	0.0	-129.0	0.0	0.0	1092.1	0.0	-1092.1	0.0	0.0	0.0
4													
R&D & PRE-OPERATIONS	0.0	0.0	10631.0	0.0	-10631.0	0.0	0.0	38171.6	0.0	-38171.6	0.0	0.0	0.0
5													
EXPERIMENTAL SYSTEMS	0.0	0.0	1248.1	0.0	-1248.1	0.0	0.0	4249.9	0.0	-4249.9	0.0	0.0	0.0
6													
LAB OPERATIONS													
SUPPORT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7													
ESCALATION &													
CONTINGENCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	0.0	0.0	91.3	0.0	-91.3	0.0	0.0	428.2	0.0	-428.2	0.0	0.0	0.0
8	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	0.0	0.0
COST OF MONEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNDISTRIBUTED BUDGET											0.0	0.0	
SUBTOTAL	0.0	0.0	17549.6	0.0	-17549.6	0.0	0.0	65564.6	0.0	-65564.6	0.0	0.0	0.0
MANAGEMENT RESERVE											0.0	0.0	0.0
TOTAL	0.0	0.0	17549.6	0.0	-17549.6	0.0	0.0	65564.6	0.0	-65564.6	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
1													
TECHNICAL SYSTEM	0.0	0.0	2561.4	0.0	-2561.4	0.0	0.0	9320.6	0.0	-9320.6	0.0	0.0	0.0
LABOR	0.0	0.0	566.0	0.0	-566.0	0.0	0.0	2522.1	0.0	-2522.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	1995.4	0.0	-1995.4	0.0	0.0	6798.5	0.0	-6798.5	0.0	0.0	0.0
1.1													
ACCELERATOR SYSTEMS	0.0	0.0	378.8	0.0	-378.8	0.0	0.0	2154.2	0.0	-2154.2	0.0	0.0	0.0
LABOR	0.0	0.0	113.8	0.0	-113.8	0.0	0.0	404.7	0.0	-404.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	265.0	0.0	-265.0	0.0	0.0	1749.5	0.0	-1749.5	0.0	0.0	0.0
1.1.1													
MANAGEMENT/SUPPORT	0.0	0.0	-309.7	0.0	309.7	0.0	0.0	1217.0	0.0	-1217.0	0.0	0.0	0.0
LABOR	0.0	0.0	92.6	0.0	-92.6	0.0	0.0	347.8	0.0	-347.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-402.4	0.0	402.4	0.0	0.0	869.3	0.0	-869.3	0.0	0.0	0.0
1.1.2													
LINAC SYSTEM	0.0	0.0	154.0	0.0	-154.0	0.0	0.0	358.8	0.0	-358.8	0.0	0.0	0.0
LABOR	0.0	0.0	4.0	0.0	-4.0	0.0	0.0	8.7	0.0	-8.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	150.0	0.0	-150.0	0.0	0.0	350.1	0.0	-350.1	0.0	0.0	0.0
1.1.6													
COLLIDER SYSTEM	0.0	0.0	514.8	0.0	-514.8	0.0	0.0	517.3	0.0	-517.3	0.0	0.0	0.0
LABOR	0.0	0.0	5.2	0.0	-5.2	0.0	0.0	7.7	0.0	-7.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	509.6	0.0	-509.6	0.0	0.0	509.6	0.0	-509.6	0.0	0.0	0.0
1.1.8													
GLOBAL ACCELERATOR													
SYSTEM	0.0	0.0	19.7	0.0	-19.7	0.0	0.0	61.1	0.0	-61.1	0.0	0.0	0.0
LABOR	0.0	0.0	12.0	0.0	-12.0	0.0	0.0	40.7	0.0	-40.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	7.7	0.0	-7.7	0.0	0.0	20.4	0.0	-20.4	0.0	0.0	0.0
1.2													
MAGNET SYSTEMS	0.0	0.0	2182.5	0.0	-2182.5	0.0	0.0	7166.4	0.0	-7166.4	0.0	0.0	0.0
LABOR	0.0	0.0	452.2	0.0	-452.2	0.0	0.0	2117.4	0.0	-2117.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	1730.4	0.0	-1730.4	0.0	0.0	5049.1	0.0	-5049.1	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE			LATEST	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	REVISED EST	VAR
1.2.1													
SYSTEM MANAGEMENT	0.0	0.0	985.3	0.0	-985.3	0.0	0.0	3165.3	0.0	-3165.3	0.0	0.0	0.0
LABOR	0.0	0.0	313.5	0.0	-313.5	0.0	0.0	1337.4	0.0	-1337.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	671.8	0.0	-671.8	0.0	0.0	1828.0	0.0	-1828.0	0.0	0.0	0.0
1.2.2													
HIGH ENERGY BOOSTER													
(HEB) MAGNET PRODUCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	-3.6	0.0	0.0	0.0
LABOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	-4.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	0.0	0.5	0.0	0.0	0.0
1.2.3													
COLLIDER RING (CR)													
MAGNET PRODUCTION	0.0	0.0	211.0	0.0	-211.0	0.0	0.0	1314.0	0.0	-1314.0	0.0	0.0	0.0
LABOR	0.0	0.0	96.7	0.0	-96.7	0.0	0.0	617.2	0.0	-617.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	114.3	0.0	-114.3	0.0	0.0	696.8	0.0	-696.8	0.0	0.0	0.0
1.2.4													
SSCL EQUIPMENT/													
TOOLING	0.0	0.0	986.3	0.0	-986.3	0.0	0.0	2683.5	0.0	-2683.5	0.0	0.0	0.0
LABOR	0.0	0.0	42.0	0.0	-42.0	0.0	0.0	158.7	0.0	-158.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	944.3	0.0	-944.3	0.0	0.0	2524.8	0.0	-2524.8	0.0	0.0	0.0
2													
CONVENTIONAL													
CONSTRUCTION	0.0	0.0	2898.4	0.0	-2898.4	0.0	0.0	12332.7	0.0	-12332.7	0.0	0.0	0.0
LABOR	0.0	0.0	86.8	0.0	-86.8	0.0	0.0	310.0	0.0	-310.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2811.6	0.0	-2811.6	0.0	0.0	12022.7	0.0	-12022.7	0.0	0.0	0.0
2.1													
CONVENTIONAL													
CONSTRUCTION ACCELERATOR	0.0	0.0	555.2	0.0	-555.2	0.0	0.0	1540.6	0.0	-1540.6	0.0	0.0	0.0
LABOR	0.0	0.0	86.8	0.0	-86.8	0.0	0.0	220.7	0.0	-220.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	468.3	0.0	-468.3	0.0	0.0	1319.9	0.0	-1319.9	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE			LATEST	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	REVISED EST	VAR
2.1.1													
CONVENTIONAL													
CONSTRUCTION ADMINISTRATION	0.0	0.0	545.6	0.0	-545.6	0.0	0.0	1531.1	0.0	-1531.1	0.0	0.0	0.0
LABOR	0.0	0.0	86.8	0.0	-86.8	0.0	0.0	220.7	0.0	-220.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	458.7	0.0	-458.7	0.0	0.0	1310.3	0.0	-1310.3	0.0	0.0	0.0
2.1.1DE	0.0	0.0	9.6	0.0	-9.6	0.0	0.0	9.6	0.0	-9.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	9.6	0.0	-9.6	0.0	0.0	9.6	0.0	-9.6	0.0	0.0	0.0
2.3													
SITE & INFRASTRUCTURE	0.0	0.0	-0.2	0.0	0.2	0.0	0.0	184.6	0.0	-184.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-0.2	0.0	0.2	0.0	0.0	184.6	0.0	-184.6	0.0	0.0	0.0
2.3.3													
SECONDARY SYSTEMS -													
ON-SITE	0.0	0.0	184.4	0.0	-184.4	0.0	0.0	184.6	0.0	-184.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	184.4	0.0	-184.4	0.0	0.0	184.6	0.0	-184.6	0.0	0.0	0.0
2.4													
CAMPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	492.8	0.0	-492.8	0.0	0.0	0.0
LABOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	-0.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	492.3	0.0	-492.3	0.0	0.0	0.0
2.4.2													
MAGNET LABORATORY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	492.8	0.0	-492.8	0.0	0.0	0.0
LABOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	-0.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	492.3	0.0	-492.3	0.0	0.0	0.0
2.5													
AE/CM	0.0	0.0	2343.4	0.0	-2343.4	0.0	0.0	10114.7	0.0	-10114.7	0.0	0.0	0.0
LABOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.8	0.0	-88.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2343.4	0.0	-2343.4	0.0	0.0	10025.9	0.0	-10025.9	0.0	0.0	0.0
2.5.1													
ARCHITECTURAL													
ENGINEERING	0.0	0.0	2341.9	0.0	-2341.9	0.0	0.0	9006.4	0.0	-9006.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2341.9	0.0	-2341.9	0.0	0.0	9006.4	0.0	-9006.4	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
2.5.2													
CONSTRUCTION													
MANAGEMENT	0.0	0.0	1.5	0.0	-1.5	0.0	0.0	1108.3	0.0	-1108.3	0.0	0.0	0.0
LABOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.8	0.0	-88.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	1.5	0.0	-1.5	0.0	0.0	1019.5	0.0	-1019.5	0.0	0.0	0.0
3													
PROJECT MANAGEMENT &													
SUPPORT FUNCTION	0.0	0.0	129.0	0.0	-129.0	0.0	0.0	1092.1	0.0	-1092.1	0.0	0.0	0.0
LABOR	0.0	0.0	182.4	0.0	-182.4	0.0	0.0	682.7	0.0	-682.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-53.4	0.0	53.4	0.0	0.0	409.4	0.0	-409.4	0.0	0.0	0.0
3.1													
PROJECT MANAGEMENT	0.0	0.0	222.5	0.0	-222.5	0.0	0.0	928.1	0.0	-928.1	0.0	0.0	0.0
LABOR	0.0	0.0	179.0	0.0	-179.0	0.0	0.0	670.5	0.0	-670.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	43.5	0.0	-43.5	0.0	0.0	257.6	0.0	-257.6	0.0	0.0	0.0
3.1.1													
PROJECT MANAGEMENT													
OFFICE	0.0	0.0	89.1	0.0	-89.1	0.0	0.0	269.6	0.0	-269.6	0.0	0.0	0.0
LABOR	0.0	0.0	67.8	0.0	-67.8	0.0	0.0	200.9	0.0	-200.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	21.3	0.0	-21.3	0.0	0.0	68.8	0.0	-68.8	0.0	0.0	0.0
3.1.2													
PLANNING	0.0	0.0	46.2	0.0	-46.2	0.0	0.0	177.0	0.0	-177.0	0.0	0.0	0.0
LABOR	0.0	0.0	35.8	0.0	-35.8	0.0	0.0	157.8	0.0	-157.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	10.4	0.0	-10.4	0.0	0.0	19.2	0.0	-19.2	0.0	0.0	0.0
3.1.3													
PMRS	0.0	0.0	50.9	0.0	-50.9	0.0	0.0	223.7	0.0	-223.7	0.0	0.0	0.0
LABOR	0.0	0.0	42.7	0.0	-42.7	0.0	0.0	179.2	0.0	-179.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	8.2	0.0	-8.2	0.0	0.0	44.5	0.0	-44.5	0.0	0.0	0.0
3.1.4													
ENGINEERING STANDARDS	0.0	0.0	34.0	0.0	-34.0	0.0	0.0	189.1	0.0	-189.1	0.0	0.0	0.0
LABOR	0.0	0.0	30.5	0.0	-30.5	0.0	0.0	123.8	0.0	-123.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	3.6	0.0	-3.6	0.0	0.0	65.3	0.0	-65.3	0.0	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
3.1.5													
ENVIRONMENTAL AFFAIRS	0.0	0.0	2.2	0.0	-2.2	0.0	0.0	68.6	0.0	-68.6	0.0	0.0	0.0
LABOR	0.0	0.0	2.2	0.0	-2.2	0.0	0.0	8.8	0.0	-8.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.8	0.0	-59.8	0.0	0.0	0.0
3.2													
Projects Systems													
Engineering	0.0	0.0	-93.5	0.0	93.5	0.0	0.0	164.0	0.0	-164.0	0.0	0.0	0.0
LABOR	0.0	0.0	3.4	0.0	-3.4	0.0	0.0	12.2	0.0	-12.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-96.9	0.0	96.9	0.0	0.0	151.9	0.0	-151.9	0.0	0.0	0.0
3.2.1	0.0	0.0	-16.0	0.0	16.0	0.0	0.0	-0.7	0.0	0.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-16.0	0.0	16.0	0.0	0.0	-0.7	0.0	0.7	0.0	0.0	0.0
3.2.2	0.0	0.0	-43.0	0.0	43.0	0.0	0.0	-0.8	0.0	0.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-43.0	0.0	43.0	0.0	0.0	-0.8	0.0	0.8	0.0	0.0	0.0
3.2.3	0.0	0.0	75.3	0.0	-75.3	0.0	0.0	129.0	0.0	-129.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	75.3	0.0	-75.3	0.0	0.0	129.0	0.0	-129.0	0.0	0.0	0.0
3.2.5	0.0	0.0	-43.2	0.0	43.2	0.0	0.0	-1.3	0.0	1.3	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-43.2	0.0	43.2	0.0	0.0	-1.3	0.0	1.3	0.0	0.0	0.0
3.2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.0	1.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	0.0	1.6	0.0	0.0	0.0
3.2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	0.0	3.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	0.0	3.1	0.0	0.0	0.0
3.2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	0.0	1.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5	0.0	1.5	0.0	0.0	0.0
3.2.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	1.3	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3	0.0	1.3	0.0	0.0	0.0
3.2.14	0.0	0.0	-66.6	0.0	66.6	0.0	0.0	45.3	0.0	-45.3	0.0	0.0	0.0
LABOR	0.0	0.0	3.4	0.0	-3.4	0.0	0.0	12.2	0.0	-12.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-70.0	0.0	70.0	0.0	0.0	33.2	0.0	-33.2	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE			LATEST	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	REVISED EST	VAR
4													
R&D & PRE-OPERATIONS	0.0	0.0	10631.0	0.0	-10631.0	0.0	0.0	38171.6	0.0	-38171.6	0.0	0.0	0.0
LABOR	0.0	0.0	3004.4	0.0	-3004.4	0.0	0.0	11747.8	0.0	-11747.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	7626.6	0.0	-7626.6	0.0	0.0	26423.8	0.0	-26423.8	0.0	0.0	0.0
4.2													
RESEARCH & DEVELOPMENT	0.0	0.0	7481.8	0.0	-7481.8	0.0	0.0	26564.6	0.0	-26564.6	0.0	0.0	0.0
LABOR	0.0	0.0	1450.7	0.0	-1450.7	0.0	0.0	5767.8	0.0	-5767.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	6031.1	0.0	-6031.1	0.0	0.0	20796.8	0.0	-20796.8	0.0	0.0	0.0
4.2.1													
ACCELERATOR R&D	0.0	0.0	3573.7	0.0	-3573.7	0.0	0.0	10678.7	0.0	-10678.7	0.0	0.0	0.0
LABOR	0.0	0.0	1009.8	0.0	-1009.8	0.0	0.0	4209.0	0.0	-4209.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2563.9	0.0	-2563.9	0.0	0.0	6469.6	0.0	-6469.6	0.0	0.0	0.0
4.2.2													
MAGNET R&D	0.0	0.0	3908.1	0.0	-3908.1	0.0	0.0	15885.9	0.0	-15885.9	0.0	0.0	0.0
LABOR	0.0	0.0	440.9	0.0	-440.9	0.0	0.0	1558.8	0.0	-1558.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	3467.2	0.0	-3467.2	0.0	0.0	14327.2	0.0	-14327.2	0.0	0.0	0.0
4.3													
LAB ADMINISTRATION													
SERVICES & SUPPORT	0.0	0.0	914.9	0.0	-914.9	0.0	0.0	3498.4	0.0	-3498.4	0.0	0.0	0.0
LABOR	0.0	0.0	495.9	0.0	-495.9	0.0	0.0	1907.1	0.0	-1907.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	419.0	0.0	-419.0	0.0	0.0	1591.2	0.0	-1591.2	0.0	0.0	0.0
4.3.1													
LAB ADMINISTRATION													
SERVICES & SUPP OFFICE	0.0	0.0	316.6	0.0	-316.6	0.0	0.0	1234.6	0.0	-1234.6	0.0	0.0	0.0
LABOR	0.0	0.0	29.8	0.0	-29.8	0.0	0.0	75.9	0.0	-75.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	286.8	0.0	-286.8	0.0	0.0	1158.7	0.0	-1158.7	0.0	0.0	0.0
4.3.2													
LAB ACCOUNTING &													
FINANCE	0.0	0.0	134.7	0.0	-134.7	0.0	0.0	568.9	0.0	-568.9	0.0	0.0	0.0
LABOR	0.0	0.0	116.6	0.0	-116.6	0.0	0.0	492.7	0.0	-492.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	18.1	0.0	-18.1	0.0	0.0	76.2	0.0	-76.2	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
4.3.3													
LAB PROCUREMENT &													
CONTRACTS	0.0	0.0	280.2	0.0	-280.2	0.0	0.0	880.4	0.0	-880.4	0.0	0.0	0.0
LABOR	0.0	0.0	191.4	0.0	-191.4	0.0	0.0	664.0	0.0	-664.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	88.8	0.0	-88.8	0.0	0.0	216.4	0.0	-216.4	0.0	0.0	0.0
4.3.5													
LAB HUMAN RESOURCES	0.0	0.0	157.7	0.0	-157.7	0.0	0.0	707.3	0.0	-707.3	0.0	0.0	0.0
LABOR	0.0	0.0	136.1	0.0	-136.1	0.0	0.0	578.7	0.0	-578.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	21.7	0.0	-21.7	0.0	0.0	128.6	0.0	-128.6	0.0	0.0	0.0
4.3.7													
LAB MINORITY PROGRAMS	0.0	0.0	25.7	0.0	-25.7	0.0	0.0	107.2	0.0	-107.2	0.0	0.0	0.0
LABOR	0.0	0.0	22.0	0.0	-22.0	0.0	0.0	95.9	0.0	-95.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	3.6	0.0	-3.6	0.0	0.0	11.3	0.0	-11.3	0.0	0.0	0.0
4.4													
LAB TECHNICAL SUPPORT	0.0	0.0	1207.6	0.0	-1207.6	0.0	0.0	4497.6	0.0	-4497.6	0.0	0.0	0.0
LABOR	0.0	0.0	646.7	0.0	-646.7	0.0	0.0	2530.0	0.0	-2530.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	560.9	0.0	-560.9	0.0	0.0	1967.6	0.0	-1967.6	0.0	0.0	0.0
4.4.1													
LAB TECHNICAL SUPPORT													
MANAGEMENT	0.0	0.0	116.5	0.0	-116.5	0.0	0.0	460.9	0.0	-460.9	0.0	0.0	0.0
LABOR	0.0	0.0	103.7	0.0	-103.7	0.0	0.0	411.9	0.0	-411.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	12.7	0.0	-12.7	0.0	0.0	49.0	0.0	-49.0	0.0	0.0	0.0
4.4.2													
LAB FACILITIES													
ENGINEERING SERVICES	0.0	0.0	170.3	0.0	-170.3	0.0	0.0	585.1	0.0	-585.1	0.0	0.0	0.0
LABOR	0.0	0.0	79.9	0.0	-79.9	0.0	0.0	321.1	0.0	-321.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	90.4	0.0	-90.4	0.0	0.0	264.1	0.0	-264.1	0.0	0.0	0.0
4.4.3													
MATERIAL & LOGISTIC													
SERVICES	0.0	0.0	63.4	0.0	-63.4	0.0	0.0	315.8	0.0	-315.8	0.0	0.0	0.0
LABOR	0.0	0.0	53.5	0.0	-53.5	0.0	0.0	211.9	0.0	-211.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	9.8	0.0	-9.8	0.0	0.0	103.9	0.0	-103.9	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
4.4.4													
LAB FABRICATION SHOPS	0.0	0.0	54.5	0.0	-54.5	0.0	0.0	354.8	0.0	-354.8	0.0	0.0	0.0
LABOR	0.0	0.0	25.6	0.0	-25.6	0.0	0.0	81.1	0.0	-81.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	28.9	0.0	-28.9	0.0	0.0	273.7	0.0	-273.7	0.0	0.0	0.0
4.4.5													
LAB GENERAL COMPUTER SERVICES	0.0	0.0	145.5	0.0	-145.5	0.0	0.0	709.1	0.0	-709.1	0.0	0.0	0.0
LABOR	0.0	0.0	114.4	0.0	-114.4	0.0	0.0	475.0	0.0	-475.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	31.1	0.0	-31.1	0.0	0.0	234.1	0.0	-234.1	0.0	0.0	0.0
4.4.6													
DESIGN SUPPORT	0.0	0.0	132.3	0.0	-132.3	0.0	0.0	352.0	0.0	-352.0	0.0	0.0	0.0
LABOR	0.0	0.0	46.5	0.0	-46.5	0.0	0.0	154.9	0.0	-154.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	85.7	0.0	-85.7	0.0	0.0	197.1	0.0	-197.1	0.0	0.0	0.0
4.4.7													
LAB COMMUNICATIONS	0.0	0.0	133.4	0.0	-133.4	0.0	0.0	638.2	0.0	-638.2	0.0	0.0	0.0
LABOR	0.0	0.0	66.5	0.0	-66.5	0.0	0.0	282.9	0.0	-282.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	66.9	0.0	-66.9	0.0	0.0	355.3	0.0	-355.3	0.0	0.0	0.0
4.4.8													
ENGINEERING SUPPORT	0.0	0.0	17.1	0.0	-17.1	0.0	0.0	75.1	0.0	-75.1	0.0	0.0	0.0
LABOR	0.0	0.0	17.0	0.0	-17.0	0.0	0.0	66.0	0.0	-66.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	9.1	0.0	-9.1	0.0	0.0	0.0
4.4.9													
METROLOGY LABORATORY	0.0	0.0	167.0	0.0	-167.0	0.0	0.0	273.1	0.0	-273.1	0.0	0.0	0.0
LABOR	0.0	0.0	13.5	0.0	-13.5	0.0	0.0	61.0	0.0	-61.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	153.5	0.0	-153.5	0.0	0.0	212.1	0.0	-212.1	0.0	0.0	0.0
4.4.10													
PROTECTIVE SERVICES	0.0	0.0	19.9	0.0	-19.9	0.0	0.0	58.8	0.0	-58.8	0.0	0.0	0.0
LABOR	0.0	0.0	10.9	0.0	-10.9	0.0	0.0	39.9	0.0	-39.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	8.9	0.0	-8.9	0.0	0.0	18.9	0.0	-18.9	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
4.4.11													
STAFF SERVICES	0.0	0.0	122.8	0.0	-122.8	0.0	0.0	470.8	0.0	-470.8	0.0	0.0	0.0
LABOR	0.0	0.0	65.2	0.0	-65.2	0.0	0.0	259.7	0.0	-259.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	57.6	0.0	-57.6	0.0	0.0	211.1	0.0	-211.1	0.0	0.0	0.0
4.4.12	0.0	0.0	5.8	0.0	-5.8	0.0	0.0	25.0	0.0	-25.0	0.0	0.0	0.0
LABOR	0.0	0.0	5.4	0.0	-5.4	0.0	0.0	23.9	0.0	-23.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.4	0.0	-0.4	0.0	0.0	1.0	0.0	-1.0	0.0	0.0	0.0
4.4.13	0.0	0.0	48.1	0.0	-48.1	0.0	0.0	167.5	0.0	-167.5	0.0	0.0	0.0
LABOR	0.0	0.0	33.2	0.0	-33.2	0.0	0.0	129.4	0.0	-129.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	14.9	0.0	-14.9	0.0	0.0	38.1	0.0	-38.1	0.0	0.0	0.0
4.4.14	0.0	0.0	11.3	0.0	-11.3	0.0	0.0	11.3	0.0	-11.3	0.0	0.0	0.0
LABOR	0.0	0.0	11.3	0.0	-11.3	0.0	0.0	11.3	0.0	-11.3	0.0	0.0	0.0
4.5													
LAB DIRECTORATE	0.0	0.0	324.8	0.0	-324.8	0.0	0.0	1183.6	0.0	-1183.6	0.0	0.0	0.0
LABOR	0.0	0.0	212.3	0.0	-212.3	0.0	0.0	816.8	0.0	-816.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	112.5	0.0	-112.5	0.0	0.0	366.8	0.0	-366.8	0.0	0.0	0.0
4.5.1													
LAB DIRECTOR'S OFFICE	0.0	0.0	173.4	0.0	-173.4	0.0	0.0	537.8	0.0	-537.8	0.0	0.0	0.0
LABOR	0.0	0.0	97.7	0.0	-97.7	0.0	0.0	333.4	0.0	-333.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	75.7	0.0	-75.7	0.0	0.0	204.4	0.0	-204.4	0.0	0.0	0.0
4.5.2													
LAB EXTERNAL AFFAIRS	0.0	0.0	33.9	0.0	-33.9	0.0	0.0	101.3	0.0	-101.3	0.0	0.0	0.0
LABOR	0.0	0.0	21.6	0.0	-21.6	0.0	0.0	93.0	0.0	-93.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	12.3	0.0	-12.3	0.0	0.0	8.3	0.0	-8.3	0.0	0.0	0.0
4.5.3													
LAB LEGAL SERVICES	0.0	0.0	39.2	0.0	-39.2	0.0	0.0	181.2	0.0	-181.2	0.0	0.0	0.0
LABOR	0.0	0.0	34.6	0.0	-34.6	0.0	0.0	139.0	0.0	-139.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	4.6	0.0	-4.6	0.0	0.0	42.2	0.0	-42.2	0.0	0.0	0.0
4.5.5													
LAB USERS' OFFICE	0.0	0.0	11.9	0.0	-11.9	0.0	0.0	91.8	0.0	-91.8	0.0	0.0	0.0
LABOR	0.0	0.0	9.9	0.0	-9.9	0.0	0.0	46.6	0.0	-46.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2.0	0.0	-2.0	0.0	0.0	45.2	0.0	-45.2	0.0	0.0	0.0
4.5.6													

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE			LATEST REVISED EST	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET		VAR
LAB ENVIRONMENT HEALTH													
& SAFETY	0.0	0.0	45.5	0.0	-45.5	0.0	0.0	180.7	0.0	-180.7	0.0	0.0	0.0
LABOR	0.0	0.0	30.0	0.0	-30.0	0.0	0.0	130.4	0.0	-130.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	15.4	0.0	-15.4	0.0	0.0	50.3	0.0	-50.3	0.0	0.0	0.0
4.5.7													
LAB PLANNING OFFICE	0.0	0.0	21.0	0.0	-21.0	0.0	0.0	90.9	0.0	-90.9	0.0	0.0	0.0
LABOR	0.0	0.0	18.5	0.0	-18.5	0.0	0.0	74.5	0.0	-74.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2.5	0.0	-2.5	0.0	0.0	16.4	0.0	-16.4	0.0	0.0	0.0
4.6													
EXPERIMENTAL FACILITIES													
SUPPORT	0.0	0.0	419.6	0.0	-419.6	0.0	0.0	1395.1	0.0	-1395.1	0.0	0.0	0.0
LABOR	0.0	0.0	166.5	0.0	-166.5	0.0	0.0	693.6	0.0	-693.6	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	253.0	0.0	-253.0	0.0	0.0	701.5	0.0	-701.5	0.0	0.0	0.0
4.6.1													
PHYSICS LIBRARY SERVICE	0.0	0.0	87.5	0.0	-87.5	0.0	0.0	270.7	0.0	-270.7	0.0	0.0	0.0
LABOR	0.0	0.0	38.5	0.0	-38.5	0.0	0.0	153.0	0.0	-153.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	49.0	0.0	-49.0	0.0	0.0	117.8	0.0	-117.8	0.0	0.0	0.0
4.6.2													
TECHNICAL INFORMATION													
& PUBLICATIONS	0.0	0.0	104.6	0.0	-104.6	0.0	0.0	338.4	0.0	-338.4	0.0	0.0	0.0
LABOR	0.0	0.0	30.8	0.0	-30.8	0.0	0.0	162.5	0.0	-162.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	73.8	0.0	-73.8	0.0	0.0	175.9	0.0	-175.9	0.0	0.0	0.0
4.6.3													
EXPERIMENTAL FACILITIES													
ADMINISTRATION	0.0	0.0	227.4	0.0	-227.4	0.0	0.0	786.0	0.0	-786.0	0.0	0.0	0.0
LABOR	0.0	0.0	97.2	0.0	-97.2	0.0	0.0	378.2	0.0	-378.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	130.2	0.0	-130.2	0.0	0.0	407.8	0.0	-407.8	0.0	0.0	0.0
4.7													
LAB PRIME CONTRACTOR													
FEES	0.0	0.0	250.0	0.0	-250.0	0.0	0.0	1000.0	0.0	-1000.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	250.0	0.0	-250.0	0.0	0.0	1000.0	0.0	-1000.0	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE			LATEST REVISED EST	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET		VAR
4.7.1	0.0	0.0	250.0	0.0	-250.0	0.0	0.0	1000.0	0.0	-1000.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	250.0	0.0	-250.0	0.0	0.0	1000.0	0.0	-1000.0	0.0	0.0	0.0
4.8	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	0.0
LABOR	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	0.0
4.8.1	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	0.0
LABOR	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	32.4	0.0	-32.4	0.0	0.0	0.0
5													
EXPERIMENTAL SYSTEMS	0.0	0.0	1248.1	0.0	-1248.1	0.0	0.0	4249.9	0.0	-4249.9	0.0	0.0	0.0
LABOR	0.0	0.0	240.9	0.0	-240.9	0.0	0.0	905.0	0.0	-905.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	1007.2	0.0	-1007.2	0.0	0.0	3344.9	0.0	-3344.9	0.0	0.0	0.0
5.2													
DETECTORS	0.0	0.0	324.3	0.0	-324.3	0.0	0.0	594.1	0.0	-594.1	0.0	0.0	0.0
LABOR	0.0	0.0	28.9	0.0	-28.9	0.0	0.0	80.4	0.0	-80.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	295.4	0.0	-295.4	0.0	0.0	513.7	0.0	-513.7	0.0	0.0	0.0
5.2.1	0.0	0.0	324.3	0.0	-324.3	0.0	0.0	594.1	0.0	-594.1	0.0	0.0	0.0
LABOR	0.0	0.0	28.9	0.0	-28.9	0.0	0.0	80.4	0.0	-80.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	295.4	0.0	-295.4	0.0	0.0	513.7	0.0	-513.7	0.0	0.0	0.0
5.3													
EXPERIMENTAL SYSTEMS													
COMPUTERS	0.0	0.0	2.3	0.0	-2.3	0.0	0.0	437.5	0.0	-437.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2.3	0.0	-2.3	0.0	0.0	437.5	0.0	-437.5	0.0	0.0	0.0
5.3.1	0.0	0.0	2.3	0.0	-2.3	0.0	0.0	437.5	0.0	-437.5	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2.3	0.0	-2.3	0.0	0.0	437.5	0.0	-437.5	0.0	0.0	0.0
5.4	0.0	0.0	-1.2	0.0	1.2	0.0	0.0	-53.8	0.0	53.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-1.2	0.0	1.2	0.0	0.0	-53.8	0.0	53.8	0.0	0.0	0.0
5.4.1DX	0.0	0.0	-1.2	0.0	1.2	0.0	0.0	-53.8	0.0	53.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-1.2	0.0	1.2	0.0	0.0	-53.8	0.0	53.8	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
5.2DX	0.0	0.0	198.7	0.0	-198.7	0.0	0.0	2010.4	0.0	-2010.4	0.0	0.0	0.0
LABOR	0.0	0.0	136.1	0.0	-136.1	0.0	0.0	513.7	0.0	-513.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	62.6	0.0	-62.6	0.0	0.0	1496.7	0.0	-1496.7	0.0	0.0	0.0
5.3DX	0.0	0.0	109.3	0.0	-109.3	0.0	0.0	515.9	0.0	-515.9	0.0	0.0	0.0
LABOR	0.0	0.0	75.9	0.0	-75.9	0.0	0.0	310.9	0.0	-310.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	33.4	0.0	-33.4	0.0	0.0	205.0	0.0	-205.0	0.0	0.0	0.0
5.1DX	0.0	0.0	2.6	0.0	-2.6	0.0	0.0	22.4	0.0	-22.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2.6	0.0	-2.6	0.0	0.0	22.4	0.0	-22.4	0.0	0.0	0.0
5.2DE	0.0	0.0	2.7	0.0	-2.7	0.0	0.0	5.1	0.0	-5.1	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	2.7	0.0	-2.7	0.0	0.0	5.1	0.0	-5.1	0.0	0.0	0.0
5.3DE	0.0	0.0	609.3	0.0	-609.3	0.0	0.0	718.4	0.0	-718.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	609.3	0.0	-609.3	0.0	0.0	718.4	0.0	-718.4	0.0	0.0	0.0
6													
LAB OPERATIONS													
SUPPORT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.1													
PHYSICS PROGRAM													
SUPPORT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.1.1													
PHYSICS ADMIN AND													
SUPPORT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7													
ESCALATION &													
CONTINGENCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
7.1													
ESCALATION: 1/2/3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.3													
CONTINGENCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	0.0	0.0	91.3	0.0	-91.3	0.0	0.0	428.2	0.0	-428.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	91.3	0.0	-91.3	0.0	0.0	428.2	0.0	-428.2	0.0	0.0	0.0
99.1	0.0	0.0	22.1	0.0	-22.1	0.0	0.0	333.3	0.0	-333.3	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	22.1	0.0	-22.1	0.0	0.0	333.3	0.0	-333.3	0.0	0.0	0.0
99.1.1	0.0	0.0	7.9	0.0	-7.9	0.0	0.0	296.8	0.0	-296.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	7.9	0.0	-7.9	0.0	0.0	296.8	0.0	-296.8	0.0	0.0	0.0
99.1.2	0.0	0.0	14.2	0.0	-14.2	0.0	0.0	36.4	0.0	-36.4	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	14.2	0.0	-14.2	0.0	0.0	36.4	0.0	-36.4	0.0	0.0	0.0
99.2	0.0	0.0	69.2	0.0	-69.2	0.0	0.0	94.9	0.0	-94.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	69.2	0.0	-69.2	0.0	0.0	94.9	0.0	-94.9	0.0	0.0	0.0
99.2.1	0.0	0.0	18.7	0.0	-18.7	0.0	0.0	40.9	0.0	-40.9	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	18.7	0.0	-18.7	0.0	0.0	40.9	0.0	-40.9	0.0	0.0	0.0
99.2.2	0.0	0.0	-9.0	0.0	9.0	0.0	0.0	8.8	0.0	-8.8	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-9.0	0.0	9.0	0.0	0.0	8.8	0.0	-8.8	0.0	0.0	0.0
99.2.3	0.0	0.0	59.6	0.0	-59.6	0.0	0.0	45.2	0.0	-45.2	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	59.6	0.0	-59.6	0.0	0.0	45.2	0.0	-45.2	0.0	0.0	0.0
8	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	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		BUDGET	LATEST REVISED EST	VAR
	WORK SCHED	WORK PERF		SCHED	COST	WORK SCHED	WORK PERF		SCHED	COST			
8.1	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	0.0	0.0
8.1.1	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	0.0	0.0
OTHER DIRECT COSTS	0.0	0.0	-9.5	0.0	9.5	0.0	0.0	-30.7	0.0	30.7	0.0	0.0	0.0

CONTRACTOR: SSC LABORATORY LOCATION: DALLAS, TX	COST PERFORMANCE REPORT - FUNCTIONAL CATEGORIES			SIGNATURE,TITLE & DATE 30-DEC-90	FORM APPROVED OMB NUMBER 22R0280
RDT&E [X] PRODUCTION [ ]	CONTRACT TYPE/NO: DE-AC02-89ER40486	PROGRAM NAME/NUMBER:	REPORT PERIOD From: 26-NOV-90 To: 31-DEC-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	$0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE				
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET	LATEST REVISED EST	VAR
D													
DIRECTORATE	0.0	0.0	316.4	0.0	-316.4	0.0	0.0	1175.2	0.0	-1175.2	0.0	0.0	0.0
B													
PROJECT MANAGEMENT	0.0	0.0	129.0	0.0	-129.0	0.0	0.0	1092.1	0.0	-1092.1	0.0	0.0	0.0
A													
ACCELERATOR SYSTEMS	0.0	0.0	3952.5	0.0	-3952.5	0.0	0.0	12832.9	0.0	-12832.9	0.0	0.0	0.0
C													
CONVENTIONAL CONSTR	0.0	0.0	2898.4	0.0	-2898.4	0.0	0.0	12332.7	0.0	-12332.7	0.0	0.0	0.0
T													
TECHNICAL SERVICES	0.0	0.0	1200.5	0.0	-1200.5	0.0	0.0	4490.5	0.0	-4490.5	0.0	0.0	0.0
G													
ADMINISTRATIVE SRVC	0.0	0.0	891.9	0.0	-891.9	0.0	0.0	3475.4	0.0	-3475.4	0.0	0.0	0.0
P													
PHYSICS RESEARCH	0.0	0.0	1476.8	0.0	-1476.8	0.0	0.0	5089.7	0.0	-5089.7	0.0	0.0	0.0
M													
MAGNET SYSTEMS	0.0	0.0	6090.6	0.0	-6090.6	0.0	0.0	23052.4	0.0	-23052.4	0.0	0.0	0.0
F													
PHYSICS INDIRECT	0.0	0.0	157.3	0.0	-157.3	0.0	0.0	574.4	0.0	-574.4	0.0	0.0	0.0
Q													
WRK FOR OTHRS	0.0	0.0	22.1	0.0	-22.1	0.0	0.0	333.3	0.0	-333.3	0.0	0.0	0.0

ITEM	CURRENT PERIOD					CUMULATIVE TO DATE					AT COMPLETION		
	BUDGETED COST		ACTUAL COST	VARIANCE		BUDGETED COST		ACTUAL COST	VARIANCE			LATEST REVISED EST	
	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	WORK SCHED	WORK PERF	WORK PERF	SCHED	COST	BUDGET		VAR
V													
WRK FOR OTHRS EXC OH	0.0	0.0	69.2	0.0	-69.2	0.0	0.0	94.9	0.0	-94.9	0.0	0.0	0.0
W													
LAB GENERAL INDIRECT	0.0	0.0	250.0	0.0	-250.0	0.0	0.0	1000.0	0.0	-1000.0	0.0	0.0	0.0
Y													
LAB GENERAL DIRECT	0.0	0.0	-10.8	0.0	10.8	0.0	0.0	-84.5	0.0	84.5	0.0	0.0	0.0
X													
ACCEL DESIGN & OPS	0.0	0.0	105.6	0.0	-105.6	0.0	0.0	105.6	0.0	-105.6	0.0	0.0	0.0
SUBTOTAL	0.0	0.0	17549.6	0.0	-17549.6	0.0	0.0	65564.6	0.0	-65564.6	0.0	0.0	0.0
COST OF MONEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNDISTRIBUTED BUDGET											0.0	0.0	
SUBTOTAL	0.0	0.0	17549.6	0.0	-17549.6	0.0	0.0	65564.6	0.0	-65564.6	0.0	0.0	0.0
MANAGEMENT RESERVE											0.0	0.0	0.0
TOTAL	0.0	0.0	17549.6	0.0	-17549.6	0.0	0.0	65564.6	0.0	-65564.6	0.0	0.0	0.0

PROJECT DIVISIONS

ACCELERATOR DESIGN AND OPERATIONS DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN ❑ PRODUCTION ❑
CONSTRUCTION ❑ RESEARCH & DEVELOPMENT ❑

PART I

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
November 1, 1990 - November 30, 1990

1c. MANAGING DIVISION

Accelerator Design and Operations Division

1d. DIVISION/OFFICE CONTACT

Don Edwards

1e. DIVISION MANAGER

Don Edwards

1f. PERFORMING ORGANIZATION(S)

Collider
HEB
LEB
MEB
Beamlines
Linac

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green: G
Yellow: Y
Red: R

	LAST PERIOD	THIS PERIOD
COST	N/A	Y
SCHEDULE	N/A	G
TECHNICAL	N/A	G
OVERALL DIVISION	N/A	G

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: ADOD

HEB

The optical design of the transfer lines from the HEB to the Collider is nearly complete. The outstanding questions, magnet type (conventional) and ring-to-ring separation (14 meters), have been settled. After some further refinement on the optics design, engineering specifications for these lines will be developed in conjunction with the Accelerator Systems Division. Specifications for correction elements, beam monitors, and other beam-line instrumentations will be developed. The emmittance budget will be examined and an error analysis of the transfer process will be carried out.

Design effort on both the injection lines from the MEB and the abort lines and dumps has begun. These efforts involve converting the conceptual designs described in the SCDR into working designs and will include detailed error analysis. The design work on the two HEB aborts will be done in collaboration with the work currently underway on the Collider aborts.

A series of design changes from the SCDR specifications for the HEB was developed and presented to the project management for change configuration control. The significant changes include reducing the peak operating energy from 2 TeV to 1.8 TeV in conjunction with increasing the magnet aperture from 5 cm to 6 cm. The energy reduction results in a zero cost change for the increased aperture.

Related to the above changes, tracking studies comparing the dynamic aperture at injection for 6 cm magnets were started. The 6 cm results indicate an adequate injection aperture and agree well with previous work on 5 and 7 cm magnets. These studies include the effects of random a_1 and b_1 errors and also the effects of random and systematic errors in quadrupoles.

Specifications for the HEB quadrupole magnets were developed and a "HEB Quadrupole Magnet Design Requirements Document" was produced. These specifications will be used in the quadrupole development program and in the current negotiations with Saclay.

MEB

During the past month a lattice choice has been made which will serve as the baseline over the next several months. The lattice again has eight insertions as it was determined that sitting considerations would not allow the LEB to inject into the same straight section used for one of the extraction lines. The design continues to be evaluated by those responsible for beam transfer, slow extraction, rf, and so on, but considerable input had been obtained from all of these sources already. One of the issues that continues to be a concern is the magnet strengths. All of the elements in the lattice are being pushed quite hard in order to get to 200 GeV/c. A highlight on the month was a workshop held here during the third week of January in which magnet experts from other laboratories advised and instructed our small group of magnet designers.

Meanwhile one member of the group participated in the E778 run at Fermilab, and while there looked into tools for design of rf curves. We now have the capability to do this design work here at SSCL using Fermilab's application programs running on our unix workstations.

LEB

During the last month, significant effort with respect to the LEB has been in the evaluation of two specific high γ_{tr} (= 20) lattice designs. The present circumference of the LEB remains at the SCDR value (540m). Both have similar hardware requirements, optical performance, and foot print requirements. The final lattice choice will be made in the near future.

DIVISION PROJECT STATUS REPORT PART II	REPORTING DIVISION: ADOD

LEB (Continued)
A workshop on resistive magnets was held and attended by both on-site personnel as well as experts from other laboratories. The LEB magnet design criteria was evaluated and confirmation of the magnet fields choices used in the lattice design was given. Work is now underway with in collaboration with personnel from other laboratories to produce a more detailed magnetic design for the primary lattice elements.

More detailed engineering design of other major hardware elements has been initiated and design reviews will be scheduled in the near future.

Beam Transfer Lines
LINAC-LEB Transfer:
The optics of the transfer line was modified to accommodate fail-safe operation of the LINAC while the LEB tunnel is occupied. The effects of this modification on HVAC and equipment have been broken down and included in the Conventional Construction Preliminary Design Requirements.

LEB-MEB Transfer:
The extraction optics for one of the two LEB lattices under consideration has been worked out, and the requirements for kickers and septa have been specified.

MEB-HEB Transfers:
The study of the geometrical relationship between the rings continues. Design of the short transfer line has begun.

HEB-Collider:
The program to evaluate magnet misalignment and field error effects has been improved to incorporate a beam corrector scheme. The locations of correctors and position monitors, and corrector strengths have been determined. Also, the 14m-separation transfer line optics was improved, reducing all quadrupole field gradients to less than 34T/m.

Collider:
Detailed development of the technical system requirements for the N15 (E1) shaft and the first section of Collider tunnel continued this month. The present design calls for three independent shafts at this location; one for magnet installation, one for utilities, and one for personnel, allowing for flexibility in tunnel construction and installation. Preliminary Design Requirements Reviews for the Accelerator Systems String Test (ASST) were conducted this month for the electrical engineering systems and for the spool piece. A study was initiated to investigate the effects of a slightly lower (~10%) injection energy and of a larger quadrupole aperture on the dynamic aperture of the Collider. This tracking work is in conjunction with studies of optimal HEB energy and optimal Collider quadrupole bore size. Investigations of possible refinements to the Collider lattice also began this month. Lattice issues include proposals to generate free space in the 35 km arcs for future use, proposals to adjust certain shaft locations, and refinements to interaction region optics.

Test Beams:
No report.

Linac:
No report

ACCELERATOR SYSTEMS DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN	✱	PRODUCTION	❑
CONSTRUCTION	❑	RESEARCH & DEVELOPMENT	✱

PART I

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
December 31, 1990 - January 27, 1991

1c. MANAGING DIVISION
Accelerator Systems Division

1d. DIVISION/OFFICE CONTACT
Jerry Watson
Ext. 3042

1e. DIVISION MANAGER
Ted Kozman
Ext. 1049

1f. PERFORMING ORGANIZATION(S)
Mechanical Engineering
Electrical Engineering
Instrumentation Diagnostics
RF
Cryogenics
Controls
Business Operations
Technical Systems Management

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green: G
Yellow: Y
Red: R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: ASD

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

Mechanical Engineering

4.2.1 Assembly and Installation--Delivery of the plate-style C-Magnet Stand due 1/31. The box-style collider magnet stand design halted while evaluating 3 and 4 point support systems. Procedure for testing magnet alignment was written and being reviewed.

4.2.1 Resistive Magnets--The Magnet Design Workshop (1/21) generated information needed to start design of the LEB and MEB magnets.

4.2.1 Correction Magnets--After successful testing of corrector dipoles at TAC, design work on a "mockup" corrector dipole was completed. Design of the skew quadrupoles, the last major component of the corrector package, has started.

4.2.1 Spool Pieces--The Spool Piece Advance Acquisition Plan was submitted to DOE. The PDRR for ASST spools held 1/15. The requirement that the End Box be fully configured like half a full spool was suggested. This could raise the cost of End Boxes by 50% or more. This is being studied. The vacuum barrier in spool piece was redesigned to simplify fabrication. The new design will be tested before proceeding with fabrication of all three barriers.

4.2.1 Accelerator Support Systems--The R&D Cooling Water System is now under computer control and producing low conductivity (about 14 megohm) water.

Electrical Engineering

4.2.1 ASST/Fermilab ER--Following the successful PDRR last month, the PDR for the power supply, regulation, AC power, DC busing, and Uninterruptible power supply (UPS) was held this month. Dynapower, the vendor for the ASST power supplies was given a Notice To Proceed and the procurement package was delivered to DOE on Jan.25. The ASST Title I conventional construction drawings have been examined and corrected. All 40 ASST/ER isolation amplifier cards are populated. Meeting completion schedule for the heater firing units (HFU's) appears realistic.

4.2.1 Ring Magnet Power Supplies--Information obtained in the LEB/MEB magnet workshop will help in the design of the power supplies. A plan has been prepared for determining the maximum amplitude and frequency dependence of the voltage ripple allowed from the Collider main magnet power supplies. This was done in collaboration with ADOD. Discussions have started on a 8 turn-per-pole MEB magnet allowing the power supply system for the MEB to have components in common with the LEB. Preliminary Hazard Analysis (PHA) documents were written.

4.2.1 Beam Line and Corrector Power Supplies--Decision was made to power each LEB sextupole individually. PHA documents were written

4.2.1 Quench Protection Systems--Capacitor bank printed circuit board (PCB) testing for the prototype HFU has begun. PHA documents were written.

4.2.1 Pulsed Power Systems--Pulsed power systems require fast switches. Both Back-Lighted Thyratrons (BLT), and spark gaps are being evaluated. Also under investigation are pulse sharpening techniques such as saturable inductors and shock lines. PHA documents were written.

4.2.1 Control/Monitor Interfaces--We, in collaboration with the ASD Controls Group, are developing a requirements list for the Quench Protection Monitors (QPM) and the Collider Excitation Control and Regulation (CECAR) systems. This also includes the QPM Local Area Network (LAN).

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: ASD

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

Instrumentation & Diagnostics

4.2.1 Diagnostics & Simulations--I&D maintains accelerator database containing the locations of all magnets etc. in the accelerator lattices. This information is being used by CCD to layout buildings and by others to make working drawings of the accelerators. The effects of space charge forces on the proton beams was formulated in preparation for inclusion in the tracking codes. The tracking code TEAPOT was modified to allow multiple families of correction dipoles. This will facilitate study of orbit corrections during injection. The I&D group supported the analysis of data from the Fermilab E778 accelerator physics experiment at Fermilab.

4.2.1 Computer Support Services--A listing of software applications available on the UNIX workstation network was prepared and distributed.

4.2.1 Beam Position Monitors (BPM's)--Cryogenic shock testing of BPM signal feedthroughs has started.

4.2.1 Synchronization--There has been some success in building circuitry to simulate the synchronization problem. The digital frequency synthesizer has been programmed through the digital signal processor (DSP) and communication has been established between the DSP and the Time to Digital converter (TDC) module.

1.1.8 Global Timing--(no report this time)

4.2.1 LINAC instrumentation--Continuing discussions between CCD, ASD Controls and the ASD Instrumentation Group are establishing requirement for LINAC systems.

4.2.1 General Instrumentation--A report was written to identify issues that impact space requirements in the LEB ring lattice for instrumentation. Testing of the 4-channel VME digitizer care is underway. The ACTEL programmable array logic chip machine is on line and producing chips required for the digitizer board. I& D is currently providing time on the ACTEL system for other users. The printed circuit board (PCB) cutting machine is also operating and has produced several boards for I&D and other groups. Development has started on a beam current monitor (BCM) that combines the high frequency response of wall current monitors with the low frequency response of conventional current transformers for application in the LINAC.

RF Engineering

4.2.1 RF Test Stand--Center conductor for the prototype LEB cavity was installed in the cavity on the test stand. The system is under vacuum and cooling water attached. Specifications for 5kw power amplifier (PA) sent to Procurement. The PA driver has been tested and is adequate.

4.2.1 Booster RF Systems--LEB cavity/tuner PDR packages sent to reviewers.

4.2.1 LINAC RF Systems--Procurement documentation for the klystrons is ready to forward to Procurement. Power requirements for the RFQ have increased;. 4.2.1 LLRF and Fast Feedback--Personnel were at Los Alamos studying LAMPF and GTA accelerators in preparation for writing the technical specification document for the LLRF system for the LINAC.

4.2.1 Accelerating Cavities--Design has started on a LEB cavity that is considerably shorter than the present design. A FORTRAN program has been written to predict power losses in the LEB ferrite cavity tuner. 11.1.2

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: ASD

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

Cryogenic Systems

4.2.1 Technical Work in Support of the Design of the Collider--Early in the month the ER string testing of two dipole magnets was completed, and analysis of the data from the run has begun.

4.2.1 ASST Cryosystem--The SSCL has contracted with Koch Process Systems, Inc. for the delivery of a complete cryosystem for the ASST operation. ASST work under this contract is on schedule at this time, and the activities of the month including work with CCD on the E1site plan and equipment layout and interfaces. In addition, the third P&ID review of the Koch process design has started.

4.2.1/1.6.1 Collider Cryosystem at N15--The 4 K cold boxes for the N15 refrigeration plant are part of the Koch Process Systems contract. As Indicated above, this contract is proceeding satisfactorily. The N15 refrigeration plant is currently scheduled to be completed 8/92.

4.2.1/1.6.1 Collider Cryosystems at N25-S55-- Refrigeration plant design studies are underway to develop a suitable redundancy plan for the collider cryogenics and to support a choice of procurement packages for the plant equipment.

4.2.1 MTL Cryosystem--A complete cryogenic system for the MTL is also part of the Koch contract that has already been described. The MTL cryogenic system is currently scheduled to be completed 9/92.

4.2.1/1.5.1 HEB Cryosystem--There has been no work on the HEB Cryosystem in this period.

Controls

4.2.1 Front End Electronics--The control system connection to the accelerator interface is a device generally called Front End computer. It may be located in the tunnel or more likely in the sector service buildings above ground. Messages to the Front End are routed to the accelerator interface from STD-Bus. Development of the software for STD-Bus is proceeding at a moderate rate. Labtech is the software for the Front End electronics used in the cooling water system of the RF laboratory in Building 4. The present Labtech software has shown internal inconsistencies and will be replaced with a newer version. We are also evaluating new interfacing software from Gensyn.

4.2.1 Software--The Integrated Scientific Tool Kit (STK) software package, with applications to control CAMAC, is coming along well. Progress is being made on the Direct Manipulation Shell (DMS), and the interface with InterViews' classes. ISTK has been delivered to TAC and will be used in the MDL. Database management software is also under evaluation and development. The machine-readable data discipline developed by SSCL is call SDS (Self-describing Data Standard). The control software called TACL is being interfaced to SDS via the Resolver Library. Database Management Systems (DBMS's) being considered are ACCELL and UNIFACE. These are 4th generation languages (4GL). The company Software Components Group is allowing us to do an evaluation of their pSOS+ product. Progress is being made on providing an interactive programming and development environment for C++ objects. The program ascii2sds, which convert ASCII data to SDS format, has been released.

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: ASD

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

4.2.1 Computers--A 600 MB disk drive, a 1.3 GB DAT drive, and a HP PostScript printer have been installed on the ER String Test Computer. The Controls Group physical subnet has been reconfigured recently. The latest addition to the net is a HP 400 computer. FORCE Computers demonstrated their CPU-30 computer and left it for evaluation.

4.2.1 Communications--The Xycom printed circuit board from MicroCom are under evaluation. These PCB's are limited by the software kernal that they use. The Message Broadcast Receiver (MBR) called PAL version 1 was completed. Conceptual development of version 2, which will be used on ASST, has been started.

Technical Systems Management

1.1.1 Recruiting and Hiring-- The number of persons on board on Jan.31 was 207. This does not include temporary help and consultants. Based on the budget that was released to ASD during the last week in January, it appears that we may be able to hire an additional 144 persons this fiscal year. This is less than was projected in October. A new hiring plan is being developed. Bureaucratic procedures continue to hamper the recruiting effort. People are being hired, but it is taking more effort than necessary.

1.1.8 Global Machine Safety Systems--The person in charge of this effort will be on board in April. His main job will be to develop the personnel security system for the accelerators to control access and insure that no one gets into hazardous areas.

1.1.8 Safety Requirements--The safety analysis on the R&D Cooling Water System in Building 4 was approved and issued. Quarterly safety inspections on all ASD labs were conducted in preparation for OSHA inspections and as required by SSCL ES&H. The SSCL attorneys have determined that OSHA now has the right to carry out site inspections any time. "Right to Know Information" was sent to all Groups, and OSHA required "Job Safety and Health Protection" posters were posted. ASD Safety is participating in the Operational Readiness Review (ORR), Mine Rescue committee, and the committee working on a Memorandum of Understanding (MOU) with the DOE/DOL and the local communities.

1.1.8 Systems Engineering--Systems Engineering has concentrated mainly on ASST and the LINAC, by supporting reviews, working group meeting and preparing documentation. Completed the first draft of the ASST Project Plan. Began work on the ASST Interface Control Document (ICD). Continued work on identifying the objectives and significant milestones to be met by the ASST program. Finalized inputs to the LINAC Facilities Requirements Document. Provided reliability charts for the LINAC PDR. Instituted a new procedure developed by MSD for the preparation and maintenance of the ASST Magnet Design Requirements Document (MDRD). Drafted requirements for the E-1 area infrastructure requirements document. Work continues in the areas of writing specifications, doing reliability analysis and exercising configuration management for ASD and ADOD.

DIVISION PROJECT STATUS REPORT PART I		REPORTING DIVISION: ASD	
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
Magnets meeting the LEB and MEB kickers requirements have never been built.	May require long development time; schedules could slip	Reduce requirements or start crash program	ADOD,ASD
Mech.Eng., Elec.Eng.,and I&D report problems with the staffing procedure.	Schedules will be impacted	Simplify hiring procedures; remove unnecessary signoffs in the approval chain.	General Manager, Personnel, ASD
Requisition tracking system updating too slow	System not useful; users must track manually	Add personnel to Procurement or make more efficient.	Procurement
RFQ for outside shops to work on open orders delayed by Procurement.	Schedules will be impacted	Add personnel to Procurement or make more efficient.	Procurement
Unavailability of multiwire Wiring-Head for corrector magnet construction.	Schedules will be impacted.	Procurement problems like this have to be corrected.	Procurement
Procurement package for LINAC klystrons delayed.	Schedules will be affected.	Multiple editing of specifications by Procurement must be halted	Procurement
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
Difficulty maintaining safe working condition in labs because of inadequate space.	Personnel safety	Find or create more laboratory space.	Director, General Manager, LTS.

DIVISION PROJECT STATUS REPORT PART II	REPORTING DIVISION: ASD	
8. MILESTONE LOG		
SIGNIFICANT MILESTONES ACCOMPLISHED SINCE LAST REPORT	BASELINE DATE	ACTUAL DATE
Electrical Power Distribution (PDR)	01-15-91	01-24-91
Bus Work (PDR)	01-15-91	01-24-91
Regulations (PDR)	01-15-91	01-24-91
Power Supply Transductor (PDR)	01-15-91	01-24-91
Uninterruptible Power Supply (PDR)	01-09-91	01-24-91
Cryo 4K Plant - Issue PO's Main Colld Box/HXCG	01-03-91	01-11-91
Spool Piece HSPRF, ENDBOX, & SPR/SPA (PDRR)	01-16-91	01-16-91
SIGNIFICANT MILESTONES OPEN	BASELINE DATE	FORECAST DATE
KEY MILESTONES UPCOMING - NEXT THREE MONTHS	BASELINE DATE	FORECAST DATE
Installation Equipment (FDR)	02-28-91	04-4-91
Control Systems (PDR)	03-18-91	04-10-91
Power Supplies Contract Award	11-30-90	02-15-91
Spool Piece - HSPRF, SPA/SPR END BOX, (PDR)	02-14-91	03-06-91
4 CM Spool Piece Recooler Delivery	01-01-91	02-01-91
4 CM Cold Tube Test Assembly (FDR)	12-12-90	02-25-91
4 CM Cryostat Weldment (FDR)	12-12-90	02-28-91
4 CM Vacuum Barrier Complete	12-12-90	02-28-91
Installation Equipment Final Design Review (FDR)	02-28-91	04-04-91
Inter Connect & Vacuum (PDR)	12-28-90	03-27-91
Utilities (PDRR)	11-15-90	02-26-91
Control Systems (PDRR)	12-10-90	02-19-91
Rsch Instr - List of Logging Points Avail	02-15-91	02-15-91

MAGNET SYSTEMS DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN
CONSTRUCTION
PRODUCTION
RESEARCH & DEVELOPMENT
PART

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
1 January - 31 January 91

1c. MANAGING DIVISION

Magnet Systems Division

1d. DIVISION/OFFICE CONTACT

Roosevelt Baker, Jr. X 2084

1e. DIVISION MANAGER

Tom Bush X 2023

1f. PERFORMING ORGANIZATION(S)

Engineering
Test
Production
Quality Assurance
Business Management
Fermi National Accelerator Laboratory
Lawrence Berkeley Laboratory
Brookhaven National Laboratory
General Dynamics Space Systems Division
Westinghouse Electric Corporation

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green: G
Yellow: Y
Red: R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: Magnet Systems Division

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

WBS 1.2.1 Program Management: Continued negotiations for the CDM contract. Continued development of critical path schedules. Continued development of cost account budgets identified to WBS elements.

WBS 1.2.2 HEB Magnets: The Quad design budget, Dipole and Quad Advanced Acquisition Plans (AAP), and the internal budget SOW are in review. Aperture study in process. Established preliminary contact with SSC small disadvantaged business unit to identify potential subcontractors. Dipole industrialization RFP is on hold pending AAP approval.

WBS 1.2.3 Collider Ring Magnets: Continued efforts on the technology transfer to industry plan. Continued discussions and negotiations for the Collider Dipole Magnet product development phase with both General Dynamics, leader, and Westinghouse, follower. Collider Quadrupole Magnet draft RFP was released to industry on 4 Jan 1991. Revised Acquisition Strategy is with DOE for review and approval.

WBS 1.2.4 Magnet Facilities Equipment and Tooling: Requisitions and orders are being written for equipment and tooling to support MDL operations. This equipment and tooling will start arriving in April of 1991 and we expect to have it completely installed by the end of December 1991. Selected the MTL power supply vendor.

WBS 4.2.2 MAGNET R&D:

FNAL: 50mm Magnet Program: The first 50mm dipole magnet DSA321 was successfully tested.
40mm Magnet Program: All of the 17m coils have been wound and cured.
Superconducting Magnet R&D: Collaring experiments using the 40mm collared coil DS0312 are complete.

LBL: 1m Quad Magnets: QSC-403 began cryogenic testing.
5m Quad Magnets: Assembly of main nitrogen shielding and insulation is complete.
QSC-401 collared coil assembly has been installed in the yoke and the shell has been welded.

BNL: Long Magnets: Dipole DC0204, with its tests completed, was placed in storage. Cryostat assembly of DC0205 continued. Coil assembly completed on DC0206.

Short Magnet: Cold testing of Dipole DS0213 began. Coil assembly completed for DSA209. Coils were wound and cured for DSA210. DSK020 was prepared for shipment to SSCL.

DIVISION PROJECT STATUS REPORT PART I		REPORTING DIVISION: Magnet Systems Division	
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
NONE			
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
NONE			

DIVISION PROJECT STATUS REPORT PART II	REPORTING DIVISION: Magnet Systems Division	
8. MILESTONE LOG		
SIGNIFICANT MILESTONES ACCOMPLISHED SINCE LAST REPORT	BASELINE DATE	ACTUAL DATE
• Vendor selection for superconducting wire	9 Nov 90	3 Jan 91
• Release Draft CQM RFP	30 Nov 90	4 Jan 91
• Complete 60mm aperture study for HEB magnets	15 Jan 91	30 Jan 91
• CQM Contract Bidders Briefing	4 Jan 91	4 Jan 91
• Complete Quality Implementation Plan	10 Jan 91	10 Jan 91
SIGNIFICANT MILESTONES OPEN	BASELINE DATE	FORECAST DATE
• Power Supply Contract Award	11 Feb 91	11 Feb 91
• Purchase Order for Coil Winder	14 Feb 91	15 Feb 91
• Release CQM RFP	17 Dec 90	15 Feb 91
• Release HEB Dipole Industrialization Plan	15 Feb 91	ON HOLD
• Superconducting wire contract award	26 Feb 91	26 Feb 91
KEY MILESTONES UPCOMING - NEXT THREE MONTHS	BASELINE DATE	FORECAST DATE
• Start MDL Tooling Installation	1 Apr 91	1 Apr 91
• CDM Contract Awards	28 Feb 91	25 Apr 91
• CDM Vendor Team mobilized at FNAL	31 Dec 90	25 Mar 91
• HEB Contracts Award	30 Apr 91	30 Apr 91
• Start HEB QUAD Design/Develop	31 Mar 91	31 Mar 91

DIVISION PROJECT STATUS REPORT PART II					REPORTING DIVISION: Magnet System Division			
9. TECHNICAL PERFORMANCE PARAMETERS					***bold indicates a difference in the baseline and forecast parameters**			
ITEM	BASELINE DESCRIPTION				FORECAST			
Dipole Vendor	F	L	A	Prod. Qty.	F	L	A	Prod. Qty
CDM 15m	6.6T	15.17	50	7956	6.6T	15.17	50	7956
CDM 13m	6.6T	12.64	50	504	6.6T	12.64	50	504
BV2+	6.6T	12.64	50	48	6.6T	12.64	50	48
BV1+	4.4079T	5.00	75-100	32	4.4079T	5.00	75-100	32
BV2-	6.6T	12.64	50	24	6.6T	12.64	50	24
BV1-	4.4079T	5.00	75-100	32	4.4079T	5.00	75-100	32
Quadrupole Vendor								
206 T/m Design								
CQM (QF)	**204 T/m**	**5.20**	**40**	**1664**	**211 T/m**	**5.07**	**40**	**1664**
QSD/QSF	**204 T/m**	**7.05**	**40**	**72**	**211 T/m**	**6.87**	**40**	**72**
QSD1/QSF1	**204 T/m**	**6.12**	**40**	**48**	**211 T/m**	**5.97**	**40**	**48**
180 T/m Design								
M-1 (QVF-QVD)	180 T/m	14.25	50	64	180.01 T/m	14.25	50	64
HEB Vendor								
HEBDM	6.39T	15.17	50	432	6.39 T	15.17	5	432
HEBQM (short)	200 T/m	1.23	50	234	200 T/m	1.23	50	234
HEBQM (long)	200 T/m	3.64	50	44	200 T/m	3.64	50	44
SSCL								
230 T/m Design								
QL1	**230 T/m**	**15.14**	**40**	**4**	**208.60 T/m**	**15.14**	**40**	**4**
QL2	223.6 T/m	11.22	40	8	223.55 T/m	11.22	40	8
QL4	**230 T/m**	**11.22**	**40**	**8**	**218.05 T/m**	**11.22**	**40**	**8**
QM3	**230 T/m**	**11.22**	**40**	**4**	**225.08 T/m**	**11.22**	**40**	**4**
QM4	**230 T/m**	**11.22**	**40**	**8**	**212.71 T/m**	**11.22**	**40**	**8**
QL3	**218.6 T/m**	**12.96**	**40**	**4**	**230.86 T/m**	**12.96**	**40**	**4**
QM1	188.2 T/m	8.5	40	4	188.23 T/m	8.5	40	4
QM2	219.6 T/m	8.5	40	8	219.61 T/m	8.5	40	8

DIVISION PROJECT STATUS REPORT PART II - Page Two					REPORTING DIVISION: Magnet System Division			
9. TECHNICAL PERFORMANCE PARAMETERS					***bold indicates a difference in the baseline and forecast parameters**			
ITEM	BASELINE DESCRIPTION				FORECAST			
SSCL	F	L	A	Prod. Qty.	F	L	A	Prod. Qty
204 T/m Design								
QU3	**206 T/m**	**7.05**	**40**	**8**	**211 T/m**	**6.87**	**40**	**8**
QU4	**204 T/m**	**7.05**	**40**	**8**	**211 T/m**	**6.87**	**40**	**8**
QL6	**158.5 T/m**	**4.896**	**40**	**8**	**162.35 T/m**	**4.78**	**40**	**8**
QM6	**151.8 T/m**	**4.896**	**40**	**8**	**155.48 T/m**	**4.78**	**40**	**8**
180 T/m Design								
QL5	**89.8**	**14.25**	**50**	**8**	**162.14 T/m**	**14.25**	**50**	**8**
QM5	**97.7 T/m**	**14.25**	**50**	**8**	**151.31 T/m**	**14.25**	**50**	**8**
QU1	180 T/m	6.76	50	8	180.01 T/m	6.76	50	8
QU2	180 T/m	6.76	50	8	180.01 T/m	6.76	50	8

CONVENTIONAL CONSTRUCTION DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN	X	PRODUCTION	❑
CONSTRUCTION	X	RESEARCH & DEVELOPMENT	❑

PART I

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
January 1991

1c. MANAGING DIVISION

Conventional Construction Division

1d. DIVISION/OFFICE CONTACT

Robin Scott

1e. DIVISION MANAGER

Jon R. Ives

1f. PERFORMING ORGANIZATION(S)

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green	Yellow	Red
G	Y	R

	LAST PERIOD	THIS PERIOD
COST	G	Y
SCHEDULE	G	G
TECHNICAL	G	G
OVERALL DIVISION	G	G

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: Conventional Construction

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

WBS 2.1
- Continued Title II design of Accelerator Systems String Test Facility (ASST) with N15 service buildings. Change Control action being prepared.
- Completed defining requirements and configuration for E1 shaft, first tunnel sector. Awaiting final sign-off of requirements.
- The Linac Working Group finalized draft Linac conventional construction requirements.
- Supported DOE review of definitized PB/MK subcontract.
- Land acquisition and turnover to DOE/SSC is being coordinated with TNRLC and is proceeding well. No problems are anticipated.
- Initial draft of a tunnel diameter study with civil input from PB/MK and technical systems input from the SSCL technical divisions has been received. Final report due shortly.
- N15(E1) shaft locations locked down.

WBS 2.2
- Interim Notice-to-Proceed given for Title I and II engineering design of the Exploratory Shaft transmitted to PB/MK.
- Phase A conceptual designs of underground hall structures proceeding to work plan schedule.

WBS 2.3
- Record of Decision (ROD) signed.
- Continued evaluation of service areas for site acquisition.
- Initiated infrastructure steering committee.
- Continued permit coordination - reviewed draft permit schedule for Magnet Test Lab (MTL).
- Met with USGS to discuss possible flood plain studies.
- Met with Ellis County Public Works Director for status of project and to discuss upcoming permits.
- Initiated Title I services for the N15(E1) site infrastructure.
- Initiated study for E1 central utility plant.
- Received draft permit from TWC for MDL sewage plant.
- Interviewed and hired second task manager for infrastructure.
- Assisted in the final review of the Mitigation Action Plan (MAP).

WBS 2.4
- Continued Title I design of the Magnet Test Lab (MTL). Change Control action being prepared.
- Continued MDL building steel fabrication off-site and continued construction (steel erection) for Magnet Development Lab.
- Commenced development of requirements document for Accelerator Shop Building (ASB).
- MAAS function requirements in redraft in technical section (MSD).

WBS 2.5
- Continued Site Development Plan.
- Continued conceptual studies for method of construction for Interaction Halls at WN and WS.

DIVISION PROJECT STATUS REPORT PART I		REPORTING DIVISION: Conventional Construction	
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
(1) CCD staff shortfalls	(1) Design Requirements Documents preparation behind schedule.	(1) CCD organizational review completed; Head of CCD has approved personnel requisitions for the hiring of seven additional employees.	CCD
(2) FY91 budgeted activities	(2) Unable to establish firm milestone dates through FY91.	(2) CCD and PMO will collaborate in January 1991 on a close, coordinated review of the Baseline Master Schedule.	CCD, PMO, and Directorate Planning
(3) MDL budget shortfall	(3) Air condition load exceed baseline. Exterior finishes and fire protection "improved risk" criteria upgraded from baseline	(3) Change Control - SSCL	CCD/MSD
(4) MTL budget shortfall	(4) Items required in support of technical systems added cost.	(4) Change Control - SSCL	CCD/MSD
(5) N15 Service Buildings budget shortfall	(5) Items required in support of technical systems added cost.	(5) Change Control-SSCL	CCD/ADOD
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
(1) Approved Master Schedule needed	(1) Unable to set firm milestone dates through FY'91	(1) Issue approved Project Master Schedule	PMO

DIVISION PROJECT STATUS REPORT PART II	REPORTING DIVISION:	
8. MILESTONE LOG		
SIGNIFICANT MILESTONES ACCOMPLISHED SINCE LAST REPORT	BASELINE DATE	ACTUAL DATE
WBS 2.1: Initiated Title I design of N15(E1) Shaft and First Tunnel Segment (level 3)	August 1990	January 7, 1991
WBS 2.5: Awarded A-E/CM definitized contract (level 1)	June 1990	January 4, 1991
SIGNIFICANT MILESTONES OPEN	BASELINE DATE	FORECAST DATE
KEY MILESTONES UPCOMING - NEXT THREE MONTHS	BASELINE DATE	FORECAST DATE
Level		
0 • Start of civil construction	March 1991	April 1991
1 • None		
2 • ASST: advertise for construction bid • MDL partial BOD	January 1991 February 1991	March 1991 April 1991
3 Hold preconcept review on MTL (level 3)		February 1, 1991

PHYSICS RESEARCH DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN ❑ PRODUCTION ❑
CONSTRUCTION ❑ RESEARCH & DEVELOPMENT ❑ **PART I**

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
January 1-31, 1990

1c. MANAGING DIVISION

Physics Research Division

1f. PERFORMING ORGANIZATION(S)
Experimental Facilities Support
Experimental Systems Detector R&D
Experimental Systems Detector Development
Experimental Systems Detector computing
SSC Library
SDC Collaboration -- LBL
L* Collaboration -- MIT
EMPACT/TEXAS Collaboration -- SUNY, Stony Brook

1d. DIVISION/OFFICE CONTACT
Newton Norman ext. 6035

1e. DIVISION MANAGER
Fred Gilman ext. 6113

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

The Physics Research Division appears to be on the specified baseline with respect to cost, schedule and technical accomplishments. However the presently proposed FY91 funding for detector R&D in the Physics Research Division budget is significantly below the recommendations of the R&D Committee and the R&D work necessary to lead to an SDC proposal in FY92 may require discretionary funds.

Green	Yellow	Red
G	Y	R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:Physics Research Division

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

•WBS 4.6.1 SSCL Library

Library usage and Library output increased during this report period. Overall usage increased over 100% and output increased by approximately 75%. The Library experienced this increase with only 0.5 FTE added to the staff.

Serials management included spending time with DOE drafting a multiple subscription plan. The plan was presented to the AD's and has been forwarded to DOE for their review. Work is almost complete on meeting the DOE serials management review and information requests.

The Archivist is developing a Newsclipping database which will eventually be available Lab-wide. The Archivist has also begun to distribute current newsclippping articles from the local daily newspapers in the Dallas/Fort-Worth/Ellis Counties. Additionally, the Library is conducting daily electronic searching of nationwide newspapers through Dialog. The news is distributed through QuickMail. We have received positive feedback from the Directorate, External Affairs and TNRLC.

One of the goals of the Library is to establish networks allowing users to access various types of information. The Library will be testing at least t hree different systems. We have experienced problems getting the CDs to run successfully on the system presently being tested. However, we have been able to set it up for access to off-site resources like CARL and SLAC HEP databases. Work is being done in negotiating the network licensing of the CD products. The network requirements and acquisition discounts are almost complete.

•WBS 4.6.3 Experimental Facilities

Some members of the Experimental Facilities Department participated in the first session of the L* cost review panel. The panel met to determine the plausibility of the cost presented in the Letter of Intent by the L* collaboration. These efforts involve a careful evaluation of rates used for material procurement, engineering and design, and installation and assembly of the detector. Contingencies and escalation factors were also studied.

The milestones are being met in writing up the findings on test beam design as affected by the injector elevation changes. However, the latest injector changes have not been included in the test beam designs. We are also finding it difficult to pin down a long range plan for detector test beam requirements. This work will have to continue until the uncertainties are resolved.

A first draft of the detector safety guidelines is ready for internal circulation. The guidelines at this stage require substantial study before we can proceed to a draft that can be circulated.

Work continues on requirements for detector hall construction for CCD and their work with PB/MK. Presentations have been made for the SDC group with CCD and PB/MK. A detailed package of hall requirements will be delivered to CCD in February.

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:Physics Research Division

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

•WBS 5.1 Experimental Systems, Detector R&D

Preparations to provide funding for SDC-related detector subsystem R&D continued in January. Discussions were held with the SDC spokesman and deputy to get suggestions as to priorities and support levels. Meetings were held with the R&D project leaders at which were presented reduced budgets and revised work plans more consistent with available funds. Progress has been made by the three tracking groups to present a more coordinated and coherent combined R&D plan. Some R&D work will have to be delayed or eliminated so that vital detector design decisions may have to be made with less than optimal information available. Final budget totals have been presented. The groups continue to revise work breakdowns and budget plans in order to reconcile support priorities recommended by the R&D advisory committee with those proposed by the collaborations. Memoranda of Understanding with all SDC-related R&D collaborations should be concluded next month.

•WBS 5.2 Experimental Systems, Detector Engineering

Following the recommendations of the Program Advisory Committee in December, Roy Schwitters issued a decision memorandum on the initial scientific program of the SSC on January 4, 1991. It states that:

(1) Formal proposals/design reports for the very large initial-round detectors will be due by April 1, 1992. Final decisions on the proposals are expected by September, 1992 so that detector construction can begin at the start of the 1993 fiscal year.

(2) A substantial portion of Total Project Cost funds will be reserved for smaller experiments that will be selected later. A schedule for selecting these experiments will be established in the summer of 1991, following additional PAC discussions.

(3) The Solenoidal Detector Collaboration (SDC) is approved for support in its development of a formal proposal/design report. The SSC Project Manager is authorized to begin planning the collision hall and other facilities that will be needed to accomodate the SDC detector.

(4) The L* Collaboration is not approved at this time, pending further PAC review and recommendations. The Laboratory will carry out a detailed cost review of the proposed L* detector through the Physics Research Division, as requested by the PAC. The Director will work with the L* spokesman on the serious personnel and collaboration-governance issues raised by the PAC.

(5) The EMPACT/TEXAS Collaboration is not approved for SSCL support in the development of a formal proposal/design report. The Laboratory will make every effort to encourage and facilitate participation by members of this collaboration in the SSC's scientific program.

On January 10 - 11, the SDC met at the SSCL to plan how to proceed toward their proposal. Meetings were also held with Laboratory staff to begin discussions of the inter-relationship between the Collaboration and the SSCL during the period leading up to a proposal.

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:Physics Research Division

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

•WBS 5.2 Experimental Systems, Detector Engineering

The Physics Research Division has set up an L* Cost Review Panel, chaired by Dennis Theriot, in response to PAC concerns. This panel met for the first time January 28-29, 1991 at the SSCL. A list of questions concerning the L* cost estimate was formulated and forwarded to the collaboration. Discussion on the other serious concern, collaboration composition and top level physics direction/management, continued between the SSCL director and the L* spokesman.

A third increment of funds ($300,000) from the SSCL for engineering, systems integration, and coordination work leading to the Letters of Intent for each of the three collaborations was given in January. This was the final installment of support for work associated with the Letters of Intent, bringing the total up to $1,000,000 for each of the three collaborations (including $500,000 given in September and $200,000 given in December of 1990).

•WBS 5.3 Detector Computing

Selection was made for the 500 MIPs front end. SUN Micro Systems received the award, delivery is scheduled for February 10. The Silicon Graphics Batch Ranch has been installed and software development and integration is continuing.

A parallel version of GEANT has been installed and tested in the Batch Ranch processor environment. Physics Code Production Libaries are being developed as well as procedures validating production software.

Subsystems which include systems management, network queuing, distributed processing, operator and user interfaces, workstation allocation, data management and tape robot software are in the final stages of development and test.

Integration of all workstations, network interfaces and subsystem software will commence the third week of February, pending successful delivery of all hardware. The 500 MIPs project is on schedule with operation slated for March 15, 1991.

DIVISION PROJECT STATUS REPORT PART I		REPORTING DIVISION:Physics Research Division	
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
•WBS 5.1 The presently proposed FY91 funding for detector R&D in the Physics Research Division budget is significantly below the recommendations of the R&D Committee.	It is not clear that the R&D work necessary to lead to an SDC proposal in FY92 can be accomplished with available funds.	More funds may be required for detector R&D relevant to SDC.	Directorate and/or PMO
•WBS 5.2 The proposal of the L* Collaboration has serious personnel/collaboration-governance and possible cost issues which need resolution.	A decision on L* was delayed until March at the earliest.	The Physics Research Division has set up an L* Cost Review Panel. Discussion on the collaboration composition and management continues	PRD
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
Resolution of R&D and other funding issues.	Delays in commitment of proper funding levels.	Commitment of Texas and DOE funds. Decision on HEP base program support of research.	Directorate DOE

DIVISION PROJECT STATUS REPORT PART II	REPORTING DIVISION:Physics Research Division	
8. MILESTONE LOG		
SIGNIFICANT MILESTONES ACCOMPLISHED SINCE LAST REPORT	BASELINE DATE	ACTUAL DATE
•WBS 5.2 Experimental Systems, Detector Development Decision on Large Detectors going forward to proposals. SDC to continue to proposal; L* held for further review; EMPACT/TEXAS not approved.	January, 1991	January 4, 1991
SIGNIFICANT MILESTONES OPEN	BASELINE DATE	FORECAST DATE
Decision on second large detector to continue to a proposal.	January, 1991	March, 1991
KEY MILESTONES UPCOMING - NEXT THREE MONTHS	BASELINE DATE	FORECAST DATE
• WBS 5.1 Experimental Systems, Detector R&D Develop wire alighment and tensioning Devices for muon chambers	April, 1991	April 1991
• WBS 5.2 Experimental Systems, Detector Development Start conceptual design reports for large detectors	February, 1991	February, 1991
•WBS 5.3 Experimental Systems, Detector Computing Delivery and installation of 500 MIPs distributed computing capability	March, 1991	March, 1991

PROJECT MANAGEMENT DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN ❑ PRODUCTION ❑
CONSTRUCTION ❑ RESEARCH & DEVELOPMENT ❑ **PART I**

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
December 31, 1990 - January 27, 1991

1c. MANAGING DIVISION

Project Management Office

1d. DIVISION/OFFICE CONTACT

Karen Clements

1e. DIVISION MANAGER

Paul Reardon

1f. PERFORMING ORGANIZATION(S)

3.1.1 Project Management Office
3.1.2 Cost Estimating
3.1.3 Project Cost/Schedule Reporting
3.1.4 Engineering Standards
3.1.5 Environmental Affairs
3.2 Systems Engineering

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green	Yellow	Red
G	Y	R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

WBS

3.1.1 Project Management Office (PMO)

- Distributed FY91 Budget Authorizations to the Divisions.
- Reviewed and approved draft of Metrication policy.
- Developed a revised schedule for implementation of a new WBS - Draft April 91, Trial Implementation July 91, Final Implementation Oct. 91.
- Successfully held first task review meetings and implemented decision tracking system to track critical issues and action items.
- The MIS Strategic Plan has been finalized and approved.

3.1..2 Cost Estimating

- Worked with OSSC to finalize the budget submission to OMB.
- Prepared a list of items and their value in the BCE that could be provided to the SSCL by foreign participation.

3.1.3 Project Cost, Scheduling and Reporting (PCSR)

- Reviewed progress toward SSCL CS validation with DOE HQ. Changes to schedule and approach for implementation are under consideration.

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

3.1.4 Engineering Standards

- The Engineering Document Tracking Software (DOCTRAK) is running on the Project Management File Server. The software is available to anyone with access to a Macintosh. Approximately 4000 documents are being imported into the DOCTRAK data base for use by division personnel.

3.1.5 Environmental Affairs

- Efforts are continuing toward an approved SSC MAP by February 14, 1991.
- A Record of Design (ROD) was signed the first week of February, 1991.

3.2 Project Systems Engineering

- The Project Management Plan (PMP) is complete and approved by SSCL, DOE, and TNRLC representatives.

OVERHEAD DIVISIONS

LABORATORY TECHNICAL SERVICES DIVISION

DIVISION PROJECT STATUS REPORT

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

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
January 1991

1c. MANAGING DIVISION
Laboratory Technical Services

1d. DIVISION/OFFICE CONTACT
David L. Pells

1e. DIVISION MANAGER
E. Jack Story

1f. PERFORMING ORGANIZATION(S)
TX- Technical Publications
TH- Technical Support Management
TJ- Facilities Engineering Services
TK- Materiel & Logistics Services
TL- Fabrication Shops
TM- General Computing
TN- Project Design Support
TP- Communications
TQ- Computer Operations
TR- Engineering Standards/Support
TS- Metrology & Calibration Labs
TT- Protective Services
TU- Staff Services
TW- Technology Transfer

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green: G
Yellow: Y
Red: R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: LTS January 1991

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

An additional 8,700 sq. ft. of office was leased in Eagle Park in an effort to relieve the space crunch. This brings the Laboratory interim space to nearly 311,000 sq. ft. Continuing support was provided the TNRLC in their efforts to establish a facility in Ellis County. Criteria, codes, standards, and specifications have been passed along to their A-E and CM contractors. Remodeling of Suite 210 in Stoneridge Blg. #1 for the Magnet Division to provided additional space was completed. The reconfiguration of system furniture continues throughout all facilities to optimize space use. Formal action was initiated for the monitoring and maintenance of 37 water wells in Ellis county. Safety programs were developed for LTS and an Emergency Preparedness Plan for the entire Laboratory drafted. An LTS Safety Committee was formed. (WBS 4.4.2)

Warehouse activity is increasing at 10-15% with 1322 Purchase Orders and 5032 Units received in January 91. The Magnet Parts Control System is nearing completion. The computer system for Phase I is 90% complete. The Warehouse Inventory System will give lab-wide visibility by MAC monitor to everything stored in the warehouse. Currently, 7545 units of equipment valued at $25M is being controlled. A Property Control System Manual has been completed and is ready for distribution. (WBS 4.4.3)

Scheduled in-house training for hoisting and rigging have been completed. A majority of the capital equipment purchase requisitions associated with the MDL were processed. (WBS 4.4.4)

The new Supplemental Procurement & Financial Information System (SPF/IS) Requisition and Purchase Order Inquiry was moved into production. A special report required by DOE covering all SSCL procurements from the beginning of FY90 through December 31, FY91 was produced. DOE/Chicago Operations has approved releasing proposed acquisitions over $25K including workstation servers, CAD networks and various software licenses totalling about $1M. Approval is pending on another $200K in ADP equipment for Conventional Construction Division and communications equipment for the Physics Detector Simulation Facility. The largest number of employees (170) trained in a single month were handled last month. QuickMail (QM), along with related support services, is now available to 700 users at the SSCL. (WBS 4.4.5)

New Intergraph workstations were configured for CCD (2) and PRD (1). A Sun Sparcstation was configured for the Document Management section. The LTS plot center has five plotters accessible from all lab CAD/Graphics seats 24 hours a day. The ECAE/CAD Evaluation & Selection committee reviewed vendor responses to finalize the technical specification that will be submitted to industry for formal quotes. A course is being prepared in the interpretation and use of the ANSIY14.5M-1982 standard to be taught in a metric format. The Laboratory Document Control Manager received a Sun UNIX SPARCstation to set up a pilot project to collect released technical design data into a central system for storage and dissemination. Monthly production of drawing copies increased 13 fold since last year. (WBS 4.4.6)

Meetings were held with Ellis County officials to discuss communications equipment and services for emergency preparedness. Plans for the tower at E1 site in Ellis County were coordinated with Accelerator Controls, PB/MK and CCD. Designs to place the communications infrastructure within the E1 shaft and first tunnel segment were prepared. The Satellite system for the Laboratory was made functional on the CATV system Channel 33. (WBS 4.4.7)

Two Engineering Standards documents were submitted to Project Management for review: 1) Data Record-Engineering Standards' Guidelines, Policies, and Procedures; and 2) Maintenance, Storage, and Retrieval of Engineering Standards' Guidelines, Standards, and Practices. The addendum to the SSCL Drafting Manual and the QA Practices for Engineering Standards are in process. Lesson plans and books have been selected for classes on metrics. (WBS 4.4.8)

A maintenance manual library was initiated for measuring and test equipment supported by the Metrology and Calibration/Repair Labs. The Incoming Inspection/Calibration and Repair Lab was moved into the modular building and began limited operations calibrating multimeters and oscilloscopes. The new "User Acceptance Practice" was completed and submitted for approval. During the month of January, 56 visual inspections, 4 performance checks, 2 full calibrations, and 4 user acceptances were completed. The new Calibration Management Support System Software was completed. Twenty-one Calibration Recall Notifications were sent out during January; eight pieces of equipment were sent in for calibration. Seven full calibrations and one limited calibration were completed. Five items were sent to manufacturers for calibration. (WBS4.4.9)

Complete Pre-Employment Examinations for new employees began on January 21, 1991 in the SSCL Medical Center. A DOE representative was trained to coordinate GSA vehicles assigned to DOE. Ellis County Emergency Response Capabilities Report was presented to the Lab Safety Committee, along with a draft of first section of SSCL Emergency Preparedness Plan. Preliminary preparations are underway for the Campus Dining facilities. (WBS 4.4.11)

A Charter and Guidelines for the SSCL Patent Advisory Group was drafted. The Laboratory was represented at a DOE seminar on the agency's Enhanced Technology Transfer Program. The Technical Summary for the Adopt-a-Magnet Program was edited. (WBS 4.4.12)

For the month of January, the average monthly CPU utilization on the Scientific VAX (SSCVX1) was 74.9%; the average number of users was 95. Total number of user accounts is 1584. Active evaluation of backup hardware/software is continuing. (WBS 4.4.13)

Reprographic services has added a new Oce 2500 duplicator machine. The Oce offset press technology and reliability will enhance copy quality and reduce machine down time. The Proceedings of the Symposium on Detector Research and Development was completedand sent to World Scientific, with an estimated publication date of late March or early April. 149 Author Kits and publication information were distributed for the Third Annual 1991 International Industrializational Symposium on the Super Collider (IISSC). (WBS 4.4.14)

DIVISION PROJECT STATUS REPORT PART I			REPORTING DIVISION: Laboratory Technical Service
5. SIGNIFICANT PROBLEMS/VARIANCE ANALYSIS			
5a. PROBLEMS, IMPACT ON PROJECT, CORRECTIVE ACTION			RESPONSIBLE GROUP
PROBLEM IDENTIFICATION	IMPACT	CORRECTIVE ACTION	
None			
5b. ITEMS REQUIRING PMO/DIRECTORATE/DOE ACTION			
None			

ADMINISTRATION DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN ❑ PRODUCTION ❑
CONSTRUCTION ❑ RESEARCH & DEVELOPMENT ❑ **PART I**

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD JANUARY 1991

1c. MANAGING DIVISION
ADMINISTRATION

1d. DIVISION/OFFICE CONTACT
JANICE WESTMORELAND

1e. DIVISION MANAGER
ROBERT VAN NESS

1f. PERFORMING ORGANIZATION(S)

PERSONNEL
FINANCE
MINORITY AFFAIRS
PROCUREMENT

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green	Yellow	Red
G	Y	R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

PERSONNEL

• Work continues on development of the new Scientific, Administrative, and Technical Classification Structure. Extensive contact with DOE as this plan develops.

• Ongoing coordination and oversight of Deltek Advanced Payroll conversion. Technical problems with Deltek program itself has caused some delay.

• Attended open house and job fairs for outplacement of General Dynamics and Los Alamos National Laboratory as well as others.

• Major attention was placed on improvements and evaluation of the Laboratory's EEO/AA program including evaluation of applicant tracking, availability calculation and communication of goals to supervisors and managers. EG&G Human Resources working closely with Personnel Department on implementing changes.

• Organized and presented EEO/AA training to 138 supervisors and managers.

FINANCE

• Continued development work on the automated Supplemental Procurement/Finance Information Systems (SPFIS) and migrated the lab requisitions from Deltek to SPFIS.

• Through the membership of the MIS Working Group and the MIS Steering Committee, contributed to the development of the proposed Laboratory MIS Strategic Plan.

• Presented the Laboratory Financial Reporting and Budget System to the Texas National Research Laboratory Commission representatives, their auditors (Arthur Anderson Accounting Firm) and the DOE.

• Initiated a new system search for the replacement of the existing Travel System "TRACS".

• Continued parallel testing of the new Property Accounting System.

• Continued parallel testing of the advanced Payroll System.

• Started participation in the CSCS Implementation Task Force.

• Started participation in Task Force developing the Laboratory-wide Data Flow Analysis.

• Monitored costs commitments and requisitions against available funding and incrementally funded subcontract effort as required.

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION:

• Prepared and presented financial data at the monthly Laboratory Management Review meeting.

• Initiated implementation effort for the DOE integrated accounting system (FIS) which is to be operational on October 1, 1991.

PROCUREMENT

• During January, after DOE approval, the PB/MK subcontract was fully executed by URA and PB/MK.

• During January, Procurement made awards totalling $40,652,135, of which $3,591,448 was to Small Business and $1,144,623 was to Small Disadvantaged Business as defined in Public Law 101-101.

• Updated proposals have been received by General Dynamics and Westinghouse. SSCL technical evaluations are being performed and the DCAA audits are being conducted. Prenegotiations briefings will be presented to DOE in late February.

MINORITY AFFAIRS

• The Manager of EEO/AA represented the SSC Laboratory by participating in the Martin Luther King Day at the various middle and high school sponsored by the Corsicana Independent School District.

• The Director of Minority Affairs and the Manager of EEO/AA participated in the GEM draft which took place in San Diego, California. This was a formal meeting of all GEM employers. The GEM organization was contacted in reference to notification of the two students selected for the SSC. He also attended the Stanford School of Engineering Minority Job Fair. This Job Fair reached about 10,000 students.

• The Minority Affairs staff, on January 7, 1991, briefed the Presidents of several Historical Black Colleges and Universities on the SSC Laboratory EEO policy, minority college recruitment activities, and summer employment opportunities. A meeting was also held with Debbie Abrahamson of DOE, staff from TNRLC and Sam Kivlighn in regard to the Inroads Program. The Manager of EEO/AA also participated in Affirmative Action Awareness Training conducted by a consultant, Ms. Ellen Shong Bergman, on responsibilities in regard to EEO/AA. He also participated in the coordination of the quarterly OFCCP report that must be forwarded to OFCCP.

• The SADBU Manager and the Director of Minority Affairs, in coordination with procurement personnel, met with Apple Computer Corporation management staff to review our SSCL procurement compliance legislative requirements.

• The SADBU Manager met with Tom Jones and Tim Lovelace of Magnet Systems Procurement to discuss the pending Magnet Dipole manufacturing negotiations with General Dynamics and Westinghouse. He and the Director of Minority Affairs are involved in the review of the SDB/WOB subcontracting plan as submitted.

• The SADBU Manager and the Director of Minority Affairs continue to meet with PB/MK Director of Procurement to discuss set-aside construction projected procurement activities that will involve SDB/WOB participation. He also participated as part of a team who reviewed applications (254's and 255's) on the selection of A-E SDB/WOB firms on a set-aside procurement.

DIRECTORATE DIVISION

DIVISION PROJECT STATUS REPORT

DESIGN ❑ PRODUCTION ❑
CONSTRUCTION ❑ RESEARCH & DEVELOPMENT ❑ **PART I**

1. IDENTIFIERS:

1a. PROJECT TITLE/NUMBER
SUPERCONDUCTING SUPER COLLIDER LABORATORY

1b. REPORTING PERIOD
January 1, 1991 through January 30, 1991

1c. MANAGING DIVISION

Directorate

1d. DIVISION/OFFICE CONTACT

Neil Baggett

1e. DIVISION MANAGER

Raphael Kasper

1f. PERFORMING ORGANIZATION(S)

Director's Office
Environment,. Safety and Health
Legal Counsel
Planning
Education/External Affairs
User's Office
International Coordination

2 DIVISION MANAGER'S PERSONAL ASSESSMENT:

2a. Summary Status

Green	Yellow	Red
G	Y	R

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

DIVISION PROJECT STATUS REPORT PART I	REPORTING DIVISION: DIRECTORATE

2b. DIVISION MANAGER'S NARRATIVE HIGHLIGHTS (See item 5 for details on problems and variances)

- A safety review subcommittee was established under the Laboratory Safety Committee to address the safety issues associated with the Magnet Test Laboratory. Bob Richardson was chosen to chair the subcommittee. (4.5.6)

- Assistance was provided in the development of a report on emergency preparedness capabilities and deficiencies in Ellis County. Information obtained will form the basis for an implementation plan to meet emergency preparedness needs during the early phases of SSC construction in Ellis County. (4.5.6)

- Since March, 1990, the Office of External Affairs has conducted 65 tours of the SSC facilities for 1,100 visitors. Its Speakers' Bureau responded to 201 requests during 1990, providing volunteer speakers who reached a total audience of 17,766 people. Through 1990, a total of 46 seminars on "How to Do Business with the SSC" were conducted in 11 states, reaching 5,582 people. (4.5.2)