

Interoffice

National Radio Astronomy Observatory
Charlottesville, Virginia

June 9, 1982

To: VLBA Planning Group

VLB ARRAY MEMO No. 92

From: H. Hvatum

Subject: Construction Plan/Schedule for the VLBA

VLBA memo #20 is a first attempt to design a construction plan/schedule for the VLBA. It was done sometime in 1980. Here is an updated version of that plan. It has many flaws and some of it might be outright silly, but it is a starting point. The only updating I have done is to change the date for available construction funds to January 1984 and the date to start planning and preparations for the construction to January 1982.

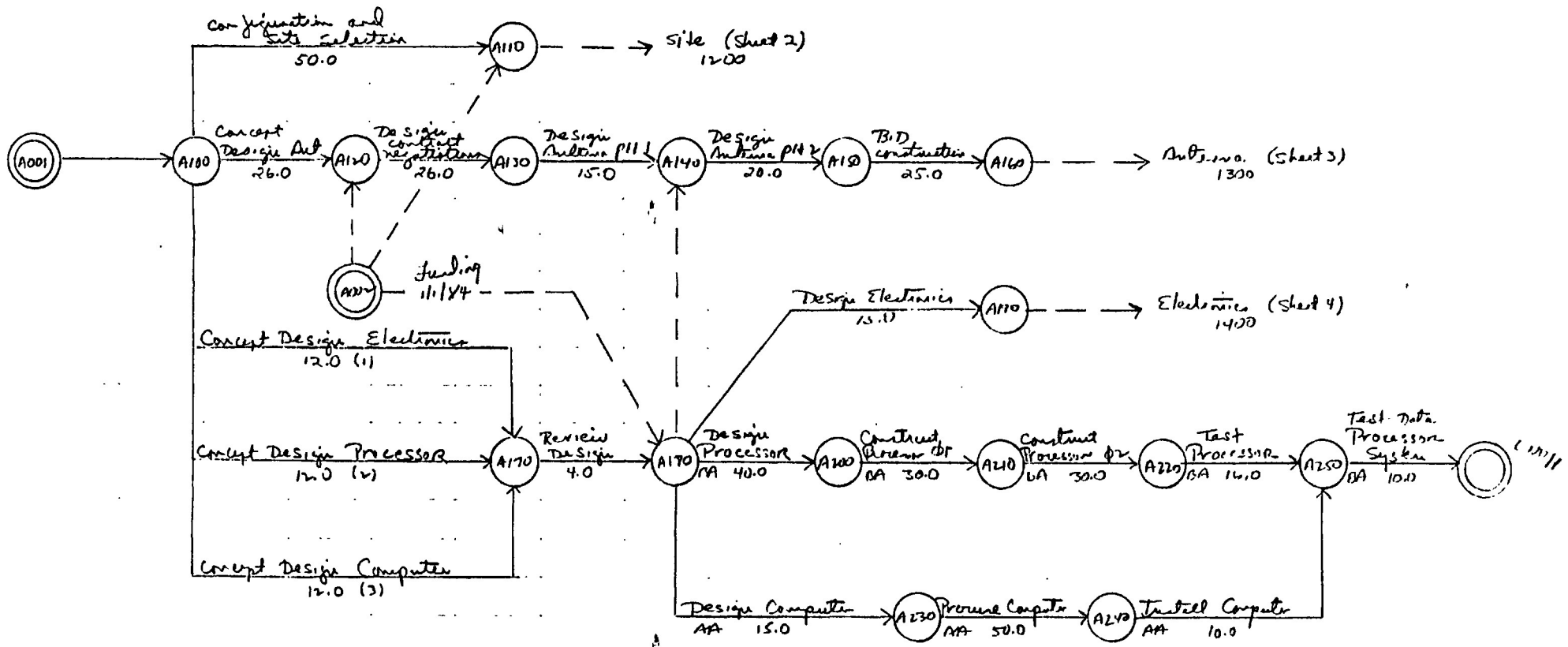
I believe we now should detail the plan for what we want to do between now and January 1984. In order to do so, I intend to set up working groups for the different areas such as:

- Configuration
- Site design/planning
- Antenna design/planning
- Electronics (receiver) design/planning
- Data acquisition system design/planning
- Processor design/planning
- Computer design/planning

In addition I would like to establish an "overseer" group composed of the various design group leaders to work on the overall design/planning.

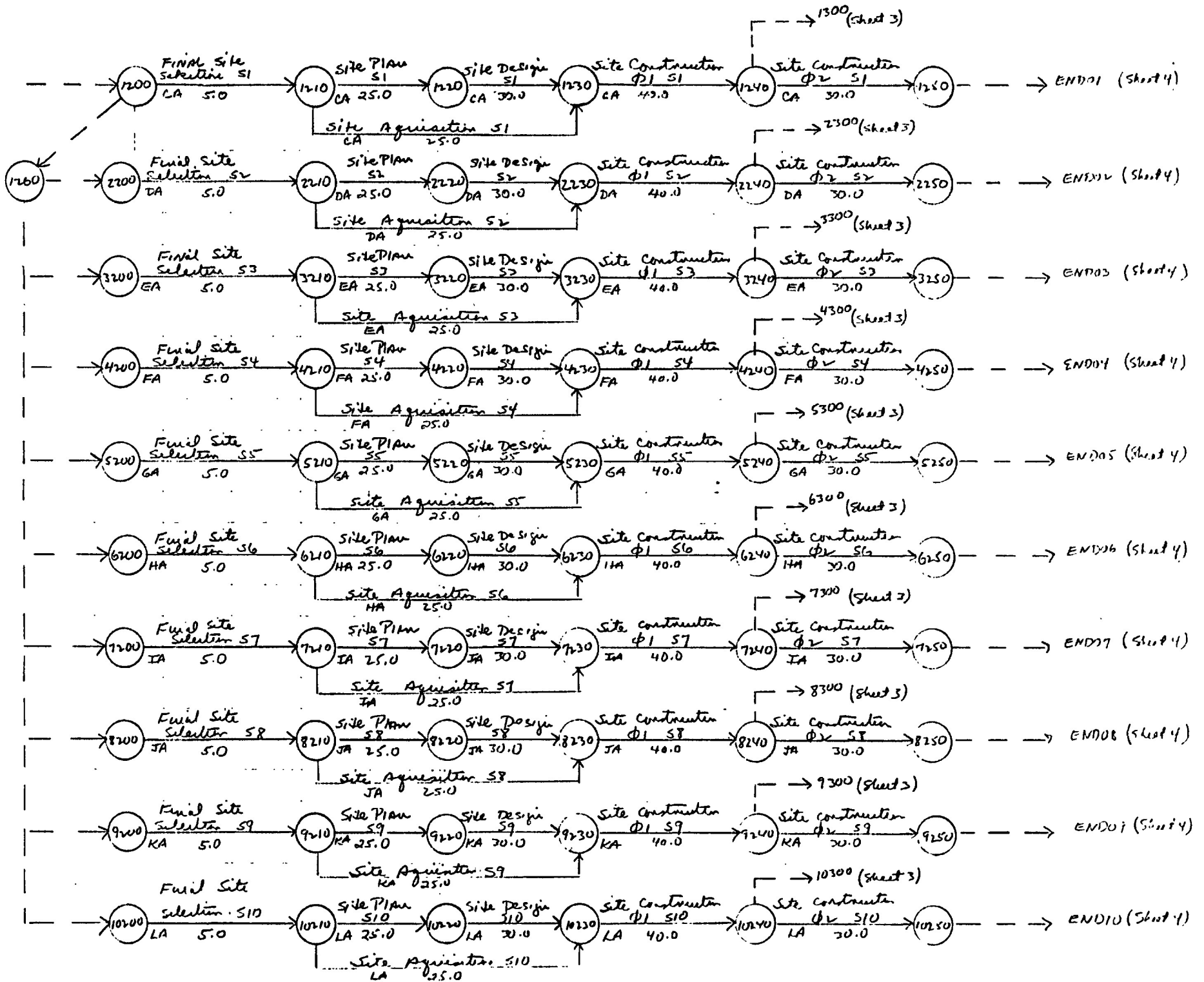
We shall discuss this in our meeting on Monday, 14 June 1982, 1330 EDT. The telephone number to call is 1-800-243-1055.

Attachment

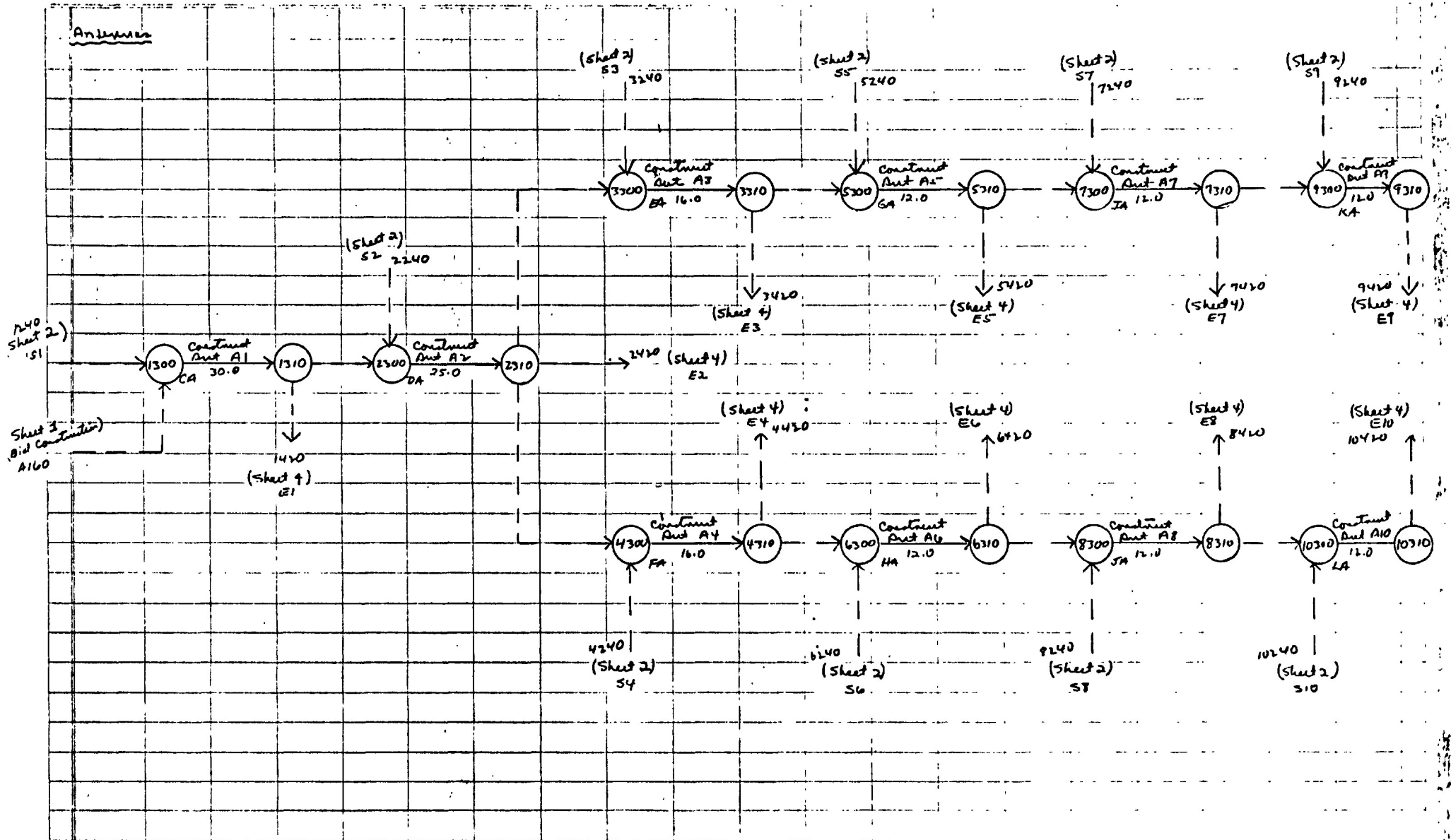


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sheet 1

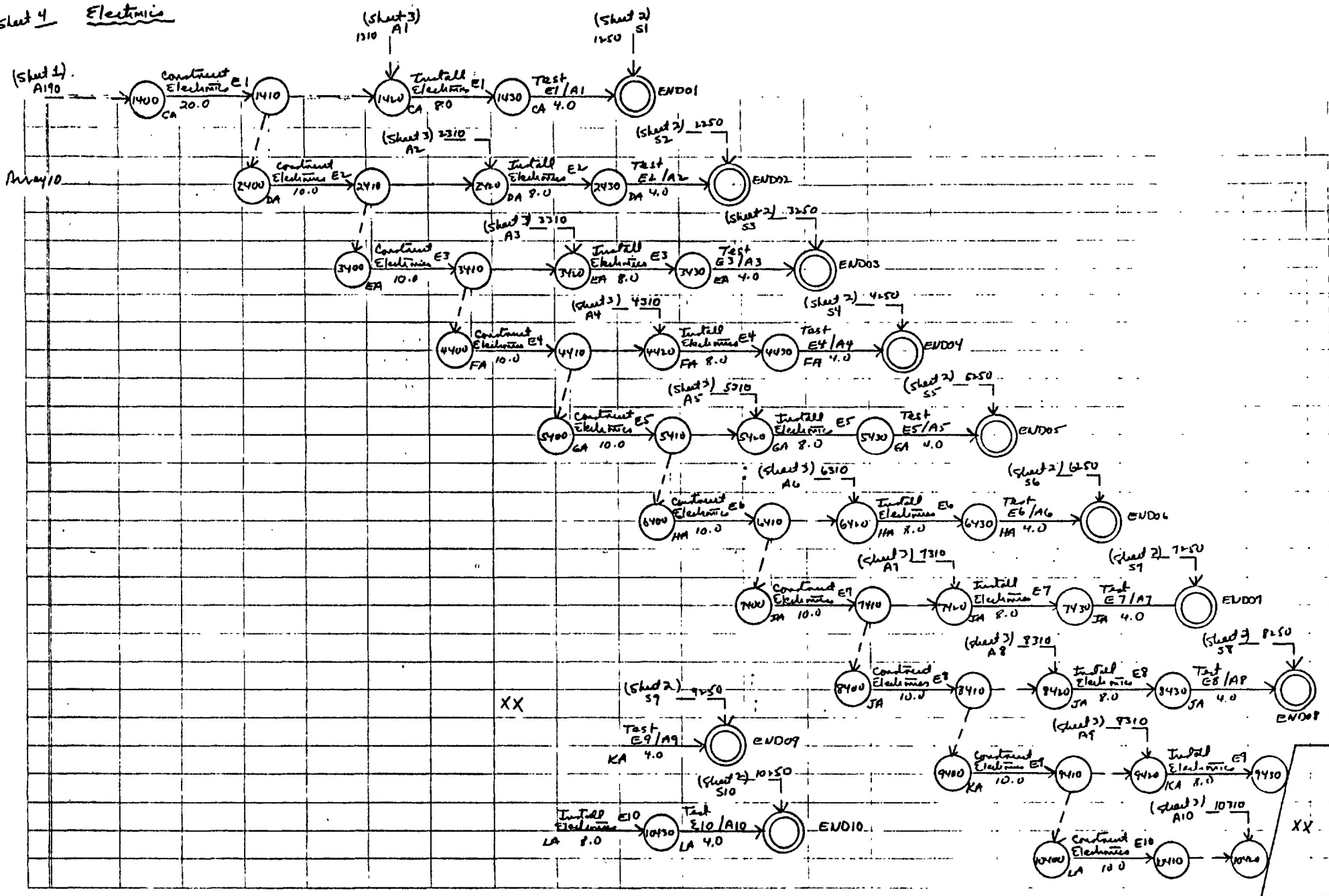
SITE



Sheet 3 Array 10



Sheet 4 Electronics



PROGRAM 17MAY82 REPORT DATE. VERY LONG BASELINE ARRAY
PROJECT CONCEPTS, DESIGN AND DEVELOPMENT

VLB10A
VLBA10

RUN DATE 18M.

LEVEL DETAIL

SCRPTD BY PRED,SUCC

PRED EVENT	SUCC EVENT	CY. CD.	ACTIVITY DESCRIPTION	TIME EST	SLACK PRIM. SEC.	EARLY START	DATES FINISH	LATE START	DATES FINISH	SCHED.	DEPT
	A001 S		BEGIN ORGANIZATION		47.2	A04JAN82	A04JAN82	06DEC 82	06DEC 82		
	A002 S		FUNDING		.0	A02JAN84	A02JAN84	02JAN84	02JAN84		
A001	A100		GET ORGANIZED	05.0	47.2	A04JAN82	08FEB82	06DEC 82	10JAN83		
A002	A110		DUMMY	0000	.0	A02JAN84	02JAN84	02JAN84	02JAN84		
A002	A120		DUMMY	0000	14.0	A02JAN84	02JAN84	10APR84	10APR84		
A002	A180		DUMMY	0000	.0	A02JAN84	02JAN84	02JAN84	02JAN84		
A100	A110		CONFIG. & SITE SELECTION	50.0	47.2	08FEB82	28JAN83	10JAN83	02JAN84		
A100	A120		CONCEPT DESIGN ANTENNA	26.0	85.2	08FEB82	11AUG82	07OCT83	10APR84		
A100	A170 3		CONCEPT DES COMPUTER	12.0	81.2	08FEB82	05MAY82	09SEP 83	05DEC83		
A100	A170 2		CONCEPT DES PROCESSOR	12.0	81.2	08FEB82	05MAY82	09SEP83	05DEC83		
A100	A170 1		CONCEPT DES ELECTRONICS	12.0	81.2	08FEB82	05MAY82	09SEP83	05DEC83		
A110	1200		DUMMY	0000	.0	02JAN84	02JAN84	02JAN84	02JAN84		
A120	A130		NEGOTIATE DES CONTRACT	26.0	14.0	02JAN84	05JUL84	10APR84	12OCT84		
A130	A140		DESIGN ANTENNA PH 1	15.0	14.0	05JUL84	19OCT84	12OCT84	30JAN85		
A140	A150		DESIGN ANTENNA PH 2	20.0	14.0	19OCT84	15MAR85	30JAN85	24JUN85		
A150	A160		BID CONSTRUCTION	25.0	14.0	15MAR85	11SEP85	24JUN85	19DEC85		
A160	1300		DUMMY	0000	14.0	11SEP85	11SEP85	19DEC 85	19DEC85		
A170	A180		REVIEW DESIGN	04.0	81.2	05MAY82	02JUN82	05DEC83	02JAN84		
A180	A140		DUMMY	0000	55.0	02JAN84	02JAN84	30JAN85	30JAN85		
A180	A190		DESIGN ELECTRONICS	15.0	82.0	02JAN84	17APR84	13AUG85	27NOV85		
A180	A200	BA	DESIGN PROCESSOR	40.0	.0	02JAN84	12OCT84	02JAN84	12OCT84		
A180	A230	AA	DESIGN COMPUTER	15.0	41.0	02JAN84	17APR84	19OCT84	06FEB85		
A190	1400		DUMMY	0000	82.0	17APR84	17APR84	27NOV85	27NOV85		
A200	A210	BA	CONSTRUCT PROCESSOR PH 1	30.0	.0	12OCT84	17MAY85	12OCT84	17MAY85		
A210	A220	BA	CONSTRUCT PROCESSOR PH 2	30.0	.0	17MAY85	19DEC85	17MAY85	19DEC85		
A220	A250	BA	TEST PROCESSOR	16.0	.0	19DEC85	15APR86	19DEC85	15APR86		
A230	A240	AA	PROCURE COMPUTER	50.0	41.0	17APR84	12APR85	06FEB85	03FEB86		
A240	A250	AA	INSTALL COMPUTER	10.0	41.0	12APR85	24JUN85	03FEB86	15APR86		
A250	END11	BA	TEST DATA PROCESSOR SYS	10.0	.0	15APR86	25JUN86	15APR86	25JUN86		
1200	1210	CA	FINAL SITE SELECTION S1	05.0	.0	02JAN84	06FEB84	02JAN84	06FEB84		
1200	1260		DUMMY	0000	30.0	02JAN84	02JAN84	02AUG84	02AUG84		
1210	1220	CA	SITE PLAN S1	25.0	.0	06FEB84	02AUG84	06FEB84	02AUG84		
1210	1230	CA	SITE ACQUISITION S1	25.0	30.0	06FEB84	02AUG84	07SEP 84	08MAR85		
1220	1230	CA	SITE DESIGN S1	30.0	.0	02AUG84	08MAR85	02AUG84	08MAR85		
1230	1240	CA	SITE CONSTR. PH 1 S1	40.0	.0	08MAR85	19DEC85	08MAR85	19DEC85		
1240	1250	CA	SITE CONSTR. PH 2 S1	30.0	12.0	19DEC85	24JUL86	18MAR86	17OCT86		
1240	1300		DUMMY	0000	.0	19DEC85	19DEC85	19DEC85	19DEC85		
1250	END01		DUMMY	0000	12.0	24JUL86	24JUL86	17OCT86	17OCT86		
1260	2200		DUMMY	0000	30.0	02JAN84	02JAN84	02AUG84	02AUG84		
1260	3200		DUMMY	0000	53.0	02JAN84	02JAN84	16JAN85	16JAN85		
1260	4200		DUMMY	0000	53.0	02JAN84	02JAN84	16JAN85	16JAN85		
1260	5200		DUMMY	0000	65.0	02JAN84	02JAN84	12APR85	12APR85		
1260	6200		DUMMY	0000	65.0	02JAN84	02JAN84	12APR85	12APR85		
1260	7200		DUMMY	0000	77.0	02JAN84	02JAN84	09JUL85	09JUL85		
1260	8200		DUMMY	0000	77.0	02JAN84	02JAN84	09JUL85	09JUL85		
1260	9200		DUMMY	0000	89.0	02JAN84	02JAN84	02OCT85	02OCT85		
1260	10200		DUMMY	0000	89.0	02JAN84	02JAN84	02OCT85	02OCT85		
1300	1310	CA	CONSTRUCT. ANTENNA A1	30.0	.0	19DEC85	24JUL86	19DEC85	24JUL86		
1310	1420		DUMMY	0000	.0	24JUL86	24JUL86	24JUL86	24JUL86		
1310	2300		DUMMY	0000	.0	24JUL86	24JUL86	24JUL86	24JUL86		

NATIONAL RADIO ASTRONOMY OBSERVATORY
ACTIVITY TIME SCHEDULE REPORT

GE

PROGRAM PROJECT 17MAY82 REPORT DATE. VERY LONG BASELINE ARRAY
CONCEPTS, DESIGN AND DEVELOPMENT

VLB10A
VLBA10

RUN DATE 18h.

LEVEL DETAIL

SORTED BY PRED,SUCC

PRED EVENT	SUCC EVENT	CY. CD.	ACTIVITY DESCRIPTION	TIME EST	SLACK PRIM. SEC.	EARLY START	DATES FINISH	LATE START	DATES FINISH	SCHED.	DEPT
1400	1410	CA	CONSTR. ELECTRONICS E1	20.0	82.0	17APR84	07SEP84	27NOV85	22APR86		
1410	1420		DUMMY	0000	95.0	07SEP84	07SEP84	24JUL86	24JUL86		
1410	2400		DUMMY	0000	82.0	07SEP84	07SEP84	22APR86	22APR86		
1420	1430	CA	INSTALL ELECTRONICS E1	08.0	.0	24JUL86	19SEP86	24JUL86	19SEP86		
1430	END01	CA	TEST E1/A1	04.0	.0	19SEP86	17OCT86	19SEP86	17OCT86		
2200	2210	DA	FINAL SITE SELECTION S2	05.0	30.0	02JAN84	06FEB84	02AUG84	07SEP84		
2210	2220	DA	SITE PLAN S2	25.0	30.0	06FEB84	02AUG84	07SEP84	08MAR85		
2210	2230	DA	SITE ACQUISITION S2	25.0	60.0	06FEB84	02AUG84	12APR85	09OCT85		
2220	2230	DA	SITE DESIGN S2	30.0	30.0	02AUG84	08MAR85	08MAR85	09OCT85		
2230	2240	CA	SITE CONSTR. PH 1 S2	40.0	30.0	08MAR85	19DEC85	09OCT85	24JUL86		
2240	2250	DA	SITE CONSTR. PH 2 S2	30.0	37.0	19DEC85	24JUL86	12SEP86	16APR87		
2240	2300		DUMMY	0000	30.0	19DEC85	19DEC85	24JUL86	24JUL86		
2250	END02		DUMMY	0000	37.0	24JUL86	24JUL86	16APR87	16APR87		
2300	2310	DA	CONSTRUCT ANTENNA A2	25.0	.0	24JUL86	21JAN87	24JUL86	21JAN87		
2310	2420		DUMMY	0000	.0	21JAN87	21JAN87	21JAN87	21JAN87		
2310	3300		DUMMY	0000	.0	21JAN87	21JAN87	21JAN87	21JAN87		
2310	4300		DUMMY	0000	.0	21JAN87	21JAN87	21JAN87	21JAN87		
2400	2410	DA	CONSTR. ELECTRONICS E2	10.0	82.0	07SEP84	16NOV84	22APR86	02JUL86		
2410	2420		DUMMY	0000	110.0	16NOV84	16NOV84	21JAN87	21JAN87		
2410	3400		DUMMY	0000	82.0	16NOV84	16NOV84	02JUL86	02JUL86		
2420	2430	CA	INSTALL ELECTRONICS E2	08.0	.0	21JAN87	19MAR87	21JAN87	19MAR87		
2430	END02	DA	TEST E2/A2	04.0	.0	19MAR87	16APR87	19MAR87	16APR87		
3200	3210	EA	FINAL SITE SELECTION S3	05.0	53.0	02JAN84	06FEB84	16JAN85	21FEB85		
3210	3220	EA	SITE PLAN S3	25.0	53.0	06FEB84	02AUG84	21FEB85	20AUG85		
3210	3230	EA	SITE ACQUISITION S3	25.0	83.0	06FEB84	02AUG84	25SEP85	25MAR86		
3220	3230	EA	SITE DESIGN S3	30.0	53.0	02AUG84	08MAR85	20AUG85	25MAR86		
3230	3240	EA	SITE CONSTR. PH 1 S3	40.0	53.0	08MAR85	19DEC85	25MAR86	07JAN87		
3240	3250	EA	SITE CONSTR. PH 2 S3	30.0	53.0	19DEC85	24JUL86	07JAN87	06AUG87		
3240	3300		DUMMY	0000	55.0	19DEC85	19DEC85	21JAN87	21JAN87		
3250	END03		DUMMY	0000	53.0	24JUL86	24JUL86	06AUG87	06AUG87		
3300	3310	EA	CONSTRUCT ANTENNA A3	16.0	.0	21JAN87	14MAY87	21JAN87	14MAY87		
3310	3420		DUMMY	0000	.0	14MAY87	14MAY87	14MAY87	14MAY87		
3310	5300		DUMMY	0000	.0	14MAY87	14MAY87	14MAY87	14MAY87		
3400	3410	EA	CONSTR. ELECTRONICS E3	10.0	82.0	16NOV84	30JAN85	02JUL86	12SEP86		
3410	3420		DUMMY	0000	116.0	30JAN85	30JAN85	14MAY87	14MAY87		
3410	4400		DUMMY	0000	82.0	30JAN85	30JAN85	12SEP86	12SEP86		
3420	3430	EA	INSTALL ELECTRONICS E3	08.0	.0	14MAY87	09JUL87	14MAY87	09JUL87		
3430	END03	EA	TEST E3/A3	04.0	.0	09JUL87	06AUG87	09JUL87	06AUG87		
4200	4210	FA	FINAL SITE SELECTION S4	05.0	53.0	02JAN84	06FEB84	16JAN85	21FEB85		
4210	4220	FA	SITE PLAN S4	25.0	53.0	06FEB84	02AUG84	21FEB85	20AUG85		
4210	4230	FA	SITE ACQUISITION S4	25.0	83.0	06FEB84	02AUG84	25SEP85	25MAR86		
4220	4230	FA	SITE DESIGN S4	30.0	53.0	02AUG84	08MAR85	20AUG85	25MAR86		
4230	4240	FA	SITE CONSTR. PH 1 S4	40.0	53.0	08MAR85	19DEC85	25MAR86	07JAN87		
4240	4250	FA	SITE CONSTR. PH 2 S4	30.0	53.0	19DEC85	24JUL86	07JAN87	06AUG87		
4240	4300		DUMMY	0000	55.0	19DEC85	19DEC85	21JAN87	21JAN87		
4250	END04		DUMMY	0000	53.0	24JUL86	24JUL86	06AUG87	06AUG87		
4300	4310	FA	CONSTRUCT ANTENNA A4	16.0	.0	21JAN87	14MAY87	21JAN87	14MAY87		
4310	4420		DUMMY	0000	.0	14MAY87	14MAY87	14MAY87	14MAY87		
4310	6300		DUMMY	0000	.0	14MAY87	14MAY87	14MAY87	14MAY87		
4400	4410	FA	CONSTR. ELECTRONICS E4	10.0	82.0	30JAN85	12APR85	12SEP86	21NOV86		

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VLBA10

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LEVEL DETAIL

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PRED EVENT	SUCC EVENT	CY. CD.	ACTIVITY DESCRIPTION	TIME EST	SLACK PRIM. SEC.	EARLY START	DATES FINISH	LATE START	DATES FINISH	SCHED.	DEPT
4410	4420		DUMMY	0000	106.0	12APR85	12APR85	14MAY87	14MAY87		
4410	5400		DUMMY	0000	82.0	12APR85	12APR85	21NOV86	21NOV86		
4420	4430	FA	INSTALL ELECTRCNICS E4	08.0	.0	14MAY87	09JUL87	14MAY87	09JUL87		
4430	END04	FA	TEST E4/A4	04.0	.0	09JUL87	06AUG87	09JUL87	06AUG87		
5200	5210	GA	FINAL SITE SELECTION S5	05.0	65.0	02JAN84	06FEB84	12APR85	17MAY85		
5210	5220	GA	SITE PLAN S5	25.0	65.0	06FEB84	02AUG84	17MAY85	13NOV85		
5210	5230	GA	SITE AQUISITION S5	25.0	95.0	06FEB84	02AUG84	19DEC85	18JUN86		
5220	5230	GA	SITE DESIGN S5	30.0	65.0	02AUG84	08MAR85	13NOV85	18JUN86		
5230	5240	GA	SITE CCNSTR. PH 1 S5	40.0	65.0	08MAR85	19DEC85	18JUN86	02APR87		
5240	5250	GA	SITE CCNSTR. PH 2 S5	30.0	65.0	19DEC85	24JUL86	02APR87	30OCT87		
5240	5300		DUMMY	0000	71.0	19DEC85	19DEC85	14MAY87	14MAY87		
5250	END05		DUMMY	0000	65.0	24JUL86	24JUL86	30OCT87	30OCT87		
5300	5310	GA	CCNSTRUCT ANTENNA A5	12.0	.0	14MAY87	06AUG87	14MAY87	06AUG87		
5310	5420		DUMMY	0000	.0	06AUG87	06AUG87	06AUG87	06AUG87		
5310	7300		DUMMY	0000	.0	06AUG87	06AUG87	06AUG87	06AUG87		
5400	5410	GA	CCNSTR. ELECTRCNICS E5	10.0	82.0	12APR85	24JUN85	21NOV86	04FEB87		
5410	5420		DUMMY	0000	108.0	24JUN85	24JUN85	06AUG87	06AUG87		
5410	6400		DUMMY	0000	82.0	24JUN85	24JUN85	04FEB87	04FEB87		
5420	5430	GA	INSTALL ELECTRCNICS E5	08.0	.0	06AUG87	02OCT87	06AUG87	02OCT87		
5430	END05	GA	TEST E5/A5	04.0	.0	02OCT87	30OCT87	02OCT87	30OCT87		
6200	6210	HA	FINAL SITE SELECTION S6	05.0	65.0	02JAN84	06FEB84	12APR85	17MAY85		
6210	6220	HA	SITE PLAN S6	25.0	65.0	06FEB84	02AUG84	17MAY85	13NOV85		
6210	6230	HA	SITE AQUISITION S6	25.0	95.0	06FEB84	02AUG84	19DEC85	18JUN86		
6220	6230	HA	SITE DESIGN S6	30.0	65.0	02AUG84	08MAR85	13NOV85	18JUN86		
6230	6240	HA	SITE CCNSTR. PH 1 S6	40.0	65.0	08MAR85	19DEC85	18JUN86	02APR87		
6240	6250	HA	SITE CCNSTR. PH 2 S6	30.0	65.0	19DEC85	24JUL86	02APR87	30OCT87		
6240	6300		DUMMY	0000	71.0	19DEC85	19DEC85	14MAY87	14MAY87		
6250	END06		DUMMY	0000	65.0	24JUL86	24JUL86	30OCT87	30OCT87		
6300	6310	HA	CCNSTRUCT ANTENNA A6	12.0	.0	14MAY87	06AUG87	14MAY87	06AUG87		
6310	6420		DUMMY	0000	.0	06AUG87	06AUG87	06AUG87	06AUG87		
6310	8300		DUMMY	0000	.0	06AUG87	06AUG87	06AUG87	06AUG87		
6400	6410	HA	CCNSTR. ELECTRCNICS E6	10.0	82.0	24JUN85	04SEP85	04FEB87	16APR87		
6410	6420		DUMMY	0000	98.0	04SEP85	04SEP85	06AUG87	06AUG87		
6410	7400		DUMMY	0000	82.0	04SEP85	04SEP85	16APR87	16APR87		
6420	6430	HA	INSTALL ELECTRCNICS E6	08.0	.0	06AUG87	02OCT87	06AUG87	02OCT87		
6430	END06	HA	TEST E6/A6	04.0	.0	02OCT87	30OCT87	02OCT87	30OCT87		
7200	7210	IA	FINAL SITE SELECTION S7	05.0	77.0	02JAN84	06FEB84	09JUL85	13AUG85		
7210	7220	IA	SITE PLAN S7	25.0	77.0	06FEB84	02AUG84	13AUG85	10FEB86		
7210	7230	IA	SITE AQUISITION S7	25.0	107.0	06FEB84	02AUG84	18MAR86	12SEP86		
7220	7230	IA	SITE DESIGN S7	30.0	77.0	02AUG84	08MAR85	10FEB86	12SEP86		
7230	7240	IA	SITE CCNSTR. PH 1 S7	40.0	77.0	08MAR85	19DEC85	12SEP86	25JUN87		
7240	7250	IA	SITE CCNSTR. PH 2 S7	30.0	77.0	19DEC85	24JUL86	25JUN87	27JAN88		
7240	7300		DUMMY	0000	83.0	19DEC85	19DEC85	06AUG87	06AUG87		
7250	END07		DUMMY	0000	77.0	24JUL86	24JUL86	27JAN88	27JAN88		
7300	7310	IA	CCNSTRUCT ANTENNA A7	12.0	.0	06AUG87	30OCT87	06AUG87	30OCT87		
7310	7420		DUMMY	0000	.0	30OCT87	30OCT87	30OCT87	30OCT87		
7310	9300		DUMMY	0000	.0	30OCT87	30OCT87	30OCT87	30OCT87		
7400	7410	IA	CCNSTR. ELECTRCNICS E7	10.0	82.0	04SEP85	13NOV85	16APR87	25JUN87		
7410	7420		DUMMY	0000	100.0	13NOV85	13NOV85	30OCT87	30OCT87		
7410	8400		DUMMY	0000	82.0	13NOV85	13NOV85	25JUN87	25JUN87		

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LEVEL DETAIL

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PRED EVENT	SUCC EVENT	CY. CD.	ACTIVITY DESCRIPTION	TIME EST	SLACK PRIM. SEC.	EARLY START	DATES FINISH	LATE START	DATES FINISH	DEPT SCHED.
7420	7430	IA	INSTALL ELECTRONICS E7	08.0	.0	30OCT87	29DEC87	30OCT87	29DEC87	
7430	END07	IA	TEST E7/A7	04.0	.0	29DEC87	27JAN88	29DEC87	27JAN88	
8200	8210	JA	FINAL SITE SELECTION S8	05.0	77.0	02JAN84	06FEB84	09JUL85	13AUG85	
8210	8220	JA	SITE PLAN S8	25.0	77.0	06FEB84	02AUG84	13AUG85	10FEB86	
8210	8230	JA	SITE ACQUISITION S8	25.0	107.0	06FEB84	02AUG84	18MAR86	12SEP86	
8220	8230	JA	SITE DESIGN S8	30.0	77.0	02AUG84	08MAR85	10FEB86	12SEP86	
8230	E240	JA	SITE CCNSTR. PH 1 S8	40.0	77.0	08MAR85	19DEC85	12SEP86	25JUN87	
8240	8250	JA	SITE CCNSTR. PH 2 S8	30.0	77.0	19DEC85	24JUL86	25JUN87	27JAN88	
8240	8300		DUMMY	0000	83.0	19DEC85	19DEC85	06AUG87	06AUG87	
8250	END08		DUMMY	0000	77.0	24JUL86	24JUL86	27JAN88	27JAN88	
8300	8310	JA	CCNSTRUCT ANTENNA A8	12.0	.0	06AUG87	30OCT87	06AUG87	30OCT87	
8310	8420		DUMMY	0000	.0	30OCT87	30OCT87	30OCT87	30OCT87	
8310	10300		DUMMY	0000	.0	30OCT87	30OCT87	30OCT87	30OCT87	
8400	8410	JA	CONSTR. ELECTRONICS E8	10.0	82.0	13NOV85	27JAN86	25JUN87	03SEP87	
8410	8420		DUMMY	0000	90.0	27JAN86	27JAN86	30OCT87	30OCT87	
8410	8400		DUMMY	0000	82.0	27JAN86	27JAN86	03SEP87	03SEP87	
8420	8430	JA	INSTALL ELECTRONICS E8	08.0	.0	30OCT87	29DEC87	30OCT87	29DEC87	
8430	END08	JA	TEST E8/A8	04.0	.0	29DEC87	27JAN88	29DEC87	27JAN88	
9200	9210	KA	FINAL SITE SELECTION S9	05.0	89.0	02JAN84	06FEB84	02OCT85	06NOV85	
9210	9220	KA	SITE PLAN S9	25.0	89.0	06FEB84	02AUG84	06NOV85	06MAY86	
9210	9230	KA	SITE ACQUISITION S9	25.0	119.0	06FEB84	02AUG84	11JUN86	08DEC86	
9220	9230	KA	SITE DESIGN S9	30.0	89.0	02AUG84	08MAR85	06MAY86	08DEC86	
9230	9240	KA	SITE CCNSTR. PH 1 S9	40.0	89.0	08MAR85	19DEC85	08DEC86	18SEP87	
9240	9250	KA	SITE CCNSTR. PH 2 S9	30.0	89.0	19DEC85	24JUL86	18SEP87	22APR88	
9240	9300		DUMMY	0000	95.0	19DEC85	19DEC85	30OCT87	30OCT87	
9250	END09		DUMMY	0000	89.0	24JUL86	24JUL86	22APR88	22APR88	
9300	9310	KA	CONSTRUCT ANTENNA A9	12.0	.0	30OCT87	27JAN88	30OCT87	27JAN88	
9310	9420		DUMMY	0000	.0	27JAN88	27JAN88	27JAN88	27JAN88	
9400	9410	KA	CONSTR. ELECTRONICS E9	10.0	82.0	27JAN86	08APR86	03SEP87	13NOV87	
9410	9420		DUMMY	0000	92.0	08APR86	08APR86	27JAN88	27JAN88	
9410	10400		DUMMY	0000	82.0	08APR86	08APR86	13NOV87	13NOV87	
9420	9430	KA	INSTALL ELECTRONICS E9	08.0	.0	27JAN88	25MAR88	27JAN88	25MAR88	
9430	END09	KA	TEST E9/A9	04.0	.0	25MAR88	22APR88	25MAR88	22APR88	
END01		E			.0	17OCT86	17OCT86	17OCT86	17OCT86	
END02		E			.0	16APR87	16APR87	16APR87	16APR87	
END03		E			.0	06AUG87	06AUG87	06AUG87	06AUG87	
END04		E			.0	06AUG87	06AUG87	06AUG87	06AUG87	
END05		E			.0	30OCT87	30OCT87	30OCT87	30OCT87	
END06		E			.0	30OCT87	30OCT87	30OCT87	30OCT87	
END07		E			.0	27JAN88	27JAN88	27JAN88	27JAN88	
END08		E			.0	27JAN88	27JAN88	27JAN88	27JAN88	
END09		E			.0	22APR88	22APR88	22APR88	22APR88	
END10		E			.0	22APR88	22APR88	22APR88	22APR88	
END11		E			.0	25JUN86	25JUN86	25JUN86	25JUN86	
10200	10210	LA	FINAL SITE SELECTION S10	05.0	89.0	02JAN84	06FEB84	02OCT85	06NOV85	
10210	10220	LA	SITE PLAN S10	25.0	89.0	06FEB84	02AUG84	06NOV85	06MAY86	
10210	10230	LA	SITE ACQUISITION S10	25.0	119.0	06FEB84	02AUG84	11JUN86	08DEC86	
10220	10230	LA	SITE DESIGN S10	30.0	89.0	02AUG84	08MAR85	06MAY86	08DEC86	
10230	10240	LA	SITE CCNSTR. PH 1 S10	40.0	89.0	08MAR85	19DEC85	08DEC86	18SEP87	
10240	10250	LA	SITE CCNSTR. PH 2 S10	30.0	89.0	19DEC85	24JUL86	18SEP87	22APR88	

- NATIONAL RADIO ASTRONOMY OBSERVATORY
ACTIVITY TIME S REPORT

PROGRAM 17MAY82 REPORT DATE. VERY LONG BASELINE ARRAY
PROJECT CONCEPTS, DESIGN AND DEVELOPMENT

VLB10A
VLBA10

RUN DATE 18MAR88

LEVEL DETAIL

SGRTED BY PRED,SUCC

PRED EVENT	SUCC EVENT	CY. CD.	ACTIVITY DESCRIPTION	TIME EST	SLACK PRIM. SEC.	EARLY START	DATES FINISH	LATE START	DATES FINISH	DEPT SCHED.
10240	10300		DUMMY	0000	95.0	19DEC85	19DEC85	30OCT87	30OCT87	
10250	END10		DUMMY	0000	89.0	24JUL86	24JUL86	22APR88	22APR88	
10300	10310	LA	CCNSTRUCT ANTENNA A10	12.0	.0	30OCT87	27JAN88	30OCT87	27JAN88	
10310	10420		DUMMY	0000	.0	27JAN88	27JAN88	27JAN88	27JAN88	
10400	10410	LA	CONSTR. ELECTRONICS E10	10.0	82.0	08APR86	18JUN86	13NOV87	27JAN88	
10410	10420		DUMMY	0000	82.0	18JUN86	18JUN86	27JAN88	27JAN88	
10420	10430	LA	INSTALL ELECTRONICS E10	08.0	.0	27JAN88	25MAR88	27JAN88	25MAR88	
10430	END10	LA	TEST E10/A10	04.0	.0	25MAR88	22APR88	25MAR88	22APR88	

NATIONAL RESEARCH ASTROPHYSICAL OBSERVATORY
 CYCLE CODE BAR CH

PROGRAM 17MAY82 REPCRT DATE. VERY LONG BASELINE ARRAY
 PROJECT CONCEPTS, DESIGN AND DEVELOPMENT

VLB10A
 VLBA10

RUN DATE 15 MAY82

CODE	CYCLE CODE DESCRIPTION	A ALL ACTIVITIES COMPLETE	* ALL ACTIVITIES NOT COMPLETE	FINAL DATE
AA	COMPLTER	*****	***** * * * * *	22APR88
BA	PROCESSOR	*****	*****	24JUN85
CA	STATION 1	*****	*****	25JUN86
DA	STATION 2	*****	*****	17OCT86
EA	STATION 3	*****	*****	16APR87
FA	STATION 4	*****	*****	06AUG87
GA	STATION 5	*****	*****	06AUG87
HA	STATION 6	*****	*****	30OCT87
IA	STATION 7	*****	*****	27JAN88
JA	STATION 8	*****	*****	27JAN88
KA	STATION 9	*****	*****	22APR88
LA	STATION 10	*****	*****	22APR88
		01JAN83	01JAN84 01JAN85 01JAN86 01JAN87 01JAN88 01JAN89	

NATIONAL RADIO ASTRONOMY OBSERVATORY
 UNIVERSITY OF CHICAGO

PROGRAM 17MAY82 REPORT DATE. VERY LONG BASELINE ARRAY
 PROJECT CONCEPTS, DESIGN AND DEVELOPMENT

VLB10A
 VLBA10

RUN DATE 1 1982

PRED EVENT	SLCC EVENT	CY CD	DESCRIPTION	A - ACTIVITY COMPLETE * - ACTIVITY DURATION	P - PACING ITEM - - ACTIVITY FLOAT	FINAL DATE	DEPT
A001	A100		GET ORGANIZED	**-----	.	08FEB82	
A100	A110		CONFIG. & SITE SELECTION	*****-----	.	28JAN83	
A100	A120		CONCEPT DESIGN ANTENNA	*****-----	.	11AUG82	
A100	A170 3		CONCEPT DES COMPUTER	****-----	.	05MAY82	
A100	A170 2		CONCEPT DES PROCESSOR	****-----	.	05MAY82	
A100	A170 1		CONCEPT DES ELECTRONICS	****-----	.	05MAY82	
A120	A130		NEGOTIATE DES CONTRACT	. : . *****-----	.	05JUL84	
A130	A140		DESIGN ANTENNA PH 1	. : . *****-----	.	19CCT84	
A140	A150		DESIGN ANTENNA PH 2	. : . *****-----	.	15MAR85	
A150	A160		BIC CONSTRUCTION	. : . *****-----	.	11SEP85	
A170	A180		REVIEW DESIGN	. **-----	.	02JUN82	
A180	A190		DESIGN ELECTRONICS	. : . ****-----	.	17APR84	
A180	A230	AA	DESIGN COMPUTER	. : . ****-----	.	17APR84	
A230	A240	AA	PROCURE COMPUTER	. : . *****-----	.	12APR85	
A240	A250	AA	INSTALL COMPUTER	. : . ***-----	.	24JUN85	
A180	A200	BA	DESIGN PROCESSOR	. : . P P P P P P P P P P	.	12CCT84	
A200	A210	BA	CONSTRUCT PROCESSOR PH 1	. : . P P P P P P P P P P	.	17MAY85	
A210	A220	BA	CONSTRUCT PROCESSOR PH 2	. : . P P P P P P P P P P	.	19DEC85	
A220	A250	BA	TEST PROCESSOR	. : . P P P P P	.	15APR86	
A250	END11	BA	TEST DATA PROCESSOR SYS	. : . P P P	.	25JUN86	
1200	1210	CA	FINAL SITE SELECTION S1	. : . P P	.	06FEB84	
1210	1220	CA	SITE PLAN S1	. : . P P P P P P P	.	02AUG84	
1210	1230	CA	SITE ACQUISITION S1	. : . *****-----	.	02AUG84	
1220	1230	CA	SITE DESIGN S1	. : . P P P P P P P P P P	.	08MAR85	
1230	1240	CA	SITE CONSTR. PH 1 S1	. : . P P P P P P P P P P	.	19DEC85	
1240	1250	CA	SITE CONSTR. PH 2 S1	. : . *****-----	.	24JUL86	
1300	1310	CA	CONSTRUCT ANTENNA A1	. : . P P P P P P P P P P	.	24JUL86	
1400	1410	CA	CONSTR. ELECTRONICS E1	. : . *****-----	.	07SEP84	
1420	1430	CA	INSTALL ELECTRONICS E1	. : . P P P	.	19SEP86	
1430	END01	CA	TEST E1/A1	. : . P P	.	17CCT86	
2200	2210	DA	FINAL SITE SELECTION S2	. : . **-----	.	06FEB84	
2210	2220	DA	SITE PLAN S2	. : . *****-----	.	02AUG84	
2210	2230	DA	SITE ACQUISITION S2	. : . *****-----	.	02AUG84	
2220	2230	DA	SITE DESIGN S2	. : . *****-----	.	08MAR85	
2230	2240	DA	SITE CONSTR. PH 1 S2	. : . *****-----	.	19DEC85	
2240	2250	DA	SITE CONSTR. PH 2 S2	. : . *****-----	.	24JUL86	
2300	2310	CA	CONSTRUCT ANTENNA A2	. : . P P P P P P P P P P	.	21JAN87	
2400	2410	DA	CONSTR. ELECTRONICS E2	. : . ***-----	.	16NOV84	
2420	2430	DA	INSTALL ELECTRONICS E2	. : . P P P	.	19MAR87	
2430	END02	DA	TEST E2/A2	. : . P P	.	16APR87	
3200	3210	EA	FINAL SITE SELECTION S3	. : . **-----	.	06FEB84	
3210	3220	EA	SITE PLAN S3	. : . *****-----	.	02AUG84	
3210	3230	EA	SITE ACQUISITION S3	. : . *****-----	.	02AUG84	
3220	3230	EA	SITE DESIGN S3	. : . *****-----	.	08MAR85	
3230	3240	EA	SITE CONSTR. PH 1 S3	. : . *****-----	.	19DEC85	
3240	3250	EA	SITE CONSTR. PH 2 S3	. : . *****-----	.	24JUL86	

01JAN83 01JAN84 01JAN85 01JAN86 01JAN87 01JAN88

PROGRAM 17MAY82 REPORT DATE. VERY LONG BASELINE ARRAY
PROJECT CCNCEPTS, DESIGN AND DEVELOPMENT

VLB10A
VLBA10

RUN DATE 10MAY82

PRED EVENT	SUCC EVENT	CY CD	DESCRIPTION	A - ACTIVITY COMPLETE * - ACTIVITY DURATION	P - PACING ITEM - - ACTIVITY FLOAT	.FINAL .DATE	DEPT
3300	3310	EA	CCNSTRUCT ANTENNA A3	.	PPPPP	14MAY87	
3400	3410	EA	CONSTR. ELECTRONICS E3	***-----	.	30JAN85	
3420	3430	EA	INSTALL ELECTRONICS E3	.	PPP	09JUL87	
3430	END03	EA	TEST E3/A3	.	PP	06AUG87	
4200	4210	FA	FINAL SITE SELECTION S4	**-----	.	06FEB84	
4210	4220	FA	SITE PLAN S4	*****-----	.	02AUG84	
4210	4230	FA	SITE AQUISITION S4	*****-----	.	02AUG84	
4220	4230	FA	SITE DESIGN S4	*****-----	.	08MAR85	
4230	4240	FA	SITE CCNSTR. PH 1 S4	*****-----	.	19DEC85	
4240	4250	FA	SITE CCNSTR. PH 2 S4	*****-----	.	24JUL86	
4300	4310	FA	CCNSTRUCT ANTENNA A4	.	PPPPP	14MAY87	
4400	4410	FA	CONSTR. ELECTRONICS E4	***-----	.	12APR85	
4420	4430	FA	INSTALL ELECTRONICS E4	.	PPP	09JUL87	
4430	END04	FA	TEST E4/A4	.	PP	06AUG87	
5200	5210	GA	FINAL SITE SELECTION S5	**-----	.	06FEB84	
5210	5220	GA	SITE PLAN S5	*****-----	.	02AUG84	
5210	5230	GA	SITE AQUISITION S5	*****-----	.	02AUG84	
5220	5230	GA	SITE DESIGN S5	*****-----	.	08MAR85	
5230	5240	GA	SITE CCNSTR. PH 1 S5	*****-----	.	19DEC85	
5240	5250	GA	SITE CCNSTR. PH 2 S5	*****-----	.	24JUL86	
5300	5310	GA	CONSTRCT ANTENNA A5	.	PPPP	06AUG87	
5400	5410	GA	CCNSTR. ELECTRONICS E5	***-----	.	24JUN85	
5420	5430	GA	INSTALL ELECTRONICS E5	.	PPP	02OCT87	
5430	END05	GA	TEST E5/A5	.	P	30OCT87	
6200	6210	HA	FINAL SITE SELECTION S6	**-----	.	06FEB84	
6210	6220	HA	SITE PLAN S6	*****-----	.	02AUG84	
6210	6230	HA	SITE AQUISITION S6	*****-----	.	02AUG84	
6220	6230	HA	SITE DESIGN S6	*****-----	.	08MAR85	
6230	6240	HA	SITE CCNSTR. PH 1 S6	*****-----	.	19DEC85	
6240	6250	HA	SITE CCNSTR. PH 2 S6	*****-----	.	24JUL86	
6300	6310	HA	CONSTRCT ANTENNA A6	.	PPPP	06AUG87	
6400	6410	HA	CONSTR. ELECTRONICS E6	***-----	.	04SEP85	
6420	6430	HA	INSTALL ELECTRONICS E6	.	PPP	02OCT87	
6430	END06	HA	TEST E6/A6	.	P	30OCT87	
7200	7210	IA	FINAL SITE SELECTION S7	**-----	.	06FEB84	
7210	7220	IA	SITE PLAN S7	*****-----	.	02AUG84	
7210	7230	IA	SITE AQUISITION S7	*****-----	.	02AUG84	
7220	7230	IA	SITE DESIGN S7	*****-----	.	08MAR85	
7230	7240	IA	SITE CCNSTR. PH 1 S7	*****-----	.	19DEC85	
7240	7250	IA	SITE CCNSTR. PH 2 S7	*****-----	.	24JUL86	
7300	7310	IA	CONSTRCT ANTENNA A7	.	PPP	30OCT87	
7400	7410	IA	CONSTR. ELECTRONICS E7	***-----	.	13NOV85	
7420	7430	IA	INSTALL ELECTRONICS E7	.	PPP	29DEC87	
7430	END07	IA	TEST E7/A7	.	PP	27JAN88	
8200	8210	JA	FINAL SITE SELECTION S8	**-----	.	06FEB84	
8210	8220	JA	SITE PLAN S8	*****-----	.	02AUG84	

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PROGRAM 17MAY82 REPORT DATE. VERY LONG BASELINE ARRAY
PROJECT CONCEPTS, DESIGN AND DEVELOPMENT

VLB10A
VLBA10

RUN DATE . 1982

PRED	SUCC	CY	DESCRIPTION	A - ACTIVITY COMPLETE	P - PACING ITEM	FINAL	DEPT		
EVENT	EVENT	CD		* - ACTIVITY DURATION	- - ACTIVITY FLOAT	DATE			
8210	8230	JA	SITE AQUISITION S8	*****-----		02AUG84			
8220	8230	JA	SITE DESIGN S8	*****-----		08MAP85			
8230	8240	JA	SITE CCNSTR. PH 1 S8	*****-----		19DEC85			
8240	8250	JA	SITE CCNSTR. PH 2 S8	*****-----		24JUL86			
8300	8310	JA	CCNSTRUCT ANTENNA A8		PPP	30OCT87			
8400	8410	JA	CCNSTR. ELECTRCNICS E8		***-----	27JAN86			
8420	8430	JA	INSTALL ELECTRCNICS E8		PPP	29DEC87			
8430	END08	JA	TEST E8/A8		PP	27JAN88			
9200	9210	KA	FINAL SITE SELECTION S9	**-----		06FEB84			
9210	9220	KA	SITE PLAN S9	*****-----		02AUG84			
9210	9230	KA	SITE AQUISITION S9	*****-----		02AUG84			
9220	9230	KA	SITE DESIGN S9	*****-----		08MAR85			
9230	9240	KA	SITE CCNSTR. PH 1 S9	*****-----		19DEC85			
9240	9250	KA	SITE CCNSTR. PH 2 S9	*****-----		24JUL86			
9300	9310	KA	CCNSTRUCT ANTENNA A9		PPPP	27JAN88			
9400	9410	KA	CONSTR. ELECTRONICS E9		***-----	08APR86			
9420	9430	KA	INSTALL ELECTRONICS E9		PPP	25MAR88			
9430	END09	KA	TEST E9/A9		PP	22APR88			
10200	10210	LA	FINAL SITE SELECTION S10	**-----		06FEB84			
10210	10220	LA	SITE PLAN S10	*****-----		02AUG84			
10210	10230	LA	SITE AQUISITION S10	*****-----		02AUG84			
10220	10230	LA	SITE DESIGN S10	*****-----		08MAR85			
10230	10240	LA	SITE CCNSTR. PH 1 S10	*****-----		19DEC85			
10240	10250	LA	SITE CCNSTR. PH 2 S10	*****-----		24JUL86			
10300	10310	LA	CCNSTRUCT ANTENNA A10		PPPP	27JAN88			
10400	10410	LA	CCNSTR. ELECTRONICS E10		***-----	18JUN86			
10420	10430	LA	INSTALL ELECTRONICS E10		PPP	25MAR88			
10430	END10	LA	TEST E10/A10		PP	22APR88			
				01JAN83	01JAN84	01JAN85	01JAN86	01JAN87	01JAN88