



Statement on the Progress of work on "Centrally Financed Multipurpose Projects" upto the 31st August, 1955

September, 1955

MINISTRY OF IRRIGATION AND POWER
GOVERNMENT OF INDIA

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APPENDIX I

STATEMENT SHOWING PROGRESS OF WORK ON BHAKRA NANGAL PROJECT TO THE END OF AUGUST 1955 AND PROGRAMME FOR THE WORKING SEASON 1955-56

Item of Work	Total estimated quantity (Unit)	Target date of completion	Progress upto 31-3-55	Programme during working season 1955-56 (1-4-55-31-3-56)	Programme during working season 1955-56 (1-4-55-31-8-55) (Qty. : Percentage for the period)	Progress during working season 1955-56 (1-4-55-31-8-55) (Percentage for the working season)	Cumulative progress to the end of August 1955 (Qty. : Percentage)	Programme for the remainder of the working season 1955-56 (1-7-55 to 31-3-56)
1. Means of Communications (Roads, Rails, Telephones, Telegraphs, etc.)	..	..	100%	..	..	..	100%	..
2. Diversion Tunnels	..	..	100%	..	..	..	100%	..
3. Coffor Dams	9,29,000 C. yds.	31-5-55	5,87,400 C. yds.	3,41,600 C. yds.	3,41,600 C. yds.	3,41,200 C. yds.	9,28,600 C. yds.	This includes cutting & filling both.
4. Excavation	51,60,000 C. yds.	31-1-56	35,65,000 C. yds.	13,72,000 C. yds.	10,55,000 C. yds.	6,39,000 C. yds.	42,04,000 C. yds.	3,17,000 C. yds.
5. Construction Plant	100%	31-3-57	77%	20%	5%	17%	94%	3%
6. Concrete	51,11,000 C. yds.	Feb. 1960	..	2,95,000 C. yds.	..	..	..	2,95,000 C. yds.
7. Power Plant	..	..	..	..	..	..	..	..

Excavation & Concrete i.e. Civil Works are already included in items 4 & 6 above.

APPENDIX II

STATEMENT SHOWING PROGRESS OF WORK ON BHAKRA NANGAL PROJECT (ELECTRICAL PORTION) TO THE END OF AUGUST, 1955 AND PROGRAMME FOR THE WORKING SEASON 1955-56

Item of work	Total estimated quantity	Target date of completion	Progress upto 31-3-1955	Progress during working season 1955-56 (1-4-55-31-3-56)	Progress during Programme working season 1955-56 (1-4-55-30-6-55)	Progress during working season 1955-56 (1-4-55-31-8-55) (Percentage for the working season)	Cumulative progress to the end of August, 1955 Qty. : Percentage	Programme for the remainder of the working season, 1955-56 (1-7-55 to 31-3-56)
1. Left Bank Power House at Bhakra.	5 Units of 90000 K. W. each.	Tenders for the Generators and Turbines have been invited.						
2. Nangal Power House No. I at Ganguwal.	2 Units of 24000 K. W. each.	The work has been completed and the Power House commissioned for commercial operation.						
3. Nangal Power House No. II at Kotla.	2 Units of 24000 K. W. each.	1955-56	Embedded parts of Turbine erected.	Continuing erection of Kotla Power House.	(i) Embedded parts of Turbine erected. (ii) Erection of Turbines & Generators remain in progress. (iii) Considerable progress has been achieved on the erection of Step Up Substation.	Erection of Power House machinery and equipment.		
4. Transmission lines 132, 66 & 33 K.V.	1768 miles.	1956-57	1165 miles.	332 miles.	79 miles.	1244 miles.	253 miles.	
5. Telephone Lines 33 K.V. & 11 K.V.	768 miles.	1956-57	271 miles.	233 miles.	148 miles.	419 miles.	85 miles.	
6. Grid Substation 132, 66 & 33 K.V.	73 Nos.	1956-57	14 Nos.	27 Nos.	12 Nos.	26 Nos.	15 Nos.	
7. L. D. Schemic	71 Nos. Load centre towns plus rural electrification	1956-57	46 Nos. Load centre towns plus 22 Nos. villages under rural electrification.	19 Nos. Load centre town plus rural electrification.	6 Load centre towns.	51 Nos. load centre towns plus 22 Nos. villages under rural electrification.	13 Nos. Load centre towns plus rural electrification.	

APPENDIX III

STATEMENT SHOWING THE PROGRESS OF WORKS ON THE HIRAKUD DAM PROJECT TO THE END OF AUGUST 1955 AND PROGRAMME FOR THE WORKING SEASON 1955-56

Item of work	Total estimated qty.	Target dt. of com- pletion	Progress upto Sept. 1954	Program- me during w/season 1954-55 (Oct. '54 to September '55)	Progress during the w/s 1954-55 upto end of August 1955		Cumulative progress to end of August '55		Programme for the working season 1955-56 (Octo- ber '55 to Sept. 1956)		Remarks
					Qty.	percentage	Qty.	percentage			
Quantity in lacs cft.											
Main Dam:											
Concreting & Masonry	381.0	" '57	222.0	92.0	124.0	134.8	346.0	90.8	31.0	}	*
Earthwork	4416.0	" "	2265.0	940.0	1196.0	127.2	3461.0	78.3	772.0		
Rockfilling, Riprap & filter blan- ket	473.0	" "	234.0	108.0	113.0	104.6	347.0	73.4	73.58		
Dykes:											
Earthwork	1977.0	" '56	1364.0	378.0	349.0	92.3	1713.0	86.5	234.2	}	
Rubble Packing	212.0	" "	123.0	39.0	49.0	125.6	172.0	81.0	34.2		
anals.											
Earthwork	6667.0	June '57	4442.0	620.0	762.0	123.0	5204.0	78.0	852.0		

*Programme for 1955-56 has been altered in the light of progress achieved so far and actuals remaining to be done.

APPENDIX IV

TRANSMISSION LINES (PROGRESS TO END OF AUG. 1955)

Serial No.	Name of Work	132 KV D.C. Line from Power House to Rajgangpur (about 80 miles)	132 KV D.C. Line from Power House to Alluminium Factory (about 4 miles)	132 KV S.C. Line from Rajgangpur to Barajamda (about 60 miles)	132 KV S.C. Line from Power House to Cuttack (about 160 miles)
		Progress in %	Progress in %	Progress in %	Progress in %
1.	Tower assembly & erection	About 95%	About 90%	About 67%	About 38%
2.	Paying out, stringing & sagging of conductors	„ 41%	Nil	„ 31%	„ 5%

Work on 66 K.V. line has not yet been started.

Construction of Sub-station colonies is in progress at Jharsuguda, Rajgangpur, Barajamda and Talcher.

RIHAND

APPENDIX V

I. ELECTRICITY DEPARTMENT

Progress up to the end of June, 1955

1. *Main Power House.*—The specifications for Power Station Plant have been prepared and are under print. They are expected to be ready for issue by the end of August 1955.

2. *Construction Power Plan.*—(a) 3000 KW Diesel Station:—Specifications for diesel station plant were prepared. Order for the plant has been placed and equipment is expected to arrive shortly. The site for the diesel station at Pipri has been selected and the building work is in progress.

(b) 6000 KW Steam Station:—Orders have been placed for manufacture and erection of the plant.

Site for the steam station at Choppan has been selected. Action is being taken to acquire land and proceed with the construction of temporary buildings. Arrangements for the power Station building are being made.

3. *132 and 66 KV Lines and Sub-stations.*—A number of lay outs of Transmission system were examined and two different lay outs were studied on the Net Work Analyser Board at Bangalore. The final lay out based on the results of this study has been prepared.

Specifications of 132 KV Pipri-Banaras line and 66 KV Sultanpur-Sohwal and Sohwal-Gonda lines have been prepared. Specifications of 132 KV Pipri-Banaras lines are under print.

Survey of the route of the Transmission line between Pipri and Churk has been completed. The various sites for the Sultanpur 132 KV Sub-station have been examined.

4. *33 KV lines and sub-stations.*—33 KV lines and sub-stations for energising tube wells in Allahabad, Mirzapur, Jaunpur and Banaras District:—Design of supports for the line has been finalised and fabrication of cross arms and drilling of rails is in progress. Survey of lines is being done out.

Orders for Transformers and Switch gear for Sub-stations and conductor and insulators for the line have been placed.

5. *Choppan-pipri construction Feeder*.—The design of support for this double circuit 33 KV line has been finalised and the fabrication of structures taken in hand. Tenders for conductors and insulators have been called and orders placed.

Survey and erection of line has started.

6. *Temporary Diesel Power Station at Pipri*.—For such time as the 3000 KW Diesel Station at Pipri is not ready, a temporary diesel power station with a few small diesel generating sets has been installed at Pipri and is taking load.

7. *H. T. and L. T. Lines at Pipri and Robertsganj*.—The 11 KV lines at the Dam site have been completed and are ready for energising. The work on L. T. lines is in progress.

The 11 KV line from Churk Cement Factory Power House to Robertsganj has been completed and 25 KVA 11/0.4 KV Sub-station at Robertsganj is ready. L. T. distribution system for colony at Robertsganj is nearly complete.

8. *Electrification of buildings at Pipri*.—The work of electrification of temporary buildings at Dam site is in progress.

II. IRRIGATION DEPARTMENT

The detailed investigations for the concrete dam and appurtenant works were carried out and designs finalised in 1949.

The access road from Robertsganj to the Dam site had been constructed in 12 feet width and is being widened to 20 feet width.

The work on the Highway Bridge across the Sone is progressing satisfactorily. Most of the foundation wells have been sunk.

The excavation for the foundation of the Dam has advanced considerably.

The work of Construction Camp and its ancillaries at the dam site and storeyard at Robertsganj remained in full swing. 880 R.L. cantour, which represented the full reservoir level, was marked for the area to be submerged in Uttar Pradesh. Property survey for the assessment of compensation of all the 108 villages to be submerged in U.P. by the construction of Rihand Dam was completed.

The Cement Factory at Churk which will supply cement for the construction of Rihand Dam started functioning in October, 1954.

A Wireless Station has been established at site and telephone and telegraph lines are being erected by the Post and Telegraph Department to connect the Dam site with their system.

RIHAND**APPENDIX VI****I. ELECTRICITY DEPARTMENT**

Programme for the working season October 1955 to June 1956.

1. Tenders for Rihand Dam Power Station Plant, will be invited, received, comparative statements prepared and orders for the plant will be placed.

2. The 3,000 KW Diesel Power Station at the Dam site will be completed and will start taking load.

3. A part of 6,000 KW steam station plant will arrive and erection work will start.

4. Interim Diesel Power House at the dam site will continue to supply construction power and distribution system will be extended.

5. Gantry Crane at Robertsganj will be erected for loading and unloading heavy equipment.

6. Tenders for 132 KV and 66 KV line will be called and finalised.

7. Fabrication of towers for 66 KV lines will be started.

8. Materials will be arranged for construction of 33 KV and 11 KV lines and construction work taken up.

9. The work of acquisition of land for sub-stations and buildings will be completed.

10. The work on the construction of the buildings under transmission and transformation will start.

11. The major river crossings will be surveyed and designs prepared.

12. The construction of 33 KV Choppan-Pipri Construction feeder will be completed.

13. Electrification of temporary and permanent buildings will be carried out as the buildings become available.

II. IRRIGATION DEPARTMENT

*Programme for the working season October 1955 to June 1956
October 1955 to March 1956.*

The work on access road and the Sone Bridge will be completed.

Stripping of the Quarry will be started and arrangements for the construction machinery will be finalised by Messrs. The Hindustan Construction Co.

The Construction Camp and its ancillaries will be completed.

Work on the Railway Siding at Robertsganj will be taken up.

The reservoir level will be marked in the Vindhya Pradesh.

The surveys for the rehabilitation of the persons to be displaced from the reservoir area will be finalised and the plans prepared.

Action for the acquisition of land to be submerged in the reservoir area and work on the clearance of the reservoir area will be started.

A Diesel Station will be erected at the Dam site and the construction of a Steam Station at Churk and its transmission lines to the dam site will be started.

April 1956 to June 1956.

The construction of the Railway Siding at Robertsganj will be completed and the access road from Robertsganj and the Cement Factory to the dam site will be opened for heavy traffic along the Sone Bridge.

Work on the excavation of foundation and opening up of the quarry will be continued.

The construction of the Steam Station at Churk will be in full swing.

Erection of the construction plant will be started.

Contractor's Construction Camp and roads etc. will be completed by June 30, 1956.

Work on the Rehabilitation scheme, acquisition of land to be submerged in the reservoir, and reservoir clearance will be continued.

APPENDIX VII **CIVIL ENGINEERING WORKS**

Financial Years		June 1954-55	Programme Oct. 1955 to June 56		
	Quantity	Units	Cost Rs. Lakhs	Progr- amme	Achieve- ment
I. Colonies & Roads :					
Buildings			125.0	30%	21.3% 29%
Access Roads			70.0	12%	4.7% 33%
Water Supply & Drainage.			40.0	15%	11.1% 41.5%
II. Dam & Appurtenances :					
Excavation in (cover Burden.	11.00	MCFT	15.65	2.1 MCFT	2.1 6.3 MCFT
Excavation in Rock .	19.75	MCFT	48.80	..	.. 6.6 MCFT
Masonry	12.5	MCFT	163.49	..	.. 0.5 MCFT
III. Underground Excavation :					
Head Race Tunnel	12200	Feet	87.94	..	.. 1000 Rft.
Tail Race Tunnel	6600	"	62.96	..	.. 500 Rft.
	Plus cut & Cover				
Approach Tunnel	3600	"	20.30	..	.. 1000 Rft.

APPENDIX VIII

Programme for period October 1955 to June 1956

KOYNA ELECTRICAL WORKS.

Particulars of Works	Total estimated quantity Rs. lakhs	Financial Year		Programme for the period Oct. '55 to 30-6-56 Rs. lakhs	Remarks
		Programme (1-4-55 to 30-3-56) Rs. lakhs	Progress till 31-8-55 Rs.		
I. Electrical & Mechanical Works.					
G-Generation of Power					
(i) Generating Plant	335.57	..	..	..	The Programme is based on revised figures of Budget. *This expenditure now increased due to purchase of equipment of higher capacity to meet higher load demands & subject to delivery of equipment in time.
(ii) Slip-up Plant	180.94	..	..	..	
T-Transmission					
(i) Transmission Line, tele-communication lines & line camps.	308.03	4.54	..	5.16	
(ii) Receiving Station Sub-Station and Staff quarters	234.35	..	..	..	
II. Establishment	79.42	6.15	75200	6.94	**No allotment has been sanctioned under the minor Head Tools & Plant. Additional allotment of Rs. 5400/- has been shown against T-(i) & iv (i).]
III. Tools & Plant	10.59	..	..	..	
IV. Construction of Temp. Power Plant & Transmission Lines					
(i) Works	140.00	47.50	107700	52.48	
(ii) Establishment	3.00	1.70	15200	1.97	
(iii) Tools and Plant	0.40	..	..	..	
TOTAL	1192.30	59.89	198100	66.55	

APPENDIX IX

CHAMBAL VALLEY DEVELOPMENT

MADHYA BHARAT

Statement showing targets and progress up to the end of August, 1955
for Gandhi Sagar Dam and Right Main Canal in Madhya Bharat

Serial No.	Works item	Target fixed from June 1954 to August 1955	Actual Progress done during that period	Percentage of progress Target
1	2	3	4	5
1.	Excavation :—			
	(a) for foundation of Gandhi Sagar Dam	14.00 lakh C.ft.	26.00 lakh C.ft.	185.7
	(b) For Draft Channel	7.50 „	11.62 „	154.9
2.	Masonry and concrete for Gandhi Sagar Dam	22.67 „	26.48 „	116.8
3.	Earthwork for Right Main Canal	7.34 lakh C.yds.	8.44 lakh C.yds.	114.9

NOTE.—The target figures mentioned in column 3 have been modified as per the revised phased programme of works submitted to the Chambal Control Board.

Details of progress are given below.

GANDHI SAGAR DAM

Excavation for the foundation of the dam is complete for about two third of the length in the middle portion. Excavation on the right flank has been completed. Excavation on the left flank is progressing satisfactorily; about 49 lakh C.ft. of excavation having been completed so far.

Masonry work was started in March, 1954. To the end of June 1955, over 26 lakh C.ft. of Masonry was laid. The dam has risen about 20'-0" over the bed of the river. The progress is according to the schedule, in spite of the loss of about a month due to late monsoons in 1954 and large exodus of labour in the months of April and May 1955 due to the marriage season before *Sinhaatha*.

GANDHI SAGAR POWER STATION

Civil Engineering works of the power house are being executed along with the construction of dam. 70% of the excavation work in the draft channel has been completed.

Specifications for the generating and control equipment and the penstocks have been finalised. Tenders are being invited.

RIGHT BANK MAIN CANAL

(1) The preliminary investigations for the alignment of Chambal Canal in Madhya Bharat, starting from Parbati River near village Barodia have been completed.

(2) The surveys for all the 15 Major Drainage works are complete and other investigations are in progress.

(3) The alignment of the Main Canal has been finally located and demarcated on the ground for the first fifty miles upto Girdhpur.

(4) The surveys and investigations on Ambah Branch Canal, Morena Branch Canal, and Mau Branch Canal have been completed.

(5) The photographic and contour surveys of the Chambal Canal Commanded area in Madhya Bharat are complete.

(6) The detailed estimates for 5 to 15 of the Canals have been technically sanctioned.

(7) Land for the first 29 miles of Canals has been acquired and steps have been taken to acquire the lands from mile No. 29 to 36.

(8) Tenders for earthwork in the first eighty-five miles of the Canal have been called for and work allotted upto the 20th mile. Previously the work was allotted on piece work system in the first fifteen miles. The construction of the Main Canal started on 1-12-1954. 200 Lakhs C.ft. of earthwork, estimated to cost Rs. 6.5 lakhs approximately has been completed upto the end of June 1955. Earthmoving machinery consisting of two Scrapers, three Tractors (two of them with dozers), two Sheep-Foot Rollers, and connected equipment have recently been put into commission. Most of the earthwork done so far has been by manual labour.

(9) The work on Parbati aqueduct has been allotted on contract. This structure is estimated to cost Rs. 45 lakhs approximately. The preliminary arrangements of accommodation for the contractor's personnel and office have been completed. The collection of materials is in progress, and the machinery required for construction work has started arriving.

(10) The constructive buildings required for the construction and maintenance staff estimated to cost about 6.5 lakhs is in progress. These buildings are expected to be completed in all respects by the end of December, 1955.

APPENDIX X

CHAMBAL PROJECT KOTAH (RAJASTHAN)

Statement showing targets and progress achieved during the Working Season October, 1954 to end of August, 1955.

Serial No.	Particular of work	Estimated quantity in (lakh C. ft.)	Progress till 30-9-54 in (lakh C.ft.)	Programme for the working season from 1-10-54 to 31-8-55 (lakh C.ft.)	Progress achieved during 1-10-54 to 31-8-55 (lakh C.ft.)	Reasons for difference)
1	2	3	4	5	6	7
I. Kotah Barrage						
1	Excavation in hard rock,	165	10	5.60	8.80	Lack of labour due to rains during July and August, 1955.
2	Stone masonry and concrete.	19.5 } 23.0 }	1	4.00	3.00	
3	Earth Work	170	..	..	30.00	
II. Canal System						
1	Excavation in hard rock.	313	24	68.30	74.34	
2	Stone masonry and concrete.	178.	..	14.60	16.41	
3	Earth Work	6,600	..	242.00	66.94	Dearth of labour and non-continuance of work due to rains. The machinery also could not be used due to soil being rod-den.

Details of progress are given below:—

Kotah Barrage.—The construction of retaining wall which was started during the first week of April, 1955, was continued. The total quantity of masonry done up to the end of August 1955 on retaining wall, core-wall and abutments was approximately 4.0 lakh Cft.

The foundations of the Kota Barrage for the earthen portion after being isolated from the outside flow were filled up with earth available on the left bank of the river. This involved about thirty lakh Cu. feet of earthwork in reaching upto the level El.765.00. All earthwork was done with the help of earthmoving machines. Final

designs of the gates of Kota Barrage 19 Nos. (40' x 40') are nearing completion as also the design of scouring sluices and the head regulator of the two main canals taking off from the barrage.

Right Bank Main Canal.—Rock cutting in the head reach of the Canal is nearing completion. The Canal below the Kota City tank runs in masonry lined sections and work in this reach upto Ch. 215 is making satisfactory progress.

Construction of Cross Drainage works on the Canal across Kansawan, Alnia rivers and the Tekra and Umedganj nallas is steadily progressing.

Upto date progress is as follows:—

Item of work	Total quantity to be done	Upto date quantity done
Rock cutting	232 lakhs C.ft.	63·42 lakhs C.ft.
Stone masonry and concreting	118 lakhs C.ft.	14·40 lakhs C.ft.
Earthwork	5500 lakhs C.ft.	55·54 lakhs C.ft.

Left Bank Main Canal.—Rock cutting in the reach Ch. 0 to 50 is nearing completion and excavation of Bundi Branch Canal is well in progress between Ch. 110 to 130 and beyond. The work on cross drainage works on three major aqueducts was in good progress. Up to date progress is as follows:—

Item of work	Total quantity to be done	Up to date quantity done
1. Rock cutting	81 lakhs C.ft.	34·92 lakhs C.ft.
2. Stone masonry and concreting	60 lakhs C.ft.	2·01 lakhs C.ft.
3. Earthwork	1100 lakhs C.ft.	11·40 lakhs C.ft.

Canal Colony at Anta.—Work on the construction of a Canal Colony at Anta (a town midway on the Right Main Canal) is nearing completion.

CHAMBAL

APPENDIX XI

CHAMBAL VALLEY DEVELOPMENT (MADHYA BHARAT)

Programme for the period from October, 1955 to June, 1956.

Unit	Works item	Programme from October 1955 to March 1956	Programme from April 1956 to June 1956	Programme from October 1955 to June 1956
1	2	3	4	5
Gandhi Sagar Dam	1. Excavation for foundation of dam.	16.0 lakh Cft.	8.0 lakh Cft.	24.0 lakh Cft.
	2. Masonry for Gandhi Sagar Dam.	28.0 lakh Cft.	20.0 lakh Cft.	48.0 lakh Cft.
Gandhi Sagar Power Station.	Excavation in the draft channel.	4.0 lakh Cft.	2.0 lakh Cft.	6.0 lakh Cft.
Right Main Canal.	1. Earth work.	580 lakh Cft.	325 lakh Cft.	905 lakh Cft.
	2. Rock Cutting.	40 lakh Cft.	20 lakh Cft.	60 lakh Cft.
	3. Masonry for aqueducts concrete etc.	5.5 lakh Cft.	4.0 lakh Cft.	9.5 lakh Cft.

APPENDIX XI—contd.

CHAMBAL VALLEY DEVELOPMENT

(Rajasthan State)

(All quantities in lakhs of Cft.)

Construction Programme

Particular of work	Estimated quantity	FIRST PART			SECOND PART	Remarks
		Oct. 1955 to March, 1956				
		Oct. 1955 to December 1955	Jan. 1956 to March 1956	Total	April, 1956 to June, 1956	
						Oct. '55 to June 1956

Kotah Barrage

1. Excavation in-hard rock for foundations.	165	6.0	6.0	12.0	15.0	27.0
2. Coursed stone Masonry.	19.5	3.0	4.5	7.5	4.5	12
3. Concrete work in founs, faces and piers.	23.0	4.0	6.0	10.0	6.0	16.0
4. Earth work—Impervious and semi impervious fill for earthen dam.	170.0	..	..	..	..	

Left Bank Main Canal and its Branches

(Quantities in lakhs of Cft.)

1. Rock cutting Left Main Canal.	81.0	8.0	8.0	16.0	8.0	24.0
2. Earth Work.	1,100.0	150.0	150.0	300.0	150.0	450
3. Concreting and stone masonry.	60.0	5.5	5.5	11.0	5.5	16.5

Right Bank Main Canal

(Quantity in lacs of Cft.)

1. Rock cutting.	232.0	20.0	30.0	50.0	25.0	75.0
2. Earth Work.	5,500.0	300.0	500.0	800.0	500.0	13,00.0
3. Concreting and stone masonry.	118.0	10.0	10.0	20.0	10.0	30.0

APPENDIX XII

PROGRESS REPORT ON TUNGABHADRA IRRIGATION SCHEME
(BOARD AREA)

	Total target	Work completed till October, 1954.	Progress October, 1954 to August, 1955	Balance remaining to be done
1. Excavation	12,572 Units	12,572 Units	Completed	..
2. Drilling high pressure holes	20,000 Rft.	18,990 Rft.	845 Rft.	1 65 Rft.
3. Grouting high pressure holes	Do.	16,156 Rft.	987 Rft.	189 Rft.
4. Concreting	Not estimated	6,191 Units	134 Units	..
5. Masonry	1,59,604 Units	1,51,657 Units	910 Units	..
6. Main Canal Excavation	8,50,000 Units	6,98,366 Units	Completed	..
7. Hagari Aqueduct	50,00,000 Rupees	Completed	Completed	
8. Other Masonry Works	328 numbers	328 numbers	Do.	
9. Shutters fixed in position				
Andhra — Mysore side	..	3 Nos.	12 Nos.	
15 Nos.				

PROGRESS REPORT OF TUNGABHADRA HYDRO-ELECTRICITY SCHEME FROM

1 OCTOBER, 1954 TO AUGUST, 1955.

(BOARD AREA)

Dam Power House Works

I. Works completed

1. Excavation for the foundations of Power House.
2. Excavation for the Tail race pond.
3. Construction of retaining walls and revetments for the Transformer yard.
4. Formation of approach roads to Power House and to Vanka Camp.
5. Construction of 30 Mistries and 12 Peons quarters.

II. Works in progress

1. Concreting the Tail Race Pond.
2. (a) Concreting the Tail Race Pond (90 per cent. completed).
(b) Side lining (35 per cent. completed).
3. Concreting the sub-structure walls of Power House (60 per cent. completed).
4. Casting R.C.C. columns in the Super Structure (15 per cent. completed).

Canal Power Development

I. Works completed

1. A pipe under tunnel across the Power Canal.
2. (a) Exploration of soil in the Forebay Bund.
(b) Excavation for the bank connections at either end of the bund.
(c) Removal and re-erection of archæological monuments.
(d) Excavation for the puddle core trench in northern bund.
3. (a) Grading of I.P.P.L. and Penstocks.
(b) Excavation for foundations of surge tank.
4. (a) Excavation for the transformer yard.
(b) Construction of retaining walls and revetments.
5. Formation of approach road to Power House.
6. Construction of certain staff quarters and dispensary.
7. Provision of permanent water and electricity supply sewage system.
8. (a) Excavation for the surplus escape.
(b) Construction of a drop at L.S. 769.
9. (a) Excavating trench from L.S. 115 to 1261 in Forebay Bund.
(b) Masonry portion of the composite section from and L.S. 0-115.
10. Erecting workshop for the fabrication of L.P.P.L.
11. Formation of camp roads.
12. The approach road to Kamalapuram Tank Bed.

II. *Works in progress*

1. Formation of banks in the last reach of the Power Canal.
2. Excavation for the approach channel to intake (90 per cent. completed).
3. Excavation for the puddle core trench of southern bund of Forebay (L.S. 600 to 2740 is completed).
4. Excavation for Power House below R.L. 1416 (98 per cent. completed).
5. Excavation of Tail Race Channel.
6. Excavation for the Tail Race Pond (95 per cent. completed).
7. Work on the in-let drop has been started.

Transmission Lines

66 KV Lines

Works completed

1. 109 towers were erected between Dam Power House to Bellary Via Canal Power House.
2. Stringing between Canal Power House and Bellary. ...
3. Temporary division near Tungabhadra Dam Sub-Station.
4. Stringing between Dam Power House and Canal Power House completed.

Sub-Stations

Works completed

Construction of all staff quarters at Bellary Sub-Station.

Works in progress

1. Construction of Control House in Bellary Sub-Station.
2. Erection of O.C.B.'s and other structures.
3. Works in Transformer yard.