

Chapter 10

Construction Programme, Manpower And Plant Planning

10.1 Programme

The construction of dam and appurtenant works is programmed to be completed in 8 years. The infrastructural work like buildings, approach roads, procurement of vehicles, cofferdam will be completed in the first three years. Excavation for foundation of dams and tunnels will be started from 2nd year onwards. Construction of cofferdam one each at a location approximately 200 m upstream of each dams for diversion of flood waters are programmed to be completed in second year itself. The work on canals will also be started from the 2nd year itself as preliminaries are to be completed in the 1st year. The works broadly comprise of the following items.

- 1) Concrete non overflow block of length 735 m, 699 m and 159 m at Punnamedu, Achankovil Kal Ar and Achankovil reservoirs respectively.
- 2) Spillway of length 39 m, 39 m and 57 m at Punnamedu, Achankovil Kal Ar and Achankovil reservoirs respectively.
- 3) Interlinking tunnel of 8 km length between Punnamedu and Achankovil Kal Ar reservoirs.
- 4) Achankovil Kal Ar – Tamil Nadu tunnel of length 9 km.
- 5) Construction of link canal of length 50.68 km.

The year wise construction programme is given in subsequent paragraphs:

Year	Works
I st year	All preliminary works in respect of dams on Pamba Kal Ar and Achankovil Kal Ar and of canals – Land acquisition for canals, excavation of adits, construction of cofferdam will be started.
II nd year	Excavation for foundation of Punnamedu and Achankovil Kal Ar dam and main powerhouse will be taken up. Construction of cofferdam will be completed. Excavation, cutting of tunnels will be started. Earthwork, excavation of canals and river training works will be taken up.
III rd year	Preliminary works for Achankovil dam will be started. Drilling, grouting and concreting of dams will be taken up. Lining of tunnels will be started. Construction of C-D works, bridges, erection of mini power plants on main

	canal at canal drops and works relating to command area development will be started. All works started in the second year on head works, power house and tunnels will continue.
IV th year	Construction of regulators will be started. Construction of C-D works, etc on the main canal, command area development, concreting work of the main power house and dams, drilling of tunnels, river training works, lining of main canal will continue.
V th Year	Drilling and grouting works of foundations will be completed. All major works of the fourth year to continue. Intake structures of tunnels will be completed. Lining of tunnels will be completed.
VI th Year	Erection of spillway gates will commence. Excavation of tunnels will be completed. Bridges will be completed. Concreting of dams, construction of cross drainage works, excavation of main canal, and command area development, erection of power house machinery etc., of fifth year to continue.
VII th Year	Concreting of dams will be completed. Earthwork excavation of main canal and construction of C-D works will be completed. Erection of spillway gates, lining of main canal, command area development works will continue.
VIII th Year	Fixation of gates, electrical works, lining of main canal, command area development works, etc., will be completed.

10.2 Material Planning

With regard to material planning, while the stone is available locally, cement and steel are to be procured from elsewhere. The nearest road and rail heads for transportation of cement and steel for the head works are at Punalur and Konni at a distance of 52 km to 73 km. The nearest railway head for the command area in Tamil Nadu is at Shenkottai.

10.3 Requirement of Special Tools and Plants

The requirements of plant and machinery for construction works of Pamba-Achankvoil-Vaippar link would be as follow:

List of Special Tools and Plants

Sl. No.	Item	No.
1.	High speed drifters	24
2.	Air legs	24
3.	Jumbo Platform	12
4.	Jack hammers	420
5.	Air compressors (500 cfm)	86
6.	Front end loader (1.7 M ³)	30
7.	Ventilation Fan (10000 cfm)	12
8.	Booster fans	38
9.	5 HP pumps	12
10.	Sump pumps	26
11.	Dump trucks (5 Ton)	35
12.	Rear Dumper (15 Ton)	32
13.	Aggregate processing plant (350 Ton)	2
14.	Secondary crusher (65 Ton)	2
15.	Belt conveyor system 36" width and 500 m long	2
16.	Cooling plant (500 Ton)	2
17.	Batching and mixing plant (180 m ³)	2
18.	Pneumatic vibrators	192
19.	Diamond drills	30
20.	Calyx drills	26
21.	Grout pump	8
22.	10 HP pump	14
23.	Bulk cement carrier (20T)	16
24.	Cement Silos (1000 T)	4
25.	Explosive Van	6
26.	Concrete Mixer (10 cft)	16
27.	Weight batchers (4 M ³)	12
28.	Travelling form work (15 M Length)	12
29.	Concrete placer	12
30.	Road Roller (10 T)	6
31.	Asphalt Mixer (6 T)	4
32.	Derrick crane (25 T)	1
33.	Derrick crane (10 T)	1
34.	Transit crane (25 T)	1
35.	Haulage winch (5 T)	1