

Chapter 10

Construction Programme And Manpower And Plant Planning

10.1 Construction Programme

A quantity of 2310 Mm³ of water proposed to be diverted through Krishna (Srisaïlam) - Pennar link, is planned to be let off into Nippulavagu stream through the Central Escape at Banakacherla cross regulator which would be carried through the natural streams of Nippulavagu, Galeru and Kunderu and finally into Pennar. This link requires some river training works throughout the Nippulavagu stretch and for some length on Galeru stream. It is also proposed to generate power by providing 4 mini hydel stations with diversion weirs. The project is proposed to be complete over a period of 5 years from the commencement. It is expected that all the preliminary works such as residual and pre-construction survey works, design studies including laboratory tests, construction of access roads, embankments, investigations for power houses and detailed geological investigation works will be completed within 2 years. Excavation works for foundation of weirs, power houses will be started in 3rd year and completed in 5th year. The works broadly comprise the following items:

(1)	Construction of embankments for 14.41 km on the stretch of Nippulavagu stream and for about 6.75 km stretch on the Galeru stream.
(2)	Construction of 4 diversion weirs.
(3)	Construction of 4 mini power houses.

Various components of the above works are proposed to be taken up simultaneously and this can be completed within 5 years.

Year-wise construction programme is given below:

1st & 2 nd year	All preliminary works such as residual and pre-construction surveys, design studies, investigation of foundation of weirs and power houses, detailed geological investigations and laying of approach roads to the sites and providing embankments etc.
3rd year	Excavation work for foundation of weirs and powerhouses.

4th year	Foundation of weirs, power houses, fabrication and erection of penstocks and erection of power generating
5 th year	Construction of weirs and powerhouses.

10.2 Programme of Year-wise Expenditure

Year-wise expenditure for construction works as planned is given in Table 10.1.

Table 10.1
Year-wise expenditure

Year	Expenditure (Rs. in crores)
First year	4.04
Second year	6.12
Third year	15.30
Fourth year	40.53
Fifth year	15.30
Total	81.29

10.3 Material Planning

The construction materials like; Stone, gravel, and sand are locally available, while the cement and steel are to be procured from various local agencies. Cement can be procured from cement factory at Panyam near Nandyal town which is near to the proposed link. The nearest towns located along the proposed link are Atmakur and Nandyal of Kurnool district from where these material can be procured.

Two projects namely Srisailam Right Bank Canal and Telugu Ganga Canal have been taken up by the State Government and are in progress. Adequate quantities of materials for constructions of embankments are available in the state approved quarries. The standard laboratory tests were conducted for the fitness of the materials that were used for these two projects. The same standard material can be used for construction activity along the link alignment.

10.4 Plant and Machinery

The requirement of plant and machinery for construction work along link canal has been worked out and is given in Table 10.2.

**Table 10.2
Plant and Machinery for construction**

Sl. No.	Items	Qty. (No.)
a)	Transport equipment	
1	Jeeps	9
2	Pickup van	1
3	Ambulance	1
b)	Compaction equipment	
1	Road rollers (8 to 10 tonne)	4
2	Sheep foot rollers (10 tonne)	2
3	Vibrator rollers	2
c)	Construction equipment	
1	Concrete mixers	6
2	Centering equipment	1
d)	Earth moving equipment	
1	Tractors with trailers	5
2	Tippers	5
3	Water tankers	5
4	Cranes (10 tonne)	2
e)	Workshop and ancillary equipment	
f)	Excavation equipment	
1	Hydraulic excavators (3 cum)	5
2	Motorised scrapers (11.5 cum)	5

10.5 Manpower Planning

The link project can be executed by one Superintending Engineer with three Executive Engineers. Out of three Executive Engineers two can be for powerhouse construction works and one for construction of embankments. The earthwork and construction work will be carried out manually as well as by machinery. Exact number of skilled, semi skilled and unskilled labourers have not been worked out. However a large number of such labourers are available in the vicinity of this project area.