

CHAPTER – V

ENERGY

5.1 POWER

5.1.1. The proposed outlay for the **Eleventh Plan (2007-2012)** is **Rs.1,05,788.00 lakhs** and the approved outlay for the Annual Plan 2007-08 is **Rs. 33,074.00 lakhs** which is expected to be utilized in full. **The proposed outlay for the Annual Plan 2008-09 is Rs.41,000.00 lakhs.**

5.1.2. The Tenth Plan Outlay in respect of Power Sector is Rs. 50,137.00 lakhs and the total actual expenditure incurred during the Plan Period is Rs.52,972.57 lakhs.

5.1.3. The broad break- up for the Annual Plan 2008-2009 is as indicated below:-

(Rs. Lakhs)

Sl. No.	Items	Eleventh Plan 2007-2012 Proposed Outlay	Annual Plan 2007-2008 Approved Outlay	Anticipated Expenditure 2007-2008	Annual Plan 2008-2009 Proposed Outlay
1	Generation scheme:				
	A.On-going Schemes :				
	1.Construction of Myntdu Leshka Stage –I H.E.P (2x42 MW)	31886.00	14000.00	14000.00	19500.00 *
	B.New Schemes:				
	1.Sonapani HEP (1.5) MW	350.00	-	-	4900.00 #
	2.Lakhroh HEP(1.5MW)	600.00	-	-	
	3.Umran HEP(0.2MW)	177.00	-	-	
	4.Tyrsaw HEP(0.5 MW)	499.00	-	-	
	5.Risaw HEP(0.1MW)	166.00	-	-	
	Sub – Total -1	33678.00	14000.00	14000.00	24400.00
2.	Renovation & Modernisation Works	-			
	1.Renovation & Modernisation of Umiam Stage –II (EAP)	8530.00	4265.00	4265.00	800.00 \$
	2. Renovation & Modernisation of Umiam Stage –III (EAP)	13438.00	-	-	-
	Sub – Total -2	21968.00	4265.00	4265.00	800.00
3.	Re – Engineering Work				
	1.Replacement of Governor system with the latest technology at Umiam – Umtru Stage – IV Power Station	-	-	-	200.00
	2.Re – engineering of the Switchyard of Umiam Stage – I Power Station	-	-	-	100.00
	Sub – Total -3				300.00
4.	Transmission Scheme:				
	1.Construction of 132 KV D/C Line from the Myntdu Leshka Stage – I HEP to the 132 KV/33 KV Sub – Station at Khliehriat.	1000.00	200.00	200.00	-
	2.Construction of 132 KV /33KV.2x20 MVA Sub- station at Umiam along with the construction of the LILO at the Sub- station.	-	-	-	100.00
	3.Construction of the 132 KV double circuit line from the EPIP Sub-station 1 to the proposed Sub-station at Killing	-	-	-	200.00
	4.Construction of the 132 KV double circuit line	-	-	-	200.00

Sl. No.	Items	Eleventh Plan 2007-2012 Proposed Outlay	Annual Plan 2007-2008 Approved Outlay	Anticipated Expenditure 2007-2008	Annual Plan 2008-2009 Proposed Outlay
	from the Umtru Power Station to the proposed Sub-station at Killing.				
	Sub – Total -4	1000.00	200.00	200.00	500.00
5.	Accelerated Power Development & Reforms Programme (APDRP)	22688.00	10000.00	10000.00	9000.00
	Sub- Total -5	16900.00	10000.00	10000.00	9000.00
6.	Rural Household Electrification (RGGVY)	26454.00	-	-	1000.00
	Sub- Total -6	26454.00	-	-	1000.00
7.	Special Plan Assistance :				
	1.Misa – Byrnihat Transmission Line	-	3609.00	3609.00	3800.00
	2.Umiam Mawngap Transmission Line	-	1000.00	1000.00	1200.00
	Sub- Total -7	-	4609.00	4609.00	5000.00
	GRAND TOTAL :	105788.00	33074.00	33074.00	41000.00

N.B. * Includes REC Loan of Rs. 10,000.00 lakhs, Rs.9000.00 lakhs of One Time ACA & Rs. 500.00 lakhs of Other State's Contribution.
Includes Other Loans and State's Equity
\$ Includes State's share of Rs.100.00 lakhs

5.1.4. Generation Schemes:

With the present power scenario of the state, where hardly 6 % of the available power potential of the state has been tapped, implementation of the Generation Projects is of the utmost importance to be considered in the 11th Plan Period. As on date, the unrestricted Peak demand of the state is 390 MW, for which the Peak availability from the state is of the order of 160 – 180 MW only. The power availability from the Central share is of the order of 115 – 120 MW. Therefore, a capacity addition of 471.80 MW has been proposed to be taken up including the spill over project from the 10th Plan Period. **The approved outlay for Generation Scheme for the Annual Plan 2007-08 is Rs. 14,000.00 lakhs and an amount of Rs. 24,400.00 lakhs is proposed for the Annual Plan 2008 – 2009.**

Construction of Hydro Electric Projects:

a) On going Schemes - Myntdu Leshka (2 x 42 MW) Stage I HEP:

The Tenth Plan Outlay is Rs.30600.00 lakhs and the expenditure incurred during the Plan period is Rs.26530.65 lakhs. The approved outlay for the Annual Plan 2007-2008 is Rs.14,000.00 lakhs which is expected to be utilized in full. **During the Annual Plan 2008-09 an amount of Rs.19500.00 Lakhs is proposed for this project which includes REC Loan of Rs.10,000.00 lakhs, Rs.9000.00 lakhs of One Time ACA & Rs. 500.00 lakhs of Other State's Contribution.** The Project is expected to be commissioned during 2008-2009.

b) An amount of Rs.4900.00 lakhs which includes Other Loans for Power Projects and State's Equity is proposed for the Annual Plan 2008 – 2009.

5.1.5. Up-gradation, Renovation & Modernization of the existing Projects :

To increase the machine and system efficiency, the Renovation & Modernization works of the old Hydro Power stations and Sub Stations, are being taken up.

MeSEB is having machines, which are of 25 years to 35 years old & above. As per the technical specification, the machines have already outlived their specified life span. According to the guidelines of the Central Electricity Authority, the machines need to be renovated, in order to enhance their efficiency and to achieve sustainability. Keeping this in view, MeSEB is considering to take up the renovation & modernization works of the Umiam Stage-III Power station (2 x 30 MW) during the 11th Plan Period, along with the spill over work of the ongoing Renovation & Modernisation work of Umiam Stage-II Power station(2 x 9 MW). After renovation it is expected that the capacity addition through up-gradation will be 2 MW from Stage II Power Station. The up-gradation of Umiam Stage-III Power station is under process.

The approved outlay for the Annual Plan 2007-08 is Rs. 4265.00 lakhs and an amount of **Rs. 800.00 lakhs** is proposed for the Annual Plan 2008 – 2009.

5.1.6. **Re- Engineering Works:**

Re – Engineering work of Umiam Stage –I Power House Switchyard and replacement of the Governor system of Umiam Stage _IV Power Station are urgently needed for maintaining power stability. An amount of **Rs.200.00 lakhs & Rs.100.00 lakhs** is proposed for the above schemes respectively during 2008-09.

5.1.7. **Transmission Schemes:**

Under the Transmission Scheme it is proposed to take up the On-going scheme for Construction of the 132 KV D/C line from Myntdu Leshka Stage - I HEP, to the 132KV/33 KV Sub-Station at Khliehriat (2 x 23 Km). The proposed outlay for the Eleventh Plan (2007-2012) is Rs.1000.00 lakhs and the approved outlay for the Annual Plan 2007-08 is Rs.200.00 lakhs.

During 2008-2009, 2(two) Transmission Schemes are proposed to be taken up viz; Misa Byrnihat Transmission Line and Umiam Mawngap Transmission Line in which an amount of **Rs.3800.00 lakhs & Rs.1200.00 lakhs** respectively is proposed under the **Special Plan Assistance**.

In addition to the above Transmission Schemes, 3(three) more Projects are proposed to be taken up during 2008-2009 which are as follows:

- 1.Construction of 132 KV /33KV.2x20 MVA Sub- station at Umiam along with the construction of the LILO at the Sub- station @ **Rs.100.00 lakhs**.
- 2.Construction of the 132 KV double circuit line from the EPIP Sub-station 1 to the proposed Sub-station at Killing @ **Rs.200.00 lakhs**
- 3.Construction of the 132 KV double circuit line from the Umtru Power Station to the proposed Sub-station at Killing @ **Rs 200.00 lakhs**

5.1.8. **Accelerated Power Development & Reforms Programme: (APDRP)**

In line with the Electricity Act, 2003, the Government of Meghalaya has signed an Agreement for improvement of the Sub-Transmission and Distribution System, for achieving quality power. In this regard, Me.S.E.B. has proposed a number of Sub-Transmission and Distribution Schemes under APDRP, which are under implementation since the year of 2003 – 04. The Government of India has sanctioned an amount of Rs. 227.44 Crores against the scheme. The expenditure against the Scheme is Rs. 85.06 Crores.

The balance work will spill over to the 11th Plan Period, which is expected to be completed during the 1st – 2nd years of the 11th Plan. It may also be mentioned that the main objective of this Scheme is to reduce the AT & C loss to below 15 %, as required by the Government of India. However, Me.S.E.B. has targeted to bring down the AT & C loss to 11 % by the 11th Plan Period. The proposed outlay for the 11th Plan Period for the above project is Rs.22688.00 lakhs, and the approved outlay for the Annual Plan 2007-08 is Rs.10,000.00 lakhs. **The proposed outlay for the Annual Plan 2008 – 09 is Rs. 9000.00 lakhs.**

5.1.9. **Rural Household Electrification Work:**

Under the Rural Electrification Programme, 1663 villages have been electrified during the 10th Plan. The cumulative achievement up to 2006-07 is 4289 villages. The anticipated achievement during 2007-08 is 36 villages and the target for 2008 -09 is 139 villages.

With the introduction of the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) Scheme by the Ministry of Power, Government of India, towards achievement of 100 % Village Electrification and electrification of all rural households by 2010, Me.S.E.B. proposes to avail the fund/grant towards implementation of the said objectives, in all the seven districts of Meghalaya during the 11th Plan Period. The estimated cost of the scheme is Rs.264.45 crores. The Detailed Project Reports (DPR) of the scheme have been prepared and submitted to the Rural Electrification Corporation Ltd (REC), for approval and sanction.

The proposed outlay for the 11th Plan for the above projects is Rs. 26454.00 lakhs, and the proposed outlay for the Annual Plan 2008-09 is **Rs.1000.00 lakhs**. The target for the 11th plan is for completion of the programme.

5.1.10. **Fund Constraint** - As mentioned in the foregoing notes Meghalaya has immense potential for Power Generation but is facing power shortage due to the inability of the State Government & MeSEB to take up generation projects in view of fund constraints. It is therefore proposed to source funds from the Ministry of DONER under NLCPR to enable the State Government to meet the growing demand of power. An amount of Rs.1500.00 crores is projected for the Eleventh Five Year Plan under NLCPR.

5.2. NON CONVENTIONAL SOURCES OF ENERGY

5.2.1. Energy crisis caused by dwindling resources of fossil fuel like petroleum and coal and their pollution have compelled us to find a safe and environmentally alternative sources of Energy. The alternative new sources of energy like Solar, Hydro, Wind and Bio-Energy have already demonstrated that it can fit the bill even though it may be a small contribution to our total energy requirements. The potential of these sources will grow as the technologies in this field are improved year by year. The outlines of a successful climate sensitive energy strategy already existed. Schemes and projects under new and renewable sources of Energy though on a limited scale have been pursued with notable success in the State.

5.2.2. The proposed outlay for **the 11th Five Year Plan (2007-2012) is Rs. 1200.00 lakhs** and the approved outlay for the Annual Plan 2007-08 is **Rs.100.00 lakhs** which is

expected to be utilized in full. The proposed outlay for the Annual Plan 2008-2009 is **Rs.125.00lakhs**.The Tenth Plan Projected Outlay for this sector is Rs. 440.00 lakhs and the actual expenditure during the Plan period was Rs.288.49 lakhs Except for Direction and Administration, the funding pattern of all the schemes under this sector have different funding pattern between the Centre, State and Beneficiary contribution.

5.2.3. The programme - wise outlay proposed for the 11th Five Year Plan (2007-2012) and for the Annual Plan 2007-08 and 2008-09 is indicated below:-

(Rs.in Lakhs)					
Sl. No.	Name of Scheme	11 th Plan (2007-2012)	Annual Plan Approved Outlay 2007-2008	Anticipated Expenditure 2007-2008	Annual Plan Proposed Outlay 2008-2009
1.	Direction and Administration including Advt. & Publicity	240.00	45.00	45.00	55.00
2.	Bio Energy –National project for Bio-gas Development	220.00	15.00	15.00	30.00
3.	Solar Thermal Energy	500.00	25.00	25.00	15.00
4.	Micro Hydel Project	240.00	15.00	15.00	25.00
	Total	1200.00	100.00	100.00	125.00

5.3. INTEGRATED RURAL ENERGY PROGRAMME

5.3.1. The proposed outlay during the 11th Plan is **Rs.900.00 lakhs** and the approved outlay for 2007—2008 is **Rs.100.00 lakhs** which is expected to be fully utilized. The proposed outlay for the Annual Plan 2008-2009 is **Rs.125.00 lakhs** Except for Direction and Administration, the funding pattern of all the schemes under this sector have different funding pattern between the Centre, State and Beneficiary contribution. The total approved outlay for this sector for the Tenth Plan is Rs.550.00 lakhs and the actual expenditure during the Plan Period is Rs.323.82 lakhs.

5.3.2. The broad break-up of the proposed outlay for the 11th Plan and the Annual Plan 2007-2008 & 2008-2009 is indicated below:-

(Rs. in Lakhs)					
Sl. No.	Name of Scheme	11 th Plan 2007-2012	Annual Plan Approved Outlay 2007-2008	Anticipated Expenditure 2007-2008	Annual Plan Proposed Outlay 2008-2009
1.	Regional Institute for Integrated Rural Energy Planning & Development	40.00	5.00	5.00	-
2.	Direction and Administration	400.00	60.00	60.00	90.00
3.	Solar Thermal Programme	100.00	5.00	5.00	5.00
4.	Biomass Gassification	100.00	5.00	5.00	5.00
5.	Field Projects	240.00	25.00	25.00	25.00
6.	Cluster preparation of DPR for villages	20.00	-	-	-
	Total	900.00	100.00	100.00	125.00

5.4. VILLAGE ELECTRIFICATION (MNES SPECIAL SCHEME)

5.4.1. The Government of India has a plan to electrify all census un - electrified villages in the country by the year 2008-2009 and all household should be provided electricity by 2012. As part of this programme the Ministry of New and Renewable Energy (early known as Ministry of Non Conventional Energy Sources) take up to electrification of the census remote villages in the country through Renewable Sources.

5.4.2. The State Govt. with the approval of the Govt. of India has identified 158 Nos. of villages in the State as remote villages and these villages are to be electrified through renewable source of energy. Out of these 158 Nos., 5 Nos. of villages are already covered in the 10th Plan i.e. by 2006-2007 and the balance villages of 153 Nos. are to be electrified in the 1st two years of the 11th five year plan i.e. 2007-2008 and 2008-2009. During 2007-2008, 73 Nos. of villages are to be electrified and the remaining will be taken up during 2008-2009.

5.4.3. In the 10th plan period, out of the total approved outlay of Rs.500.00 lakhs, only an amount of Rs.140.45 lakhs is the actual expenditure as the programme of electrification of remote villages in the 10th Plan period took off only during the last three financial years of the 10th Plan.

5.4.4. The proposed outlay for the 11th Plan for this sector is **Rs. 600.00 lakhs** and the approved outlay for 2007-2008 is **Rs.50.00 lakhs**. An amount of **Rs. 65.00 lakhs** is proposed for the Annual Plan 2008-2009 and the programme is expected to be completed in 2008-2009.