

**No.61/1/2003-RVE**  
**Government of India**  
**Ministry of Non-Conventional Energy Sources**  
**Remote Village Electrification Division**

**Block No. 14, C.G.O. Complex**  
**Lodi Road, New Delhi-110003**

**Dated: 16<sup>th</sup> December, 2003**

To

1. **Chief Secretaries of State Governments**
2. **Secretary, Ministry of Power, Government of India**
3. **CMDs of Rural Electrification Corporation, Power Finance Corporation**
4. **Chairmen of State Electricity Boards / Transcos / Gencos**
5. **Heads of State Nodal Departments / State Nodal Agencies / Implementing Agencies**

**Sub:- Programme for Electrification of Remote Census Villages and Unelectrified Remote Hamlets of Electrified Census Villages through Non-Conventional Energy Sources – Administrative Approval for the year 2003-04 - regarding.**

Sir,

I am directed to convey the sanction of the Government of India to the implementation of the Programme for Remote Census Village and Remote Hamlet of Electrified Census Village Electrification through non-conventional energy sources during the year 2003-04 in accordance with the following provisions, guidelines, terms and conditions:-

**1. Objective**

The objective of the Programme is to electrify remote census villages and remote hamlets of electrified census villages through non-conventional energy sources such as solar energy, small hydro power, biomass, wind energy, hybrid systems, etc. Implementation of the Programme will help to achieve the goal of 100% village electrification in the country by 2007. By focusing on remote census villages and remote hamlets of electrified census villages, the Programme aims at bringing the benefits of electricity to people living in the most backward and deprived regions of the country.

**2. Scope**

The scope of the Remote Village Electrification Programme will cover the following:-

- A. All unelectrified remote census villages, by 2007.
- B. All households of unelectrified remote census villages, by 2012.
- C. All unelectrified remote hamlets of electrified census villages, by 2012.

The unelectrified remote census villages or remote hamlets of electrified census villages, which will not be electrified by conventional means by the end of the Eleventh Plan (2012), as certified by the concerned Power Department / State Electricity Board, will be eligible for coverage under the Programme.

### **3. Definition of Remote Village or Remote Hamlet Electrification**

A remote village or remote hamlet will be deemed to be electrified if at least 10% of the households are provided with lighting facility. In addition, energy may also be provided for community facilities, pumping for drinking water supply or irrigation, as well as for economic and income generating activities in the village.

### **4. Activities under the Programme**

The Programme will, inter alia, cover the following activities:-

- (i) Surveys and studies aimed at firming up of State-wise lists of remote unelectrified census villages or remote hamlets of electrified census villages; assessing the renewable energy resources available in the villages and energy requirements of the community; and, identification of appropriate technology options for electrification. Preparation of State-wise Master Plans using such techniques as GIS based mapping.
- (ii) Installation of power plants based on solar energy, small hydro power, biomass, wind and other renewable energy sources; combination of renewable energy systems, or hybrid systems including a small contribution from diesel or other fuels, if required; and, solar home systems, lighting and other systems for community purposes and solar pumps.
- (iii) Upgradation / renovation of power plants as well as intensification of household coverage.
- (iv) Training, institutional development, capacity building, development of maintenance services, etc.
- (v) Monitoring and evaluation of individual projects, or the Programme as a whole, including technical, operational and socio-economic aspects, user feedback, impact assessment, etc.
- (vi) Business Meets, publicity and awareness programmes.

### **5. Implementation Strategy**

The implementation strategy will include:-

- (i) Electrification of remote villages or remote hamlets through State Nodal Agencies for renewable energy / Power Departments / Electricity Boards / corporate entities for power generation, transmission and distribution set up by the Central or State Governments, and in keeping with the Terms of Reference of the Joint Implementation Board (JIB), constituted through this

Ministry's Notification No.32/80/2003-04/PV-SE/No.1 dated 20<sup>th</sup> November, 2003.

- (ii) Electrification of remote villages or remote hamlets by Non-Government Organisations, Cooperative Societies and similar non-profit bodies.
- (iii) Implementation through district-level bodies, panchayati raj institutions, village councils, etc.
- (iv) Implementation by private sector by giving a concession for a designated area covering a village or a cluster of villages, with emphasis being on provision of energy services.

## **6. Operation, Maintenance and Sustainability of the Projects**

To ensure effective operation, maintenance and sustainability of the projects, efforts should be made to secure the participation of the local community from inception. Appropriate arrangements should be made for long term operation and maintenance, preferably for a period of 15 years, with a view to provide dependable electricity supply for various needs in remote villages and remote hamlets. A suitable Annual Maintenance Contract (AMC) for a minimum period of 10 years should be concluded, including replacement of parts or components such as batteries, electronics, lamps, bulbs, etc. for securing proper and sustained energy supply services. The warranty and after-sales-service obligations should be strictly enforced.

To ensure sustainability of the projects which for some reason are not covered by the 10 year AMC as above, revenue generation from beneficiaries should be made mandatory through collection of user charges upfront and / or on annual / monthly basis. The revenue so generated should be utilized for meeting the operation expenses or any other contingent expenditure. It could also be utilized towards maintenance and repair expenses or replacement of parts and components, after the expiry of the AMC.

## **7. Financing Arrangements**

Central Financial Assistance (CFA) upto 90% of the cost of the projects will be provided as grant for electrification of remote unelectrified census villages and remote hamlets of electrified census villages under this Programme, with specific benchmarks as applicable in respect of the technologies adopted for electrification. The eligible pattern of support for different technologies based on the respective schemes is given in **Annexure-I**. The other norms and terms and conditions for various technologies are contained in the relevant administrative approvals listed below:-

- (i) Solar Photovoltaics: Sanction Order No.32/01/2003-2004/PV-SE dated 11.12.2003.
- (ii) Small Hydro Power Programme : Sanction Order No.14(5)/2003-SHP dated 29.07.2003.
- (iii) Biomass Energy and Cogeneration Programmes : Sanction Order No.3/4/2003-CPG dated 21.07.2003.

For Solar Photovoltaic Water Pumping Systems, CFA will be provided to the users as per financing norms to be notified separately.

The balance 10% cost of projects for remote village and remote hamlet electrification can be financed through sources such as PMGY, MNP, RIDF, Ministry of Tribal Affairs, MPLAD / MLALAD and the corporate sector. The implementing agencies would be free to raise funds from these and other sources, such as REC, PFC, etc., including users, to meet their share of the cost of project.

For remote village or remote hamlet electrification projects implemented by entrepreneurs or private companies, the Ministry would provide funding on the approved scale for the respective technology option(s) and limited to the eligible components of the project cost. The entrepreneurs or private companies that are willing to organize the technology, financing, management, etc. and thus take responsibility of electrifying a village or cluster of villages, may be selected and approved on the basis of their interest and experience.

The Ministry will provide financial assistance of upto 80% of the cost of surveys mentioned in para 4(i) above, if undertaken by State agencies and Government bodies. The surveys can also be got done through Technical Consultancy Organisations and NGOs having experience in this field. A representative list of organisations that can be contacted for this purpose is given in **Annexure-II**. In specific cases, the Ministry may also directly engage such organisations to conduct surveys in specific areas and meet the full cost of such surveys.

Financial assistance will be extended to cover the full cost of monitoring and evaluation studies mentioned in para 4 (v) above to be undertaken through independent agencies.

The Ministry proposes to support a project for development of a Management Information System (MIS), which would include a database of village electrification related statistics. Grants will also be provided for the organisation of workshops, business and consultation meets, training programmes, etc. Proposals for such activities would be sanctioned on a case-by-case basis by the Ministry upto a ceiling of Rs.3 lakhs per event.

All grants and expenditure will be subject to the provisions of the General Financial Rules.

## **8. Project Proposals**

Project proposals for electrification of remote villages or remote hamlets should, inter-alia, provide the following information:-

- a. Census code number of the remote village or remote hamlet
- b. Certificate from the Power Department / SEB that the remote village or remote hamlet will not be electrified through conventional means by the end of the Eleventh Plan (2012).
- c. Project Report as per the format given in **Annexure-III**.
- d. Commitment for meeting the balance requirement of funds

## 9. Pattern of Release of Funds

Releases of the Central Financial Assistance (CFA) under the Programme would be made as per the following pattern:-

- |  |   |     |
|--|---|-----|
| ➤ Initial release of the total MNES cost share to be made alongwith the sanction order                         | - | 50% |
| ➤ Second installment to be made on supply of equipment at site   | - | 25% |
| ➤ Final installment to be released on erection and commissioning and after one month of satisfactory operation | - | 25% |

Audited SOE and UC to be forwarded by the implementing agency and certificate of electrification of the remote village or remote hamlet having been successfully carried out as per the Sanction Order to be provided by the beneficiary and the local administration at district / village level, after ascertaining from the beneficiaries, before release of the final installment.

## 10. Monitoring Arrangements

The concerned State Departments/ field agencies will closely monitor the implementation of the projects and provide monthly progress reports to the Ministry until commissioning. Thereafter, they would forward quarterly reports on performance and other feedback to the Ministry. The Ministry will also carry out intensive monitoring and evaluation of the projects directly as also through independent agencies. The district / village level agencies will be closely associated in planning, implementation and monitoring of all projects.

## 11. Miscellaneous

The implementing agencies shall provide utilisation certificates in the prescribed format as per the laid down requirements (**Annexure-IV**).

This Scheme will be effective for the Financial Year 2003-04 from the date of issue of the administrative approval. The projects already initiated with MNES support will continue to be financed on the support pattern and the terms and conditions indicated in the respective sanction letters issued by the Ministry. However, the release of funds for those projects shall be governed by the modified pattern of release of this Scheme.

The State Government Departments / Agencies may initiate action to implement the Remote Village and Remote Hamlet Electrification Programme during the current financial year as per the Scheme. Firmed up project proposals may be forwarded alongwith the Project Report and other documents as stipulated in the Scheme. The proposals would be considered on merit and subject to availability of funds. The final decision on support would rest with the Ministry.

Yours faithfully,

**(Smt. Krishna Sharma)**  
**Under Secretary to the Govt. of India**

Copy to:

1. Principal Director of Audit, Scientific Departments, DGCAR Building, IP Estate, New Delhi 110 002
2. PS to MOS(NES)
3. Sr. PPS to Secretary, MNES
4. Senior Adviser/AS&FA
5. All Advisers/JS(K)
6. Dir.(BMSB)/Dir.(AK)/Dir.(SA)
7. All Directors
8. PSO(RD)/ PSO(GRS)/PSO(SA)
9. Dy. C.A.
10. US(IFD)/US(RVE)
11. S.O.(Cash)/SO(IFD)
12. Sanction Folder
13. Guard File

**Copy to:-**

**The Pay & Accounts Officer,  
Ministry of Non-Conventional Energy Sources  
New Delhi**

The expenditure on projects sanctioned under this Programme is debitible to Head of Account 2810 (Non-Conventional Sources of Energy)-20 (Village Electrification Programme)-20.00.31 (Grants-in-aid). The expenditure on projects in the North Eastern States and Sikkim is debitible to Head of Account 2552-14.00.42 (Lumpsum Provision for North Eastern Region and Sikkim).

This issues under the delegated powers to the Ministry and with the concurrence of IFD Sanction **No.IFD/SAN/104/525-A/2003-04** dated **16.12.2003**.

**(Smt. Krishna Sharma)  
Under Secretary to the Govt. of India**

**PATTERN OF CENTRAL FINANCIAL ASSISTANCE (CFA) FOR**  
**2003-04 REMOTE VILLAGE AND**  
**REMOTE HAMLET ELECTRIFICATION PROGRAMME**

**I - Pattern of Central Financial Assistance (CFA) for SPV Systems\***

<b>SPV System</b>	<b>Approx. cost of the system</b>	<b>90% of the cost subject to a maximum of</b>	<b>Service Charge</b>
<b>Solar Home System</b> Model 1 (18 W Module, 1 light )	Rs.5580	<b>Rs.5020</b> @ Rs.279 / W	Rs.200
<b>Solar Home System</b> Model 2 (37 W Module, 2 lights)	Rs.10660	<b>Rs.9590</b> @ Rs.259 / W	Rs.200
<b>Solar Home System</b> Model 3 (37 W Module, 1 light, 1 fan)	Rs.10660	<b>Rs.9590</b> @ Rs.259 / W	Rs.200
<b>Solar Home System</b> Model 4 (74 W Module, 2 lights, 1 fan)	Rs.19680	<b>Rs.17720</b> @ Rs.239 / W	Rs.200
<b>Solar Home System</b> Model 5 (74 W Module, 4 lights)	Rs.19680	<b>Rs.17720</b> @ Rs.239 / W	Rs.200
<b>Street Lighting System</b>	Rs.21320	<b>Rs.19180</b> @ Rs.259 / W	-
<b>Power Plants</b>	Rs.278000 / kW	<b>Rs.250200 / kW</b> @ Rs.250 / W	Rs.10000
<b>Power Plants with Distribution Line</b>	Rs.334000 / kW	<b>Rs.300600 / kW</b> @ Rs.300 / W	Rs.10000

\* The CFA is based on the cost which includes supply of the system at the site, installation, commissioning and Annual Maintenance Contract(AMC) for ten years including replaceable guarantee for parts and components such as battery, electronics, lamps, etc. For PV modules, the replaceable guarantee is for ten years.



## II - Electrification through Small Hydro Projects

Region	Upto 100 KW	Above 100 KW & upto 999KW
For N.E. Region, Sikkim, J&K, H.P. and Uttaranchal	90% of the project cost limited to	
	Rs.60,000/KW	Rs.60 lakhs + Rs.43250/KW
Notified hilly regions of other States & Islands	90% of the project cost limited to	
	Rs.60,000/KW	Rs.60 lakhs + Rs.43250/KW
Plain & other regions of all other States	90% of the project cost limited to	
	Rs.45,000/KW	Rs.45 lakhs + Rs.29250/KW

## III - Electrification through Biomass Gasifier Projects

CFA in the form of capital subsidy on pro-rata basis to the extent 90% of the cost of Rs.15 lakhs for a basic package for a 50 KW project covering biomass gasifier system, housing and local distribution with the balance to be met by State Agency, Panchayat, beneficiaries, etc. An average size of 50 KW has been considered with unit size of 25 KW capacity, modular upto 100 KW, and a special rating of 10 KW. For cluster of villages, projects upto 1 MW can be considered.

Additional Rs.1.50 lakh per 50 kW plant to be provided for regular availability of biomass, including collection, processing and storage and operation and maintenance, including AMC for 5 years after the warantee period. In addition, for internal wiring, beneficiary will be provided micro-credit facility for three points @Rs.1500/- per household.

CFA of Rs.10,000/- to be provided as service charges to State Nodal Agencies for projects upto 100 KW capacity, and pro-rata upto 1 MW capacity, with maximum of Rs.1.0 lakh for 1 MW project.

One-time funding of upto Rs.5.0 lakhs to be provided to gasifier manufacturers/suppliers for establishing service centres in areas where cluster of systems, minimum 10, are set up.

**List of Organisations which can be contacted for conducting Surveys and preparation of Detailed Project Reports (DPRs) for Remote Village Electrification Projects**

*(The list is indicative and inclusion in this list does not imply recommendation / approval by MNES of any Organisation)*

1. Administrative Staff College of India (ASCI), Bella Vista, Hyderabad-500082.
2. Andhra Pradesh Industrial and Technical Consultancy Organisation Ltd. (APITCO), 8<sup>th</sup> Floor, Parisrama Bhavanam, Basheerbagh, Hyderabad-500029
3. Industrial & Technical Consultancy Organisation of Tamil Nadu (ITCOT), 50-A, Greams Road, Chennai-600006.
4. Madhya Pradesh Consultancy Organisation Ltd., Gangotri, T.T.Nagar, Bhopal-462003.
5. Maharashtra Industrial and Technical Consultancy Organisation Ltd.(MITCON), PO Box No.923, Kubera Chambers, Shivaji Nagar, Pune-411005.
6. North India Technical Consultancy Ltd., S.C.O.-131-132, Chandigarh-160017.
7. Gujarat Industrial and Technical Consultancy Organisation Ltd. (GITCO), opposite Sardar Patel Stadium, Stadium Road, Navrangpura, Ahmedabad
8. Solar Energy Society of India (Eastern Regional Chapter) c/o. IC Design & Fabrication Centre, Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata-700032.
9. The Energy and Resources Research Institute (TERI), Darbari Seth Block, India Habitat Centre, Lodi Road, New Delhi-110003.
10. Institute for Energy Studies, Anna University, Chennai-600025.
11. School of Energy Studies, Jadavpur University, Kolkata-700032.
12. National Productivity Council, 1037, Sector 27-B, Chandigarh
13. Department of Bio Energy, College of Agricultural Engg., Tamil Nadu Agricultural University, Coimbatore-641003
14. School of Energy, Bharathidasan University, Khajamai Campus, Tiruchirappalli-620023.
15. Integrated Rural Technology Centre, Mundur, Palakkad-678592.
16. Deptt. of Chemical Engineering, Indian Institute of Technology, Hauz Khas, New Delhi-110016.

17. Deptt. of Energy Systems Engineering, Indian Institute of Technology, Powai, Bombay-400076.
18. CGPL, Deptt. of Aerospace Engineering, Indian Institute of Science (IISc.), Bangalore-560012.
19. School of Energy, Environment & Natural Resources, Madurai Kamaraj University, Madurai-625021.
20. Sardar Patel Renewable Energy Research Institute, P.B.No.2, Vallabh Vidya Nagar-388120, Gujarat
21. Alternate Hydro Energy Centre, Indian Institute of Technology, Roorkee-247667, Uttaranchal
22. Water and Power Consultancy Services Ltd., V Floor, Kailash Building, 26 Kasturba Gandhi Marg, New Delhi-110001.
23. Metallurgical and Engineering Consultants Ltd. (MECON), P.O. Hinoo, Ranchi, Jharkhand-834002

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**FORMAT FOR PROJECT REPORT FOR REMOTE VILLAGE ELECTRIFICATION PROJECTS**

**A. GENERAL**

1. Name & Full Address of State Nodal Deptt./Agency
2. Name & Full Address of Project Executing Organisation/Agency (if other than State Nodal Deptt./Agency)
3. Name, Designation & Full Address of district / village level officials
4. Name of Village, Block & District(enclose village layout)
5. Village census code
6. Latitude & Longitude
7. Distance from nearest road-head
8. Distance from nearest rail-head
9. Distance from block office
10. Distance from electrical sub-station / 11 KV line
11. Total population
12. No. of households
13. Number of Hamlets/Dalit Bastis
14. Community buildings
15. Industrial establishments
16. Commercial establishments
17. Main occupation
18. If agriculture, main crops

**B. TECHNICAL**

19. Details of renewable energy resource availability
  - Solar - average annual insolation, clear sunny days in year
  - Biomass - type of biomass, source, quantity (tonnes/year)
  - SHP - water source (canal, run-of-river), distance from village, head (m), discharge (cumecs)
  - Wind - average annual wind speed

- 20. Electrical Demand
  - (a) Household loads
  - (b) Commercial loads
  - (c) Industrial loads
  - (d) Community services
  - (e) Irrigation/Agriculture Operations
- 21. Load profile, hours of operation per day
- 22. Technology option proposed to be deployed
- 23. Capacity and details of proposed system configuration  
(enclose layout)

**C. COST**

- 24. Estimated project cost with break-up and ex-works cost in case of solar PV systems
- 25. Means of financing – CFA, State share, other sources
- 26. Revenue generation – user charges, upfront and / or annual / monthly payments

**D. IMPLEMENTATION**

- 27. Mode of implementation
  - Equipment supply contract
  - Turnkey EPC contract
  - Turnkey EPC-Cum-O&M contract
  - Energy Service Provider contract  
(Name and Address of supplier/contractor to be given)
- 28. Implementation schedule
- 29. Operation & Maintenance arrangements – Warranty, AMC (scope and tenure)
- 30. Monitoring arrangements
- 31. Role of local community in planning, implementation and management, including revenue management
- 32. Any other information

**Name & Signature with seal**

**Date :** Head of Nodal Deptt./Nodal Agency/Implementing Agency

**Place :**

**Form of Utilisation Certificate**

(As per Form GFR 19-A GOI Decision (1) below Rule 150)

**Name of Organisation:** \_\_\_\_\_

**Financial Year:** \_\_\_\_\_

S.No.	MNES sanction for Released amount		
	Letter No.	Date	Amount (Rs. in Lakhs)
TOTAL:			

Certified that out of Rs. \_\_\_\_\_ of grants-in-aid sanctioned during the year \_\_\_\_\_ in favour of \_\_\_\_\_ under Ministry of Non-Conventional Energy Sources letter no. given in the margin and Rs. \_\_\_\_\_ on account of unspent balance of the previous year, a sum of Rs. \_\_\_\_\_ has been utilised for the purpose of \_\_\_\_\_ for which it was sanctioned and that the balance of Rs. \_\_\_\_\_ remaining unutilised at the end of the year has been surrendered to Government(vide No. \_\_\_\_\_ dated \_\_\_\_\_)/will be adjusted during towards the grants-in-aid payable during the next year \_\_\_\_\_.

2. Certified that I have satisfied myself that the conditions on which the grants-in-aid was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the following checks to see that the money was actually utilised for the purpose for which it was sanctioned.

**Date** \_\_\_\_\_  
**Place** \_\_\_\_\_

**Signature of P.I.** \_\_\_\_\_  
**Designation** \_\_\_\_\_

**Signature** \_\_\_\_\_  
**Head of Deptt of Project**

**Signature** \_\_\_\_\_  
**Accounts Officer of Project**

**Countersigned** \_\_\_\_\_  
**Division concerned in MNES**