

No.32/37/2009-10/PVSE
Government of India
Ministry of New & Renewable Energy

Block No.14, CGO Complex,
New Delhi, dated 27th April 2010

To
The Pay & Accounts Officer,
Ministry of New & Renewable Energy, New Delhi.

Subject: - Continuation of the “Solar Lantern Programme” during the financial year 2010-11.

Sir,

In continuation of this Ministry’s previous sanction letter of even number dated 8th July 2009 on the subject noted above, I am directed to convey the sanction of the President for continuation of implementation of the scheme entitled **“Solar Lantern Programme”** on the same financial pattern and guidelines as contained in the Administrative Approval issued vide sanction order No 32/37/2006-07/PVSE dated 10.10.2006, at a total budget / outlay of Rs.224.00 crore (Plan), and Rs.3.00 crore for Professional Charges during 2010-11 or until finalization of the Scheme for Off-grid under the Jawaharlal Nehru National Solar Mission (JNNSM). Once the Off-grid Scheme under JNNSM is finalized and announced, this scheme would lapse.

2. All the implementing Agencies are requested to take up the above mentioned scheme for implementation as per the guidelines contained in the aforesaid sanction order dated 10th October 2006, till further order. The scheme provides financial support for distribution of solar lanterns and related activities in the country. No lump sum targets will be allocated to the implementing agencies. Proposals will be considered on case-to-case basis for specific allocations or target groups.

3. The expenditure on above scheme will be met from the budget head - Demand No.67; Major Head:2810-New & Renewable Energy; 101-Grid Interactive & Distributed Renewable Power, 02-Off-grid/Distributed & Decentralized Renewable Power, 04-Solar Power, 31-Grants-in-aid General (Plan) and 02.04.28-Professional Charges, during the year 2010-11.

4. This issues in exercise of powers delegated to this Ministry and with the concurrence of IFD vide their Dy. No. IFD /96/2010-11, dated 16th April 2010 and concurrence dated 19/04/2010.

5. This sanction order has been noted in the Expenditure Register at S. No.1 on page No121.

Yours faithfully,

(PREM CHAND)
Under Secretary to the Govt. of India
Phone: 24360707/Extn.1023

P.T.O.

Copy is forwarded for information to:-

1. Director of Audit (Scientific departments), AGCR Building, IP Estate New Delhi-11002
2. Chairman and Managing Director, IREDA, 3rd Floor, August Kranti Bhawan, Bhikaiji Cama Place, New Delhi – 110 066.
3. Chief Executives / Directors of all SPV Programme Implementing Organisations
4. Solar Energy Centre and Heads of all other Authorised Test Centres (viz Regional Test Centers at Madurai, Vallabh Vidyanagar, Indore, Pune and Jadavpur University).
5. Director General, Bureau of Indian Standard, Manak Bhavan, 9-Bahadurshah Zafar Marg, New Delhi -02.

Internal distribution:-

1. PS to Minister
2. PSO to Secretary, MNRE
3. PS to AS&FA
4. JS(GS) /JS (HK)
5. All Advisers in MNRE
6. Dir. (BB)/ Dir.(AR)/Dir.(P&C)/Dir.(Fin.)/CA, MNRE/US(F)/PSO(GP)/SO(ST)
7. Dir.(NIC) to upload this on the Ministry's website.
8. Cash Section
9. Sanction folder.

(PREM CHAND)

Under Secretary to the Govt. of India

No.32/37/2009-10/PVSE
Government of India
Ministry of New and Renewable Energy
SPV Group

Block No.14, CGO Complex
Lodi Road, New Delhi-110 003.

Dated: 8th July, 2009

To

Pay and Accounts Officer
Ministry of New and Renewable Energy
New Delhi.

Sub:- Implementation of the 'Solar Lantern Programme' during 2009-10.

Sir,

I am directed to convey the sanction of the President for continuation of implementation of the scheme entitled 'Solar Lantern Programme' during 2009-10 on the same financial pattern and guidelines as contained in the Administrative Approval issued vide sanction no.32/37/2006-07/PVSE dated 10th October, 2006. The scheme provides financial support for distribution of solar lanterns and related activities in the country. No lump sump targets will be allocated to the implementing agencies. Proposals will be considered on case to case basis for specific applications or target groups.

2.0 Budget for 2009-10

2.1 The requirement of funds for the Solar Lantern Programme will be met from the following budget head

Major Head : 2810 New and Renewable Energy

Allocated budget:
(Rs. in crore)

00 Solar (Sub Major Head)

101-Grid Interactive and Distributed Renewables Power (Minor Head)

02 – Off Grid/Distributed and Decentralised Renewable Power (Sub Heads)

04- Solar Power (Detailed Head)

31-Grants-in-Aid(Object Head)

30

- 2.2 The release of funds for various activities relating to solar lantern programme will be made in consultation with IFD and the approval of the competent authority.
- 2.3 This sanction issues in exercise of delegated powers to this Ministry and with the concurrence of IFD vide their Dy. No.IFD/484/09 dated 23/6/2009 and concurrence dated 29/06/2009.

Yours faithfully,

(Dr. G. Prasad)
Principal Scientific Officer

Copy to:

1. Principal Director of Audit (Scientific Departments), DGACR Bldg., I.P. Estate, New Delhi – 110 002
2. Chief Executives / Directors of all SPV Programme Implementing Organisations
3. Solar Energy Centre and Other Authorised Test Centres
4. AS & FA / All Advisers/ JS(GS)
5. PS to MoS (NRE)
6. Sr. PPS to Secretary, MNRE
7. CMD, IREDA
8. Cash Section
9. DS (Finance)/US(F)/ SO (F)
10. Dir(AR)/Dir(BB)/Dir(OSS)/Dir(P&C)/US(Solar)
11. Sanction Folder

(Dr. G. Prasad)
Principal Scientific Officer

**No.32/37/ 2006-2007/PVSE
Government of India
Ministry of Non-Conventional Energy Sources
Solar Photovoltaic Group**

**Block No. 14, C.G.O. Complex,
Lodi Road, New Delhi -110 003**

Dated: 10th October, 2006

To

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

Sub: Implementation of Solar Lantern Programme during 2006-07 - Sanction Order

Sir,

I am directed to convey the sanction of the President for the implementation of the Solar Lantern Programme during 2006-07 in the un-electrified villages, hamlets of the Special Category States and the UT islands, as per the provisions given in the following sections and the Annexure 1-9, with the following objectives:-

- (i) To reduce the consumption of kerosene for lighting purposes by replacing the kerosene lanterns and wick lamps by Solar Lantern.
- (ii) To improve the quality of life in rural areas through the use of environment friendly solar lighting systems, which do not need any fossil fuels, do not emit any pollutants and are free from health and fire hazards; and
- (iii) To provide an alternative for meeting small lighting requirements.

2. SOLAR LANTERN PROGRAMME DURING 2006-07

It is proposed to take up deployment of 30,000 solar lanterns under 2006-07 SPV Programme. The Ministry will provide a subsidy of Rs.2,400/- per solar lantern to the eligible beneficiaries in the un-electrified villages, hamlets of the (i) Special Category States and the (ii) UT islands. A list of un electrified villages would be obtained by the implementing agencies from REC from time to time. In addition, the Ministry will also provide Rs.100 per lantern as service charges to the state nodal agencies/Departments and the Akshaya Urja shops. MNES will also provide Rs. 100 per lantern to the state nodal agencies/Departments towards inspection charges of solar lanterns sold by the Akshaya Urja shops. Subsidy will be provided only on eligible models of solar lanterns, procured from the pre-qualified manufacturers, after competitive bidding.

With a view to encourage girl child to continue their studies, it is proposed to provide a solar lantern free of cost to a girl child belonging to a BPL family residing in the un electrified villages and hamlets of the special category states and UT islands. One school going girl child per BPL family, studying in class IX to Class XII, will be eligible to get one solar lantern free of cost during the entire period of her school study. The distribution of solar lanterns to such girl child will be organized by the concerned SNAs through the District Administration to ensure verification of BPL status and for obtaining the details of the school and class of the girl child. The SNAs are required to maintain complete record of girl child beneficiaries and ensure strict compliance and monitoring of the provisions of the scheme in this regard. The distribution of solar lanterns to the girl child may be taken up in project mode.

The implementing organizations are advised to take necessary actions to achieve the targets allocated to them by **31st March, 2007**

3. IMPLEMENTATION ARRANGEMENTS

The scheme will be implemented only through the state nodal agencies/Departments and the Akshaya Urja shops. Shops opened / managed by the manufacturers or their associations will not be eligible under the scheme. The state nodal agencies/Departments will not be allowed to allocate targets to the manufacturers to market the solar lanterns on their behalf. Further, the Ministry will not allocate targets for direct marketing by the manufacturers, their associations or NGOs etc. The other guidelines concerning the implementation of solar lantern programme during 2006-07 are given in **Annexure I**.

4. MNES CFA & RELEASE OF FUNDS

The details of MNES CFA on solar lanterns and the schedule for the release of the CFA to the state agencies and the Akshaya Urja shops are given in the **Annexure II**.

5. SPECIFICATIONS OF SOLAR LANTERN

The technical and performance specifications of solar lanterns covered under the 2006-07 Programme are given in **Annexure – III**.

6. MONITORING ARRANGEMENTS

All implementing agencies will be responsible for performance monitoring and evaluation of solar lanterns distributed under the programme. They are advised to set up suitable inspection and monitoring arrangements to closely review the implementation of the programme as stated in the **Annexure IV** The state nodal agencies/departments will be required to inspect at least 20% of the total solar lanterns distributed / installed through them and sold through the Akshaya Urja shops under the programme. They are required to maintain records of inspection and verification of installation in the formats specified by MNES. The Ministry will provide the concerned agency service charges for this purpose. In addition, the MNES officials may also carry out inspection from time to time. MNES may commission independent studies on inspection, survey and evaluation of the solar lanterns

distributed under the programme. The progress of the implementation of the scheme will be reviewed/monitored by the Ministry.

7. All projects sanctioned under 2006-07 programme will be implemented by the concerned programme implementing organizations, as per the terms and conditions and guidelines contained in the **Annexures - I to IX** of this Sanction Order.

8. This issues in exercise of delegated powers of the Ministry and with the concurrence of IFD vide No. IFD/SAN / 107/405/2006-07 dated 6-10-2006

9. This sanction has been entered at Sl. No. 13 on page No. 9 in the register of Grants.

Yours faithfully,

(Dr.Rajesh Kumar)
Principal Scientific Officer

Ph:011-24360707 / 24360404 ext:1902
Fax: 011- 24361932, 24363546, 24361891

Copy to:-

1. Principal Director of Audit (Scientific Departments), AGCR Bldg., I.P. Estate, New Delhi – 110 002
2. Chief Executives / Directors of all SPV Programme Implementing Organizations
3. Solar Energy Centre and Other Authorized Test Centres
4. All Regional Offices of the Ministry of Non-Conventional Energy Sources.
5. PS to MoS (NES)
6. Sr. PPS to Secretary, MNES
7. Principal Adviser & Special Secretary
8. AS & FA
9. All Advisers/ JS(K)
10. M.D. IREDA
11. Cash Section (3 copies)
12. Director(Bh)/ Director(OSS) / Director (P&C)/ Director (F)
13. PSO(RK) / SO(SE)/SO(F)
14. Files of All implementing agencies
15. Sanction Folder

(Dr.Rajesh Kumar)
Principal Scientific Officer

IMPLEMENTATION GUIDELINES

The Solar Lantern Programme 2006-2007 will be implemented as per the following guidelines and norms :

1. Programme Implementing Organizations

1.1 The Solar lantern programme 2006-07 will be implemented only through the state nodal agencies/Departments (SNAs) and the Akshaya Urja shops. Shops opened / managed by manufacturers or their associations will not be eligible under the scheme. The SNAs will not be allowed to allocate targets to the manufacturers to market the lanterns on their behalf. Further, the Ministry will not allocate targets for direct marketing by the manufacturers, their associations or NGOs etc.

2. Eligible Beneficiaries

2.1 All Categories of individual beneficiaries & non-profit institutions / organizations would be eligible to have solar lantern under the scheme in the un-electrified villages and hamlets of the (i) special category states and (ii) UT islands. Not more than one solar lantern would be provided to a family.

2.2 With a view to encourage education among girl child, one school going girl child per BPL family, studying in class IX to Class XII will be eligible to get one solar lantern free of cost. She will not be eligible to get another solar lantern during the entire period of her school study. The distribution of solar lanterns to such girl child will be organized by the concerned SNAs through the District Administration to ensure verification of BPL status and for obtaining the details of the school and class of the girl child. The SNAs are required to maintain complete record of girl child beneficiaries and ensure strict compliance and monitoring of the provisions of the scheme in this regard. The distribution of solar lanterns to the girl child may be taken up in project mode.

2.3 The beneficiaries would be required to show proof of identity such as ration card, voter identity card etc., to the implementing agency. The implementing agency shall keep complete record of the beneficiary . Further, the distribution of solar lanterns to girl child from BPL family will be organized by the concerned SNAs through the District Administration to ensure verification of BPL status and for obtaining the details of the school and class of the girl child. The SNAs are required to maintain complete record of girl child beneficiaries and ensure strict compliance and monitoring of the provisions of the scheme in this regard. The distribution of solar lanterns to the girl child may be taken up in project mode. The distribution of solar lanterns should be taken up in a cluster mode so that implementation, maintenance and after sale service and inspection of Solar Lanterns becomes easy.

3. Allocation of Targets

3.1 The programme implementing organizations are advised to submit specific proposals in accordance with the guidelines of the programme to the Ministry. On allocation of the targets by the Ministry the implementing organizations will immediately take all necessary actions for procurement and distribution of solar lanterns by **31st March, 2007**

4. Indigenous Solar Lanterns

4.1 Fully imported solar lanterns are not covered under the programme. Use of imported modules and / or batteries is however permitted. The imported modules may be used provided an independent test agency has certified their performance, conforming to the MNES specifications of solar lanterns given in Annexure III. The test agency and the implementing agencies will ensure compliance to this requirement. In case of imported modules / batteries the test agencies will seek a copy of test report/certificate issued by an independent test agency, before issue of a test report for solar lanterns. The Implementing organizations are required to procure only those solar lanterns which fully conform to the MNES specifications. No deviations in the specification will be permitted.

6. Eligibility Criterion for the Manufacturers of Solar Lanterns

6.1 The following conditions are to be fulfilled by the manufacturers to be eligible to participate in the 2006-07 solar lantern programme.

6.2 Only those manufacturers of solar lanterns who manufacture at least one of the major items used in the lanterns i.e. PV modules or storage battery or electronics, and have adequate facilities for testing of the solar lanterns would be allowed to supply the solar lanterns under the scheme. The pre-qualification will be done on the basis of detailed report submitted by the interested manufacturer, enclosing the list and pictures of the manufacturing and testing facilities and an undertaking that if the details provided by the manufacturer are in deviation with the provisions of the scheme, it will call for disqualification. After such a report is received, if considered necessary, a team of MNES official (from regional office or head quarter or SEC) and/or a representative of the state nodal agency / other authorized test centre may visit the facilities of the interested manufacturer for verification. Companies which are engaged only in the assembly of solar lanterns with above-mentioned bought out items will not be eligible for supply of the lanterns under this scheme. While inviting the offers the state nodal agencies will ask the interested manufacturers to give a declaration to the effect that they fulfill the terms and conditions of eligibility as specified in this order and that they have submitted the required details along with the support technical information and photographs to the authorized test centre and that a similar declaration was given at the time of testing of the sample by the authorized test centre. While issuing the test report the test centre will also record on the main test report that the manufacturer has submitted the declaration and is accordingly eligible. If the declaration is found to be false, the eligibility would be considered null and void.

6.3 The make and serial number of PV module used with the solar lanterns must be recorded by the manufacturer in a permanent manner on the body of the solar lantern along with the serial number and year of manufacture of that solar lantern. This will ensure matching of the module and the lantern and also enable verification with the sale/ supply records.

6.4 The manufacturers of solar lanterns should issue excise gate pass for the products sold under the subsidy Programme so that sale of product can be independently verified.

6.5 The eligible manufacturer who are able to secure order of solar lanterns from SNAs will be required to set up at least one service centre for every 500 solar lanterns or a part supplied by them in that State. The state agencies are advised to distribute solar lanterns in clusters.

7. Test Reports

7.1 The Ministry has drawn specifications for the Solar Lanterns, as given in **Annexure III**. Only type tested and qualified models of solar lanterns will be allowed to be supplied under the scheme. The testing and certification of samples will be done by the Solar Energy Centre of the Ministry at Gurgaon, Haryana; Electronics Regional Test Laboratory (East), Kolkata; Central Power Research Institute, Thiruvananthapuram. No orders should be placed on manufacturers, who do not possess valid test reports for the solar lanterns and who do not submit documents and declaration to the agency stating that they fulfill the conditions of the 2006-07 scheme.

7.2 The existing test certificates for solar lantern, **Model IIA, as per technical specifications given in Annexure III**, issued after 1st March, 2006, will be eligible for the supply under 2006-07 programme, subject to meeting other conditions of the 2006-07 programme, specially the eligibility criterion for the manufacturers. All solar lanterns, submitted for testing from 1st March, 2006 onwards will be tested in accordance with the modified specifications of solar lanterns Model IIA given in **Annexure III**. While accepting the samples for testing as per the MNES specifications, the authorized test centres will ask the interested manufacturers to give a declaration to the effect that they fulfill the terms and conditions of eligibility as specified in this order and that they have submitted the required details along with the support technical information (detailed list of equipment and their specifications) and photographs to the authorized test centre and a copy has been submitted to the MNES. While issuing the test report the test centre will also record on the main test report that the manufacturer has submitted the detailed technical and support information and the declaration and is accordingly eligible to participate under 2006-07 programme. If the declaration is found to be false, the eligibility would be considered null and void. The requisite information will be furnished by the manufacturer in the format given in **Annexure IV**. This provision is not applicable for any samples which are submitted for development work and are not related to the supplies under the MNES schemes.

7.3 The manufacturers are required to submit detailed technical report along with the support documents and photographs to the authorized test centre about being original manufacturer of PV module/battery/electronics and confirm in writing that they full-fill the eligibility criterion set out in this order. At the time of the repeat testing they are required to submit a declaration that the necessary information along with the support documents / photographs etc. has been submitted to the test centre also indicating the date of furnishing the information to the test centre. This provision is not applicable for any samples which are submitted for development work. This condition will be applicable for all samples submitted for testing from 1st December, 2006. All samples for which test reports are to be issued on or after 1st December, 2006 the Test Centres must obtain the required information before a test report is issued.

7.3 The test reports are issued for specific make/manufacturer, type/model number and capacity under standard test conditions for the PV module(s), storage battery, lamp etc. used by the manufacturer to achieve the desired performance of that solar lantern. Similarly the electronic circuits also use specific designs to achieve the reported efficiency, current consumption and voltage drops for that type of lantern system. Therefore, the manufacturers are not allowed to change make / model of any of the components / items stated above at the time of supply. Any deviation in the make of such components will not be allowed without seeking pre-qualification of the solar lantern a fresh. The test report issued by SEC and other test centres will be considered valid only for the specific make/ model mentioned in that test report. No test report will be considered valid wherein more than one make / model is specified for any of the above mentioned components / items in a single test report. The manufacturers of solar lantern who wish to get the solar lanterns tested are required to

declare the names of the original manufacturers of the PV module/battery/electronics used in their samples. The test agencies are required to ensure that name of the original manufacturer is mentioned in the test report. The test report will provide information on the performance results of the product (item wise as per MNES specifications) given to the test agency and the actual performance measured by the test agency along with a report on the compliance to MNES specifications. The test agencies will also mention the date of receipt of sample and the date of issue of the report so that the implementing agencies can ensure that the samples received and tested after 1st March, 2006 are in accordance with the modified specifications of solar lanterns given in Annexure III. It will be ensured by the SNAs and the Akshaya Urja shops that only those solar lanterns are supplied under the subsidy scheme which fulfill the above stated requirements.

8. Authorized Test Centres

The following Test centers are authorized to test the Solar Lanterns:-

- 1) Solar Energy Centre
(Ministry of Non-Conventional Energy Sources)
Gwal Pahari,
Gurgaon - Faridabad Road,
Gurgaon - 122 001, Haryana
Telephone : 011- 2436 0331 (New Delhi),
95124 - 2579207, 95124 - 2579208 (SEC, Gurgaon)
E-mail : bbibek@nic.in
- 2) Electronics Regional Test Laboratory (East)
D N Block, Sector V, Salt Lake City,
Bidhan Nagar, Kolkata - 700 091
Fax : 033-23679472 / 23678974
E.mail : ertleast@ertle.ernet.in
- 3) Central Power Research Institute,
Energy Research Centre, P.Box. No. 3506,
Sreekrishna Nagar, Sreekariyam, Thiruvananthapuram - 695 017
Fax : 0471 – 2599687, 2596004,
E.mail : [cprit @ vsnl.com](mailto:cprit@vsnl.com)

9. After Sales Service and Warranty

9.1 For supply of solar lanterns under the Scheme, the manufacturers will be required to provide a warranty for a minimum period of two year for the complete system (including the battery) and minimum ten years for the PV module (s) from the date of supply. The programme implementing organizations will also be required to enter into an Annual Maintenance Contract (AMC) with the suppliers / manufacturers for the solar lantern for a period of five years, including the warranty period.

10. Implementation Methods for State Organizations

10.1 The state nodal agencies / Departments are required to procure solar lanterns through tender process. The bids for solar lanterns should be invited in two parts i.e. Technical and Commercial bids. Price bid of only those manufacturers / suppliers should be opened, who have qualified the technical and other procedural criteria. The genuineness of the firms / companies should also be ascertained.

10.2 The bids for solar lanterns should be quickly evaluated and orders placed on the manufacturers of solar lanterns. While evaluating the bids and placing orders for the solar lanterns, relevant instructions of the Central Vigilance Commission issued from time to time, should be adhered to strictly, without any deviation. The orders should be placed on the manufacturers from the Headquarters of the implementing organizations, rather than from their district level offices, as the later arrangement often leads to delays.

10.3 In case it is decided to place orders on more than one manufacturer of solar lanterns, it is suggested that the manufacturers are allotted targets for specific areas (districts / blocks) in a cluster mode. This will help in providing after sales services by the suppliers

11. Implementation of the Programme by Akshay Urja Shops

11.1 Akshay Urja Shops set up by the State agencies, private entrepreneurs and NGOs are eligible to seek targets from the concerned state agency and organize the sale of solar lanterns conforming to MNES specifications and guidelines. In special cases MNES may also directly allocate targets to Akshay Urja Shops owned by NGOs.

11.2 The Akshaya Urja shops may claim subsidy on reimbursement basis from the State agencies by submitting complete list of buyers along with their full addresses, dates of sales, sales price, models & makes and serial numbers of systems & PV modules supplied, and buyers identity references (ration card, telephone bill, electricity bill, passport, bank account). This information will be available for independent verification by state agencies, CAG or any other organization authorized by the Ministry.

11.3 Reimbursement of subsidy to the privately owned and NGO owned Akshay Urja Shops will be only after random inspection of 20% of solar lanterns distributed by them by the concerned state nodal agency / MNES regional office.

12. Annual Maintenance Contracts (AMC)

The programme implementing organizations and the Akshaya Urja shops are advised to enter in to a separate AMC for a period of five years including the warranty period, while placing their orders on the manufacturers for the supply of solar lanterns. The AMC amount should be released annually only after satisfactory performance is verified by them.

13. Details of Beneficiaries

All programme implementing organizations are required to maintain a record of details of beneficiaries & solar lanterns supplied under the Solar Lantern Programme 2006-07 of MNES, as given in the **Annexure-VI**. The data should also be available on a computer floppy / CD. This information must be available at the Headquarters of the implementing organization and should be readily made available to MNES as & when required. This record will also be made available readily for verification / audit purposes, if required.

14. Monitoring

State implementing organizations are required to make suitable arrangements to monitor the supply, installation and performance of the solar lanterns. At least 20 % of the total solar lanterns distributed by the agency should be inspected after installation and their performance should be recorded as per **Annexure- VII** In addition, MNES may get the systems inspected through its officers or through independent organizations. MNES may also involve District Level Renewable Energy Advisory Committee in inspection of lanterns.

15. Solar Lanterns for SC / ST Beneficiaries

The programme implementing organizations should ensure that the Scheduled Caste and Scheduled Tribe beneficiaries are provided at least 15 % and 10 % of the total solar lanterns respectively out of the allocated targets. The organizations should keep a record of the systems supplied to the beneficiaries belonging to these categories. The summary of this information must be furnished to MNES at the time of submitting final claims / settlement of accounts.

16. Women's Component in the Solar Lantern Programme

While distributing solar lanterns preference should be given to girls hostels, adult education centres meant for women and DWACRA centres. Preference should also be extended to the families having a school going girl child.

17. Use of MPLAD and MLA LAD funds

The State agencies should try to tap funds available under MPLAD and MLA LAD Schemes in their States for meeting the balance cost of projects beyond the assistance provided by MNES. This will help in the implementation of projects in states facing resource constraints. The projects with partial funding from MPLAD / MLA LAD will be implemented in accordance with the guidelines issued by MNES and the Ministry of Programme Implementation.

18. Progress Report

The State agencies are required to submit monthly progress report and on completion of the project the project completion report as per the **Annexure V** and **Annexure IX**.

Annexure II

SCHEDULE FOR RELEASE OF CENTRAL FINANCIAL ASSISTANCE (CFA)

(MNES 2006-07 Solar Lantern Programme)

1. The Ministry will provide a CFA of Rs. 2400 per solar lantern to the eligible beneficiaries through the SNAs and Akshaya Urja shops.
2. Ministry will provide Rs.100 per lantern as service charges to the SNAs and the Akshaya Urja shops. MNES will also provide Rs. 100 per lantern to SNAs towards inspection charges of solar lanterns sold by the Akshaya Urja shops, maintained by NGOs. No separate service charges will be paid for the shops maintained by the state nodal agencies.
3. 50% of the MNES CFA will be released to the SNAs, as an advance.
4. The remaining 50% of MNES CFA and service charges will be released after completion of the project. The agency will furnish a project completion report along with the inspection report of at least 20% of the lanterns distributed and also submit the audited statement of expenditure and UC as per formats given in **Annexure VIII.**
5. Akshaya Urja shops will be eligible to receive subsidy on reimbursement basis for the supply of lanterns in accordance with provisions of the scheme and issue of inspection certificate by the concerned state agency.
6. The claims should be accompanied with the information, as per format given in **Annexure IX**
7. Separate accounts are to be maintained by Akshaya Urka shops for the grants received from MNES. These grants will be open for audit by the CAG or its representatives / nominated chartered accountants, etc.

SPECIFICATIONS FOR SOLAR LANTERN

(2006-2007 SOLAR LANTERN PROGRAMME)

SOLAR LANTERN

I. DEFINITION

A solar photovoltaic lantern (Solar lantern) is a lighting system consisting of a lamp, battery and electronics, all placed in a suitable housing, made of metal, plastic or fiber glass, and a PV module. The battery is charged by electricity generated through the PV module. The lantern is basically a portable lighting device suitable for either indoor or outdoor lighting, covering a full range of 360 degrees. A lighting device which provides only unidirectional lighting will not be classified as a solar lantern in the present context.

II. DUTY CYCLE

The solar lantern should provide a minimum of three hours of lighting per day under average daily solar radiation conditions of 5 kWh / sq.m. on a horizontal surface. The actual duration of lighting may vary depending on the location and season, etc.

III. MODELS

Only one model of solar lanterns that is **Model IIA**, will be eligible under the 2006-07 programme. The technical features and the performance requirement for **Model IIA** are given below:

IV. LAMP

- (i) The lamp will be of compact fluorescent (CFL) type with a rating of 7 Watt.
- (ii) For 4 - Pin type CFLs, a suitable pre-heating circuit must be provided.
- (iii) The lamp should preferably be mounted in a base up configuration.
- (iv) The light output should be 370 +/- 5% lumen for a 7W lamp.
- (v) No blackening or reduction in the lumen output by more than 10% should be observed after 1000 ON/OFF cycles (two minutes ON and four minutes OFF is one cycle).

V. BATTERY

- (i) The battery will be sealed maintenance free lead acid type.
- (ii) The capacity of the battery will be a minimum of 7.0 AH at 12 V at C/20 discharge rate at 27 °C.
- (iii) 80% of the rated battery capacity (~ 5.6 AH at 12V, 27 °C) should be between the low voltage and high voltage cut-off points specified in the performance requirements of the electronics used in the solar lantern.

VI. ELECTRONICS

- (i) The inverter will be of quasi sine wave/sine wave type with a crest factor less than 1.7 and the frequency in the range of 20-35 KHz. Half-wave operation is not allowed.
- (ii) The overall efficiency of the control electronics should be more than 80%.
- (iii) The idle current (i.e. the current consumed when the lamp is switched OFF and no charging is in progress) should not be more than 1mA.
- (iv) The voltage drop from module terminals to the battery terminals should not exceed 0.5 volts including the drop across the diode and the cable.
- (v) The PCB containing the electronics should be capable of solder free installation and placement.
- (vi) The low voltage cut off set point will not be lower than 11 V and the high voltage cut off should be below 14.3 V at 27 °C.
- (vii) The electronics circuit will be designed to ensure full charging of the battery under different ambient temperatures (0 - 45 °C). Further, the electronic circuit should have adequate temperature compensation for proper charging of the battery throughout the year.

VII. PV MODULE

- (i) The SPV module to be used with the solar lantern must have a minimum of 10 Wp (atleast 610 mA I_{load} when measured at 16.40 ± 0.2 Volts load condition) under the standard test conditions (STC) of measurement.
- (ii) The module should preferably have an arrangement (stand) for mounting at the optimum angle in the direction facing the sun.
- (iii) In case of thin film solar cell modules, the specified values refer to the stabilized power output after the initial degradation.
- (iv) The terminal box on the module should have a provision of opening it for replacing the cable, if required.
- (v) A strip containing the following details should be laminated inside the module so as to be clearly visible from the front side:-
 - a) Name of the Manufacturer or distinctive Logo
 - b) Model and / or Type No.
 - c) Serial No.
 - d) Year of manufacture
- (vi) In case of imported modules the details specified in (v) above should preferably be inside the module, if not provided, such details should be mentioned on the back side/frame of the module in permanent manner.

VIII. ELECTRONIC PROTECTIONS

- (i) Adequate protection is to be incorporated under no load conditions (e.g. when the lamp is removed and the lantern is switched ON).
- (ii) Battery cut offs & reconnects should be provided to protect it against overcharge and deep discharge conditions.
- (iii) A fuse should be provided to protect against short circuit conditions.
- (iv) A blocking diode, preferably a Schottky diode, should be provided as part of the lantern electronics to prevent reverse flow of current through the PV module, if such a diode is not provided with the module itself.
- (v) Full protection against open circuit, accidental short circuit and reverse polarity should be provided.

IX. OTHER FEATURES

- (i) Two LED indicators one for a green light to indicate charging in progress and another red LED to indicate deep discharge condition of the battery suggesting that load should be switched off and the battery must be charged immediately should be provided on the body of the lantern. The green LED should glow only when the battery is actually being charged.
- (ii) The On / Off switch used in the lantern must be suitable for use in DC circuits and be reliable with long life. Use of electronic switch is allowed. A cable of suitable length of at least 5 meters should be provided for inter-connection between the module and the lantern.
- (iii) The following details should be marked indelibly on the lantern :
 - (a) Name of the Manufacturer or Distinctive Logo.
 - (b) Model Number (this refers to Models indicated in Clause III above)
 - (c) Serial Number.
 - (d) Make and Serial Number of the Module used with the lantern
- (iv) An Operation, Instruction and Maintenance Manual, in English and in the local language, should be provided with the solar lantern.

The following minimum details must be provided in the Manual:

- (a) About Photovoltaics
 - (b) About solar lantern
 - (c) About PV module.
 - (d) About CFL.
 - (e) About battery.
 - (f) Clear instructions about mounting of PV module.
 - (g) About electronics.
 - (h) About charging and significance of indicators.
 - (i) DO's and DONT's,
 - (j) Clear instructions on regular maintenance and trouble shooting of the lantern.
 - (k) Name and address of the person or service Centre to be contacted in case of failure or complaint.
- (v) Components and parts used in the solar lantern should conform to the latest BIS specifications, wherever such specifications are available and applicable.
 - (vi) Additional features such as a small white LED which functions as a night lamp or a socket for powering another appliance such as a fan or radio can be provided in the lantern. These are however purely optional. If such features are provided, they should not interfere with the independent switching on and off of the lantern.
 - (vii) The PV module will be warranted for a minimum period of 10 years from the date of supply and the lantern (including the battery) will be warranted for a minimum period of two years from the date of supply. The Warranty Card to be supplied with the system must contain the details of the system supplied, as given below. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

FORMAT FOR WARRANTY CARD TO BE SUPPLIED WITH EACH SOLAR LANTERN

1. Name & Address of the Manufacturer/Supplier of the Solar lantern -----
2. Name & Address of the Purchasing Agency -----
3. Date of supply of the solar lantern -----
4. Details of PV Module(s) supplied in the solar lantern
Make (Name of the manufacturer) -----
Model -----
Serial No(s). -----
Wattage of the PV Module(s) under STC -----
Warranty valid up to -----
5. Details of Battery
Make (Name of the manufacturer) -----
Model -----
Batch / Serial No(s). -----
Rated V & AH capacity at C/20 or C/10 rate at 20 C -----
Warranty valid up to -----
6. Details of Electronics & other BOS items
Make (Name of the manufacturer) -----
Model -----
Serial No(s). -----
Warranty valid up to -----
7. Designation & Address of the person to be contacted for claiming Warranty obligations -----

(Signature)
Name & Designation
Name & Address of the Manufacturer /Supplier
(SEAL)

Place & Date :

(During the warranty period, MNES / State Agencies / users reserve the right to cross check the performance of the systems with the minimum performance levels specified in the MNES specifications)

Format for Submission of Information for Eligibility as Manufacturer of SPV Systems under MNES Programmes

1. Name and complete address of the company with the name and designation of the contact person, his/her complete postal and e-mail addresses and fax & telephone numbers
2. Year of starting manufacturing of PV products (Please specify the items and year)
3. Please specify the items for which you are original manufacturer (Modules / Batteries / Electronics) and provide support technical and other information including the specifications of major equipment, testing facilities and pictures of facilities. With out support information and photographs claim will not be accepted.
4. Address of the manufacturing unit
5. International Standard (s) awarded to the company, if any (e.g. ISO 9002 / ISO 14000)
6. Qualification to National and / or International Standards on PV (Please provide information for each product – type of modules and the standard qualified).
7. Installed capacity (in kW / numbers) for solar cells / modules / systems:
8. Production and sales of solar cells and modules during last four years.

Year	Solar Cells				PV Modules			
	Production		Sale		Production		Sale	
	KWp Value (Rs.L)	KWp Value (Rs.L)	KWp Value (Rs.L)	KWp Value (Rs.L)	KWp Value (Rs.L)	KWp Value (Rs.L)	KWp Value (Rs.L)	
2002-03								
2003-04								
2004-05								
2005-06								

9. Total sales of the PV products (cells, modules, systems etc) during the last four years.

2002-03
2003-04
2004 - 05
2005 –06

10. Total Sales in the domestic market during the last four years:
(in kW / numbers and the corresponding value in lakhs of rupees)

Year	Type of system	Sales		
		No.Sold	kWp	Value(Rs.)
2002-03				

2003-04		
2004-05		
2005-06		

11. Information on supply of following systems by the company during the last four years

System Nos / kW installed in 2002-03, 2003-04, 2004-05, 2005-06

- Solar Lanterns
- Solar Home Lighting Systems
- Street Lights
- Solar Pumps
- Power Plants / Packs (> 1 kW)
- Telecommunications
- Defence and paramilitary forces
- Other Government supplies
- Private market supplies

12. Product-wise details of the exports during the last four years (2002-03, 2003-04, 2004 – 05 and 2005 – 06)

Name of the Product / System: (separate information for each item- cells, modules, systems)

Country to which exported	Year of Export	Quantity exported in kW / Numbers	Corresponding value of export (in lakhs of rupees)	Remarks

13. Import of major inputs during 2002-03, 2003-04, 2004-05, 2005-06

Year	Wafers		Cells		Modules		BOS	
	Qty Nos	Value (Rs. L)	Qty Nos	Value (Rs. L)	Qty Nos	Value (Rs. L)	Qty Nos	Value (Rs. L)
2002-03								
2003-04								
2004-05								
2005-06								

14. Information on dealers, regional offices and service centres of the company

15. Any major project (domestic and / or international) undertaken, which you may like the Ministry to give wider publicity, as and when considered necessary by the Ministry.

While submitting the information to the test centre the interested manufacture is require to submit a copy of the format dully filled, without support enclosures for item no 3, to the Ministry. This information is required to be furnished once in a financial year.

FORMAT FOR THE MONTHLY PROGRESS REPORT (MPR)

1. Name of the State :
2. Name of the Implementing Agency :
3. Progress Report for the Month / Year :
4. Achievements :

Achievements	Solar Lanterns (Nos.)
Cumulative (since inception) under MNES SPV Programme, as on 31.3.2006 = (a)	
Targets allocated under the 2006-2007 Programme = (b)	
Achievements during the Month, against the 2006 -2007 Targets = (c)	
Cumulative Achievements till the Month , against the 2006 - 2007 Targets = (d)	
Cumulative (since inception) till the Month under MNES SPV Programme = (e) = (a) + (d)	
Achievements outside MNES Programme, if any = (f)	
Total Achievements = (g) = (e) + (f)	

Signature
(Name & Designation of the Authorized
Officer)
Date & Office Seal

**BENEFICIARY-WISE RECORD OF SOLAR LANTERNS
SUPPLIED UNDER THE 2006-2007 SOLAR LANTERN PROGRAMME**

(To be kept at the Headquarters of the Implementing Organization)

1. Name of the State _____

2. Name of the Implementing Organization _____

MNES Sanction No. & Date			
Nos. of Solar Lanterns sanctioned vide this Sanction letter			

Details of Beneficiaries & Lanterns

Name of the District	
Name of the Block / Taluqa	
Name of the City / Town / Village	

Beneficiary-wise details of Solar Lantern

S. No.	Name of the Beneficiary	Local Address	Identity Ref. (No. of Ration Card/ Passport/ Bank Account/ Voter's Card / Telephone Bill / Electricity Bill)	Date of supply	Make , Model and Sr. No. of PV module	Make , model and Sr. No. of Lantern

**Signature
(Name & Designation)
of the Authorized Signatory
Date & Office Seal**

MONITORING AND FEEDBACK MECHANISM

1. The State Governments / programme implementing organisations will set up monitoring arrangements to closely review the implementation of the programme.
2. The programme implementing organisations are required to check at least 20% of the total solar lanterns after initial installation in the field and confirm to MNES that these are performing satisfactorily, before submitting their Project Completion Reports.
3. From time to time officers from Regional Offices of MNES and from the Headquarter may also inspect the field installations and cross check the reports of the implementing agencies. Any deficiency found in the implementation / performance of the systems will be informed to the implementing organization for rectification / corrective actions
4. The MNES may also undertake field evaluation studies for the solar lanterns installed under the programme in selected States through professional and independent organizations.
5. During the execution phase of the projects, the implementing organizations are required to submit Monthly Progress Reports (MPR) to MNES regarding the progress of implementation of the programme. The MPR should be submitted as per Format given below:

ANNEXURE – VIII

(to be submitted on the Letter Head of the Chartered Accountant)

FORMAT FOR SUBMITTING AUDITED STATEMENT OF ACCOUNTS

Name of the State	
Name of the Implementing Organization	
Programme Reference	2006-2007 Solar Lantern Programme of MNES

Funds released by MNES

S.No.	Sanction No.	Date of sanction	Amount released (Rs.)
Total Amount Released			(A)

Expenditure Incurred

S. No.	Solar lanterns distributed (nos.)	Supplier & Make	Ex - works Cost per lantern (Rs.)	Total Cost per lantern	Total Cost of the lanterns distributed (Rs.)	Expenditure Incurred (Rs.) (Rs.)
1.						
2.						
Total						

Service Charges	
Service charges for solar lanterns @ Rs. 100/- each	
Service charges for inspection of solar lanterns sold by private Akshaya Urja shops @ Rs. 100/- each (limited to 20% of the target)	
Total cost of the solar lanterns + services charges	B
Total CFA from MNES including service charges	(C=B-E-F)
Interest Accrued on CFA released by MNES, as advance (if any)	(D)
State Share	(E)
Beneficiary Share	(F)
Balance CFA from MNES to be released	(C) - (A) -(D)

The above information is based on audit and verification carried out by us.

Place :

Date :

**Signature
(Name & Designation) and Seal**

ANNEXURE - VIII

FORMAT FOR SUBMITTING UTILISATION CERTIFICATE

(To be submitted in duplicate)

S. No.	Letter No. & Date	Amount
		(Sanctioned)
		(Released)
TOTAL		-----

Certified that out of Rs..... of grants-in-aid released during the year ---- in favour of -----under this Ministry / Department 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.

Kinds of checks exercised

- 1.
- 2.
- 3.
- 4.
- 5.

Signature -----
Designation -----
Date -----

(to be countersigned by the Division concerned)

Utilization Certificate

(To be sent in duplicate to the Ministry of Non-conventional Energy Sources)
for the financial year (from _____ to _____)

1. Title of the Project/Scheme :
2. Name of the organization :
3. Ministry of Non-Conventional energy Sources letter
No. and date of sanctioning the project :
4. Amount brought forward from the previous financial year
quoting Ministry of Non-Conventional Energy Sources
letter No. and date on which the authority to carry forward
the said amount was given :
5. Amount received from Ministry of Non-Conventional Energy
Sources during the financial year :
(please give letter No. & date of sanctions showing the amount paid)
6. Total amount that was available for expenditure
(including commitment incurred during the Financial year
(Sr. No. 5 + 6):
7. Actual expenditure (Excluding commitments) incurred during :
the financial year
8. Unspent balance refunded, if any.
(please give details of cheque no. etc.)
9. Balance amount available at the end of the financial year :
10. Amount allowed to be carried forward to the next
financial year vide letter no. and date :

Certified that the expenditure of Rs. _____ (Rupees _____ mentioned against Column 8 was actually incurred on the Project / Scheme for the purpose for which it was sanctioned and balance amount of Rs. _____ is available on _____.

**(Signature of project
Principal Investigator)**

**(Signature of
Registrar/Accounts Officer)**

**(Signature of Head
of the organization)**

ACCEPTED AND COUNTERSIGNED

**COMPETENT AUTHORITY
MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES**

PROJECT COMPLETION REPORT

1. Name of the State _____

2. Name of the Implementing Organisation _____

MNES Sanction No. & Date			
Nos. Sanctioned vide this Sanction letter			
Nos. installed prior to this project			
Nos. installed under this project			
Total Nos. installed so far			

3. District-wise installation of solar lanterns

S. No.	Name of the District	Nos. installed under this project	Cumulative Nos. installed so far.
1.			
2.			
3.			
.			
.			
-	TOTAL		

4. Cost Sharing Pattern (per lantern)

MNES share :
State Share :
Beneficiary Share :

Total Cost :

Certified that

- (i) The distribution of solar lanterns has been successfully completed in accordance with the guidelines of the Solar lantern Programme 2006-07.
- (ii) Complete beneficiary-wise record of lanterns distributed under Solar Lantern Programme 2006 - 2007 has been compiled as per **Annexure – VIII**
- (iii) There is no duplication in the List. Each page of the list has been signed by the concerned Programme In-charge / Head of the Organization.
- (iv) The list is available at the Headquarters of this organization and will be readily provided to MNES, or any agency designated by MNES for purposes of inspection and verification.

- (v) At least 20% of the solar lanterns distributed under 2006-07 Programme have been inspected in the field after initial installation, for which records are maintained as per **Annexure VII**, and have been found to be performing satisfactorily.
- (vi) Audited UC and SOE have been submitted (copy enclosed) / being submitted to the Ministry as per **Annexure VIII**.
- (vii) The balance MNES share (if any) amounting to Rs. ----- may kindly be released by MNES.

Date :

Place:

(Signature & seal)
Head of the Implementing
Organization