

**Application Format
for seeking
Generation Based Incentive
for**

Grid Interactive Solar Thermal Power Generation Projects

**Ministry of New and Renewable Energy
Block 14, CGO Complex
Lodhi Road
New Delhi 110003
(<http://mnre.gov.in>)
March 2008**

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Grid Interactive Solar Thermal Power Generation Projects**

A. GENERAL

1.	Name and Mailing address of the registered office of the Company Telephone No. Fax No. Email: Web site:	
2.	Legal Status of the Company	
3.	Date of Incorporation	
4.	Present activity of the Company	
5.	Turnover of the Company	
6.	Profit / Loss during previous year	
7.	Number of Employees	
8.	Name, and address of the Chief Executive Telephone No. Fax No. Email:	
9.	Name & address of authorized contact person for the Project Telephone No. Fax No. Email:	

B. EXPERIENCE IN RENEWABLE ENERGY SECTOR

1.	Nature of business in RE (Manufacturing /System Integrator/ Marketing / Others)	
2.	Number of years in RE Business	
3.	Main RE products of the company	
4.	Indian / International Certification on RE products obtained by the Company	
5.	Turnover of the RE business of Company	
6.	Profit / Loss during previous three year, ITO where returns are filed	
7.	Number of Employees in RE	
8.	Details of RE business in India	
9.	Details of RE business in other countries	
10.	Details of previous experience in solar thermal business in India / Other Countries (Please provide information separately)	
11.	Number of grid interactive solar thermal power generation projects proposed and the locations in - India - Other countries	

C. PROPOSED PROJECT

1.	Proposed Project Capacity in MW	
2.	Project Location Address: Telephone: Fax: E-mail	
3.	a) Nature of the land Urban / Rural / Industrial / Agricultural b) Land Area Required / Obtained c) Owner of the Land as per the title of the land d) Whether the land has been purchased or on long-term lease (Minimum of 20 years) or allotted by the State Government? e) Whether all legal clearances have been obtained for possession of land and its use for setting up a solar thermal power plant? f) Actual date of possession of land g) Access to the site Railhead Road	
4.	DPR has been enclosed (Yes /No)	
5.	Source of technology (own/tie up from technology providers/others). Please specify & give details	
6.	Project Cost (Rs. in Lakhs)	
7.	Equity of the Project Developer / company	
8.	Source of Funding and Tie up of funds	
9.	Estimated annual generation from the Grid interactive solar thermal power plant (million kWh/year)	
10.	Estimated generation cost and proposed sale price (Rs. per kWh)	
11.	Estimated life of the plant	
12.	Name and address of the Utility	
13.	Name and address of contact person in Utility Telephone No. Fax No. Email:	
14.	Whether the SERC has announced the power purchase rate for Solar Power; and the rate if already announce (enclose copy of SERC order)	
15.	Details of Power Purchase rate agreed by the utility and period of PPA. Copy of PPA enclosed	
16.	Copy of PPA and proof of obtaining other legal and procedural clearances enclosed (Yes/No)	
17.	Place of evacuation of power	
18.	Whether permission obtained for evacuation of power? Please enclose support documents	
18.	Status of necessary legal and procedural clearances obtained for setting up of the Grid interactive power plant at the proposed site (Please enclose separate copies for each approval obtained)	

19.	Time schedule for installation and commissioning of the Grid interactive solar thermal power plant (Number of months after obtaining initial intimation from IREDA about eligibility for incentive)	
20.	Manpower for the proposed Project (Direct, partial in man-days and indirect)	

If more than one legal entity propose to set up the plant, company related information must be provided for each legal entity.

D. TECHNICAL DETAILS OF THE PROJECT

1.	General information about the site - Height above sea level - Latitude - Longitude	
2.	Meteorological data for the site (This may include the following parameters; full details and source to be provided in DPR) - Global, diffuse and direct normal solar radiation - Ambient air temperature - Wind speed and direction - Precipitation	
3.	Solar thermal technology (Parabolic trough/ central receiver/ solar dish/ Fresnel mirror/ any other (pl. specify))	
4.	Area requirement - Total (ha) - Solar field (ha) - Power bloc (ha) - Other (ha)	
5.	Technical details of solar field <u>Line Focussing Technology</u> - Solar collector assembly + Total number of assemblies + Total number of solar collectors in one assembly + Aperture area of one solar collector (sq. m.) - Solar collector details + Configuration + ID/OD/length/material of the receiver tubes + Selective absorber coating + Design operating temperature (inlet and outlet fluid temperatures) for power generation at rated capacity + Thermal performance equation + Estimated/rated heat output at mean operating temperature (kW) + Details of reflector (material, thickness, mounting frame,	

	<ul style="list-style-type: none"> reflectance for solar radiation, protective coating) + Heat transfer fluid - Orientation of solar collectors <p><u>Central Receiver Technology</u></p> <ul style="list-style-type: none"> - Heliostats <ul style="list-style-type: none"> + Total number + Length/ breadth/area of one heliostat + Material and thickness + Control mechanism - Tower details <ul style="list-style-type: none"> + Height (m) + Base area (sq. m.) - Receiver details <ul style="list-style-type: none"> + Type + Heat collection area + Heat transfer fluid + Maximum estimated temperature + Estimated thermal efficiency at mean operating temperature for producing power at rated capacity <p><u>Solar dish technology</u></p> <ul style="list-style-type: none"> - Solar field <ul style="list-style-type: none"> + Total number of solar dishes + Diameter and aperture area of one solar dish + Material of dish, its thickness and reflectance + Interconnecting arrangement for bank of solar dishes - Engine <ul style="list-style-type: none"> + Type and make + Rated power generation along with value of solar radiation + Threshold value of solar radiation + Mounting arrangement 	
6.	<p>Technical Details of Power Bloc</p> <ul style="list-style-type: none"> - Power cycle <ul style="list-style-type: none"> + Operating range of temperatures and pressures at the evaporator and condenser stages + Estimated efficiency <p>Details of turbine (type/ make /rating etc.) and details of generator shall also be provided.</p>	
7.	Total water requirement and arrangement for its availability and its reuse	
8.	Estimated power losses at various stages and system design details	

9.	Details of the Monitoring and Data logging along with instruments to be installed at the project site (Please give item wise details)	
10.	<p>Details for Power Evacuation Arrangements</p> <ul style="list-style-type: none"> - Voltage & frequency of the grid to which solar thermal power will be fed - Distance of substation from the project site - Capacity of substation - Transformer rating - Power factor at the bus 	
11.	Any other salient feature of the Grid interactive solar thermal power plant project	
12.	Whether the project will be implemented directly or through other agency, please provide details	

DECLARATION (TO BE SUBMITTED ON THE LETTER HEAD OF THE COMPANY)

We, M/s ----- hereby agree and undertake to abide by the following:

- a) We have gone through the Guidelines announced by the Ministry and agree to terms and conditions of the Guidelines.
- b) We agree to fully meet the technical and performance requirements as given in the Guidelines.
- c) We agree that the Company will maintain and provide all technical information to the Ministry and IREDA or to any other agency authorized by them, including information on daily solar radiation availability, hours of sunshine, duration of plant operation and the quantum of power fed to the grid etc. The project developer will install suitable instruments, meters and data loggers for this purpose.
- d) We agree that the project will not avail accelerated depreciation under Section 32 of the Income Tax Act 1961, as amended from time to time.
- e) We agree that we will not use any other source of power generation along with Solar thermal power project at the same project site for feeding power to the grid.
- f) We agree that we will allow representative from MNRE / IREDA / SNA and any independent organization authorized by MNRE / IREDA to inspect as well as to study performance of the plant from time to time
- g) We agree that the Ministry has a right to modify the guidelines and the incentive at any time before final approval of incentive.
- h) We agree to abide the guideline / procedures announced by Ministry and IREDA for releasing incentive to the project.
- i) We agree to abide by the laws and other regulatory requirements announced by the local bodies, Central and State Government from time to time
- j) We agree to make timely payment of all fees, taxes and other charges to the local bodies/State and Central Government, as applicable for implementation of the project at the project site.
- k) We agree to complete the installation and commissioning of the grid interactive solar thermal power project with in the stipulated time frame, as intimated by the Ministry/IREDA.
- l) We agree to comply and fully meet all safety related requirements for setting up a grid interactive solar thermal power plant and feeding power to the grid from the plant.
- m) We understand that the approval of incentive will be granted on satisfactory inspection of the grid interactive solar thermal power plant by a team appointed by the Ministry. If during the inspection major deficiencies / deviations are observed and /or violations of the guidelines are noticed that cannot be rectified in a specified time, the Ministry will not provide any incentive.
- n) We understand that the Ministry will give priority to projects, which are submitted by the project developers for installation of Grid interactive solar thermal power projects in the states where the SERC has announced or notified the tariff for solar power.
- o) We are eligible and we have not been debarred for receiving any grant from the Central Government.

- p) We do not have any outstanding dues to be paid to IREDA for any other project taken up by any of our group companies
- q) We agree to abide by any condition(s) as to be stipulated during approval of the project.

We enclose herewith the copies of the following documents, with our application:

1. Detailed Project Report
2. Solar thermal power tariff policy as announced by the State Electricity Regulatory Commission
3. PPA Agreement with the Utility.
4. Title of the land in favour of the company / lease agreement
5. Clearance / no objection certificates from local/state/central bodies required for acquiring land and setting up the power project at that site
6. (Please mention and enclose item wise information for each clearance obtained)
7. Certificates for compliance to various quality / performance related standards
8. (Please mention and enclose separate copies for each certificate)
9. Documentary proof of other information furnished in the application for fulfillment of guidelines
10. Month wise project implementation schedule
11. Other documents (as considered necessary by the applicant)

The above information as submitted by us is true to the best of our knowledge. In case any information given by us in this application or attached documents is found to be false we understand that the Ministry may not consider our proposal for generation based incentive and debar us from consideration of incentive for any other project for which we are an applicant.

(Authorized Signatory)
Designation & Seal
Tel No.
Fax No.
E-mail

Date & Place

Two copies each of the complete application dully filled along with all enclosures and a copy of the DPR for the proposed project may be submitted to the following:

Adviser
Solar Energy Group
Ministry of New and Renewable Energy
Block 14, CGO Complex
Lodhi Road
New Delhi 110003

In addition, two sets may be submitted to IREDA as the following address

Chairman & Managing Director
Indian Renewable Energy Development Agency
Core 4A
India Habitat Centre
Lodhi Road
New Delhi 11003

The incomplete applications will not be considered on first come first served basis and are liable to be rejected

The guidelines and application format may be down loaded from the web site of the Ministry
<http://mnre.gov.in>

For any clarification about the guidelines please contact :

Adviser (Solar)
Telefax No. 011-24361932
E-mail: advttt@nic.in

Director (ST)
Telefax No. 011-24363546
E-mail: ashvinikr@nic.in