

10/11/2010-P&C
Ministry of New & Renewable Energy
HRD Division

Block No. 14, CGO Complex
Lodi Road, New Delhi-110003
Date 14.02.2011

ORDER

Sub: National Solar Science Fellowship Programme

Sanction of President is conveyed for launching of National Solar Science Fellow Programme by the Ministry of New & Renewable Energy from the year 2011-12. The programme aims to provide opportunities to Indian Scientist desirous of working in the fore front areas of science, engineering and technology in selected prestigious institutions in India for the development of knowledge base in science of solar energy, technology and product development. The details of the fellowship programme are as follows:-

1. Title of the Programme:- The programme will be called as “National Solar Science Fellow Programme”.
2. Aims & Objectives:- The programme is meant for an Indian Scientist desirous of working in the forefront areas of solar energy science, engineering and technology with focus on science, technology and product development in collaboration with selected prestigious institutions in India. The aim of the National Solar Science Fellow Programme is to provide a platform to top quality scientists and engineers in the area of solar energy research, to use and expand the resources available at the identified schools/institutions in the country and abroad to address the complex problems of solar energy utilization for various end use including power generation. The Solar Science Fellows will work for a period of three years at their chosen host institution to undertake research in the thrust areas identified by the Fellowship Management Committee while also strengthening connections across the participating schools/institutions.
3. The indicative list of institutions which will act as host institutions to begin with, is given below:
 - a) IISc, Bangalore
 - b) Tata Institute of Fundamental Research, Mumbai
 - c) Indian Association for Cultivation of Science, JadHAVpur, Kolkata
 - d) Solar Energy Centre, Gwalpahari, Gurgaon
 - e) National Physical Laboratory, New Delhi
 - f) I.I.T, Delhi
 - g) I.I.T, Bombay
 - h) I.I.T., Madras
 - i) I.I.T, Kanpur
 - j) I.I.T, Kharagpur
 - k) I.I.T, Roorkee
 - l) I.I.T. Jodhpur
 - m) National Institute of Technology, Bhopal
 - n) National Institute of Technology, Jaipur

- o) National Institute of Technology, Hamirpur
- p) School of Energy, Jawahar Lal Nehru Technology University, Hyderabad
- q) Centre of Energy Studies and Research, Devi Ahilya University, Indore
- r) TERI University, Delhi
- s) School of Energy Studies, Jadhavpur University
- t) School of Energy Studies, Anna University, Chennai
- u) Department of Energy, Tezpur University
- v) Department of physics, Lucknow University
- w) University of Petroleum & Engineering, Dehradun
- x) Energy Research Centre, Punjab University
- y) CR University of Science & Technology
- z) Guru Govind Singh Indraprastha University, Delhi
- aa) H.N. Bahuguna University, Srinagar, Uttarakhand
- bb) Mata Vaishno Devi University, Katra, Jammu
- cc) Birla Institute of Technology and Science, Pilani

The list of institutions may be amended by the Fellowship Management Committee for this purpose from time to time. These institutions will sign a MOU (Annexure-1) with the MNRE. The areas of research to be undertaken under this fellowship programme shall be decided by a Fellowship Management Committee to be constituted by the Ministry for this purpose. This issues within the sanctioned HRD programme for Renewable Energy vide our sanction No. 10/19/2007-P&C dated 11.10.2010.

4. Fellowship Management Committee:- A Fellowship Management Committee will be constituted by the Ministry under the Chairmanship of Secretary, MNRE with eminent scientists as members and scientist-in-charge (HRD) as convener. The Fellowship Management Committee will decide the areas of research to be undertaken under this programme. The Committee will also be recommending the institutions for taking part in the Fellowship Programme. The expert members of the Committee will have a duration of three years.
5. Number of Fellowships:- The total number of Fellowships at any point of time will be limited to 10 only. However only three fellows will be selected during the first year of the launch of the Programme.
6. Duration of Fellowship:- Duration of the Fellowship will be initially for two years which may be extended for another three more years on year to year basis depending upon the progress of the work done by the Fellow.
7. Commencement of Programme:- The Programme will commence during the year 2010-11. The National Solar Science Fellows will form a community of researchers engaged in frontal areas of solar energy by intellectual curiosity, top quality scholarship and drive to understand and find solutions to application of solar energy and find solutions to the energy security challenges facing the country today. By this program they will be benefiting from all that the Government has to offer, and in turn benefit the Government in finding solutions to the technological problems of solar energy and their application on to the field leading to visible impact of solar energy in the energy sector of the country.

8. **Targeted Scientists:-** The programme is open to all Scientists working in the field of solar energy sciences, engineering and technology including those currently employed in Government of India/ State Government/Public Institutions and those who are not currently associated with any public institution but are working in the area and eager to pursue a specific research that is beneficial to the Government of India.

9. **Eligibility Criteria for Selection**

- i) The applicant should be Indian or of Indian origin and should possess a doctorate or equivalent in the field of solar sciences/solar engineering, with outstanding track record and proven leadership qualities in the area of solar energy research with experience of at least ten years including the period spent while undertaking research work for Ph.D. However M.Tech or M.S degree holder with good published work and lab/industry experience will also be considered as a special case provided Fellowship Management Committee feels that the proposal submitted by such candidates are worth considering. A comprehensive proposal should be submitted by all the candidates for the National Solar Science Fellowship for the consideration of the Fellowship Management Committee.
- ii) The applicant should have an appropriate background in academics and experience in R&D in the area of solar energy and other related areas that are directly or indirectly involved in solar sciences, engineering and technology.
- iii) There will be no age bar for the Programme.
- iv) The Fellowship Management Committee will have the right to suitably amend the eligibility criteria.

10. **Selection Procedure**

- i) Applications from talented scientists having proven record in any field of solar science, engineering will be invited through open advertisement. The applicants shall submit their applications in the prescribed proforma (Annexure-II).
- ii) The applicant will attach a R&D proposal with his/her application in the R&D thrust areas identified by the Fellowship Management Committee of the MNRE with emphasis on potential impact of proposed research project on solving problems encountered in solar energy technology and systems. The application should be as per the instructions for filling up the proforma given in the Guidelines.
- iii) The Fellowship Management Committee headed by Secretary, MNRE/Eminent Scientist with other eminent scientists as members will scrutinize the applications including Eminent Scientist the research project and select up to ten National Solar Science Fellows taking into account the Guidelines and as per prescribed procedure. The Committee will be approved by the MNRE and have a tenure of three years.
- iv) Every selected Fellow will be attached to one of the selected schools/institutions and will have a tenure ranging from 1-3 years depending upon the project chosen and can be extended for further two years based upon the progress of the project.

11. Fellowship Details

- i) Each selected Fellow will receive a total annual grant of upto ' 32.00 lakhs comprising (i) emolument of up to '12.00 lakhs (ii) contingencies of upto ' 5.00 lakhs and (iii) research grant of upto '15.00 lakhs. This will be pro-rated for the duration of the tenure of the particular Fellow.
- ii) This grant will be released to the host institution for being granted to the Fellow.
- iii) The Fellow may also raise additional resources from other sources such as the host Institution, grant providers, grant-in-aid Institutions etc. for the purpose of carrying out his/her research.

12. Other Conditions

- i) On selection, the Fellow will be attached to one of the selected schools/institutions in consultation with the Fellow as well as the host institution.
- ii) Selected Fellows shall commit to work at the host institution for the full tenure of the fellowship and shall submit a bond in this regard to the host institution.
- iii) The host institution will enter into a MOU with MNRE especially with regard to provision of office space, laboratory facilities, access to publications, basic administrative support etc. In this regard all the guidelines prescribed by the Government of India for release of grants to Government/Non-Governmental institutions including furnishing of Utilization Certificates, Expenditure Statement, periodic progress reports etc. would also be applicable, over and above the provisions of the MOU given in these Guidelines.
- iv) The Fellow must submit quarterly progress reports and a final technical report to the Fellowship Management Committee. The Fellowship Management Committee may from time to time, seek updates from the Fellow and provide inputs and guidance to the project of the Fellows so that the project remains relevant to the Government of India agenda and can be successfully completed on time.
- v) An annual conference of the Fellows will be held, where the Fellows will be expected to present their findings to the Fellowship Management Committee and other invitees and share knowledge and learning and discuss areas for further collaboration and practical application of their research.

13. Deliverables/Outcomes of the Programme

- i) A pool of top quality and motivated Scientists would be available to undertake need based research in emerging fields of Solar Energy
- ii) There would be a visible improvement in the quality of the solar technology through application of innovative solutions/technologies on the field arising out of the research under the programme.
- iii) The resources in terms of manpower and infrastructural facilities available at various schools/institutions of the country would be enhanced/strengthened
- iv) Interaction among the Scientists working in different institutions of the country would be promoted and enhanced. This would enable multi and inter disciplinary approach to address complex problems of solar energy.

14. The expenditure involved is debitable to Demand No. 67-MNRE, Major Head 2810-New & Renewable Energy – (Major Head) 00105 Supporting Programmes, 05 Human Resource Developemnt & Training (Sub Head),05.00.31 Grants in Aid for the year 2010-11 (Plan).

15. This issues under the powers delegated to the Ministry and with the concurrence of IFD vide their Diary No. 75/AS&FA/11 dated 19.01.2011.

Yours faithfully,

(A. N. Narayanan)
Under Secretary to the Government of India

Copy to:

1. All Institutes as per sanction letter
2. All Group Heads, MNRE
3. PS to Minister (NRE)/PSO to Secretary (MNRE)
4. All State Nodal Agencies
5. Director (HRD)/Dir(F)/Dir(AK)
6. IFD
7. Sanction folder.

(A.N.Narayanan)
Under Secretary to the Government of India

Memorandum of Understanding

between the Host Institution and MNRE in respect of the National Solar Science Fellows Programme.

I A MOU has been reached this _____ day of _____ two thousand _____ between the Ministry of New & Renewable Energy, GOI (hereinafter referred to as MNRE) and _____ (Name of Institution/Organization), (hereinafter referred to as the Host Institution) with respect to hosting _____ (the name of the Fellow), selected as the National Solar Sciences Fellow vide Ministry's letter _____ dated _____.

It is clarified that all the terms & conditions contained in MNRE's publication "Guidelines for Support to..... shall apply to the National Solar Science Fellows Programme and the Research Project to be implemented by the selected National Solar Science Fellow at the Host Institution.

This MOU is over and above the terms and conditions mentioned above and deals mainly with delineating the responsibilities of MNRE, the Host Institution and the selected National Solar Sciences Fellow, the fulfillment of which is essential for achieving the objectives of the Programme.

II The objectives of the National Solar Sciences Fellows Programme.

1. To provide a platform to top quality scientists & engineers of India or of Indian origin desirous of working at the forefront of Solar Energy sciences, engineering and technology with a focus on thrust areas identified by the Ministry in its R&D Policy.
2. To develop a community of researchers with diverse backgrounds, united by intellectual curiosity, top quality scholarship and drive to undertake research on important challenges facing the country today in all round development of Solar Energy utilization in the country.
3. To find solutions, through scientific research, to the practical problems of Solar Energy and their application in field, leading to visible improvement in the energy security of the country.
4. To utilize and expand the resources available in the universities/R&D institutions/and other educational institutions of the country, to address complex energy security aspects of the country.
5. To undertake research in the thrust area(s) identified by the Management Committee in the host institution, while also strengthening connections across the other participating universities/R&D institutions/educational institutions.
6. To motivate, enthuse and nurture scientists with potential and proven talents to work in emerging fields of Solar Energy.
7. To utilize the knowledge/data emerging from such research work to devise strategies/solutions for large scale utilization of Solar resource in the country.

III Responsibilities of MNRE

1. To constitute a Management Committee headed by the Secretary, MNRE with eminent scientists as members.

2. To select appropriate National Solar Sciences Fellows after following the prescribed procedure.
3. To facilitate in the identification and designation of a suitable Host Institution in respect of each selected Fellow, in consultation with the Host Institution and the Fellow. It shall be ensured that the Host Institution/Fellow is mutually acceptable to each other, before commencing the research project.
4. To issue the sanction order and release the fellowship grant earmarked to the Fellow, to the Host Institution for further transmission to the Fellow. It shall be ensured that the money is released to the Host Institution well in time, so that the Host Institution and the Fellow are not inconvenienced due to lack of funds.
5. To help, assist and support the Host Institution and the Fellow in every way to ensure that the objectives of the National Solar Sciences Fellows Programme are achieved.

IV Responsibilities of the Host Institution

1. To accept and allow the selected National Solar Sciences Fellow to work for the full tenure of the Fellowship at their Institution.
2. To provide adequate and suitable office space and support staff, if any, in the premises of the Institute, required laboratory facilities, access to the library, other publications and computerized data base of the Institution relevant to the project etc. to the Fellow to carry out the research work.
3. While it is not mandatory, the host institution may, if so desired by the Fellow, assist him/her in the work and evaluate/assess the progress of the project as per mutually agreed terms.
4. To help, assist and support the Fellow in every way to ensure that the objectives of the National Solar Sciences Fellows Programme are achieved.

V Responsibilities of the National Solar Sciences Fellow

1. To give a commitment to work at the selected Host Institution for the full tenure of the Fellowship and submit a Bond in this regard to the Host Institution.
2. To abide by the Rules/Regulations of the Host Institution, as well as the terms & conditions of the National Solar Sciences Fellows programme, this agreement and other relevant documents referred to in this MOU.
3. To conduct/carry out the Research Project – duly approved by the Management Committee, sincerely, with dedication and to the best of his/her abilities.
4. To share with MNRE all the outcomes of the Research Project including, but not limited to, information/data/findings/new technology/publications etc.
5. To be willing to modify or restructure the project during the course of its implementation if so advised by the MNRE based on the mandatory periodic assessment /evaluation of the work by the Management Committee.
6. To ensure that the research project is completed within the prescribed tenure and that the expenditure in connection with the project is kept within the approved outlay.

VI Other Terms & Conditions

1. The grant amount shall be released in installments. While the first installment shall be released on selection of the fellow, subsequent releases will depend on the submission of the requisite Utilization Certificate, Expenditure Statement & Progress Reports etc. by the Fellow/Host Institution, and their acceptance by MNRE.
2. In the event of the Management Committee recommending closure of the Project, this MOU shall be terminated, after giving a clear notice of one month-both to the Host Institution and to the Fellow.
3. In case of termination of the MOU, all unutilized funds up to the date of termination of the agreement will have to be returned to MNRE by the Host Institution.
4. Due caution would be exercised – both by the Host Institution and the National Solar Sciences Fellow – in dissemination/publication of any information/data/findings of a sensitive/classified nature, emanating out of the project. Responsibility of ensuring discretion and secrecy of data/findings in such cases, will rest entirely with the Fellow and the Host Institution.
5. All disputes, disagreements etc. if any, arising out of the National Solar Sciences Fellows Programme, shall be resolved by the Management Committee.
6. MNRE reserves the right to add, delete or modify from time to time, any part of this MOU. However, the decision to add, delete or modify the provisions of the MOU shall invariably be approved by the Competent Authority of MNRE.
7. On all aspects, where this MOU is silent, or for special cases of deviation from the provisions of this MOU or the National Solar Sciences Fellows Programme, the decision of MNRE based on the recommendation of the Management Committee shall be final.

The above MOU has been entered into and signed on behalf of MNRE and the Host Institution on the day, month and year first above written.

Head of the Host Institution
India,

(Seal of office)

Witness

1. _____

2. _____

Joint Secretary to the Government of
MNRE

(Seal of office)

1. _____

2. _____

Proforma
For submission of application under the
National Solar Science Fellows Programme

1. Name of applicant:
2. Date of Birth:
3. If employed in GOI/State Govt./Public Institution, name and address of the current employer and salary drawn:
4. In case not employed at present, address for communication:
5. Academic Background: (details from undergraduate level onwards may be provided including name of Institutions/Universities, special achievements/distinctions obtained etc.)
6. Area(s) of specialization: (Please link it up with the R&D thrust areas identified by the Management Committee)
7. Details of Scientific/technical papers published in the relevant subject area: (only list to be provided. Abstracts/full copies of papers need not be enclosed at this stage)
8. Details of books published, if any: (only list to be provided)
9. Details of films/audio-visuals produced, if any:
10. Details of original, innovative and pioneering research work carried out in the area mentioned at S. No. 6 (up to one page):
11. Details of research scholars successfully guided and those currently pursuing M.Phil/Ph.D under your supervision:
12. Details of any awards/recognition received in the subject area at the national/international level:
13. Please describe in your own words why you should be selected as a National Solar Science Fellow and how the proposed research project will benefit the GOI in finding solutions to the practical problems of solar energy science, engineering and technology and their application at the field level: (up to one page)
14. Are you willing to give a commitment to work at the selected host institution(s) for the full tenure of the fellowship granted and submit a bond in this regard to the host institution?
15. References: Please provide up to three (3) references with complete contact details.
16. Please indicate the proposed institution, group, professor with whom the project is to be undertaken along with proposed time line, methodology and outputs.