

**Call for Oriented Research & Technology Development Proposals on
“Hydrogen and Fuel Cell (HFC)” - 2018**

FORMAT FOR SUBMISSION OF PROPOSAL

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I. Executive Summary

(To be limited to two A-4 pages)

Ensure to read the Guidelines (in italics fonts) and fill the selected/relevant text only in the boxes

1.	Project Title		
2.	Project cost <i>(Amount in lakhs)</i>	DST:	Collaborator(s) <i>(if any)</i> :
3.	Duration <i>(in months)</i>		
4.	PI Name Date of Birth		
5.	Co-PI (s) Name Date of Birth		
6.	Lead Organization		
7.	Status of Lead Organization	<i>Recognized universities and academic institutions/ National Laboratories/R&D institution,/Research organizations recognized by DSIR/Others-Specify the affiliation clearly (Govt /govt. undertaking/govt.-aided/private institution)</i>	
8.	Collaborator/Consortium partner name(s), if any	<i>(Consortium may be formed wherever necessary. In sections 11 and 12 of the proposal, clearly explain the need for forming the consortium and the roles and responsibilities of each partner).</i>	
9.	Collaborators'/ Consortium partners' Status	<i>(In case of private sector company, please indicate DSIR registration number of recognition of in-house R&D units) (Industry partner should have proven standing and R&D capability and should exhibit the potential to commercialize the products / systems developed under the proposal. The extent of participation and contribution of the industry partner should be clearly defined in the proposal).</i>	
10.	Contact information with affiliation for foreign partners, if any		
11.	Objectives	<i>(Precise and quantified)</i>	
12.	Methodology	<i>(Highlight the novelty and unique aspects of the proposal)</i>	
13.	Deliverables	<i>(Deliverables should include target performance and projected cost when commercialized, and how these targets compare with existing national and international ones)</i>	

13. Budget details:

A.	Project Manpower <i>(Post&Nos Research group/ institution-wise if more than one institutions are involved)</i>	DST: <i>(JRF/SRF/Research Associate/ Project Assistant / other Professional Manpower)</i>	Collaborator(s):
B.	List of Equipment's required <i>(Research group/ institution-wise if more than one institutions are involved)</i>	DST:	Collaborator(s):
C.	Fabricated system /prototype,if any	DST:	Collaborator(s):

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D	Nature of Contribution from Collaborators	In Cash & Kind <i>(Please elaborate)</i>
E	Nature of Contribution from foreign partner, if any	

14. Funds requirements from DST:

(All amount in lakh)

S. No	Item Head	1 st Year	2 nd Year	3 rd Year	Total (Rs.)
A	Non-recurring (Capital Items)				
1	Permanent Equipment's				
2.	Plant cost /Fabricated systems/ Demonstration models				
	<i>Subtotal (capital items)</i>				
B	Recurring Items (General)				
1.	Manpower				
2.	Consumables				
3.	Contingencies				
4.	Travel				
5.	Other Costs (Outsource work etc.),if any				
6.	Overhead				
	<i>Subtotal (General)</i>				
C	Total cost of the project (A+B)				

A. Total requirement of funds from DST =
Mention breakup of the total funds in case of multi institutional projects=

B. Contribution of participating institution(s), if any=

Total project cost (A+B) =

II. CORE PROPOSAL

(Kindly ensure to read the guidelines (in italics fonts) and fill the text accordingly)

1. Project Title

2. Lead Principal Investigator (PI)*

Name:

Designation:

Complete Address (with city pin code):

Telephone & Mobile No.:

E-mail:

Co-Principal Investigator(s) (Co-PIs)

Name:

Designation:

Complete Address (with city pin code):

Telephone & Mobile No. :

E-mail:

3. Consortium partner organization(s) / collaborator(s) / foreign partners:

Name(s) of Co- Principal Investigator(s)*:

Designation:

Complete address (with city pin code):

Telephone & Mobile No. :

E-mail:

*(*PI age should not exceed the superannuation age during the duration of project and must be regular employee of organization. Project shall not be considered in absence of Co- PIs. Lead Principal Coordinating Investigator has to be identified in case of Consortium Projects)*

4. Collaborating Agencies/Industries (If any)

(Consortia may be formed wherever necessary. In sections 11 and 12 of the proposal, clearly explain the need for forming the consortia and the roles and responsibilities of each partner.)

5. Target Beneficiaries

6. Objectives of the Proposal

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(Precise and quantified: Estimated possible values, Use bullet form)

7. Critical Review of Status Identifying Gaps

(include important references & IPR survey)

7.1 National Status Review

7.2 International Status Review

8. Novelty / uniqueness of the Proposal (not more than 50 words)

9. Outline of the Project

(Define the problem and give technical details including schematics wherever necessary)

10. Deliverables of the project (select the relevant option and give its brief details. (Deliverables should have a clear connect with its utilisation in field and indicate performance and projected cost when commercialized, and mention how these targets compare with existing national and international ones)

- I. New/Upgraded materials:
- II. New/Upgraded Product:
- III. New/Upscaled Process:
- IV. New/ Upgraded System:
- V. Services (including software):
- VI. Performance analysis:
- VII. (Scientific data generation,
- VIII. analysis and evaluation)
- IX. Feasibility analysis:
- X. Technological Capability:
- XI. Database development and documentation:
- XII. Proof of new concepts at a device level.
- XIII. Achieving State of art performance in a chosen device

11. Methodology

(This section should also include preliminary/background work done by all the investigators, which is relevant to the project. The description of methodology should adequately demonstrate the pathways, main work element etc and highlight the capability of the investigators to achieve them)

12. Work Plan (mention project activities and Highlight Milestones)

Sl no.	Activity/Milestone	1 st year		2 nd year		3 rd year	
		1-6 M	6-12 M	13-18 M	19-24 M	25-30 M	31-36 M
A1							
A2							
-							
**	Draft completion report for review (3 month prior to date of completion)						

13. Names of 5 Experts/Agencies/ Institutions working in the similar area

(Please give complete Name, Designation, Email, Address with pin code, telephone number)

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14. Any other information relevant to the Project proposal/execution of the project

(Importance of the proposed R & D to India , Group strength, site details, economic analysis, Institutional Details etc.)

15. Facilities and Infrastructure already available to the PI(s) at their Institute for Implementing the project.

S.no	Equipment Name / Funding Source	For which purpose it would be utilized in current project

III. BUDGET ESTIMATES

Break-up of Total Budget

I.Funds requirement from DST		All amount in lakh	
Institute name in consortium	Capital Items (A) (Non- recurring) (Rs.)	Other items (B) Recurring head (Rs.)	Total (C = A+B) (Rs.)
Total			

- 1) Nature of Contribution from Collaborators, if any : Cash / Kind *(Please elaborate)*

- 2) Nature of Contribution from foreign partner, if any : Cash / Kind *(Please elaborate)*

- 3) Total cost = Rs. (DST) + Rs. (Cash amount provided by Collaborator,if any) = Rs.

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Budget

(* To be given institution/ research group-wise in case of consortium projects)

Name of the Institute :

a) DST Support (All Amount in Lakh)					
S. No	Item Head	1 st Year	2 nd Year	3 rd Year	Total (Rs. In lakh)
A	Non-recurring (Capital Items)				
1	Permanent Equipment				
2.	Plant cost /Fabricated systems/ Demonstration models				
	<i>Subtotal (capital items)</i>				
B	Recurring Items (General)				
1.	Manpower				
2.	Consumables				
3.	Contingencies				
4.	Travel				
5.	Other Costs (Outsource work etc),if any				
6.	Overhead				
	<i>Subtotal (General)</i>				
C	Total cost of the project (A+B)				

Details of Itemized Budget

(* To be given separate for each institution/ research group-wise in case of consortium projects)

Name of the Institute :

A. Non-recurring (Capital Items)

A1. Equipment*

Budget for Permanent Equipment (To be borne by DST)

Description of Equipment	Unit Landed Price (CIF+Custom Duty/Taxes + others charges etc)*(Rs.in lakh)	Nos. of Equipment	Total Cost (Rs. in lakh)	Justification in context of proposed work.
Gross total =				

**Page/sheet indicating the total landed cost in Indian rupees(Ensure to mention Currency Exchange rate considered in case of imported equipments, freight , taxes, spares, special installation, etc) Please project the actual cost taking into account reliable cost estimates as no cost revision would be admissible*

A2. Fabrication system: Tailor made models/ experimental set up (if any)

i) Budget for Fabrication system/Tailor made items

Description of fabricated system	Unit Landed Price (CIF+ Custom Duty+ others charges)* (Rs in lakh)	Nos. of Equipment	Total Rupees (Rs. in lakh)	Justification in context of proposed work
Gross total				

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**Page/sheet indicating the total landed cost in Indian rupees(Ensure to mention Currency Exchange rate considered in case of imported equipments, freight , taxes, spares, special installation, etc) Please project the actual cost taking into account reliable cost estimates as no cost revision would be admissible*

B. Recurring Items (General)

B1. Manpower

Designation*	Educational Qualification	Experience in years, if applicable	Justification

(*Refer latest guidelines at DST website)

Manpower Budget

JRF /SRF/ Research Associates/ Project Assistants Details (applicable for the given category)

Designation	Total Emoluments (in Rupees)				No. of persons	(Inclusive of all Allowances) Total Amount (Rs.)
	1 st Year	2 nd Year	3 rd Year	Total(1 st +2 nd +3 rd Years)		
Gross amount required for manpower budget head =						

Please mention category/ class of city for admissible HRA along with %.

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B2. Consumables

Budget for Consumable Materials (To be borne by DST)

Items	Unit Price	Qty Needed	Amount (Rs. in lakh)	Justification
Gross total =Rs lakh				

B3. Contingencies

Budget for Contingencies (To be borne by DST)

Items <i>(unforeseen expenses, patents, report preparations etc)</i>	Amount (Rs. in lakh)	Justification
Total		

B4. Domestic Travel*

Budget for Domestic Travel (To be borne by DST)

Items (to attend)	Total Amount	Detailed Justification (In case of extensive field visits needed in project indicating breakup of cost w.r.t. to journeys, mode and class of transport needed)
Review meetings		
Total		

(*) Foreign travel is generally not permitted under DST grants. Class and mode of transportation should be as per the entitlement of the concerned staff in the institute.

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B5. Other Costs ,if applicable

Budget for Other Costs (To be borne by DST)

Item	Total (Rs. in lakh)	Detailed Justification (derived cost calculation and relevant Quotation at Annexure- / page no*)
Outsource work		
Other items,if any		
Gross total =	Rs.	

Collaborator budget / Contribution

Submit similar above detail breakup for each collaborator, if any

Organization details:

- a. Designation of the financial authority in organization:
- b. Whether organization registered with Govt. of India Public Financial Management System* (PFMS): Yes/ No
- c. If not, please get it registered as soon as possible at PFMS website which is mandatory. If yes, inform Agency code registered atPFMS

IV. Proforma for Bio-Data of Principal Investigator(s) (PI), Co-Principal Investigator(s) (Co PI), and Coordinating Investigator of each partner Institution (Please be brief and follow the format)

1. Name
2. Gender
3. Date of Birth
4. E-mail ID
5. Qualifications

S. No.	Degree	Institution	Year	Division/Class

6. Employment Experience

S. No.	Position & Organization	Nature of Job	Period

7. Selected List of Ten Best Publications *(relevant to the proposed project)*
8. Patents filed/Granted with details *(relevant to the proposed project)*
9. Books Published /Chapters contributed *(relevant to the proposed project)*
10. Sponsored Research Projects (last five years)

S. No	Title	Sponsoring Agency and Officer Concerned	Period	Amount	Achievements

a. Consultancy Projects (last five years)

S. No	Title	Sponsoring Agency	Period	Amount

b. Sponsored Research/Consultancy Projects submitted for approval

S.No.	Title	Funding Agency	Duration	Amount

11. Awards and Honors:

- A. National list
- B. International list:

12 Technologies Developed/ Transferred:

(please provide details of technologies transferred to industry, technologies commercialized)

Date

(Signature of PI)

V. UNDERTAKING FROM THE INVESTIGATOR(S)

Project Title:

1. I/We have carefully read the terms and conditions of the Clean Energy Research Initiative (CERI) Programme and I/We agree to abide by them.
2. I/We have not submitted this or a similar Project proposal elsewhere for financial support.
3. I/We have explored and ensured that the equipment and the basic facilities described in the Research Proposal, will actually be available as and when required for the purpose of the Project. I/We shall not request financial support under this project, for procurement of these items.
4. I/We undertake that spare or idle capacity of the permanent equipment procured under the project will be made available to other legitimate users from parent and other organizations.
5. I/We have enclosed the following :
 - A Endorsement from the Heads of the Institution
(on letter head)
 - B Undertaking from the Collaborator(s)
(on letter head)
 - C Complete Project Proposal with all enclosures
(1 marked 'original' + 2hard copies + 1 soft copy as .doc file)

Name(s) and Signature(s) of the Investigators*

Date

Place

(* To be signed by PI and Co-PI of each Participating Institution)

VI. ENDORSEMENT FROM THE HEAD OF THE ORGANISATION

(To be typed on the letter-head of the organization)
(To be provided by each of the participating Institutions)

Project Title

1. Certified that the organization welcomes the participation of Dr/Mr/Mrsas the PI and Dr/Mr/Mrs.....as the Co-PI for the project and that in the unforeseen and legitimate event of discontinuation by the PI, the Co-PI will assume full responsibility for completion of the project. Information to this effect, endorsed by me, will be promptly sent to the DST.
2. Certified that the equipment, other basic facilities and other administrative facilities as per the terms and conditions of the award of the Project, will be extended to the investigator(s) throughout the duration of the project.
3. The Organization shall ensure that financial and purchase procedures are followed as per the prevailing norms of the organization, within the allocated budget.
4. The Organization shall provide timely the Statement of Expenditure and the Utilization Certificate of the grant as required by the DST in the prescribed format.
5. **The grant for the proposal, if approved , the funds shall be transferred to following organization account :**

1	Name of A/c holder (as per Bank record)	
2	Bank Account No.	
3	Bank Branch Name & Address	
4	MICR Code	
5	IFSC Code	
6	E-mail (Agency /PI)	
7	Mobile No. (Agency/PI)	
8	Unique agency code*	

* Refer website : <https://pfms.nic.in/Users/LoginDetails/Login.aspx?ReturnUrl=%2f>

(Head of the Institute)
Seal/Stamp

Date
Place

VII. Endorsement from collaborating Industry/ Agency *(if any)*
(On the official letter head)

I have gone through the Project proposal entitled..... submitted by*(Name of PI)* ...of.....*(Name of the Institute)* for DST funding and noted the obligations and responsibilities indicated in our name which are as below :

1. Contribution in financial terms *(mention amount in Rs.)*
2. Contribution in kind *(list activities)*

I hereby affirm that my organization/industry is committed to participate in the Project to the full extent as indicated including financial liabilities accruing therefrom as detailed above. A brief profile of my organization is summarized below:

Name of Organization
Line of Business/ Major Products
No. of employees
Annual Turn over

The Annual Report for the last financial year is enclosed.

(Head of the Organization)
Seal/Stamp

Date
Place

VIII. Endorsement from Overseas Collaborators*(if any)*
(On the official letter head)

I have gone through the Project proposal entitled..... submitted by*(Name of PI)* ...of.....*(Name of the Institute)* for DST funding and noted the obligations and responsibilities indicated in our name which are as below :

1. Participation of scientific manpower
2. Technical contribution and support
3. Contribution in financial terms *(mention amount in Rs.)*
4. Contribution in kind *(list activities)*

I hereby affirm that my organization is committed to participate in the Project to the extent as indicated above. I also note that DST has no financial liability on account of participation of our institution in the above project. I also nominate..... as nodal person to interact with Indian partners for successful project implementation.

(Head of the Organization)
Seal/Stamp

Date
Place

Annexure- I

**Department of Science & Technology
Materials for Energy Storage (MES) Programme
Terms & Conditions of the Grant**

1. Approval of the Research Proposal and the grant released for it is for the specific Project sanctioned and the released grant should be exclusively spent on the Project within the stipulated period. The Institution may use funds obtained from any other Organization with the concurrence of DST, for the Project. **Any unspent balance out of the amount sanctioned must be surrendered to the Government of India through a crossed Cheque/ Demand Draft drawn in favour of Drawing & Disbursing Officer, DST, New Delhi.**
2. For permanent, semi-permanent assets acquired solely or mainly out of the Project grant, an audited record in the form of a register shall be maintained by the Grantee Organization. The term “Assets” include (a) the immovable property acquired out of the grant; and (b) movable property of capital nature where the value exceeds Rs 50,000/-. The Organization is required to send to the Department of Science & Technology a list of Assets acquired from the grant. The grant shall not be utilized for construction of any building unless a specific provision is made for that purpose. Full infrastructural facilities by way of accommodation, water, electricity, communication, etc. for smooth implementation of the Project shall be provided by the Organization.
3. All the Assets acquired from the grant will be the property of the Government of India and should not be disposed off or encumbered or utilized for purposes other than those for which the grant had been sanctioned, without the prior sanction of DST. These should also be reflected on your website.
4. At the conclusion/ termination of the Project, the Government of India will be free to sell or otherwise dispose off the Assets which are the property of the Government. The Organization shall render to the Government necessary facilities for arranging the sale of these Assets. The Government of India has the discretion to gift the Assets to the Organization or transfer them to any other Organization if it is considered appropriate.
5. The Organization / PI will furnish Six-Monthly Progress Report (*5 copies*) of the work on the Project on half-yearly basis from date of start. The first half-year period shall be rounded off to the last date of the sixth month. The subsequent periods of six months shall begin from the first day of the following calendar month. In addition, DST may designate a Scientist/ Specialist or an Expert Panel to visit the Organization periodically to review the progress of the work being carried out and to suggest suitable measures to ensure realization of the objectives of the Project. During the implementation of the Project, the Organization will provide all facilities to the visiting scientist/ specialist or the Expert Panel by way of accommodation, etc. at the time of their visit. On completion of the Project, final consolidated “project completion report “ on the work done on the project will be prepared after incorporating the suggestions, if any, from the

reviewers of the project and ten copies of the same will be submitted to Project Completion Report as per the DST format on the work done on the Project should be sent to DST.

6. At the time of seeking further installment of the grant, the Organization/ PI has to furnish the following documents:

a) Utilization Certificate (UC) and Statement of Expenditure (SE) for the previous financial year (in original or copy if sent earlier);

b) An authenticated Statement of Expenditure (SE) including committed Expenditure for the Project **till the previous month.**

c) Progress report ,if not sent earlier.

7. Request for specific approval of DST to **carry forward** the unutilized grant to the next financial year for utilization for the same Project, should be sent along with UC and SE, after completion of the financial year.

8. **The Comptroller & Auditor General of India, at his discretion, shall have the right of access to the books and accounts of the Organization maintained in respect of the grant received from the Government of India.**

9. The Organization will maintain separate audited accounts for the Project and would keep the whole of the grant in a bank account earning interest, the interest thus earned should be reported to DST and should be reflected in the Statement of Expenditure. The interest thus earned will be treated as a credit to the Organization to be adjusted towards further installment of the grant.

10. The Organization will neither entrust the implementation of the work (except the out-sourced part as approved) for which the grant has been sanctioned to any other Organization nor will it divert the grant receipts to any other Organization as assistance. In case the Organization is not in a position to implement or complete the Project, it should, forthwith, refund to DST the entire grant received by it or the balance grant remaining with it.

11. All the personnel including Research personnel appointed under the Project, for the full/ part duration of the Project, are to be treated as project personnel on contract to organization and will be governed by the administrative rules/ service conditions (for leave, TA/DA, etc.) of the implementing institute.. They are not to be treated as employees of the Government of India and DST will have no liability, whatsoever, for the project personnel after the completion of the Project duration.

12. For expeditious implementation of the research Project, PI will take the assistance of the Organization in the process of selection and appointment of staff and payment to them. Pay Scale and emoluments for the posts not covered under DST's OM are governed by the norms prevalent in the implementing Organization or as decided in consultation with DST.

13. **DST reserves the right to terminate the Project at any stage if it is convinced that the grant has not been properly utilized or sufficient progress has not been reported under the project or sufficient effort have not been devoted.**

14. **The Project becomes operative with immediate or within a maximum of 1 month from the date on which the funds is received by the implementing Organization. This date should be immediately intimated by the Grantee authorities/ Principal Investigator to DST.**

15. The grantee organization shall associate a Co-PI with the project, if not already a part of the project team. The Co-PI shall function as PI in the absence of PI and should be totally in knowledge of the activities of the project to avoid loss to the project, in case PI leaves the organization. If PI to whom a grant for a Project has been sanctioned wishes to leave the Grantee Organization where the Project is sanctioned, Grantee Organization/PI will inform DST of the same and in consultation with DST, evolve steps to ensure successful completion of the Project through co-PI before relieving the PI or appoint another equivalent position officer as PI.

16. Investigator(s) wishing to publish technical/ scientific papers based on the research work done under the Project, should acknowledge the assistance received from DST, indicating the Project sanction number under which Grant has been given to the Grantee organization. So PI will submit a copy of the paper to the ministry as soon as it is published.

17. If the results of research are to be legally protected under the IPR, the results should not be published without action being taken to secure legal protection for the research results. For further information/ clarification on this subject The Director, Technology Information, Forecasting and Assessment Centre (TIFAC), Patent Facilitating Cell, Vishwakarma Bhawan, Shaheed Jeet Singh Marg, New Mehrauli Road, New Delhi- 110016, tifac@nda.vsnl.net.in, may be contacted.

18. If the results of the work carried out under the grant require preparation of a technical booklet/guides/software/CD etc. in such cases the grantee organization will publish/prepare sufficient copies (number of copies to be decided in consultation with DST) and keep a portion for their use/ dissemination and submit the remaining copies to the Ministry for their use and distribution.

19. If the result is in the form of a survey report/ product performance evaluation or other such activities which have commercial implications, the grantee organization will not publish the results without specific written approval of this Ministry.

20. The grantee institution/PI should provide a copy of the 'FullText Document' of the patent within one month of its publication.

21. The grantee organization(s)/ Inventor(s) are required to seek protection of Intellectual Property Rights for the results/ output of the sanctioned projects. The terms and conditions regarding IPR issues shall be in accordance with the guidelines contained in the DST issued with the concurrence of Ministry of Finance, Department of Expenditure vide their O.M. No.33 (5) PF-1199, dated 22nd February, 2000 or subsequent circulars which may be issued by DST/MOF on the subject.

22. In case of any dispute the decision of Secretary, Ministry of Science and Technology shall be final.

Research manpower Guidelines:

DST Emoluments for Research Personnels (wef 01.10.2014)

For more details, see link:

<http://serb.gov.in/pdfs/Results/OM-Revision%20of%20Fellowship.pdf>

A. Junior Research Fellow (JRF) / Senior Research Fellow (SRF)

Sl. No.	Designation & Qualification	Emoluments per month
I	Junior Research Fellow (JRF) Post Graduate Degree in Basic Science with NET qualification or Graduate Degree in Professional Course with NET qualification or Post Graduate Degree in Professional Course	Rs. 25,000/-
II	Senior Research Fellow (SRF) Qualification prescribed for JRF with two years of research experience	Rs. 28,000/-

The local institution shall review the performance of JRF after two years through an appropriate Review Committee constituted by the Head of the Institution. The fellow may be awarded SRF after successful assessment by the Review Committee.

B. Research Associate

Research associates may be fixed at a consolidated amount at one of the 3 pay levels given below depending upon the qualification and experience. The Institution/Organization concerned may decide the level in which a particular associate should be placed based on the experience. The Essential Qualification (EQ) for RA is as follows:

Ph. D/MD/MDS or equivalent degree or having 3 years of research, teaching and design and development experience after MVSc/M.Pharm/ME/M.Tech with at least one research paper in Science Citation Indexed (SCI) journal.

Sl. No.	Category	Emoluments per month
I	Research Associate-I	Rs. 36,000/-
II	Research Associate-II	Rs. 38,000/-
III	Research Associate-III	Rs. 40,000/-
