

WATER TECHNOLOGY INITIATIVE PROGRAMME (WTI)
GUIDELINES FOR SUBMISSION OF PROPOSALS

These guidelines provide assistance for the preparation and submission of project proposals for support under the Water Technology Initiative Programme of the Department of Science and Technology (DST).

I Introduction

DST's Programme on '**Water Technology Initiative**' aims to promote R&D activities to provide safe drinking water at affordable cost and in adequate quantity using appropriate S&T interventions. The focus is to develop holistic solution to the problem of water contamination and water scarcity through development of indigenous systems/ devices to provide safe / and adequate drinking water to households.

Under the programme, feasibility of fresh ideas/ concepts is assessed for their potential conversion into useful technology/product. Applications of advanced R&D for socio-economic benefits is consciously promoted under this programme.

II Objectives

The objective of the scheme is to initiate path breaking research which will lead to technologies of future as they are currently in nascent stage. Attempt would be made to overcome the risk factors by developing focused inter-disciplinary programme to create a "shelf of technological solutions" synergizing available strengths of various institutions. The following are the major objectives of the programme:

- Development of low cost domestic water purification technologies to remove contaminants in drinking water.
- Generating technological option for disposal of specific waste generated during arsenic and fluoride removal
- Demonstration and field trials of indigenous successfully developed technologies for removal of contaminants
- Substantial improvements in available technologies to remove their short comings.
- Initiating programmes for reject management emanating from water purification process.
- Initiating application of nanotechnology, plant materials etc to make radical advances over existing technologies.

III Proposal Qualifier Criteria

The proposal to qualify consideration under the WTI Programme should meet one or more of the following criteria. The technology should be

- based on proven R&D and conforming to national / international, current/ future specifications
- potentially useful, demand driven and required by other agencies and users (name them)
- a development of technology for multiple applications
- an adaptation of existing technology for applications other than originally intended

- meeting a critical national need (present/ future) and strengthening technological capabilities for the same
- an application of advanced science and technology with a promise of giving competitive solutions

IV Spectrum of Activities supported

Under the programme, primarily those projects/activities /action oriented studies that shall deliver tangible benefits to the common people in providing safe drinking water. The proposals aimed at Applied Research & Development are encouraged. Proposals involving basic/exploratory research are not considered under this programme. Specifically, following activities are supported under the programme:

- Applied Research and Analysis
- Development and Engineering (D&E)
- Application oriented Research, Design and Development (RD&D) having Production Potential
- Prototype Development of Product/ System/ Services/ Software Development (new, up gradation of the existing, field trials and demonstration)
- Process Development (new, up-scaling of the existing, field trials and demonstration)
- Data Generation and Feasibility Study
- Provision for Production Facility on a limited scale for a specific Technology Segment to enable the Technology to become competitive
- Sophisticated Equipment and Technology based Job-Shops for cost-effective Fabrication Techniques
- Scientific Knowledge leading to future Technology Development
- Technological Capability Development

V Who can Submit ?

- The project proposals can be submitted for financial support by scientists/engineers/technologists working in academic institutions/registered societies/R&D institutions/laboratories having adequate infrastructure/facilities to carry out technology development work. The programme encourages multi-disciplinary proposals envisaging network/collaboration of various institutions having diverse expertise and facilities for synergistic implementation of the Projects. Participation of industry is important.
- The Project Proposals could also be submitted by industry having DSIR recognized R&D laboratories either alone or in collaboration with academic/R&D institutions.

VI Niche areas

Some of the specific areas in which proposals can be submitted are listed below:

1. Prototype development of Candles, systems and other suitable structures using innovative material
2. Applied research and analysis to eliminate contaminants, handling & safe disposal of sludge.
3. Application of plant derivatives and other novel materials for potable water treatment
4. Integrated software Development for remote monitoring.
5. Scientific data generation on evaluation of various traditional & modern technologies.

6. Up-scaling of technologies available at laboratory scale.
7. Appropriate techniques to prevent water losses/evaporation /percolation.
8. Rejuvenation of traditional techniques based on scientific validation and their dissemination.
9. Capability development for fabrication of filters and storage structures
10. Effective reliable test kits for contaminants determination
11. Intelligent sensors for contaminant detection and unit functioning

However, the above list is not exhaustive and proposals in other niche areas are also considered if the activity is perceived to be useful by DST for technology advancement in the country and is not being taken up under any other major R&D programme of the Government of India.

VII Components of grants

For Institutions: Project staff salaries, equipment, supplies and consumables, contingency expenditure, patent filing charges, outsourcing charges, internal travel, fabrication costs, testing charges, overheads, etc.

For Industry: In the case of support to industry having recognized R&D laboratories, only the cost of the consumables upto 50% is provided.

For Institution/Industry Joint Programmes: If the Programme is a Joint Programme between an Institution and an Industry, in addition to the support provided to the Institution, DST will also support the Industry upto 50% of the cost of Consumables.

The IPR will be under the purview of DST, Institution and Industry. If, however, the Industry returns the amount received as grant from DST, the IPR, at the discretion of DST, shall be appropriately assigned to the Institution and the Industry.

VIII Mechanism of evaluation, implementation and monitoring

The Proposal qualifiers criteria and the niche areas requiring intervention are identified by DST in consultation with Programme Advisory Committee (PAC). The coordinators identified by PAC are actively involved in mobilizing the Projects by identifying the required capabilities and pooling the expertise and infrastructure of various individuals and institutions. The proposals are also received directly, which are screened with a view to assess their suitability for consideration under the programme mandate. After initial scrutiny, both directly received as well as mobilized proposals are peer reviewed by experts and the Investigators are required to revise the proposal, if needed. The proposals along with the Reviewers comments are placed before the Expert Advisory Committees (EAC) of the respective areas for their recommendation. Principal Investigators are called for presentation before EAC, if required. The recommended proposals are processed for financial concurrence and administrative approval as per DST procedure.

The Projects are periodically monitored by the Project Review Committees (on site) and/or Group Monitoring Committees (at a common location at various stages of the progress of Projects). Close association between the PI and the PRC is ensured to achieve project objectives. The PI is advised to take necessary action on the recommendations of the Review-experts. Project Completion Reports (PCR) are sent to experts for comments. A presentation is also required to be made by the PI on completion of the Project to identify the future course of action on the Project.

IX Submission of Proposals

- (i) The Project Proposals for consideration under the programme can be submitted anytime throughout the year.
- (ii) The Investigators are required to submit 20 copies of the complete Proposal printed on both sides of A4 size paper, with the electronic copy of the Proposal on a CD in MS Word.
- (iii) The Proposal should be prepared and submitted strictly according to the formats prescribed in this Document.
- (iv) The duration of the Project should preferably be for a maximum period of 3 years. Projects for development of integrated systems requiring development of various sub-assemblies at multiple institutions may be of longer duration. They should, however, be broken up in different phases in such a way that there are clear-cut objectives at the end of each phase (of not greater than three years)
- (v) Copies of the Proposal and other required documents must be sent in one lot through proper channel to Shri Sanjay Bajpai, Scientist-E and Member Secretary (Water Technology Initiative Programme), Department of Science & Technology, Technology Bhavan, New Mehrauli Road, New Delhi-110016.
- (vi) The DST may be contacted if the acknowledgement letter mentioning the registration number of the Project is not received within one month from the date of dispatch of the Proposals.
- (vii) It may be ensured that the registration number/ letter number (given by the DST) and title of the Proposal are quoted in all future communications.
- (viii) It is expected that the PI will remain in service throughout the duration of the Project.

X General Requirements

- (i) The Principal Institution implementing the Project is required to take all the financial and administrative responsibilities for the Project.
- (ii) In case of a multi-institutional Project, the Principal Investigator (PI) has to obtain formal consent from the collaborating institutions/scientists. Formal MoU/ Agreement may be worked out formalizing the arrangements stated in the Proposal and got approved by the DST subsequent to the sanctioning of the Project.
- (iii) International travel is not normally permissible under the project.
- (iv) The Project personnel recruited for the Project are temporary and they should be paid according to the DST norms.
- (v) It is the policy of the DST that the equipment be optimally utilized. The Principal Investigator shall permit the use of any spare or idle capacity of the equipment procured under the Project to genuine users from the parent or other Institutions.

Department of Science & Technology
Water Technology Initiative 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 Organisation with the concurrence of DST, for the Project. **Any un-spent 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.**

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 Institute. 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 1000/-. The Institute is required to send to the Department of Science & Technology a list of Assets acquired from the grant. The grant shall not be utilised for construction of any building unless 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 Institute.

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 utilised for purposes other than those for which the grant had been sanctioned, without the prior sanction of the DST.

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 Institute 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 Institutions or transfer them to any other Institution if it is considered appropriate.

5. The Institution/ PI will furnish Six Monthly Progress Report (5 copies) of the work on the Project on half-yearly basis (i.e. if the date of start of a project is 12.09.07 the first Six Monthly Technical Progress report shall be for the period 12.09.07 to 30.03.08, the next will be from 01.04.08 to 30.09.08 and so on). In addition, the DST may designate a Scientist/ Specialist or an Expert Panel to visit the Institution periodically to review the progress of the work being carried out and to suggest suitable measures to ensure realisation of the objectives of the Project. During the implementation of the Project the Institution 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, ten copies of A self contained Project Completion Report as per DST format on the work done on the Project should be sent to the DST.

6. At the time of seeking further instalment of the grant, The Institution/ PI has to furnish the following documents:

a) Utilisation 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 including Committed Expenditure for the Project until the last month.

7. Request for specific approval of the Department to **carry forward** the unutilised grant to the next financial year for utilisation for the same Project, should be sent along with SE & UC, 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 Institution maintained in respect of the grant received from the Government of India.**

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

10. The Institution will not entrust the implementation of the work (except the out-sourced part as approved) for which the grant is being sanctioned to any other institution nor will it divert the grant receipts to other institutions as assistance. In case the Institution is not in a position to implement or complete the Project, it should, forthwith, refund to the DST the entire grant received by it or the balance grant 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 temporary employees 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 the DST will have no liability, whatsoever, for the project staff after the completion of the Project duration.

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

13. **The DST reserves the right to terminate the project at any stage if it is convinced that the grant has not been properly utilised or satisfactory progress is not being made.**

14. **The Project becomes operative with effect from the date on which the Draft/ Cheque is received by the implementing Institution. This date should be intimated by the Institution authorities/ Principal Investigator to the DST. It will, in no case be later than one month after the receipt of the draft/ cheque by the Institution.**

15. If the PI to whom a grant for a project has been sanctioned wishes to leave the Institution where the project is based, the PI/Institution will inform the DST of the same and in consultation with the DST, evolve steps to ensure successful completion of the Project, before the PI is relieved.

16. Data pertaining to the project should be systematically collected and scientifically documented which later would be published in public domain.

17. Investigators wishing to publish technical/ scientific papers based on the research work done under the Project, should acknowledge the assistance received from the DST, indicating the scheme. Investigators are expected to publish some of the research papers emerging out of the Project work in leading Indian Journals.

18. If the results of research are to be legally protected, the results should not be published without securing legal protection for the research results. For projects identified to have a distinct potential for generating know-how, in the form of product/ process, that could be protected through patenting, copyrights etc., the PI should carefully follow the “**Guidelines/ Instructions for Technology Transfer and Intellectual Property Rights**” provided in the **Guidelines for Implementing Research Projects** booklet issued by the DST. For further information/ clarification on this subject, Advisor - Patent Facilitating Cell, Department of Science & Technology, Technology Bhavan, New Mehrauli Road, New Delhi - 110 016, may be contacted.

FORMAT FOR SUBMISSION OF PROPOSAL
FOR SUPPORT UNDER
WATER TECHNOLOGY INITIATIVE (WTI)
PROGRAMME

CONTENTS

S.No	ITEMS	Page No(s)
1	Cover Sheet	
2	Project Summary	
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5	Budget Estimates	
6	<i>Undertaking from the Principal Investigator/Co-Principal Investigator</i>	
7	<i>Endorsement from the Head Of the Organisation</i>	
8	<i>Endorsement from the Collaborating Industry/ Agency</i>	

1. COVER SHEET

For office use

File No :

Date of Receipt :

1. Project Title : -----

2. Principal Investigator (PI) : -----

Name: -----

Designation: -----

Address : -----

City Pin code : -----

Telephone No: -----

E-mail: -----

Date of birth: -----

3. Co-PI -----

Name: -----

Designation: -----

Address : -----

Telephone No: -----

E-mail: -----

Date of birth: -----

4. **Names and addresses of Collaborating Institutions:**

5. **Name and address of participating Industry (if any) :**

6. **Duration of the Project :**

7. **Budget for the Project:**

ITEM	DST Share	Other Agencies' Share
Total		

8. **Project Objectives (In Bullet Form) :**

9. **Deliverables :**

10. **Names and Addresses of User Agencies :**

11. **Names and Addresses of other Beneficiaries :**

12. **List of Equipment with Cost :**

2. PROJECT SUMMARY

1. *Project Title* :

2. *Principal Investigator (Name, Designation and Affiliation)* :

3. *Collaborating Agencies/Industries* :

4. *Duration* :

5. *Total Budget* :

- 5.1 *DST Share* :

- 5.2 *Collaborator's Share* :

6. *Objectives (In Bullet Form)* :

7. *Innovative Elements/Components of the Project* :

8. *Outcome/ Deliverables and their Expected Impact (In Bullet Form)* :

9. *Target Beneficiaries* :

10. *Brief Technical Details (300 words), giving Justifications for the Project, the underlying Scientific Basis and the Methodology* :

3. CORE PROPOSAL

1. **Title of the Project**
2. **Duration**
3. **Names of participating Organisations**
4. **Objectives of the Proposal (*precise and quantified, use Bullet Form*)**

- 4.1 Overall Development Objectives
- 4.2 Intermediate Objectives

5. **Fulfillment of Proposal Qualifiers' Criteria**
please tick if the proposal is

based on proven R&D and conforming to national / international, current/ future specifications	
potentially useful, demand driven and required by other agencies and users (name them)	
a development of technology for multiple applications	
an adaptation of existing technology for applications other than originally intended	
meeting a critical national need (present/ future) and strengthening technological capabilities for the same	
an application of advanced science and technology with a promise of giving competitive solutions	

6. **Critical Review of R,D&E Scenario (include references) identifying Gaps**

- 6.1 National Status Review
- 6.2 International Status Review

7. **Origin and Justification of the Proposal**
Please justify based on the identified Qualifiers' criteria

8. **Summary Outline of the Project (with Schematics, where possible)** *Define the Problem and give technical details*

9. **Expected Outcome in Physical Terms**

- i) *New/Upgraded Product*
- ii) *New/Upscaled Process*
- iii) *New/ Upgraded System*
- iv) *Services (including Software)*
- v) *Feasibility Analysis*
- vi) *Any other*

10. **Targeted Specifications of the Expected Outcome**

11. Deliverables of the Project

12. Methodology

Please highlight how success in the project execution will be ensured

13. Milestones with Dates, Work Elements for each and the Organisation responsible for each Work Element

S. No.	Milestone	Target Date	Work Elements	Responsible Organisation
			1. 2. 3.	
			1. 2. 3.	
			1. 2. 3.	

14. Work Plan

Provide a bar chart giving project activities and milestones. Highlight Milestones

15. Names of 5-6 Area Experts working in a similar Area

Please give complete Address, telephone numbers & e-mail addresses

16. Any other information relevant to the Project Proposal and its Execution

4. PROFORMA FOR BIO-DATA OF THE PRINCIPAL INVESTIGATOR/ CO- PRINCIPAL INVESTIGATOR

1. Name
2. Gender : Male : Female:
3. Date of Birth
4. Designation and Affiliation
5. Postal Address
6. Phone Numbers
7. E-mail ID
8. Qualifications

S.No.	Degree	Institution	Year	Division/Class

9. Employment Experience

S.No.	Position & Organisation	Nature of Job	Period

10. List of Publications (for the last 5 years only)

- 10.1 Journal Publications
- 10.2 Conference Presentations

11. Patents filed/granted with details
12. Books published /Chapters contributed
13. Sponsored Research Projects

S. No	Title	Sponsoring Agency	Period	Amount	Achievements

14. Consultancy Projects

S. No	Title	Sponsoring Agency	Period	Amount

15. Sponsored Research/Consultancy Projects submitted for approval.

S.No.	Title	Agency to whom submitted	Duration	Amount

5. BUDGET ESTIMATES

1. Break-up of the Total Budget

Amount in Rupees (lakhs)

S.No	Item	1 st Year		2 nd Year		3 rd Year		Total	
		DST	Collaborator*	DST	Collaborator*	DST	Collaborator*	DST	Collaborator*
1.	Manpower								
2.	Consumables								
3.	Contingency								
4.	Other Costs (Outsourcing, Fabrication, Testing and Patents etc)								
5.	Travel								
6	Permanent Equipment								
7	Overhead Charges								
	Total								

Grand Total (DST + Collaborator)

* Give Financial Contributions of each Collaborator separately.

2. Itemised Budget

(Please provide justification)

2.1. Manpower

Budget for Salaries (DST Component)

Designation	Qualification	Salary month per	Number of Persons	Amount Lakhs	Rupees in	Justification

Budget for Salaries (Collaborator's Component)

Designation	Qualification	Salary month per	Number of Persons	Amount Lakhs	Rupees in	Justification

2.2. Consumables

Budget for Consumable Materials (DST Component)

1 st Year	2 nd Year	3 rd Year	Total	Justification including basis of cost estimates/quotations

Budget for Consumable Materials (Collaborator’s Component)

1 st Year	2 nd Year	3 rd Year	Total	Justification including basis of cost estimates/quotations

2.3. Contingencies

Budget for Contingencies (DST Component)

1 st Year	2 nd Year	3 rd Year	Total	Justification including basis of cost estimates

Budget for Contingencies (Collaborator’s Component)

1 st Year	2 nd Year	3 rd Year	Total	Justification including basis of cost estimates

2.4. Other Costs (Outsourcing, Fabrication, Testing and Patenting etc.)

Budget for Other Costs (DST Component)

Item	1 st Year	2 nd Year	3 rd Year	Total	Justification including basis of cost estimates /quotations
Outsourcing					
Fabrication					
Testing					
Patenting					
Others					

Budget for Other costs (Collaborator's Component)

Item	1 st Year	2 nd Year	3 rd Year	Total	Justification including basis of cost estimates/quotations
Outsourcing					
Fabrication					
Testing					
Patenting					
Others					

2.5. Domestic Travel*

Budget for Domestic Travel (DST Component)

1 st Year	2 nd Year	3 rd Year	Total Rupees	Justification; indicating journeys, mode and class of transport

(*) No foreign travel is permitted under DST grants. Class and mode of transportation should be as per the entitlement of the concerned staff in the institute. Travel component of visits of the Project Review Committee would be added by DST separately in the project cost)

Budget for Domestic Travel (Collaborator's Component)

1 st Year	2 nd Year	3 rd Year	Total Rupees	Justification; indicating journeys, mode and class of transport.

2.6. Equipment*

Budget for Permanent Equipment (DST Component)

Description of Equipment	Foreign/Indigenous	Unit Landed Price (CIF+Custom Duty+ others)	Number of Items	Total Rupees	Justification in relation to Project requirement

Budget for Permanent Equipment (Collaborator's Component)

Description of Equipment	Foreign/Indigenous	Unit Landed Price (CIF+Custom Duty+ others)	Number of Items	Total Rupees	Justification in relation to Project requirement

* A List of equipment and facilities available to the investigators and relevant to the Project be provided separately.

2.7 Designation of the officer in organisation who is vested with financial power

7. ENDORSEMENT FROM THE HEAD OF THE ORGANISATION

(to be typed on the letter-head of the organization)

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 the financial and purchase procedures are followed as per the prevailing norms of the Organization, within the allocated budget.
4. The Organisation shall provide timely the Statement of Expenditure and the Utilisation Certificate of the Funds under the Grant as required by the DST in the prescribed format.

(Head of the Institute)
Seal/Stamp

Date
Place

8. Endorsement from collaborating Industry/Agency

(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 in the Project Proposal including the financial liabilities accruing therefrom as detailed above. A brief profile of my Organization is summarised below:

Name of Organisation
Line of Business
Number of Employees
Annual Turn over

The Annual Report for the preceding financial year is enclosed.

(Head of the Organisation)
Seal/Stamp

Date
Place

PROJECT TITLE

FOR CONSIDERATION UNDER
WATER TECHNOLOGY INITIATIVE (WTI)
PROGRAMME

SUBMITTED BY

(Name of Principal Investigator)

(Name and Address of the Institution)

(Date of Submission)