

**GUIDELINES FOR RESEARCH & DEVELOPMENT PROJECTS
FOR FORMULATION AND REVIEW OF STANDARDS
(First Revision)**

1 INTRODUCTION

Bureau of Indian Standards (BIS), as the National Standards Body of India is responsible for formulating Indian Standards for products, processes and services. In the pursuit of this endeavour, it has so far developed more than 22000 Indian Standards. Action Research and Research & Development Projects have always been part of the standardization process. However, there has been a growing realisation in the context of the increasing diversification, innovation and complexities in the manufacturing sector and evolution of services and also due to the fast pace of changes in the manufacturing and services landscapes, research & development projects have to be made an integral part of the standardization process. The idea is that in principle no standard should be developed without intensive and insightful research work, which is not confined only to the review of the existing literature and focus group discussions on the subject chosen for standardization, but also covers the detailed field level study of the existing processes and practices in product manufacturing and service delivery. This requires a large network of domain area experts to carry out the research & development work. The existing network encompasses only a small segment of experts, who are either associated with technical committees as members or belong to some R&D organizations. The Memorandum of Understanding with the premier educational institutions imparting technical and professional education opens the window to the opportunities to expand this network substantially by utilizing the intellectual capital that resides with the faculty and the research scholars in these institutions. This association is conceived not only as a way to promote research & development work necessary for standards formulation but also to enrich the research ecosystem in these educational institutions.

2 OBJECTIVES

Objectives of this Scheme are to:

- 2.1** support and commission research & development projects to generate knowledge, empirical data and insights that would help in formulating new standards and updating & upgrading the existing Indian standards;
- 2.2** expand the network of domain area experts to carryout research & development projects in the areas related to standardization and conformity assessment; and
- 2.3** enrich the research ecosystem in the educational institutions imparting technical and professional education.

3 RESEARCH & DEVELOPMENT PROJECTS

3.1 Research & development projects under these guidelines are described as follows:

A project aimed at comprehensive, in depth and incisive study of a product, process or service or all taken together in respect of a subject under standardization, encompassing literature review, analysis of the data from secondary sources, collection and analysis of data from primary sources and stakeholder consultations.

3.2 The duration of a project shall not exceed six months counted from the date of release of the first instalment of the funds to acceptance of the final report by the Sectional Committee concerned, provided that the Sectional Committee must not take more than one month to give its decision on the final report. Further provided that the time taken by the Sectional Committee for giving its decision shall not be counted. The Sectional Committee may extend the duration but for not more than 2 months in special circumstances, the reasons for which shall be recorded in the minutes of meeting of the Sectional Committee.

3.3 The upper limit for expenditure for a project shall be Rs 10 lakhs (including taxes) only.

3.4 BIS will publish a list of research & development projects along with Terms of Reference (ToR) on Standardization portal or any other suitable digital platform.

3.5 If any organization or an expert on behalf of an institute wants to propose a research & development project on any new and emerging area in which they have expertise, they can do so through the same platform for the consideration of the Sectional Committee.

4 TERMS OF REFERENCE (ToR)

4.1 The ToR of Research& development project shall be prepared by the Sectional Committee concerned, and shall contain:

- a) Title, background and objectives of the study;
- b) Expected research methodology (brief information, for example, survey, testing, industry visits, etc.);
- c) Scope of study;
- d) Outline of the tasks and final deliverables expected from the Proposers;
- e) Methods of review, schedule for submitting the 1st draft report and project completion report;
- f) Any support or inputs to be provided to the Proposer; and
- g) Maximum duration of project and timelines for submission of proposal.

4.2 While preparing the Terms of Reference (ToR) the sectional committee may consider the following points as a research & development project may include one or mix of the following:

- a) Secondary research based on internet or published information including authentic data sources;
- b) Survey based research (including industry visits) to ascertain prevailing market conditions and practices, standards in use, industry and consumer preferences, availability of infrastructure, technical capabilities, comparative trends, economic trends;
- c) Ascertaining compliance to existing and proposed standards through testing, review of past test reports, other validation and verification checks; and
- d) Basic and innovative research to establish normative criteria. Criteria may include performance, health, safety, environmental impact.

5 APPROVAL OF COMISSIONING OF THE RESEARCH AND DEVELOPMENT PROJECTS

5.1 There shall be a Review Committee for approving the projects recommended by the Sectional Committee. The composition of Review Committee shall be as follows:

DDG (SCMD)	: Chairperson
DDG (Standardization) concerned	: Member
DDG (Certification)	: Member
DDG (Labs)	: Member
Officer in-charge for research works in SCMD	: Member Secretary

5.2 The Head of Technical Department concerned and Member Secretary of the Sectional Committee shall apprise the review committee about the project and explain the rationale behind the proposed research & development project.

6 ELIGIBILITY CRITERIA

6.1 The following shall be eligible for carrying out research & development projects under the Scheme:

- a) Academic institutions & universities having MoU with BIS and faculties and research scholars thereof;
- b) Member(s) of Technical Committees of BIS.
- c) Government research laboratories of repute like CSIR, DRDO, ICAR etc.

6.2 Faculties and research scholars shall submit proposals through their institute. Members of technical committees belonging to any association/organization shall submit the proposals through their association/organization. Members of technical committees in personal capacity can submit their proposals directly to BIS, however if carrying out a research & development

project requires collaboration with any institution/organization, concurrence of the same shall also be submitted.

7 PROCEDURE FOR APPLICATION

7.1 Submission of Proposal

7.1.1 Applications for undertaking research & development projects shall be submitted in the manner prescribed by the Bureau and within the prescribed timelines,

7.1.2 Proposer(s) shall submit their proposal in a “single stage - two envelope bid system” consisting of separately sealed “Technical and Financial proposals”. The Technical Proposal shall be submitted as per format prescribed in **Annex A** and the Financial Proposal shall be submitted in the format prescribed as per **Annex B**, clearly specifying expected expenditure against each element such as manpower, equipment (shall not include standalone desktops/laptops/printers etc), travelling, testing, consumables, stationery, overheads, etc.

7.2 The proposals shall inter-alia consist of the following:

7.2.1 In respect of the research & development projects put up by the Bureau:

- a) Details of the Project team along with the organization/institution associated with;
- b) The CV of the Project leader and expert/expert(s) to be associated with the project and a letter from organization authorizing Project Leader and expert/expert(s) to undertake the research as proposed.
- c) A write up on the understanding of the scope and objectives of the project.
- d) Methodology (sampling size, if applicable) to be adopted for the proposed study with a clear road map and time plan for completion of the project;
- e) Stage wise timelines for completion of the project.

7.2.2 In respect of research & development projects proposed by any expert/organization:

- a) Details of the Project team along with the organization/institution associated with;
- b) The CV of the Project leader and expert/expert(s) to be associated with the projects and a letter from organization authorizing Project Leader and expert/expert(s) to undertake the study as proposed.
- c) Objective that will be achieved and scope of the project clearly highlighting the need of such study and what would be the final deliverable;
- d) Methodology (sampling size if applicable) to be adopted for the proposed study with a clear road map and time plan for completion of the project;
- e) Details of infrastructure facilities available for the project, in the institution and additional facilities required (if any) for carrying out research.
- f) Stage wise timelines for the completion of the project

7.3 The Head of the concerned institution while forwarding the application and nominating the project leader shall certify that:

- a) the core facilities (land, buildings, laboratory, manpower and other infrastructure etc.) are available and will be provided to the Project Leader to work on the proposed project,
- b) the organization will discharge all its obligations, particularly in respect of management of the financial assistance given, and
- c) no other funding is being received/sought for the project proposed to be sanctioned by BIS.

8 PROCEDURE FOR APPROVAL WITHIN BIS

8.1 There shall be a Research Evaluation Committee (REC) to evaluate the proposals received, the composition of which shall be as follows:

DDG (PRT)	: Chairperson
Head (CMD) concerned	: Member
Head (LPPD)	: Member
Head of the Technical Department concerned	: Member
Director Finance	: Member
Two Experts from the Sectional Committee concerned	: Members
Head (SCMD)	: Member Secretary

*The experts shall be nominated by the Sectional Committee and the nominated members shall give a declaration to the effect that there is no conflict of interest with respect to the project.

8.2 The evaluation and selection will be as per Quality and Cost Based Selection (QCBS) method (Rule 192, GFR 2017) which is explained in **Annex C**.

8.3 The criteria for evaluation of technical proposal shall be as under:

SI No.	Criteria	Max. Marks	Score by REC
1	Profile of key individual/individuals to be associated with the research project	10	
2	Experience of the individual/organisation in conducting research projects in the relevant discipline	20	
3	Understanding of Scope, Objectives and deliverables	15	
4	Methodology	30	
5	Work plan/Execution strategy	15	
6	Chapterisation, contents and lay out of the proposed report	10	
TOTAL		100	

Note: REC may call for a presentation by the proposers if deemed necessary.

8.4 The minimum qualifying marks shall be 70. All the proposals with marks below 70 shall be considered rejected.

8.5 REC may refer back, advise changes for reconsideration or reject any proposal.

8.6 REC shall open the financial proposals (bids) within 7 days from completion of technical evaluation.

8.7 A final score sheet of all the proposers shall be made as detailed in **Annex C** and the proposer getting the highest combined score shall be selected for awarding the project.

8.8 The member secretary (REC) shall send the selected proposals to DG/DDG Standardization concerned, as per their delegated powers, for consideration and approval for sanction of the project.

8.9 After the approval of project, the member secretary (REC) shall inform the concerned technical department and the proposer regarding the decision.

9 AWARD OF PROJECT

9.1 After the approval of project, the member secretary (REC) shall inform the concerned technical department and the proposer regarding the decision along with the format of the Consent Letter (Annex D) to be signed by the proposer.

9.2 After receipt of duly signed consent letter from the proposer, the first instalment of the total approved project cost shall be released. The project would be considered to have commenced from the date the first instalment is released.

9.3 In case the proposer to whom the project is awarded declines to take up the project, the Research project shall be awarded to the proposer getting the next highest combined score among the qualified proposers.

10 FUNDING

10.1 The mode of payment for Research & development projects shall be as follows:

- a) First instalment of 30 percent of the total approved project cost would be released after approval of the project.
- b) Second instalment to the extent of 50 percent of the approved estimated cost would be released on the submission of progress report along with the report on utilization of the 75 percent of the fund and acceptance of the same by the Sectional Committee.
- c) The balance amount shall be released after submission of the final project report along with utilization certificate for the fund released and its acceptance by the Sectional Committee.

10.2 Release of each instalment is subject to satisfactory progress, required stage - wise deliverables and submission of the Utilization Certificate (UC) as per Form GFR12-A of GFR 2017 along with the statement of expenditure (SoE) issued by the Competent Authority.

11 PROGRESS REPORT AND MONITORING OF PROJECT

11.1 The relevant Sectional Committees of BIS will monitor the progress of project to ensure that the project is progressing as per the planned arrangement. However, member secretary of the concerned Sectional Committee under overall coordination of HoD would be the controlling/link officer for Research & Development projects and would constantly monitor the progress of the project every 30-45 days. Any delay in implementation of project should be duly justified by the Project leader and shall be put up to the sectional committee for approval.

11.2 The Sectional Committee shall review and give its acceptance of the progress reports submitted, within 3 weeks.

12 SUBMISSION OF FINAL PROJECT REPORT (FPR)

12.1 The FPR must be detailed and should include information about:

- a) the original objective(s) of the project,
- b) how far these objective(s) have been achieved, and
- c) how the results will benefit the development of the national standard(s) and
- d) a copy of final working draft of the concerned standard(s) (wherever applicable)
- e) include clear inferences, recommendations regarding their use in the proposed standards,
- f) all references used, raw data of surveys, sampling, testing and experiments,
- g) undertaking that all the information presented is authentic.

12.2 FPR received in BIS would be put up to the concerned Sectional Committee, which will take necessary action for preparation/revision of standard appropriately. The Project leader shall assist in the disposal of comments received on the research project, draft standard and for the preparation of the finalized draft, as may be desired by the Sectional Committee.

12.3 The proposer shall submit the Project Completion Report (PCR), within one month of completion of project along with the Utilization Certificate of the fund released as per Form GFR 12-A of GFR 2017 and the statement of expenditure (issued by the Competent Authority -in case of Govt. organization / Chartered Accountant in case of private organization).

13 RESULTS OF RESEARCH & DEVELOPMENT

13.1 Project Leader(s) would be encouraged to publish the results of research & development. While doing so, acknowledgement to the effect that financial assistance was received from BIS

should be made in the research paper(s) published. BIS should be acknowledged in similar type of other published work/press reports.

13.2 One re-print of each research paper(s) published as a result of the work done under the BIS funds shall be sent to BIS as and when published.

14 INTELLECTUAL PROPERTY RIGHTS

14.1 Ownership of any intellectual property, including but not limited to confidential information, know-how, patents, copyrights, design rights, rights relating to computer software, and any other industrial or intellectual property rights, developed solely by Proposer shall be vested with that Party.

14.2 Ownership of any intellectual property, including but not limited to confidential information, know-how, patents, copyrights, design rights, rights relating to computer software, and any other industrial or intellectual property rights, developed solely by the Bureau shall be vested with that Party.

14.3 The Intellectual Property arising out as an outcome of research project undertaken under these guidelines shall be vested with Bureau.

14.4 The proposer shall indemnify BIS from any legal and/or financial encumbrance arising out of any infringement of IPR/licensing of IPR/technology transfer/commercialization.

15 OPERATION OF FUNDS

15.1 The utilization certificate of the funds received in previous instalment (if any) to BIS should be annexed with the Statement of all equipment, books, etc purchased out of the funds certified by the Head of the organization. The name, description of the equipment, cost in rupees, date of purchase, and the name of the supplier to be given in the list. The main purpose/function of the equipment may also be mentioned against each item.

15.2 Any unspent balance lying with the organization should be refunded to BIS after the finalization of the draft immediately, by means of demand draft or online transfer.

15.3 The Head of the concerned standardization department of BIS shall ensure that the project leader submits the utilization certificate in the manner prescribed in Form GFR 12-A of GFR 2017.

15.4 Head of the Standardization department shall also ensure that the operation of funds is monitored strictly as specified in **Annex E**. Further the Project Leader is also fully aware and shall adhere to the obligations of his/her as given in this procedure.

16 OTHER REQUIREMENTS

16.1 Organizations receiving financial assistance for research & development projects from BIS would have to maintain separate accounts for each research project.

16.2 In the event of a Project Leader's absence from his normal place of duty for two months at a stretch, the Head of the organization would need to immediately nominate an Alternate Project Leader(s) to supervise the implementation of the project and such a name has to be approved in advance by BIS. In any event, a Project Leader shall give prior notice to BIS of his intention to stay away from the project.

16.3 Items of equipment, etc should be purchased on the basis of the established rules and procedures of the entity/organization.

16.4 Stock register of all equipment, books, etc purchased out of the funds shall be maintained.

16.5 Any capital-intensive equipment/devices purchased using financial assistance from BIS for research & development projects shall be allowed to be retained by the proposer for their research activity etc.

16.6 The organization shall have to ensure that expenditure with respect to TA/DA are made only as per their own norms but under no circumstances the executive/business class air travel or stay in a five-star hotel is made. The overhead expenses should not be more than 20 percent of the cost of the project.

16.7 The Project Leader must ensure that the concerned organization's newsletter would carry information on the activities and accomplishments of the various projects funded by the BIS.

17 TERMINATION OF PROJECT

The research & development project can be terminated in case of any of the following:

- a) the approval of research & development project may be treated as withdrawn, if the sanctioned research & development project does not commence within one month from the date of receipt of the sanction letter, unless otherwise authorized by BIS;
- b) A Proposer may request for the withdrawal of a research & development project even after commencement of the project. In such case the entire fund given till that date shall be refunded to the Bureau; and
- c) if the Proposer fails to submit Progress report/Final Project report within the prescribed timelines.

The REC shall take decision on all cases of termination.

18 RESOLUTION OF DISPUTES

Dispute Resolution: In case of any dispute that cannot be resolved amicably, it shall be referred to Sole Arbitrator appointed by the Director General of the Bureau of Indian standards, whose decision shall be final and binding upon both the parties. The provisions of the Arbitration and Conciliation Act, 1996, as amended from time to time, shall be applicable.

ANNEX A

TECHNICAL PROPOSAL

1. Name of the Proposer and Organization	
2. Project title	

3. Project leader

a) Title: Prof/Dr/Mr/Ms	Sex
b) Name:	M/F
c) Full official address	
Mobile/Telephone Fax E-mail	
d) Designation	
e) Date of birth	
f) Academic qualifications along with year of completion	
g) Experience	

4. Other members of the research team (give name, address, experience and academic qualifications for each member)

1. Name	Designation: Address: Experience: Academic Qualifications:
1. Name	Designation: Address: Experience: Academic Qualifications:

5. Research support availed/being availed/applied for by the Project leader from different sources, including BIS, during the last 5 years:

Funding agency	Title of the project and reference number	Duration (from mm/yyyy to mm/yyyy)	Percentage of time devoted /being devoted/to be devoted, in man months	Amount in lakh Rs.

6. Details of facilities available with the institute/organization w.r.t. the research & development project

Facilities	Relevance to project
1.	

7. Aims and significance of the project

(Include the current status of work in area, both in India and abroad, with appropriate reference list at the end; identify lacunae, define question to be investigated; list briefly specific objectives of investigation. ethical clearance be enclosed where necessary).

8. The CV of the Project leader and expert/expert(s) to be associated with the projects and a letter from organization authorizing Project leader and expert/expert(s) to undertake the study as proposed.

9. Objective that will be achieved and scope of the project clearly highlighting the need of such study and what would be the final deliverable.

10. Methodology (sampling size if applicable) to be adopted for the proposed study.

11. Road map (Stage wise timelines for the completion of the project) and time table for completion of the project

12. Plan of work, methods and techniques to be used.

13. List of awards and honours conferred on the Project leader with dates.

14. Deliverables

15. Declaration and attestation:

I certify that all the details declared here are correct and complete.	Date:
Signature of Project leader	

12. Certificate of the institution:

This is to certify that	
a) we have read the terms and conditions of the BIS Research & Development Guidelines necessary for the compliance of the same.	
b) the necessary institutional facilities are available and will be provided for the implementation of this research proposal being submitted to the BIS for funding.	
c) Full account of expenditure will be rendered by the institution.	
Name of the head: of the institution	
Signature with date:	
Seal:	

ANNEX B
FINANCIAL PROPOSAL FORMAT
[To be submitted on letterhead wherever applicable]

To:
Bureau of Indian Standards
Manak Bhavan, 9 Bahadur Shah Zafar Marg
New Delhi – 110002, India

Sub: Financial Proposal for Research & development Project on (Title: _____)
for Bureau of Indian Standards (Research guidelines document no. _____ dated: ____-____-____).

Dear Sir,

We are pleased to submit our Financial Proposal for Research & Development Project on (Title: _____) for Bureau of Indian Standards as per the terms and conditions of the Research & Development guidelines document (Ref No.: _____ dated: ____-____-____).

1. We hereby declare that our financial proposal is unconditional in all respects.
2. Our financial proposal is as follows:

3. Cost of the Project:

Sl no.	Budget items	Amount
1	Manpower cost	
2	Consumables [Chemicals, samples, testing glassware, stationery, books etc, information search (from databases)]	
3	Equipment	
4	Travel	
5	Any other/Overhead expenses	
	Total project cost	

*Please write NA in case any item is not applicable

- a) The prices should be quoted in Indian Rupees above by the proposer.
- b) The quoted price should be inclusive of all applicable taxes and charges.
- c) Fund shall be released after deducting TDS as per applicable provisions of GST and income tax.
- d) Justification of cost (for each item of equipment, consumables and travel. Quotation(s) for equipment should also be enclosed).

Date:

Place:

Name and Signature of the head of the institution

(Rubber seal of the proposer/institution/organization, as applicable)

Yours faithfully,

(Signature of the Project leader)

(Name and Designation of the proposer)

ANNEX C

Stage 1: Evaluation of Technical Proposal:

- a) The proposal will be evaluated against the criteria defined at clause **8.3** in these Guidelines. The proposer may be required to provide additional details as deemed necessary by the REC.
- b) Upon technical evaluation of each proposal, “Technical marks” out of 100 marks will be assigned to every proposal.
- c) The proposals with score 70 or more marks in technical evaluation, will qualify for the evaluation of the financial proposal.
- d) The proposer with the highest marks in technical proposal will be awarded 100 “Technical Score” and subsequently other proposers will also be awarded “Technical Score” relative to the highest technical marks for the final composite score calculation purpose e.g., if the highest technical marks is 90 then “Technical Score” is $(90/90) \times 100 = 100$, hence the proposer with highest technical marks will score 100 “Technical Score”. Similarly, another proposer who scored 80 marks, will get $(80/90) \times 100 = 88.88$ “Technical Score”. Following formula will be used for the “Technical Score” (TS) calculation:

$$\text{Technical Score (TS)} = \left[\frac{\text{Proposer's Technical Marks}}{\text{Highest Technical Marks}} \right] \times 100$$

Stage-2 Evaluation of Financial Proposal

- a) The evaluation will be carried out if financial proposals are complete and computationally correct.
- b) Upon financial evaluation of each proposal, the lowest financial proposal will be awarded 100 “Financial score”. The “Financial Score” of other proposer(s) will be computed by measuring the financial proposal against the lowest financial proposal. Following formula will be used for calculating “Financial Score”:

$$\text{Financial Score (FS)} = \left[\frac{\text{Lowest Financial proposal}}{\text{Proposer's Financial Proposal}} \right] \times 100$$

Stage-3 Computation of Combined Score

The “Combines Score” is a weighted average of the Technical and Financial Scores. The ratio of Technical and Financial Scores is 70:30 respectively. The Combined Score will be derived using the following formula:

$$\text{Combined Score} = [(\text{TS} \times 0.70) + (\text{FS} \times 0.30)]$$

The responsive proposers(s) will be ranked in descending order according to the Combined Score, which is calculated based on the above formula. The highest-ranking proposer as per the Combined Score will be selected for award of Research Project.

ANNEX D

CONSENT LETTER

This has reference to award of the following R&D Project in favour of the undersigned.

Project Code	Project Title	Proposer	Financial Proposal (in lakh Rs)

I/We hereby give consent to the execution of the above project, which shall be governed by the following:

- i) Terms of Reference (ToR) of the project mentioned above;
- ii) Guidelines for R&D Projects (SCMD/R&D Guidelines/20240522);
- iii) Proposal submitted by us.

I/we understand that the first instalment (30 percent of the approved financial proposal) shall be released after submission of this consent by us. The amount may please be transferred to the following account:

- a) Name of the Account Holder
- b) Account No.
- c) IFS Code
- d) Name & branch of the Bank.

Thanking you,

To be signed by
(Proposer/Project Leader)

Name and Signature of the head of the institution
(Rubber seal of the proposer/institution/organization, as applicable)

ANNEX E

OPERATION OF FUNDS AND PROGRESS REPORT

1. Title of the Project:	Project number:
2. Name & Address of Project leader:	Date of Commencement: dd/mm/yyyy

3. Details of Equipment Purchased (if any):

Name of equipment	Cost	Supplier	Date of purchase/ placing order for each item of equipment

NOTE - The equipment fund once fixed cannot be enhanced. Project leaders are advised to give authenticated estimates of the cost of equipment. Equipment should invariably be purchased within 1 month from the date of receipt of the fund and/or sanction letter.

4. Fund received_____.

5. Expenditure made in Rupees: (Please provide the details)

Expenditure	Amount	Taxes (as applicable)	Total
Manpower cost			
Consumables			
Equipment			
Travel			
Others			
Grand Total			

6. Amount saved (if any) from the last instalment: Rs_____.

7. Date on which scheme will complete its normal tenure of months _____.

8. Whether extension beyond normal tenure has been requested. Yes /No.

If yes, justification for extension and programme of work to be completed. Also mention as to why the work could not be completed as per the original plan.

{Extension beyond normal tenure should be requested at the Project Monitoring Session before end of tenure (as given in ToR)}.

9. Constraints (if any) faced in the progress of work and suggestions to overcome them.

10. Any deviation from original plan with its nature and cause.

11. List of publication giving full bibliographic details accrued from this project (copies of the paper (s) should be enclosed).
12. Summary of work done (200 words).
13. Proposed programme of work for the next month (1000 words).
14. Detailed Progress Report enlisting the objectives in beginning briefly (up to five pages maximum).

Signature of Project leader
Date:

Note: No column should be left blank; write not applicable (NA), wherever applicable.