For BIS Use Only

BUREAU OF INDIAN STANDARDS

AGENDA

Name of the Committee	No. of Meeting	Day	Date	Time	Venue
Surge Arrestors Sectional Committee, ETD 30	23rd	Tuesday	16/04/2024	1100 hrs	**LAL C VERMAN HALL , MANAK BHAWAN , 9 BAHADUR SHAH ZAFAR MARG , NEW DELHI** **(Physical meeting)**

CHAIRMAN: Shri Anil S. Khopkar **MEMBER SECRETARY:** Shri Tushar Sharma

Item 0 WELCOME & OPENING REMARKS BY THE CHAIRPERSON

Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

1.1 The minutes of the last meeting (22nd meeting) of Surge Arresters Sectional Committee, ETD 30 held on 07-11-2023 through video conferencing were circulated. In view of no technical comments received, the committee may formally approve the Minutes of last meeting.

The committee may consider.

Item 2 COMPOSITION OF SURGE ARRESTERS SECTIONAL COMMITTEE, ETD 30

2.1 The present composition of Surge Arresters Sectional Committee, ETD 30 is given at **Annex 1**.

The committee may consider.

2.2 Request for co-option is received from following organisations:

Sl. No.	Organization	Name
1.	Vijaya Sales Corporation	Puneeth Bhurat
2.	GPS India Techventures Private Limited	Maheswaran Sasikumar

The details of above nominations are placed at Annex 8.

The committee may consider.

2.3 Status of participation of members in the previous three meetings inviting suggestions for improvement

Standardization is a collaborative effort, and its success largely depends on the participation and contribution of the members of the concerned technical committees. Further, for standards to be relevant it is also important that viewpoints of all interested stakeholders are brought on board and duly considered while building consensus on the standard being developed. Hence, participation in the technical committee meetings is extremely important in order to ensure that the views of all stakeholder interests are given due consideration by the committee in the formulation of Indian Standards.

The status of participation of committee members in the previous two meetings is given in **Annex 1.**

The committee members are requested to provide suggestions for improvement.

Item 3 ACTIONS ARISING OUT OF PREVIOUS MEETING

S.No	Subject	Decision taken during the last meeting	Action/ Remarks
1	**Item 3.2 of previous minutes**	Shri Gopa Kumar from Cape Electric Pvt Ltd raised the point that surge arresters are installed in India with a separate electrode. To address this issue, a working panel was formed in the last meeting, in conjunction with CEA safety regulations. Shri Gopa Kumar briefed the committee and presented on this issue. This practice results in the use of long wires, which leads to the inefficiency of the Surge Arrester. In this regard, a report submitted by Shri	Circulated to members via e-mail dated 14-11-2023.

		Anandu Gopan will be circulated to committee members via email by the Member Secretary.	
2	**Item 3.2 of previous minutes**	The committee has also recognized this issue as an R&D project, and Shri Gopa Kumar will be submitting the Terms of Reference (ToR).	Submitted via e-mail dated 11-11-2023.
3	**R&D Projects:**	Committee during its last meeting approved the R&D projects on following subjects : i. Study of Surge arresters installed in electricity distribution applications and comparison with clause 5.2.5.5.2 of IS 15086: Part 5 : 2020 Surge Arresters Part 5 Selection and Application Recommendations ii. Surge Arc Suppressor	For project i, Proposals have been received from IIT Dhanbad and Sri Sai Ram Engineering College, Chennai and they are currently under review by Evaluation committee of BIS. Project ii is under review by Review Committee for R&D Projects

The committee may consider.

Item 4 PRESENT POSITION OF WORK

4.1 The present position of work under the scope of ETD 30 is given at **Annex 2.**

The committee may consider.

Item 5 PROCESS REFORMS IN BIS

5.1 Process Reforms in Formulation of Standards

BIS has instituted several process reforms in respect of formulation of Indian Standards. It is essential that the members of Technical Committees are fully aware of these reform measures. The Agenda of the first meeting held during this financial year should be devoted to discussing

these process reforms and developing a clear understanding of the roadmap for future. The Agenda of these meetings should inter-alia include the following

i) Annual Action Plan for the year 2024-25
ii) Annual Calendar of Technical Committee meetings
iii) Research Projects to be taken up for inclusion of empirical data and insights
iv) Closer examination of the New Work Item proposals received from IEC
v) The measures to ensure effective participation by Indian experts in IEC
vi) National and International events to be participated
vii) Scientific journals and periodicals to be subscribed
viii) Creation of pool of experts

5.1.1 Annual Action Plan for the year 2024-25

Annual Action Plan is an important instrument as it helps to plan for the entire year the activities to be undertaken by the committee it inter-alia includes documents under development, meetings, new subjects to be taken up, etc. However, the action plan should also have agility to accommodate new requirements arising at any point of time. BIS management therefore emphasizes on preparation of the Rolling Annual Action Plan and advises committees to prepare the one for the year 2024-2025.

Considering the current work in hand, the committee may CONSIDER the draft Annual Action Plan for the year 2024-25 given at **Annex 4**.

5.1.2 Annual Calendar of Technical Committee Meetings

The item on date and place for the next meeting of the committee may be replaced with the title "Annual Calendar of Technical Committee meetings'.

5.1.3 Research Projects to be taken up for inclusion of empirical data and insights.

Quality of a standard depends largely on the research data being considered while developing standards. Further, such data also provides insight on the modification required or incorporation of a specific requirement/ parameter in a standard. It is presumed that during the development of a standard the members/ proposer will provide data in support of the proposal/ requirements. In some cases, it is seen that due to lack of such information, the standard does not meet the requirements of the market. BIS management has therefore offered support to committee for taking up research projects to collect empirical data and getting insight for the development of standard.

The committee may **CONSIDER** and **IDENTIFY** standards for which research project needs to be taken up.

5.1.4 Closer examination of the new work item proposals received from ISO/ IEC

Participation in the development of international standards from an early stage helps to influence the standard as well as to understand why a specific requirement is being considered. It is therefore important that the New Work Item proposal received from ISO/ IEC are examined closely and a national viewpoint is prepared on the subject as early as possible.

5.1.5 Measures to ensure effective participation by the Indian experts at ISO/ IEC levels.

The committee is considering various aspects to increase participation in the IEC committees, be it obtaining P-membership, nominating experts in WGs of national interest, voting on the ballots, participation in the meetings, etc. It is however important to measure effectiveness of our participation in international standardization work.

The Committee may **CONSIDER** the measures to ensure effective participation by the Indian experts at IEC level.

5.1.6 National and International events to be participated.

Apart from participation in IEC meetings, the participation of BIS in other national or international importance events on the committee subject can facilitate in staying updated with the new and emerging trends in the field of work, networking and collaboration with relevant experts and stakeholders, influencing policy and decision making, promoting standardization efforts, etc.

The committee may **IDENTIFY** other national and international events wherein BIS should participate for the benefit of standard's work.

5.1.7 Scientific journals and periodicals to be subscribed.

BIS has been subscribing scientific journals and periodicals to support standards work and maintaining these through our central library.

The committee may suggest scientific journals and periodicals which may be useful in standard development especially in the field of Surge Arrestors.

5.1.8 Creation of pool of experts

To have the committee manageable and workable, BIS management has suggested optimum size of a committee as 25-30 members. Further, representations of various interest groups in the committee have also to be ensured. Considering the facts, some time it felt by the committees that it lacks requisite expertise for developing some specific subject standards. It is therefore essential that a pool of experts has to be created be through establishment of sub-committees or panels or WC mailing lists or other modes.

The Committee may **SUGGEST** ways to create and maintain a pool of experts in the field of Surge Arrestors.

5.2 Latest structural and process reforms

The reforms have been communicated to all the members of Sectional Committee via letter of DG, BIS. The same is enclosed at **Annex 6.**

a) Composition of Sectional Committee

- To fill the gaps of experts
- Standardization cells in Industry association and Ministries
- Nomination of an expert with the approval of HoD of organization

b) Smart and efficient SCs

- On boarding program for every newly inducted member
- Signed declaration by each SC member
- Lapse in membership if member remains absent from two consecutive meetings of the
- SC
- Mandatorily commenting on P-draft through portal only (support or reject it or offer
- comments for improvement)

c) R&D projects

d) Working with ISO/IEC

- Identification of Indian Standards to be prosed as NWIPs at ISO/IEC

e) Advanced dashboard for standardization and efficiency index

- Advanced Dashboard- Analytical reports on various aspects of the functioning of TCs and the progress of standards under development
- Efficiency Index- Ranks the SCs on the basis of their performance against the given parameters. Details are given in **Annex 5.**

The Committee may consider.

Item 6 INTERNATIONAL ACTIVITIES

6.1 India is a P member in IEC TC 37.

Present position of work of TC 37 is given at **Annex 3.**

The committee may note.

6.2 Details of voting for IEC TC 37 and IEC SC 37A are given below:

TC 37

Doc Number	Last Date	Comment
37/494/AC	10-11-2023	Nomination Support
37/497/Q	29-12-2023	Yes vote sent
37/500/Q	23-02-2024	Yes vote sent

SC 37A

Doc Number	Last Date	Comment
37A/401/CDV	26-01-2024	In Favour comment sent
37A/402/CDV	26-01-2024	In Favour comment sent
37A/403/CDV	26-01-2024	In Favour comment sent
37A/404/CDV	26-01-2024	In Favour
37A/406/CD	22-03-2024	No comment

The committee may note.

6.3 Status of standardization in the areas dealt by the committee at international level and suggestions for improving participation in the related committees of ISO/IEC

Participation in the international meetings would help India to project its views/proposals at the international level. It would help in harmonizing Indian Standards with the International Standards which it turns would facilitate acceptance of Indian products in the International Market.

Item 7 GUIDELINES FOR RESEARCH & DEVELOPMENT PROJECTS FOR FORMULATION AND REVIEW OF STANDARDS FOR INCLUSION OF EMPIRICAL DATA AND INSIGHTS.

Quality of a standard depends largely on the research data being considered while developing standards. Further, such data also provides insight on the modification required or incorporation of a specific requirement/parameter in a standard. It is presumed that during the development of a standard the members/ proposer will provide data in support of the proposal/ requirements. In some cases, it is seen that due to lack of such information, the standard does not meet the requirements of the market. BIS management has therefore offered support to committee for taking up research projects to collect empirical data and getting insight for the development of standard.

The committee may **CONSIDER** and **IDENTIFY** standards for which research project needs to be taken up.

A revised guidelines for RESEARCH & DEVELOPMENT PROJECTS FOR FORMULATION AND REVIEW OF STANDARDS is placed at **Annex 7**.

Following are some of the salient features of these guidelines :

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.

Item 8 DATE AND PLACE OF NEXT MEETING

Sectional Committee	**Q1**	**Q2**	**Q3**	**Q4**
ETD 30	16/4/2024	26/7/2024	15/10/2024	15/1/2025

Item 9 ANY OTHER BUSINESS

ANNEX 1

STATUS OF PARTICIPATION IN THE LAST TWO MEETINGS

S. No.	Organization	Member Name	Member Email	Attendance Out of last 2 Meeting	
				21st	22nd
1.	Electrical Research and Development Association, Vadodara	Dr Anil S Khopkar	anil.khopkar@erda.org	P	P
2.	Adani Power Limited, Ahmedabad	Shri Sekhar Agarwal	Shekhar.Agarwal@adani.com	N	N
		Shri Bijoy Mishra	bijoykumar.mishra@adani.com		
3.	Assam Electricity Grid Corporation Limited, Guwahati	Shri Gunajit bhuyan	gunajitbhuyan@gmail.com	N	N
		Shri Ashutosh Bhattachrejee	ashutosh.bhattacharjee@gmail.com		
4.	BSES Rajdhani Power Limited, New Delhi	Shri Gopal Nariya	Gopal.Nariya@relianceada.com	P	P
		Shri Sanjay Kumar Bhatnagar	sanjay.g.bhatnagar@relianceada.com		
5.	BSES Yamuna Power Limited, New Delhi	Shri Srinivas Gopu	srinivas.gopu@Relianceada.com	N	P
		Shri Jeena Borana	jeena.borana@Relianceada.com		
6.	Bangalore Electricity Supply Company Limited, Bengaluru	Shri Y. K. Basavrajappa	gmqs.work@gmail.com	N	N
		Shri B. N. Bhargavy	agmqs1@bescom.co.in		
7.	Bharat Heavy Electrical Limited, New Delhi	Shri Sanjeev Shrivastava	sanjeev.shrivastava@bhel.in	P	P
		Shri Debasisa Rath	debasisa@bhel.in		
8.	CG Power and Industrial Solutions, Mumbai	Shri Nitin Jha	Nitin.Jha@cgglobal.com	P	P
9.	Calcutta Electric Supply Corporation Limited, Kolkata	Shri Debashis Sikder	debashis.sikder@rpsg.in	P	P
		Shri Jayanta Paul	jayanta.paul@rpsg.in		
10.	Cape Electric Private Limited, Kancheepuram	Shri S. Gopa Kumar	gk@capeindia.net	P	P
		Shri Anandu Gopan	ag@capeindia.net		
11.	Central Electricity Authority, New Delhi	Shri Bhanwar Singh Meena	bhanwar.cea@gov.in	N	N
		Shri Pankaj Kumar Verma	kvermap@nic.in		
12.	Central Power Research Institute, Bengaluru	Dr Pradeep M Nirgude	pmnirgude.cpri@gmail.com	P	P
		Jithin Pauly P	jithin@cpri.in		
13.	Delhi Metro Rail Corporation Limited, Delhi	Sh. Shriniwas Agrawal	snag2270@gmail.com	P	P
		Shri Ashish Arora	ashish.arora@dmrc.org		

14.	Electrical Research and Development Association, Vadodara	Shri Tirtha Vishwakarma	tirtha.vishwakarma@erda.org	P	P
		Shri Nitin Chitte	nitin.chitte@erda.org		
15.	Elektrolites (Power) Private Limited, Jaipur	Shri Ankit Saboo	ankit.saboo@elektrolites.com	P	P
		Shri Anil Saboo	anil.saboo@elektrolites.com		
16.	Elpro International Limited, Mumbai	Shri Deepak Daga	daga@elpro.co.in	P	N
		Shri Sunil Khandelwal	khandelwal@elpro.co.in		
17.	Gujarat Energy Transmission Corporation Limited, Vadodara	Shri B.P Soni	seengg.getco@gebmail.com	P	P
		Shri Dipak Panchal	jeequip1.getco@gebmail.com		
18.	Haryana Vidyut Prasaran Nigam Limited, Gurugram	Shri Ram Nand Mishra	ramanand.mishra@gmail.com	N	N
		Shri Piyush Saini	sedesign@hvpn.org.in		
19.	Indian Electrical and Electronics Manufacturers Association, New Delhi	Shri Rishabh Joshi	rishabh.joshi@ieema.org	N	N
		Ms. Pragati Sohoni	pragati.sohoni@ieema.org		
		Mr. Devesh Vyas	devesh.vyas@ieema.org		
20.	Karnataka Power Transmission Corporation Limited, Bengaluru	Shri B. V. Girish	bvgholla@gmail.com	P	P
		Shri Shanthi	ceertkptcl@gmail.com		
21.	Lamco Industries Private Limited, Hyderabad	Shri B. Rajaiah	info@lamcoindia.com	N	N
		Shri N. S. Prakkasam	lamco@rediffmail.com		
22.	Madhya Pradesh Power Transmission Company Limited, Jabalpur	Shri Sunil Yadav	sunil.yadav@mptransco.nic.in	N	N
		Shri Sumant Mishra	s.mishra@mptransco.nic.in		
23.	NTPC Limited, New Delhi	Shri Ravish Chandra Jha	rcjha@ntpc.co.in	N	N
		Shri Mukesh Kashyap	mukeshkashyap@ntpc.co.in		
24.	Nuclear Power Corporation of India Limited, Mumbai	Shri Jayanth Kumar Boppa	jkboppa@npcil.co.in	N	P
		Shri B.K. Chakraborty	bkchakraborty@npcil.co.in		
		Shri Punit Kumar	punitkumar@npcil.co.in		
25.	Oblum Electrical Industries Private Limited, Hyderabad	Shri O Balagangadhar	technical@oblum.co.in	N	P
		Shri Madhav Srinivasan	madhavs@oblum.co.in		
		Shri Rony Paul	rony.paul@oblum.co.in		
26.	Orange Power Transmission & Distribution Equipments Private Limited, Bangalore	Shri Chetan Kumar Bhurat	orange.power@rediffmail.com	P	P
27.	Phoenix Contact India Private Limited, New Delhi	Shri Sudipto Das	sdas@phoenixcontact.co.in	P	P
		Shri KSP Singh	KSPSingh@phoenixcontact.co.in		
		Shri Praveen Kumar Gupta	Praveenkumar.gupta@phoenixcontact.co.in		

28.	Power Grid Corporation of India, Gurugram	Shri Rajendra Kumar Gupta	rajendra2499@powergrid.in	P	N
		Shri Abhilash R S	abirs@powergrid.in		
29.	Raychem RPG Private Limited, Chennai	Shri Abhijit Dhamale	adhamale@raychemrpg.com	N	N
		Shri Maroof Siddiqui	maroof_siddiqui@raychemrpg.com		
30.	Shreem Electric Limited, Kolhapur	Shri Vishal Jagadale	vishal@shreemelectric.com	N	N
		Shri Ram Patil	ram@shreemelectric.com		
31.	Siemens Limited, Mumbai	Shri Nileshwer	nileshwer.ptd@siemens.com	P	P
		Shri Amit Kr Saha	amitkumar.saha@siemens.com		
		Shri Ankur Garg	ankur.garg@siemens.com		
32.	Tata Consulting Engineers Limited, Navi Mumbai	Shri Anupam Roy	roya@tce.co.in	N	N
		Ms. D.R. Shanthi	shanthidr@tce.co.in		
33.	Tata Power Limited, Mumbai	Shri Pramod Tupe	pbtupe@tatapower.com	N	P
		Shri P. D. Gaikwad	pgaikwad@tatapower.com		

ANNEX 2

Scope: To prepare standards on surge arresters and their accessories, application guide for surge arrestors for different locations

Published Standards

SI. No.	IS No.	Title
1.	IS 15086 (Part 4) : 2017 IEC/PAS 60099-4 : 20	Surge arresters: Part 4 metal - Oxide surge arresters without gaps for A.C. systems
2.	IS 15086 (Part 5) : 2020 IEC 60099-5 : 2018	Surge Arresters Part 5 Selection and Application Recommendations (First Revision)
3.	IS 15086 (Part 8) : 2017 IEC 60099-8 : 2011	Surge arresters: Part 8 metal oxide surge arresters with external series gap (EGLA) for overhead transmission and distribution lines of a.c. systems above 1 kV
4.	IS 15086 (Part 9) : 2019 IEC 60099-9:2014	Surge arresters: Part 9 metal - Oxide surge arresters without gaps for HDVC converter stations

ANNEX 3

TC 37 Publications

Sr No.	Reference	Title
1.	IEC 60099-4:2014	Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems
2.	IEC 60099-5:2018 RLV	Surge arresters - Part 5: Selection and application recommendations
3.	IEC 60099-5:2018	Surge arresters - Part 5: Selection and application recommendations
4.	IEC 60099-6:2019	Surge arresters - Part 6: Surge arresters containing both series and parallel gapped structures - System voltage of 52 kV and less
5.	IEC 60099-8:2017	Surge arresters - Part 8: Metal-oxide surge arresters with external series gap (EGLA) for overhead transmission and distribution lines of a.c. systems above 1 kV
6.	IEC 60099-8:2017 RLV	Surge arresters - Part 8: Metal-oxide surge arresters with external series gap (EGLA) for overhead transmission and distribution lines of a.c. systems above 1 kV
7.	IEC 60099-9:2014	Surge arresters - Part 9: Metal-oxide surge arresters without gaps for HVDC converter stations

TC 37 Work Programme

Sr. No.	Project Reference	Title	Current Stage	Next Stage Date	Working Group
1.	IEC TR 60099-10 ED1	Surge arresters - Part 10: Rationale for tests specified by IEC 60099:2014	CDTR	2024-04	
2.	IEC/IEEE 60099-11 ED1	Surge Arresters - Part 11: Metal-oxide Surge Arresters to Protect Power Line Insulation	ACD	2024-12	PT 60099-11
3.	IEC 63518-1 ED1	Surge Arc Suppressor - Part 1: Surge Arc Suppressor (SAS) devices to Protect Power Line Insulation of systems > 1kV a.c.	ACD	2025-03	WG 14

ANNEX 4

DRAFT ANNUAL ACTION PLAN OF ETD 30 FOR THE YEAR 2024-2025

S.No	Committee No	IS No/SUBJECT	NEW/REVISION
1.	ETD 30	Surge arresters - Part 10: Rationale for tests specified by IEC 60099	NEW
2.	ETD 30	Surge arc suppressor	NEW
3.	ETD 30	IS 15086 (Part 5) : 2020 IEC 60099-5 : 2018 - Surge Arresters Part 5 Selection and Application Recommendations (First Revision)	REVISION
4.	ETD 30	IS 15086 (Part 8) : 2017 IEC 60099-8 : 2011 - Surge arresters: Part 8 metal oxide surge arresters with external series gap (EGLA) for overhead transmission and distribution lines of a.c. systems above 1 kv	REVISION

ANNEX 5
EFFICIENCY INDEX

An Advanced Dashboard is developed to give deeper insights of standard formulation related activities; also an Efficiency Index is published for comparative assessment of various Sectional Committees which is based on 6 KPIs currently. The details of various KPIs and the logic used for calculating the efficiency index is as following:

KPI 1. % of Meetings Held

For calculating this KPI number of TC meetings planned and number of TC meetings held (meetings for which attendance is recorded) are used.

KPI 2. Meetings Attendance %

Average number of attendance in various meetings of a TC is used as KPI here.

KPI 3. Published Standards - Timeframe %

Categorization of standards is as following:
a = No. of Standards Published in 0 to <=6 months
b = No. of Standards Published in >6 to <=9 months
c = No. of Standards Published in >9 to <=12 months
d = No. of Standards Published in >12 to <=18 months
e = No. of Standards Published in >18 to <=24 months
f = No. of Standards Published in >24 months
g = Total no. of Standards Published

Marks given are as following
Category a= 100
Category b = 90
Category c = 80
Category d = 60
Category e = 40
Category f = 0

Formula used for calculating this is as following:- ((a*100) + (b*90) + (c*80) + (d*60) + (e*40) + (f*0))/g

KPI 4. Reviews Completed %

For calculating this KPI number of standards reviewed against the number of standards planned for review (as per annual action plan) are used.

KPI 5. Inactive Members

Removed % Number of inactive TC members (who have not attended two consecutive meetings) removed against the total number of inactive members currently present in the TC.

KPI 6. Comments on P-drafts %

Comments received from how many TC members against total number of TC members is used for calculating this. More than one comment received from a TC member is treated as one comment.

Final score is calculated by adding marks received in each KPI divided by 600 (total maximum marks).

ANNEX 6

प्रमोद कुमार तिवारी, आई ए एस
PRAMOD KUMAR TIWARI, IAS
महानिदेशक
Director General
दूरभाष/Phone : + 91-11-2323 7991, 2323 6980
ई-मेल/E-mail : dg@bis.gov.in
वैबसाईट/Website : http://www.bis.gov.in

सत्यमेव जयते

भारतीय मानक ब्यूरो
(भारत सरकार)
मानक भवन, 9, बहादुरशाह ज़फर मार्ग,
नई दिल्ली - 110 002
Bureau of Indian Standards
(Government of India)
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi - 110 002

Our Ref: P&C/09/18/2023-PNC-BIS

9th November 2023

Dear Sir/ Madam,

BIS, as you may be aware, has 387 Sectional Committees (SCs), as on today, with about 19,000 domain area experts representing industry, Industry associations, academic institutions, research & development organisations, central and state governments, and civil society groups as members. In addition, there are hundreds of Working Panels (WPs) and Working Groups (WGs) created to assist the Sectional Committees under the overall supervision and guidance of 16 Divisional Councils (DCs). Details of the DCs, SCs, WPs and WGs (scope of work and composition) can be seen on the Standardisation Portal of eBIS (www.manakonline.in).

2. There is no denying the significant role this institutional arrangement has played in the formulation of standards, but as is the case with any organisation or institution, this arrangement is also confronted with some challenges in the face of the ambition of the nation to see BIS reckoned as one of the best National Standards Bodies of the world. To name a few: static composition of the SCs, poor attendance in SC meetings, a large number of non-participating members, growing tendency of not commenting on the P Drafts and Wide Circulation Drafts, indifferent attitude to the ISO/IEC documents circulated for comment, negligible focus on R&D Projects necessary for evidence-based standardisation, unsatisfactory level of synergy with government, regulatory bodies and industry, narrow base of stakeholders involved in standard formulation, inadequate focus on sustainability issues and long-time taken in coming out with standards. Needless to say, we cannot realise the ambition of becoming one of the best in the business without addressing these challenges.

3. I am happy to inform you that BIS has initiated a series of structural and process reforms to address each of these challenges in an efficacious manner, and the purpose of writing to you is to apprise you of these interventions, as their efficacy and success hinge substantially on their appreciation and ownership on our part.

Pramod

4. Composition of Sectional Committees

4.1. Search Committees in each of the DCs and a dedicated group under Standard Co-ordination & Monitoring Department (SCMD) have been created to scout for the best brains in the country to be inducted into the SCs. It is expected of every SC member to contribute by suggesting names of the experts and professionals they think can be associated with the SCs, WPs or WGs. All of them may not be accommodated in SCs, WPs or WGs, but it helps to expand the standards community in the country if we can establish regular communication with them on the ongoing standardization projects.

4.2. MoUs with premier academic institutions imparting technical and professional education (List of institutions is available on the homepage of the BIS Website) have motivating and empowering the faculty of these institutions to participate in the standard formulation process as one of the objectives. As you can see in the list, 15 of these institutions, mostly IITs, have established Chairs on Standardisation, and others have agreed to collaborate with the BIS on the project basis. Another important objective of the MoUs is to involve the faculty and research scholars in the R&D Projects approved by the Sectional Committees and encourage them to share the research work undertaken by them, if it is believed to have relevance for the formulation of a new standard or review of an existing one.

4.3. It is also decided to invite Expression of Interest through open advertisement to fill the gap of experts in the SCs or WPs/WGs if the need is felt. SCs are expected to identify the gaps and convey them to the SCMD for necessary follow up action.

4.4. Standardisation Cells in the Industry Associations and Ministries are also expected to get the right kind of experts and professionals to be inducated in the SCs, WPs and WGs. Details of the standardisation cells can be seen on the Standardisation Portal.

4.5 Majority of the experts/professionals in the SCs represent their organisations. It has been decided that the nomination of an expert/professional to a SC shall be sent by/with the approval of the Head of the Organisation concerned along with his/her CV. The DC reserves the right to examine if the nominated person has the requisite expertise and experience and accept or reject the nomination.

4.6 An expert or professional interested to join SC may also apply online through the Standardization Portal. It is necessary, however, that he should furnish NOC from the organisation if he/she is an employee thereof. One can always apply to be

inducted as a member in his/her individual capacity. DC reserves the right to accept or reject an application without communicating the grounds for rejection

5. Smart and efficient SCs

5.1. For a SC to function at the optimal level of efficiency, it is imperative that all its members are fully conversant with its vision, scope, challenges, long, medium and short term goals, support systems, functional norms and procedures. The decision to organise an Onboarding Programme (OP) for every newly inducted member within three months of their induction is aimed at addressing this need as well as facilitating the unity of thought and a shared sense of purpose among the SC members. Attending the OP is a mandatory condition for the membership of SC.

5.2. Each of the SC members are required to sign a Declaration, as prescribed by the BIS, affirming their commitment to carry out the responsibilities of a SC members with utmost sincerity. The Declaration does not have legal backing and it imposes no liability on a member. It is just an instrument of remembrance of the role and responsibilities of a TC member. Signing of the Declaration is, however a mandatory condition for the membership of SC.

5.3. Attendance of the members in SC meetings is sine qua non for its effective and efficient functioning. A member remaining absent from two consecutive meetings of the SC and/or fifty percent or more meetings of the SC in a year shall automatically become disqualified to continue as the member of the SC; unless on receiving a representation to this effect, the DC decides upon the recommendation of the SC concerned to condone the absence in view of his/her valuable contribution to the SC.

5.4. If member of the SC having incurred disqualification is representing an organisation, the membership of the organisation shall stand terminated. In the case of the Central Government Ministries/Departments or a government organisation, however, SC may decide to approach it to nominate a different expert/professional on the termination of the membership of its representative. All such correspondence shall be made, with the prior approval of DG, BIS.

5.5. To ensure that the members and the organisations they represent do not miss out on the seriousness of this matter, an alert will be sent to them by the Member Secretary of the SC immediately after their failure to attend a SC meeting.

5.6. Preliminary Draft stage of a standard is the occasion for the members of the SC to undertake a nuanced and in-depth analysis of the proposed standard. Abstaining

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from commenting on the P Draft by a member, therefore, has serious implications for the quality of the draft. Members must either support or reject it or offer their comments for improvement. A member not commenting on two consecutive and/or one fourth of the P Drafts circulated by the SC in a year will automatically be disqualified to continue as a member.

5.7. Comments on P or wide circulation Drafts shall be made only through the standardisation Portal. It not only helps in compiling and analysing the comments, but also helps in the documentation of the standard formulation/review process.

5.8. Practice of preparing the Annual Calendar of SC meetings has been introduced to provide members enough time to adjust their calendar of engagements suitably and prepare for the meetings. The Annual calendar is available on the Standardization Portal. Through it is desired that every SC has quarterly meetings, it is for the SC to decide the number of meetings to be held in view of the work load and urgency of the standards under developments. At least two meetings must be held by a SC, nonetheless, in a year.

5.9. To ensure that the SC meeting is held on the scheduled dates, it has been decided that the meeting should not be postponed for the inability of the chairperson to attend it for some unavoidable reason. It should, in his/her absence, be chaired by one of the members chosen by the members present, and the decisions taken in the meeting shall be deemed to have been taken by the SC for all purposes.

5.10 The SC meeting should as far as possible be held in the physical mode. The chairperson may decide, however, to hold them in the hybrid mode. It is also a good idea to organise SC meeting at prominent academic institutions or industries, as it may serve to spread awareness about the work and functioning of SCs.

5.11 Every member of a SC is entitled to requisition books and journals relevant for the work in progress through the Library Management System of the BIS by using the Log in Id created for this purpose. SCMD shall process the requisitions promptly.

5.12 Every member of a SC is authorised to submit the proposal for taking up an ARP or R&D Project commissioned by the BIS.

5.13. Chairpersons of the SCs are entitled to a Sitting Allowance of Rs. Twenty thousand for a SC meeting.

6. Working Panels & Working Groups

6.1. Working Panels (WPs) are created under a SC to have a smaller group of experts/professionals with the expertise and skill sets suitable for a standard or a set of standards under development, as the scope of the Sectional Committee may be too diffused at times to have each of the members interested or invested in that work. The WPs should have its members from amongst the SC members, but SC may decide to co-opt experts from outside. The convenor of the Working Panels should, however, essentially be a SC member, and the Member Secretary of the SC shall provide all the support to the WP, which he/she is expected to provide to the SC.

6.2. The decision to create a WP must define the purpose of its creation, its scope and timeframe for the completion of the tasks. The SC must take a stock of its achievements before extending its tenure.

6.3. Working Group (WG) is envisaged as a Special Purpose Vehicle to carry out a specific task: one particular subject or a set of related subjects for standardisation or an existing standard or a set of related standards for review. It should, therefore, have a well-articulated Scope of Work and Terms of Reference (ToR) with a fixed timeframe. No WG should be created without defining the Scope of Work, ToR and Timeframe.

6.4. The Working Group should not normally have more than three domain area experts, and under no circumstances, more than five experts as members, either from amongst SC members or outside, nominated by the SC.

7. Research as an integral part of the standard formulation

7.1. As a matter of policy, no new standard should be formulated or existing standard reviewed without an ARP or R&D project, unless the SC takes a conscious call, to be recorded in the minutes of the SC meeting, that the data and information available is sufficient and does not warrant any further research.

7.2. As per the guidelines for R&D projects approved by the Executive committee of BIS, small R&D projects (with financial involvement upto Rs 10 Lakh Only) can be awarded to the members of SC, WP, working groups and faculty or research scholars of the academic institutions having entered into MoU with BIS by inviting proposals from them.

7.3. SC is required to approve the Scope and ToR of the R&D Project. The project recommended by the SCs are examined and approved by a Project Approval committee, created for this purpose. The R&D project are made available on the Standardisation portal thereafter, and intimation regarding a new R&D project is also sent to the SC member and faculty and research scholars of the institutions through the portal. A database of around ten thousand faculty/research Scholars has been created for the purpose.

7.4. The proposals to undertake a R&D project has to be submitted online through the portal and are examined and approved by a Committee constituted for this purpose.

7.5. Detailed guidelines and FAQs on R&D projects can be seen on the Standardization Portal.

8. Standard Formulation

8.1. Each of the SCs are required to prepare the Rolling Annual Plan for Standardisation based on the inputs from the Standard National Action Plan (SNAP), Annual Programme for Standardisation from Ministries, NWIPs received from diverse sources, ISO/IEC standards/drafts and standards due for review. Provision has been made on the Standardisation Portal to prepare the Annual Plan online.

8.2. Policy of Archiving has been adopted to help the SCs priortise the review of standards. The standards, which cannot be withdrawn, but have lost relevance due to diminishing use in the wake of onset of new products, processes or test methods, can be archived, and a mention to this effect shall be made against that standard in the database of the Published standards. This will not only enable the SCs to focus on more important standards, but will also keep the window open for the stakeholders to point out if the review is required.

8.3. It has been decided to institutionalise the practice of recording Resolution, containing the decisions/ action points, immediately after the SC meeting. Detailed minutes of the meeting is to be finalised within a month of the meeting.

8.4. The practice of reaffirming a standard due for review without following due process of review is done away with. The preparation for the examination of the standards due for review should, therefore, start well in advance, so that reaffirmation with examination does not become unavoidable for the constraint of time.

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9. Working with ISO/IEC

9.1. The process of briefing of and debriefing by the experts nominated to the meetings of the ISO or IEC has been made compulsory. This will ensure that our experts are fully prepared to represent the country's interests. This, in turn, will ensure that the ISO/IEC standards are already aligned to the needs of our stakeholders in the country and can be adopted without a time lag.

9.2. Process of adoption of ISO/IEC standard shall be same as the review of an indigenous standards.

9.3. SCs are expected to identify Indian Standards to be proposed as NWIPs at the ISO/IEC level.

9.4. A new portal for International Relations is under development to streamline the sharing of ISO/IEC documents with the SC members, compiling their comments and sharing our stand with the ISO/IEC.

10. Advance Dashboard on Standardisation

10.1 The Dashboard has analytical reports on various aspects of the functioning of Technical Committees and the progress of standards under development. It also has the Efficiency Index that ranks the Sectional Committees on the basis of their performance against the given parameters for every quarter of the year. Member Secretaries are required to give a demo of the Dashboard in the SC meetings.

I hope, the reform measures detailed above find a positive and enthusiastic response from you, and look forward to your suggestions to strengthen the standardisation ecosystem in the country further to meet the needs and expectations of the fast changing economy and society.

With regards,

Yours sincerely,

(Pramod Kumar Tiwari)

All the members of Division Council
All the members of Sectional Committees
Heads of Technical Departments
Member Secretaries of Sectional Committees

ANNEX 7

Doc no. SCMD/R&D Guidelines/20230909

GUIDELINES FOR RESEARCH & DEVELOPMENT PROJECTS FOR FORMULATION AND REVIEW OF STANDARDS

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 the award of the project 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.

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 computer hardware and software), travelling, testing, consumables, stationery, overheads, etc.

7.1.3 There shall be maximum one proposal from one institute on a given subject.

7.1.4 No contractual obligation whatsoever shall arise until a formal agreement is signed and executed between the Bureau and the Proposer.

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:

Sl 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.

8.10 After the sanction of fund is approved, the draft agreement (prepared in line with model agreement given at **Annex D**, to be modified on case-to-case basis) shall also be prepared by the Member Secretary (Sectional Committee), clearly highlighting the payment term. The Head (Technical Department) shall sign the agreement on behalf of BIS in all cases.

8.11 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.

9 SIGNING OF AGREEMENT AND ISSUING OF SANCTION LETTER

9.1 After receipt of duly signed agreement from the proposer and after the receipt of the approval of competent authority, a sanction letter shall be issued by the concerned Head (Technical Department) to the organization/individual member. The project would be considered to have commenced from the date the sanction letter is issued.

10 FUNDING

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

a) First instalment up to a maximum 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 Research Evaluation Committee (REC) 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 / Charted 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.

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.

16 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/Completed 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 b) Name:		Sex 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. Signature of Project leader	Date:

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: ___-___-2023).

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: ___-___-2023).

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).

Yours faithfully,
Date: (Signature of the Project leader)
Place: (Name and Designation of the proposer)
Name and Signature of the head of the institution
(Rubber seal of the proposer/institution/organization, as applicable)

ANNEX C

Stage 1: Evaluation of Technical Proposal:

a) The proposal will be evaluated against the criteria defined at clause 8 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) × 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)x 100 = 88.88 "Technical Score". Following formula will be used for the "Technical Score" (TS) calculation:

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

e) The details of technical evaluation parameters are provided at clause 9.

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:

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

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 asper the Combined Score will be selected for award of Research Project.

ANNEX D

MODEL AGREEMENT

(To be modified on case-to-case basis)

This Deed of Agreement made this _____ day of _____ (Month & Year) between Bureau of Indian Standards having Head Office at Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi – 110 002 (hereinafter called 'BIS', which expression shall, wherever the context so admits, includes its successors and assigns) on one part and (name of the organization/expert) (hereinafter called _____which expression shall, wherever the context so admits, include their heirs, executors, administrators, legal representative and assigns) of the other part, witness as follows:

1. Whereas (name of the organization/expert) through (name of the Project Leader) has submitted a proposal to BIS pertaining to Research & development project titled _____ for consideration and BIS has accepted the proposal.

2. That duration of the Research & development project shall be ___ months with periodic and final reviews. The total cost of the project shall be Rs_____/- (Rupees in words) for the complete project. No further expenditure shall be borne by BIS on any account of this project including escalation of time.

3. The fund would be utilised for the specific project/assignment as approved by BIS and shall be spent within the specified time. Any portion of the fund which is ultimately not required for expenditure for the approved purpose shall be duly surrendered to BIS.

4. (Name of the organization/expert) shall not entrust the implementation of the project/assignment approved by BIS for which fund has been received to any other institution/expert or to divert the fund received from BIS as assistance to any other institution/expert/proposer.

5. (Name of the organization/expert) indemnifies BIS from any legal and/or financial encumbrance arising out of any infringement of IPR/licensing of IPR/technology transfer/commercialization.

6. (Name of the organization/expert) shall maintain an audited record in the form of a register for permanent, semi-permanent assets acquired solely or mainly out of BIS fund. Once the Research & development project is completed satisfactorily, the organization taking up the Research project may retain the equipment/devices for their Research & development activities, etc. The equipment procured through BIS fund should bear a label "BIS Funded".

7. BIS shall release the funds for the project as follows:

a) First instalment up to a maximum 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.

8. The completion of the Research & development project shall remain the responsibility of (name of the organization/expert) even if the project leader is not available due to any reason whatsoever. After completion of the project, a Project Completion Report giving details (objective(s) achieved, raw data of surveys, sampling, testing and experiments) of shall be submitted by the Project leader the original objective(s) of the project,

9. (Name of the organization/expert) shall ensure the completion of the project under the guidance and supervision of any other faculty/researcher, if the nominated project leader would not be available due to any reason. Such a faculty member/researcher can only be nominated with the approval of BIS.

10. In case (name of the organization/expert) is unable to complete the project to the satisfaction of BIS in stipulated time or extended time and leads to termination of the research project, BIS shall be entitled to claim the refund of fund so sanctioned with interest @ 10 percent thereon from (name of the organization/expert).

11. The authority to extend the duration of the project shall rest with BIS.

12. BIS shall have the right to formulate monitoring methodology of the Research & development project.

13. 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.

14. Undertaking given by project leader, if any, shall be part of the agreement.

15. (Name of the organization/expert) shall be responsible for discharge of all its obligations of the project through the nominated project leader or any other expert/expert(s) in case of necessity particularly in respect of management of financial assistance given to them. (Name of the organization/expert) shall refund any excess/unutilized amount of the fund to BIS.

16. Release of subsequent instalments 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.

17. (Name of the organization/expert) shall ensure that Project leader shall give presentation on the progress of project to BIS as and when directed by BIS for continuation of the project,

and shall assist in the disposal of comments received related to the Research & development Project.

18. The project shall be deemed to have been commenced from the date of release of sanction letter.

19. (Name of the organization/expert) shall ensure that while publishing the results of research & development, acknowledgement to the effect that financial assistance so received from BIS be made in the research papers published/ other published work/ press reports.

20. Procedure for screening/evaluation, selecting, monitoring Research & development projects prescribed in "Guidelines for Research & Development Projects for Formulation and Review of Standards' shall be part of the agreement.

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.

TEMPLATE FOR THE TERMS OF REFERENCE FOR THE R&D PROJECTS

(*Refer to the Guidelines on R&D Projects issued vide note SCMD/R&D dated xx-09-23*)

1. **Title of the Project**: Mention the title of the project.

2. **Background:**
   a) Mention the Technical Committee and Division Council the project is related to;
   b) Mention the standard / document no. for the standard under development or review to which the project is related to;
   c) Briefly explain the rationale for the commissioning of the project.

3. **Scope**: Mention the scope of the project.

4. **Expected Deliverables**: Mention the outcome of the project.

5. **Research Methodology**:
   Mention the essential components of the methodology like mid-term review, focus group discussions, visits to the manufacturing units and/or laboratories, collection and testing of samples etc. with the details of the sample size for them as applicable.

6. **Requirement for the CVs:**
   Mention the requirement for the CVs of the persons to be engaged for the project.

7. **Timeline and Method of Progress Review:**
   Suggest the stagewise timelines including that for the submission of the first draft, final draft and the report and the mechanism for the review of the progress.

8. **Support BIS will Provide:**
   Indicate the support BIS may provide in terms of the standards, other publications, information regarding manufacturers and labs etc.

ANNEX 8

VIJAYA SALES CORPORATION

MANUFACTURERS ★ DISTRIBUTORS ★ GOVT. CONTRACTORS

Phone /Fax – 9880633011
E-Mail – vijayasalescorpn@rediffmail.com

GSTIN: 29ACIPB2382A1Z1

No. 49, Small Scale Industrial Area
4th Cross. Rajajinagar 5th Block
BANGALORE: 560010.

VSC/F.24/L-001.
25th Jan 2024.

The Member Secretory,
BIS ETD – 30,
Surge Arrester Sectional Committee.

Sub: Authorisation letter to join BIS technical committee.

With reference to the above subject, we wish to authorise Mr. Puneeth Bhurat, Director- Operations, Vijaya Sales Corporation, Bangalore to be member of BIS ETD – 30, Surge Arrester Sectional Committee.

Mr. Puneeth Bhurat has more than nine years of rich experience in high voltage engineering. His work on Line Surge Arresters on UHV Transmission system (1200kV Indian Line) is widely referred by HV research engineers and institutes. During his tenure at CPRI, Bangalore, he has performed Insulation Co-ordination studies on EHV and UHV Transmission line and also worked on transient failure analysis of electrical systems.

He continues to provide technical inputs on various issues on transmission system protection. His expertise in transient protection and surge arresters will be of benefit to the committee.

We recommend you to kindly consider him as a member of BIS ETD-30 Committee.

Thanking You.

Yours Faithfully
For Vijaya Sales Corporation.

VIJAYA SALES CORPORATION ★ BANGALORE ★

Proprietor.

PUNEETH BHURAT

MSc. (By Research) – CPRI Bangalore.
IEEE Senior Member. ID: 92211971

puneeth.bhurat.in@ieee.org
+91 87623 15680
49, 4th Cross SSI Area, Rajajinagar • Bengaluru, Karnataka 560010 • India
LinkedIn Page My Blog

PROFESSIONAL EXPERIENCE

Company: **Vijaya Sales Corporation**
Position: Director – Operations.
Area of work: Sales & Marketing-Power Distribution Equipments.
Location: Bangalore **Year :** Aug 2018 – Present (5 years)

Company: **Central Power Research Institute (CPRI)**
Position: Project Associate
Area of work: Consultancy Project – Analyzing failure of surge arresters in a large cable-connected distribution network of major defence equipment manufacturing.
Location: Bangalore **Year:** Feb 2018 - Aug 2018 (6 Months)

Company: **Central Power Research Institute (CPRI)**
Position: Junior Research Fellow (JRF)
Area of work: MSc Project – Insulation Coordination Studies of 1200kV UHV AC Transmission Line.
Consultancy Project – Identification of Neutral Grounding Reactor specifications for a 765kV EHV Transmission line.
Coursework for masters, High Voltage course, Lab activities.
Location: Bangalore **Year:** Sept 2014 - Sept 2017 (3 Years)

EDUCATION

Degree: **MSc. (By Research)**
Institution: CPRI Research Center, Bangalore.
Area of study: High Voltage Engineering.
University: VTU, Belgaum **Year of Completion:** 2019

Degree: **Bachelor of Engineering (BE)**
Institution: Global Academy of Technology, Bangalore.
Area of study: Electrical Engineering.
University: VTU, Belgaum **Year of Completion:** 2013

SIGNIFICANT TECHNICAL CONTRIBUTION

Being part of a premium Research institute CPRI, helped me to work on various ongoing technical issues of power systems. With the help of experts in the power industry at CPRI I worked on multiple projects.

- **Application of line arresters for suppressing switching overvoltages on Ultra High Voltage (UHV) transmission systems.**

  In this research work, the Indian 1200 kV UHV system was modelled on Electro-Magnetic Transient Program (EMTP) and the switching transients on the system were simulated. The analysis of various protection measures, applied to suppress the switching overvoltages (SOV) on the UHV system, was carried out. The objective of this work was to study the application of transmission line surge arresters (LSA) in suppressing SOV's. High-performance low residual voltage surge arresters were considered as LSA's. Statistical analysis of the overvoltages occurring along the transmission line was carried out to record severe magnitudes of SOV. The withstand values of the electrical equipments were calculated based on the procedure provided in IEC standards.

- **Selection of Neutral Grounding Reactors (NGR) for 765 kV, 400 kV and 220 kV Transmission systems.**

  In this research work, the parameters of an NGR which is to be connected to a transmission system were decided. The steady-state and transient-state analyses were carried out on a modelled transmission system. Various practical cases like single-phase fault clearing, load rejection and induced voltages were simulated. The simulations were carried out on EMTP. The rating of the surge arrester to be connected for the protection of NGR was also determined.

- I Joined the Power Systems Division of CPRI as Project Associate in the year 2018. Here I was involved in **studies to determine the surge arrester ratings for a large cable-connected distribution network** of a leading defence electronics manufacturing PSU. The failure causes of surge arresters were identified and corrective measures were reported**.**

At present, I am with Vijaya Sales Corporation, which is a leading Electrical Distribution Equipment Manufacturer and Supplier in the Indian state of Karnataka. Here I am involved in the sales of distribution-side electrical equipment to government utilities and private contractors.

All the research works are published in journals and conferences. [List Attached].

PROFESSIONAL MEMBERSHIPS

- **Institute of Electrical and Electronics Engineers (IEEE)**, Young Professional Member # 92211971, 2014 - present.
- **IEEE Power and Energy Society (PES), Bangalore Section,** Member.

ACTIVITIES AND HONOURS

- **Speaker:** INMR World Congress 2023, Bangkok Thailand. 12-15 November 2023.
- **Volunteer:** 2020 IEEE International Conference on Power System Technology, POWERCON 2020 Conference.
- **Session Speaker** at AICTE Sponsored Two Week Online Faculty Development Program (Phase-I) on "Advanced Power Electronic Applications in Power Systems" (APEAPS-2020) Organized by the Department of Electrical and Electronics Engineering, Sasi Institute of Technology & Engineering (Autonomous), Tadepalligudem, Andhra Pradesh, India from 19th Oct 2020 to 31st Oct 2020.
- **Online Lecture** on Industry 4.0 Organized by SRM Institute of Science & Technology, Ramapuram, Tamil Nadu on 7th July 2020.
- **Guest Lecture** at Basaveshwara Engineering College (BEC), Bagalkot, Karnataka. On the occasion of WIPE, 24th Aug 2019.
- **Volunteer:** 2018 IEEE PES Asia Pacific Power & Energy Engineering Conference (APPEEC 2018).
- **Guest Lecture** at Global Academy of Technology, Bangalore on the occasion of the Orientation Program for 2nd year BE Students on 14th Aug. 2018.
- **Vice Chair**, IEEE Young Professionals Bangalore Section, 2017.
- **Qualified GATE 2014** with an All India Rank of 4147**.**
- **Co-ordinator** – National Conference on High Voltage Engineering & Technology (NCHVET), CPRI Bangalore.
- Participated/ Volunteered for various workshops and conferences organized by professional bodies like IEEE, CPRI, etc...
- **Co-ordinator** – CPRI Colony Day Celebration 2015. Participated in various activities conducted in college.
- **Organiser**- Hysteresis 2011 EEE Department GAT festival.
- **Sports:** Organised Indoor games like Chess, Badminton, Carrom and Table Tennis for CPRI employees at the CPRI colony campus. Participated in various sports events conducted at the school level and organisation levels.

PUNEETH BHURAT

MSc. (By Research) – CPRI Bangalore.
IEEE Senior Member. ID: 92211971

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TECHNICAL PAPERS PUBLISHED

1.

Title: **Surge phenomenon and minute fault analysis during impulse testing of the transformer.**
Authors: Dharmesh Yelamanchi, Puneeth Bhurat and Pradeep M Nirgude
Published in: 2nd International Conference on Emerging Trends & Challenges in Transformer Technology
Date of Conference: December 12-13, 2014 **Publisher:** CPRI
Conference Location: Bhopal, India

2.

Title: **1200 kV transmission line corona effects and electro magnetic fields**
Authors: Puneeth Bhurat, Dundru Sridhar, Dharmesh Yelamanchi, Jithin Pauly P. and Vasudev N.
Published in: International Conference on High Voltage Engineering and Technology
Date of Conference: January 29-30, 2015 **Publisher:** CPRI
Page No.: 143-148 **Conference Location:** Hyderabad, India

3.

Title: **Comparison of surge arrester specifications used in UHV systems**
Authors: Puneeth Bhurat and Vasudev N.
Published in: National Conference on Recent trends in Power Engineering
Date of Conference: December 29-30, 2015 **Publisher:** IIT Madras
Conference Location: Chennai, India

4.

Title: **Neutral grounding reactors for shunt compensated EHV transmission lines**
Authors: K. S. Meera and Puneeth Bhurat
Published in: 2016 IEEE Region 10 Conference (TENCON)
Date of Conference: November 22-25, 2016 **Publisher:** IEEE
Page No.: 1489-1494 **Conference Location:** Singapore
DOI: 10.1109/TENCON.2016.7848263

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5. **Title:** **Surge arresters for ultra high voltage transmission system - A review**

Authors: Puneeth Bhurat, Vasudev N and Meera K.S
Published in: 2016 IEEE International Conference on Electrical Power and Energy Systems (ICEPES)
Date of Conference: December 14-16, 2016 **Publisher:** IEEE
Page No.: 295-300 **Conference Location:** Bhopal, India
DOI: 10.1109/ICEPES.2016.7915946

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6. **Title:** **Switching overvoltages in UHV system**

Authors: Puneeth Bhurat, K. S. Meera and Vasudev N
Published in: National Conference on High Voltage Engineering and Technology (NCHVET)
Date of Conference: January 27-28, 2017 **Publisher:** CPRI
Page No.: 43-48 **Conference Location:** Bangalore, India

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7. **Title:** **Failure of distribution class surge arresters and preventive measures**

Authors: Puneeth Bhurat, K. S. Meera and Vasudev N
Published in: International Conference on High Voltage Engineering and Technology (ICHVET)
Date of Conference: February 07-08, 2019 **Publisher:** IEEE
DOI: 10.1109/ICHVET.2019.8724320 **Conference Location:** Hyderabad, India

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8. **Title:** **Fault identification in Power Cables by using travelling wave based approach**

Authors: M. Naga Jyothi, N. Mounika, B. Puneeth and T. Hari priya
Published in: Turkish Journal of Computer and Mathematics Education
Volume: 12 No.2 (2021) **Publisher:** TURCOMAT
Page No.: 855-865
DOI: 10.17762/turcomat.v12i2.1094

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9. **Title:** **Application of Line Surge Arresters for Switching Over-voltages in UHV Transmission Systems**

Authors: Puneeth Bhurat, K. S. Meera and Vasudev N
Published in: Power Research – A Journal of CPRI.
Volume: 16 (2) July-December 2020 **Publisher:** CPRI
Page No.: 87-93
DOI: 10.33686/pwj.v16i2.153153

GPSPL/2023-24/L22

04-12-2023

TO WHOM IT MAY CONCERN

Madam / Sir,

Hereby, further resolved that **Mr.Maheswaran Sasikumar** “Director” of the company be and is herby authorized for attending trainings, take decision of being member, conducting classes, etc.

Thanking you in advance.

For GPS INDIA TECHVENTURES PVT. LTD.

Director

MAHESWARAN SASIKUMAR
Director

GPS INDIA TECHVENTURES PRIVATE LIMITED
Regd Office: 1298/17, Ground Floor, Sector 17
Faridabad – 121 002, Haryana
info@gpspl.in www.gpspl.in

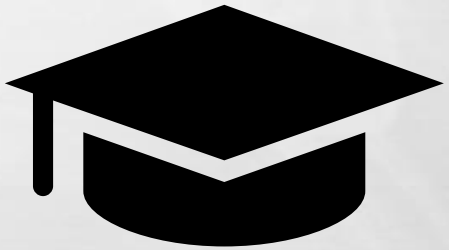
MAHESWARAN SASIKUMAR

PERSONAL PROFILE

Name	Maheswaran Sasikumar
Age	45 years
Contact Details	+91 9999 301 007 smwnair2017@gmail.com
Languages proficiency	Malayalam, Tamil, Hindi & English
Nationality	Indian
Current Place	Faridabad, Haryana (Delhi NCR)
Native Place	Kilimanoor, Thiruvananthapuram Kerala

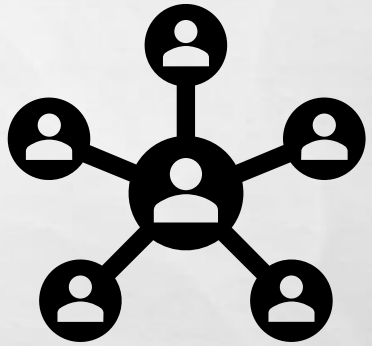
ACADEMIC & PROFESSIONAL QUALIFICATIONS

- Electrical Engineer & Executive Master of Business Administration (Executive MBA)
- Indian Institute of Technology (IIT), New Delhi –Continuing Education Program on Marketing of Goals, Initiatives & Causes (MAGIC)
- Indian Institute Of Science (IISC), Department of Electrical Engineering, Bangalore – Certificate “Recent Advances In Lightning & Lightning Protection”
- Certified as India's One of the **First** **UL (UL University, USA)** listed Lightning Protection System Installers in 2010.



PROFESSIONAL EXPERIENCE

- Working into the Surge Protection Devices (SPD), Lightning Protection System (LPS) & Earthing field, since 1999
- **Entrepreneur, since 2007**
- Attended "Asia Pacific Lightning Protection Conference (APL 2011, Chengdu, China) & APL 2023 Langkawi, Malaysia.
- Conducted more than 5,000 seminars, presentations and technical trainings across the country – Indian Army, Indian Air Force, Airport Authority of India, HCL, Reliance, Airtel, Indus Towers, JK Group, TATA Group, Indian Oil, Oil India, BPCL, and many more
- **Countries visited to acquire technical knowledge & business promotions –** Australia, China, Czech Republic, Dubai, Germany, Italy, Malaysia, Thailand, Singapore, Spain, Sri Lanka, South Africa & Turkey.



MEMBERSHIPS, BUSINESS TIE-UPS

- Member – **IEEE** (Institute of Electrical And Electronics Engineers, USA)
- Member – **NFE** (National Federation of Engineers for Electrical Safety, INDIA)
- Member – **FICCI** (Federation Of Indian Chambers of Commerce & Industry)
- Member – **CII** (Confederation of Indian Industry)
- Member – **FIEO** (Federation Of Indian Export Organizations)
- Member – **PHDCCI** (PHD Chamber of Commerce and Industry)
- Member – **SAMA** (Safety Appliances Manufacturers Association)
- CWC Member – **FSAI** (Fire & Security Association of India), Core Working Committee, Delhi Chapter.
- Member - **ISHRAE** (Indian Society of Heating Refrigerating & Air Conditioning Engineers)
- Member - Solar Association of India, Delhi
- Business & Technology Partner – **RTEK (USA) & RTEK (China)**
- Business & Technology Partner – **TOPBAS GRUP (Turkey)**
- Business & Technology Partner – **LPS FRANCE**

RESEARCH, LEARNING & TRAINING

- **BET Test Centre, Germany** (Lightning & Surge Protection Components)
- **OBO Bettermann Gmbh & Co, Germany** (Lightning & Surge Protection)
- **INGESCO, Spain** (LPS products design & testing)
- **LCOE Laboratory, Spain** (Testing of Lightning Protection Components)
- **Lightning Protection International Pty Ltd, Tasmania, Australia** (Direct Strike Lightning Protection Devices)
- **HAKEL, Czech Republic** (200 kA Lightning Impulse Current Generator, Testing of Surge Protection Device & Components)
- **KITZ Japan Valves, Thailand** (Valves)
- **Gunter Spelsberg GmbH + Co KG, Germany** (Electrical Junction Boxes)
- **Elettrocanali, Italy** (Electrical Junction Boxes)
- **HIZAL Laboratory, Ankara, Turkey** (Lightning Impulse Current Test Center)
- **Asia Pacific Lightning (APL) Protection Conference 2023, Malaysia** (Experts, Scientists, Manufacturers from all over the world hold this conference)
- **DOWIN, Shenzhen, PR China** (Surge Protection Devices)
- **Zhongguang Test Laboratory, Chengdu, PR China** (Lightning And Surge Protection Components)
- **Techwin Test Laboratory, Shenzhen, PR China** (Surge Protection Devices & Components)

PROFESSIONAL EXPERIENCE

LPS Designed / Technical Support / Executed Various Projects – Few Prestigious Projects Namely

- Sardar Patel Statue (World Tallest Statue), Gujarat
- Lighthouse Projects across the country (Government of India)
- India's tallest Air Traffic Control (ATC) Tower, Airport, New Delhi
- Satellite Project across the country for Indian Army through HCL
- Indian Air Force Headquarters, New Delhi
- Indian Air Force, Hindon, Ghaziabad, Uttar Pradesh
- Indian Railways, Govt of India – Signalling & Telecom Equipments
- Reliance Petrol Pumps, AIIMS Hospitals, Amrita 2000 Bedded Hospital (Faridabad), ESIC Hospitals
- Rajnet Project, Rajasthan – Government initiative to connect more than 9000 locations through satellite
- Factories – Tata Chemicals (Jamnagar), Jindal Power, Yamaha, Ford, Mahindra & Mahindra, Daikin, Honda, Toyota, Tata Steel, Haldiram, Raymonds, Arvind Textiles, etc

BUSINESS PROFILE

Director – GPS INDIA Techventures Private Limited, Faridabad, Haryana

Managing Director – RTEK LPS India Private Limited, Faridabad, Haryana (RTEK USA & RTEK China – technology partners for RTEK INDIA)

Proprietor – LeeSas Enertech, Faridabad, Haryana

Director – Kirkas Tech Ventures Private Limited, Chennai, Tamil Nadu

Director – Dehas Medeq Private Limited, Kanyakumari, Tamil Nadu

THANK YOU!