12th December 2023
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MINUTES

7th MEETING OF OPTICS AND PHOTONICS SECTIONAL COMMITTEE, PGD 39

12th December 2023
14:00 to16:00

भारतीय मानक ब्यूरो
मानक भवन, 9 बहादुरशाह ज़फर मार्ग,
नई दिल्ली - 110002

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI – 110002

MINUTES

7th Meeting of Optics and Photonics Sectional Committee, PGD 39

Date and Day: 12th December 2023, Tuesday **Time**: 14:00 hr

Venue: Kochi Branch office, BIS

1. Chairperson: **Dr. Vinod Karar**
Chief Scientist & Hon. Professor-AcSIR, Traffic Engineering and Safety Division, Central Road Research Institute, CRRI- New Delhi

2. Member Secretary: **Shri Ajay Kumar**
Scientist – B, Production and General Engineering Dept. Bureau of Indian Standards, New Delhi

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Members Present

Sl No.	Organization Name	Member Name	Contact Details
3	Bharat Electronics Limited, Machilipatnam	Shri M. Sadanandam	sadanandamm@bel.co.in
4	Bhabha Atomic Research Centre, Mumbai	Dr. M L Shah	mlshah@barc.gov.in
5	CSIR-Central Scientific Instruments Organization, Chandigarh	Dr Raj Kumar	raj.optics@csio.res.in
		Dr Divya Agrawal	divyaagrawal11@csio.res.in
6	Instrument Research and Development Establishment, Dehradun	Dr. Ranabir Mandal	ranabir@irde.drdo.in
7	Indian Institute of Astrophysics, Bengaluru	Dr. Sriram	ssr@iiap.res.in
8	Optics and Allied Engineering Private Limited, Bengaluru	Dr S. V. Ramagopal	ramagopal@opticsindia.com
9	Raja Ramanna Centre for Advanced Technology, Indore	Dr. Sendhil Raja S	sendhil@rrcat.gov.in

Item 0. GENERAL

0.0 Welcome by the Member Secretary

Shri Ajay Kumar, Sc-B, cordially greeted the Chairperson and other members of the Optics and Photonic Sectional Committee, PGD 39, to the 7th meeting. He further thanked all the members for their valuable time and active participation in the meeting. The member secretary also requested all PGD 39 members to enroll on the BIS portal, given that all standard formulation activities are conducted through this platform.

0.1 Opening remarks by the Chairperson

The members were welcomed to the meeting by the Chairperson, Dr. Vinod Karar. He encouraged active participation from all members in the sectional committee meeting and highlighted the committee's wide scope. He also stressed the importance of accelerating the standards review process and urged all members to finish their assigned tasks by 2023 to ensure the completion of the pending standards review by March 2024. Finally, he requested the member secretary to initiate the proceedings.

Item 1. CONFIRMATION OF MINUTES OF LAST MEETING

In view of the non-receipt of any comments on the minutes, the committee formally confirmed the minutes of the last meeting of the Optics and Photonics Sectional Committee, PGD 39, held on 24th August 2023.

Item 2 COMPOSITION OF THE SECTIONAL COMMITTEE

2.1 The committee approved the co-option request of Dr. Divya Agarwal, Principal Scientist (CISR-CISO).

2.2 Considering the non-participation of Dr. Gufran Sayed Khan, IIT Delhi. The committee decided to withdraw his representation.

2.3 The committee also decided to co-opt Prof. Laxminarayan Hazra as in personal capacity and Dr. K. Nithyanandan will represent IIT Hyderabad.

2.4 The committee further deliberated and decided to co-opt the following organizations.

Sl No.	Organization Name	Member	Contact Details	Remarks
1	Indian Institute of Technology, Delhi	i) Satish Kumar Dubey	+91-11-26596752 satishdubey@sense.iitd.ac.in satishdubey@iddc.iitd.ac.in	
		ii) Jasleen Lagani	jasleen@sense.iitd.ac.in	
2	General Optics Asia Limited (GOAL), Pondicherry	Dr. Murli		Dr. Sriram IIAP Bengaluru, volunteered to provide the contact details.

3	Holmarc Opto-Mechatronics Ltd., Kochi			Shri M.L Shah, Bhabha Atomic Research Centre, Mumbai volunteered to provide the contact details.
4	Lensel Optics Pvt. Ltd., Pune			Dr. Vinod Karar, Central Road Research Institute, CRRI- New Delhi volunteered to provide the contact details.
5	Hindustan Optics, Dehradhun			Dr. Ranabir Mandal, Instrument Research and Development Establishment, Dehradun, volunteered to provide the contact details.
6	Laboratory for Electro-Optics Systems (LEOS - ISRO)			Dr. Sriram IIAP Bengaluru, volunteered to provide the contact details.

Item 3 DRAFT INDIAN STANDARDS UNDER WIDE CIRCULATION DUE FOR FINALISATION

The committee decided to proceed with sending the following draft standards to the publication, if no comments or objections are raised during the wide circulation of these standards. The last date of comments is 31st December 2023.

3.1 PGD/39/24217 ISO 14880-1:2019 Optics and photonics — Microlens arrays — Part 1: Vocabulary

3.2 PGD/39/24219 ISO 14880-2:2006 Optics and photonics — Microlens arrays — Part 2: Test methods for wavefront aberrations

3.3 PGD/39/24220 ISO 14880-3:2006 Optics and photonics — Microlens arrays — Part 3: Test methods for optical properties other than wavefront aberrations

3.4 **PGD/39/24222 ISO 14880-4:2006** Optics and photonics — Microlens arrays — Part 4: Test methods for geometrical properties

3.5 PGD/39/24225 ISO/TR 14880-5:2010 Optics and photonics — Microlens arrays — Part 5: Guidance on testing

3.6 PGD/39/24214 ISO 12123 Optics and photonics — Specification of raw optical glass

3.7 PGD/39/24215 ISO 11455 Raw optical glass — Determination of birefringence

3.8 PGD/39/24216 ISO 9802 Raw optical glass — Vocabulary

3.9 PGD/39/23360 ISO 10110-1:2019 Optics and photonics — Preparation of drawings for

optical elements and systems — Part 1: General

3.10 PGD/39/23502 ISO 10110-5:2015 Optics and photonics — Preparation of drawings for optical elements and systems — Part 5: Surface form

3.11 PGD/39/23503 ISO 10110-6:2015 Optics and photonics — Preparation of drawings for optical elements and systems — Part 6: Centring tolerances

3.12 PGD/39/23504 ISO 10110-7:2017 Optics and photonics — Preparation of drawings for optical elements and systems — Part 7: Surface imperfections

3.13 PGD/39/23505 ISO 10110-8:2019 Optics and photonics — Preparation of drawings for optical elements and systems — Part 8: Surface texture

3.14 PGD/39/23506 ISO 10110-9:2016 Optics and photonics — Preparation of drawings for optical elements and systems — Part 9: Surface treatment and coating

3.15 PGD/39/23507 ISO 10110-11:2016 Optics and photonics — Preparation of drawings for optical elements and systems — Part 11: Non-toleranced data

3.16 PGD/39/23508 ISO 10110-12:2019 Optics and photonics — Preparation of drawings for optical elements and systems — Part 12: Aspheric

3.17 PGD/39/23510 ISO 10110-14:2018 Optics and photonics — Preparation of drawings for optical elements and systems — Part 14: Wavefront deformation tolerance

3.18 PGD/39/ ISO/FDIS 10110-16 Optics and photonics — Preparation of drawings for optical elements and systems — Part 16: Diffractive

3.19 PGD/39/23512 ISO 10110-17:2004 Optics and photonics — Preparation of drawings for optical elements and systems — Part 17: Laser irradiation damage threshold

3.20 PGD/39/23514 ISO 10110-18:2018 Optics and photonics — Preparation of drawings for optical elements and systems — Part 18: Stress birefringence, bubbles and inclusions, homogeneity, and striae.

3.21 PGD/39/23515 ISO 10110-19:2015 Optics and photonics — Preparation of drawings for optical elements and systems — Part 19: General description of surfaces and components.

3.22 PGD/39/24213 IS 1399 Glossary of terms used in optical technology.

Item 4 ISSUES ARISING OUT OF THE PREVIOUS MEETING

Sl No.	Subject	Decision taken in the last meeting	Current Status	Decision taken in the current meeting
4.1	Revision of i). **IS 12874 : 1989** Optical and mathematical instruments -	In 4th meeting of PGD 39, Prof. **Lakshminarayan Hazra**, The Optical	The review documents were circulated on 3rd May 2023. Dr. Ranabir Mandal, IRDE	

	Telescopic alidade – specification ii). **IS 12888 : 1989** Optical and mathematical instruments - Short range infrared distance measuring instruments specification	Society of India, Kolkata and **Dr. Ranabir Mandal**, IRDE Dehradhun had volunteered to provide inputs/comments.	Dehradhun had provided his inputs on 17th July 2023 and they are mentioned below: **for IS 12874 : 1989** 1. Hope all "REFERENCES" (2.1) are valid as on date 2. Hope IS 1399:1959 is also valid 3. Clause **4.2** title should be change to "Telescope support column" 4. Clause **5.2** can be deleted **for IS 12888: 1989** 1. Hope all "REFERENCES" (2.1) are valid as on date 2. Clause **3.4** "Collimation Error" word should be "Alignment error" (collimation error id different parameter; associated with transmitter section of the instrument) 3. Clause **3.9** Measuring/ Modulating wave: the phrase "by crystal oscillators" can be replaced by "optical source" 4. Clause **5.1** of 5. FUNCTIONAL REQUIREMENTS", the word "fool" should be "full" 5. Clause **6.1.1** Range, point #c) Excellent Weather Condition" should be "O vercast sky, no haze, visibility more than 30 Km, no heat shimmer 6. Clause **6.1.13** Sighting Telescope: "8X magnification" can be replaced with "greater than or equal to 8X magnification"	Decision on comments on **IS 12874: 1989** and **IS 12888: 1989** is given in **Annex A** Dr. Ranabir Mandal, IRDE Dehradhun had volunteered to provide the drawings related to **IS 12874 : 1989** and Dr. Rajkumar CSIR - Central Scientific Instruments Organisation, Chandigarh to provide pictures related to **IS 12888 : 1989**

4.2	Revision of i) IS **1632 : 1993** Optical instruments - Bubbles – Specification ii) IS **12713 : 1989** Optical instruments - Permissible cosmetic defects and inspection of optical components	In 4th meeting of PGD 39, **Dr. Ranabir Mandal**, IRDE Dehradhun had volunteered to provide inputs/comments. In 4th meeting of PGD 39 **Dr. Ranabir Mandal**, IRDE Dehradhun and **Dr. Sendhil Raja S**, RRCAT, Indore had volunteered to provide inputs/comments.	Dr. Ranabir Mandal has requested the latest copies of BS 958 and BS 3509, which are currently unavailable at the BIS library. The Member Secretary has initiated a request to procure these standards, and once obtained, they will be circulated to the members. The review documents were circulated on 3rd May 2023. Reminders were also sent on 26th June 2023. Inputs from Dr. Ranabir Mandal and Dr. Sendhil Raja S are still awaited.	The Committee requested Dr. Ranabir Mandal to provide inputs within 30 days on receipt of minutes.
4.3	Revision of i) IS **5415 : 1969** Code of practice for packing and packaging of optical and mathematical instruments and components	In 4th meeting of PGD 39 **Dr S. V. Ramagopal**, Optics and Allied Engineering Private Limited, Bengaluru, **Dr. K. Nithyanandan**, The Optical Society of India, Kolkata, and **Mr. Neeraj Bahl**, Infinity optics had volunteered to provide inputs/comments.	The review documents were circulated on 3rd May 2023. Reminders were also sent on 26th June 2023. Inputs from Dr S. V. Ramagopal, Dr. K. Nithyanandan, and Mr. Neeraj Bahl, Infinity optics are still awaited.	The Committee requested Dr. S.V. Ramgopal to provide inputs within 30 days on receipt of minutes.
4.4	Revision of i) **IS 10236 (Part 15)**: 1988 Procedure for basic climatic and durability tests for optical instruments part 15 drop test ii**) IS 10236 (Part 16) : 1988**	In 4th meeting of PGD 39 **Dr. Vinod Karar**, CRRI, New Delhi had volunteered to provide inputs/comments.	The review documents were circulated on 2nd May 2023. Reminders were also sent on 26th June 2023. Inputs from Dr. Vinod Karar are still awaited.	The Committee requested Dr. Vinod Karar, CRRI New Delhi to provide inputs within 30 days on receipt of minutes.

	Procedure for basic climatic and durability tests for optical instruments part 16 solar radiation test iii) **IS 10236 (Part 17) : 1988** Procedure for basic climatic and durability tests for optical instruments: Part 17 acceleration (Steady - State) test iv) **IS 10236 (Part 18) : 1988** Procedure for basic climatic and durability tests for optical instruments: Part 18 sealing test			
4.5	Revision of i**) IS 10679 : 1983** Specification - On for photoelectric spectrophotometer (Single Beam Type)	In 4th meeting of PGD 39 **Dr. Neelam Kumari**, CSIR Chandigarh had volunteered to provide inputs/comments.	The review documents were circulated on 2nd May 2023. Reminders were also sent on 26th June 2023. Inputs from Dr. Neelam Kumari are still awaited.	The Committee requested Dr. Neelam Kumari, CSIR Chandigarh to provide inputs within 30 days on receipt of minutes.

Item 5 INTERNATIONAL ACTIVITIES

5.1 The committee noted the information given in the agenda.

5.2 The member secretary also requested nominated experts in various working groups to complete their registration on the ISO portal. This registration would enable them to access information related to ongoing projects, documents under review, and upcoming meetings. If any issues arise during the process, they are advised to reach out to the Member Secretary of PGD 39.

During the meeting, Member Secretary shared the details of the ISO Technical Committee 172, which focuses on Optics and Photonics, along with its various subcommittees and working groups. The committee members were advised to review the composition and approved the nomination of following members in different working groups

Sl No.	Working Group Name	Title	Expert Nominated
1	ISO/TC 172/SC 1/WG 1	General optical test methods	(i) Dr. Sriram, Indian Institute of AstroPhysics, Bengaluru
2	ISO/TC 172/SC 3/WG 1	Raw optical glass	(i) Dr. Sriram, Indian Institute of Astro Physics, Bengaluru
3	ISO/TC 172/SC 9/WG 7	Electro-optical systems other than lasers	(i) Dr. Sendhil Raja S, Raja Ramanna Centre for Advanced Technology (ii) Dr Divya Agrawal, Central Scientific Instruments Organisation - CSIR, Chandigarh (iii) Shri Ajay Kumar (Bureau of Indian Standards, New Delhi)
4	ISO/TC 172/AHG	AR/VR as related to ISO/TC 172	(i) Dr Divya Agrawal, Central Scientific Instruments Organisation- CSIR, Chandigarh

5.3 The committee noted the information given in Annex B of the Agenda. Dr. Vinod Karar, CRRI New Delhi volunteered to review ISO/PWI 9358 "Optics and Photonics – Veiling glare, stray light and ghost reflections" and will provide his inputs within 30 days after the circulation of minutes of meeting.

5.4 The committee noted the information given in the agenda. The member secretary asked to review Annex C of the Agenda and requested the provision of information on ISO standards suitable for adoption as Indian Standards.

Item 6 NEW SUBJECT

Nil

Item 7 PROGRAMME OF WORK

The committee noted the information given in the agenda.

Item 8 ANY OTHER BUSINESS

Item 9 DATE AND PLACE OF NEXT MEETING

The committee may please discuss and decide the date and place of the next meeting.

The e-mail address of BIS is as follows:
BIS: info@bis.gov.in
Website: www.bis.gov.in

For downloading the published Indian Standards please visit:https://standardsbis.bsbedge.com/

Annex A

IS No	Remarks	Decision taken in the meeting
IS 12874: 1989	Hope all "REFERENCES" (2.1) are valid as on date	Noted
	Hope IS 1399:1959 is also valid	Noted
	Clause **4.2** title should be change to	Accepted
	Clause **5.2** can be deleted	Will be discussed in the next meeting
IS 12888: 1989	Hope all "REFERENCES" (2.1) are valid as on date	Noted
	Clause **3.4** "Collimation Error" word should be "Alignment error" (collimation error id different parameter; associated with transmitter section of the instrument)	Accepted
	Clause **3.9** Measuring/ Modulating wave: the phrase "by crystal oscillators" can be replaced by "optical source"	Modified 3.9 clause is given below: “The wave produced by crystal modulator in the instrument to measure the distance. It modulates the carrier wave and is, therefore, also known as modulating wave.”
	Clause **5.1** of 5. FUNCTIONAL REQUIREMENTS", the word "fool" should be "full"	Fool shall be replaced with modification as “FAIL”
	Clause **6.1.1** Range, point #c) Excellent Weather Condition" should be "O vercast sky, no haze, visibility more than 30 Km, no heat shimmer	Dr. S.V. Ramgopal shall review and provide inputs.
	Clause **6.1.13** Sighting Telescope: "8X magnification" can be replaced with "greater than or equal to 8X magnification"	Accepted