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**BUREAU OF INDIAN STANDARDS**  
**(WATER RESOURCES DEPARTMENT)**  
**MINUTES**

<b>Small Hydropower Plants Sectional Committee, WRD 29</b>			<b>Fourth Meeting</b>
<b>Day and Date</b>	<b>Time</b>	<b>Physical Meeting</b>	<b>Contact details</b>
Friday, 09 August 2024	2:30 PM	Energy Management Centre Kerala, Thiruvananthapuram	wrd@bis.gov.in
<b>CHAIRPERSON:</b> <b>PROF. ARUN KUMAR, HYDRO AND RENEWABLE ENERGY DEPARTMENT, IIT ROORKEE</b>		<b>MEMBER SECRETARY:</b> <b>SHRI VAIBHAV JINDAL, ASSISTANT DIRECTOR, BIS</b>	

**PARTICIPANTS:**

S.No.	Name	Attendee Email
1)	Shri Sunil Kumar Singal, IIT Roorkee	sunil.singal@hre.iitr.ac.in
2)	Shri Himanshu Jain, IIT Roorkee	himanshu.jain@hre.iitr.ac.in
3)	Shri S. K. Shahi, Ministry of New and Renewable Energy, New Delhi	sk.shahi@nic.in
4)	Shri Rajkumar Bhawariya ,Ministry of New and Renewable Energy, New Delhi	rajkumarb.mnre@gov.in
5)	Shri Mubashir Rasool, Jammu and Kashmir State Power Development Corporation	mubashirrasool96@yahoo.com
6)	Smt Priya Gupta , Jammu and Kashmir State Power Development Corporation	priyaguptajkspdc@gmail.com
7)	Shri Ajay Patel, Uttarakhand Jal Vidyut Nigam Limited	gmshp.ujvnl@gmail.com
8)	Shri Sumit Kumar, Uttarakhand Jal Vidyut Nigam Limited	manoj1176@gmail.com
9)	Shri M.P. Singh , Punjab Energy Development Agency, Chandigarh	mpsingh@peda.gov.in
10)	Shri Deepak Raj Pokharna ,Flovel Energy Private Limited, Faridabad	deepak.pokharna@flovel.net
11)	Shri Pradeep Kumar, Flovel Energy Private Limited, Faridabad	pradeep.kumar@flovel.net

12)	Shri Sumeet Mazumdar, Federation of Indian Small Hydro Power	Sumeetiitr2020@gmail.com
13)	Shri Rajesh Kumar Jindal, Bhilangana Hydro Power Limited	rjindal@polyplex.com
14)	Shri Adit kumar Shah , Voith Hydro Private Limited	adit.shah@voith.com
15)	Smt K Rekha Rani ,Central Water Commission	hcdene@nic.in
16)	DD HCD(N&W), Central Water Commission	hcdnw@nic.in
17)	Dr. Parag Madhukar Dhakate, Uttarakhand Pollution Control Board, Dehradun	paragenetics@gmail.com
18)	Dr. Vishnu Prasad, Maulana Azad National Institute of Technology, Bhopal	vpp7@yahoo.com
19)	Shri Malaya Kanta Swain, Odisha Hydro Power Corporation Limited	mks70@rediffmail.com
20)	Shri Manoj Kumar Verma, Central Water and Power Research Station	manoj_rajyog@rediffmail.com
21)	Shri Raj Kumar Verma, Sai Eternal Foundation	sairkverma@gmail.com
22)	Shri Varun, National Institute of Technology, Hamirpur	varun@nith.ac.in
23)	Shri Dinesh Kumar A.N , Energy Management Centre Kerala	(As Invitee)
24)	Shri Lokraj Meena, Sc. C, MED, BIS	(As Invitee)

#### **Item 0 WELCOME AND INTRODUCTORY REMARKS BY THE CHAIRPERSON**

The Chairperson extended a warm welcome to all the members present at the 4th meeting of the WRD 29 Sectional Committee. The Chairperson requested all members to actively contribute and participate regularly in the meetings to ensure effective deliberation within the Committee. The Chairperson also informed the Committee that a national seminar on "Small Hydro Power Plants" in association with Energy Management Centre Kerala was hosted by BIS on 8 August 2024, at Thiruvananthapuram. The event brought together experts and stakeholders to discuss the potential, challenges, and innovations in small hydropower sector.

#### **Item 1 CONFIRMATION OF THE MINUTES OF THE PREVIOUS MEETING**

The Committee NOTED that no comments were received on the circulated minutes. The Committee therefore CONFIRMED the minutes of the previous meeting as circulated.

#### **Item 2 SCOPE OF THE COMMITTEE**

**2.1** The Committee NOTED the present approved scope of the committee as given in Annex A of the agenda.

**2.2** The Committee NOTED item 2.2 of the agenda. Shri Lokraj Meena, Sc. C, Mechanical Engineering Department (MED), BIS delivered a presentation on the scope and programme of work of MED, BIS. The Committee noted the present programme of work of MED and decided the scope as follows.

*“Standardization for site selection and investigations, Planning, design, construction, renovation and Modernization (excluding Electro-Mechanical equipment design), automation planning, and Project management for Small hydropower plants.”*

### Item 3 COMPOSITION OF THE COMMITTEE

**3.1** The Committee NOTED the current composition and attendance of the last three meetings. The Committee decided to WITHDRAW the membership of North Eastern Electric Power Corporation Limited, Shillong from the Committee due to their absence in the last three consecutive meetings. Additionally, the Committee NOTED that the nominations from the National Institute of Hydrology Roorkee are long-awaited and decided to WITHDRAW the membership of NIH Roorkee from the Committee.

**3.2** The Committee NOTED item 3.2 of the agenda and the decisions taken are as follows.

S.No.	Organization	Reply Received	Decision taken in the 4 <sup>th</sup> meeting
1	Sai Eternal Foundation, Shimla	Shri Raj Kumar Verma, Founder-cum-Director	The Committee AGREED for the co-option in the Committee.
2.	Uttarakhand Pollution Control Board, Dehradun	Shri Parag Madhukar Dhakate, Member Secretary Mr. Ankur Kansal, Environment Engineer (Alternate)	The Committee AGREED for the co-option in the committee.
3.	Bhilangana Hydro Power Limited, Noida	Shri Rajesh Kumar Jindal, Chief Executive Officer Shri Liladhar Pandey, Project Manager (Alternate)	The Committee AGREED for the co-option in the Committee.
4.	Jadavpur University, Kolkata	Dr. Apurba Kumar Santra, Professor	The Committee AGREED for the co-option in the Committee.

5.	Himachal Pradesh State Pollution Control Board.	Reply is awaited	The Committee requested Shri Raj Kumar Verma, Sai Eternal Foundation to provide the contact details of a contact person in Himachal Pradesh State Pollution Control Board for nominations in the Committee.
6.	Arunachal Pradesh State Pollution Control Board.	Reply is awaited	The Committee decided to pursue again with the Arunachal Pradesh State Pollution Control Board for nominations in the Committee.

#### Item 4 2nd plenary meeting of ISO/TC 339 Small Hydropower Plants

4.1 The Committee NOTED item 4.1 of the agenda.

4.2 The Committee NOTED that in BIS (India) had expressed its intention to host the next meeting of ISO/TC 339 in 2025 in India. During the deliberations, the Committee noted the time constraints and decided to communicate to SAC (China) that India will not be able to host the next meeting of ISO/TC 339 in 2025.

#### Item 5 PANELS UNDER WRD 29

##### 5.1 Small Hydropower Plants – General Panel (WRD 29: P01)

5.1.1 The Committee NOTED the scope and composition of Panel P01. The Committee deliberated on the composition and appointed Shri Raj Kumar Verma, Sai Eternal Foundation as the Convener of the panel. The Committee also requested Bhilangana Hydro Power Limited, Noida to nominate an expert from his organization in Panel P01. The Committee further decided the scope of the Panel as follows

*“Scope of Small Hydropower Plants – General (WRD 29: P01): Standardization of vocabulary, site selection, layout, site investigation, report preparation, economic & financial Planning, environmental impact, and model contract and project management documents for small hydropower projects”.*

5.1.2 The identified subject under Panel P01 is as follows.

##### a) Small Hydropower plants- Planning and Layouts

The Committee NOTED that the WRDC, in its 22nd meeting, approved the NWIP. The Committee deliberated and further advised the Convener of the panel to conduct panel meetings and expedite the draft document. The Committee also authorized the panel to co-opt or invite suitable expert. The updated Composition of the Panel WRD 29: P01 is placed in [Annex A](#).

## **5.2 Small Hydropower Plants - Civil Works (WRD 29: P02)**

**5.2.1** The Committee NOTED the scope and composition of Panel P02 as placed in [Annex B](#).

**5.2.2** The Committee NOTED that the meetings of Panel P02 were held on 23 July 2024 and 9 August 2024, and the Panel decided to co-opt the following members into Panel P02.

- a) Shri Raj Kumar Verma, Sai Eternal Foundation

**5.2.3** The identified subject under Panel P02 is as follows.

### **5.2.3.1 Small Hydropower Plants – Detailed design of civil works:**

The Committee NOTED that the draft is under preparation. The Committee deliberated and further advised the Convener of the panel to conduct panel meetings and expedite the draft document. The Committee also authorized the panel to co-opt or invite suitable experts.

### **5.2.3.2 Small Hydropower Plants – Detailed construction:**

The Committee NOTED that the draft is under preparation. The Committee deliberated and further advised the Convener of the panel to conduct panel meetings and expedite the draft document. The Committee also authorized the panel to co-opt or invite suitable experts.

## **5.3 Small Hydropower Plants – Electro-mechanical Works (WRD 29: P03)**

**5.3.1** The Committee NOTED the scope and composition of Panel P03.

**5.3.2** The identified subject under Panel P03 is as follows.

### **5.3.2.1 Small Hydropower Plants – Renovation, Modernization and Uprating**

The Committee NOTED item 5.3.2.1 of the agenda. The Committee deliberated and modified the title to **Small Hydropower Plants – Renovation and Modernization**. The Committee further advised the Convener of the panel to conduct panel meetings and expedite the draft document. The Committee also authorized the panel to co-opt or invite suitable experts.

The Composition of the Panel WRD 29: P03 is placed in [Annex C](#).

## **ITEM 6 RESEARCH & DEVELOPMENT PROJECTS FOR FORMULATION AND REVIEW OF STANDARDS**

The Committee deliberated and requested the members to review the program of work of the Committee and the projects taken up in agenda items and explore the areas where R&D projects can be taken up in this Sectional Committee.

**Item 7 ANY OTHER BUSINESS**

**7.1** The Committee decided to plan the next meeting in the last week of October 2024.

**Annex A**  
(Item 5.1.1)

**Scope of Small Hydropower Plants – General (WRD 29: P01):**

Standardization of vocabulary, site selection, layout, site investigation, report preparation, economic & financial Planning, environmental impact and model contract and project management documents for small hydropower projects.

**Composition of Small Hydropower Plants – General (WRD 29: P01)**

1. Shri Shri Raj Kumar Verma, Sai Eternal Foundation , **Convener**
2. Shri Ravi Negi, GSI, Dehradun
3. Shri Praveen Kumar, GSI, Jammu& Kashmir
4. Dr. Vishnu Prasad, MANIT Bhopal
5. Ms. K Rekha Rani, Central Water Commission, New Delhi
6. Dr. Sunil Kumar Singhal, IIT Roorkee
7. Shri Ajay Patel, UJVN Limited
8. Shri Sumeet Mazumdar, Federation of Indian Small Hydro Power
9. Bhilangana Hydro Power Limited, Noida
10. National Institute of Hydrology.

## **Annex B**

(Item 5.2.1)

### **Scope of Small Hydropower Plants- Civil Works (WRD 29: P02):**

Standardization of hydraulic & structural design, technical specifications, construction, maintenance for civil & hydro-mechanical works of small hydropower projects.

### **Composition of Small Hydropower Plants- Civil Works (WRD 29: P02)**

1. Dr. Sunil Kumar Singal IIT Roorkee , Convener
2. Ms. K Rekha Rani, Central Water Commission, New Delhi
3. Shri M. K. Verma, Central Water and Power Research Station, Pune
4. Shri S. N. Subramaniam, Bangalore Hydro Engineers & Consultants Private Limited, Bangalore
5. Shri Sumeet Mazumdar, Federation of Indian Small Hydro Power
6. Shri Ajay Patel, UJVN Limited
7. Shri Sandeep Batra, NHPC Faridabad
8. Shri Mubashir Rasool, J& K State Power Development Corporation, Srinagar
9. Shri Raj Kumar Verma, Sai Eternal Foundation, Shimla



**Annex C**  
(Item 5.3.1)

**Scope of Small Hydropower plants – Electro-mechanical Works (WRD 29: P03):**  
Standardization of electro-mechanical works including generating units, auxiliaries, automation, power evacuation, operation & maintenance and renovation of small hydropower projects.

**Composition of Small Hydropower plants – Electro-mechanical Works (WRD 29: P03)**

1. Shri Adit Kumar Shah, Voith Hydro Private Limited, Noida, **Convener**.
2. Dr. C S Pant, IIT Roorkee.
3. Shri Deepak Raj Pokharna, Flovel Energy Private Limited, Faridabad
4. Shri M.P. Singh, Punjab Energy Development Agency, Chandigarh
5. Shri Divyankur Aggarwal, Andritz Hydro Private Limited, Faridabad
6. Shri Malaya Kanta Swain, Odisha Hydro Power Corporation Limited
7. Shri Pradeep Gupta, Greenko Group
8. Prof. Varun NIT Hamirpur
9. Shri Ravi Taunk, Voith Hydro Private Limited