Minutes of Meeting

The 18th General Body Meeting of the Water Quality India Association (WQIA) was held on July 18th, 2025, at the India Habitat Centre, New Delhi. The session commenced with a warm welcome by Mr. Vivek Burnwal, who introduced the event's agenda and greeted participants from across India. He acknowledged the presence of the Chief Guest, Ms. Archana Varma, IAS and Mission Director, National Water Mission. The opening ceremony included a lamp lighting ritual and the national anthem, marking a formal start to the gathering. Attendees included WQIA Members, industry professionals, government representatives, and technical experts.

Mr. Suresh Redhu, in his Presidential Address, reflected on the association's remarkable 10-year journey. He highlighted WQIA's pivotal role in uniting the water treatment industry, advocating public health, shaping policy, and developing standards. With over 200 active members and Government influence, WQIA has become a key player in India's water sector, notably through strong government-industry partnerships and contributions to water quality standards.

Mr. Suresh Redhu provided an update on technical committee meeting organized by WQIA on April 9, 2025. The WQIA technical Sub-committee which works on Standards, Significant technical and regulatory progress including WQIA's representation in the Bureau of Indian Standards (FAD 14 and FAD 30) in enhancing reverse osmosis (RO) recovery efficiency, which has improved from 20% to 40% under BIS 16240. Ongoing research led by Dr. Sanjay Patil at the Central Salt and Chemical Research Institute is helping us in finding ways to improve the efficiency of water recovery by between 60% - 75%. He also referenced WQIA's participation in the Bureau of Water Use Efficiency workshop held on June 5, 2025, which was chaired by Ms. Archana Varma - IAS, Mission Director, National Water Mission which helped to understand the RO functions, current BIS standards, Challenges and Future potential and participants were from BIS, CGWB, CPCB and WQIA.

Looking ahead, Mr. Suresh Redhu shared plans for the upcoming launch of a dedicated online social media platform, designed to enhance member interaction and engagement. This platform will enable the WQIA community to connect more effectively, embrace emerging technologies, share knowledge, and collaborate on best practices. It will also serve as a hub for information on water industry developments, regulatory updates, educational programs, and member support assuring that every stakeholder has access to the tools and resources needed for continued progress. He concluded by acknowledging that the journey ahead is long, but emphasized that together, we can ensure a healthier, safer, and cleaner future for all. With this, he thanked everyone for their presence and support.

In closing, Mr. Suresh Redhu expressed his heartfelt gratitude to the WQIA Board, it's members and event sponsors, for their generous support. The Platinum Sponsor - Lexcru Group, Lunch Sponsor – IAPMO, High Tea Sponsor - Delta Pure, and Welcome Kit Sponsor - Pure N Safe, all contributed significantly to the success of the event and for their continued partnership and commitment to advancing the goals of the water treatment industry. He also thanked Dr. K. Chandrasekhar and IAPMO for managing the backend Office.

He concluded by acknowledging that the journey ahead is long, but emphasized that together, we can ensure a healthier, safer, and cleaner future for all. With this, he thanked everyone for their presence and support. He Invited the Chief guest Ms. Archana Varma to provide her insights on water conservation that National Water Mission is working with various stakeholders.

Ms. Archana Varma addressed the meeting attendees with a passionate appeal, highlighting the lack of awareness around water conservation and pollution. She emphasized that while RO (Reverse Osmosis) technology is one of the best purifiers with many advantages, the amount of wastewater it generates is a serious concern that must be addressed. Although guidelines have been issued by bodies like BIS and MoEF&CC, she questioned whether we can rely solely on voluntary affirmative action. In sectors like water, awareness and people-driven efforts are crucial. Citing important statistics, she reminded everyone that India has 4% of global water resources but supports 18% of the world's population and livestock, and that freshwater availability is under pressure-currently estimated at 1,126 BCM, with a projected demand of 1,180 BCM by 2050. The rapid growth of AI and supercomputers, both of which are heavy water users, further strains this limited resource.

Ms. Varma stressed the need to focus not only on augmenting water supply but also on managing demand through people's participation. Quoting the Hon'ble Prime Minister, she spoke about the importance of a "whole of society, whole of government" approach and pointed out that citizens, not just the government, bear responsibility for pollution. From foaming rivers like Yamuna to

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microplastics in the Ganga, much of the damage stems from public behavior. She acknowledged the commendable efforts of organizations like NMCG, NRCD, and CPCB in river cleaning and praised initiatives like Jal Jeevan Mission (JJM), which has reached 15.3 crore households, reduced child mortality by 30%, and saved up to 61 crore rupees in public health costs. She also noted that JJM has prevented approximately 4 lakh deaths and 14 million disability-adjusted life years.

She further highlighted how water pollution affects economic growth, citing studies that estimate a 1–2% loss in GDP from polluted rivers, and up to 6% GDP loss due to water pollution overall. Aligning with the vision of a Viksit Bharat by 2047, she stressed that water should not become an inhibitor to development, especially since solutions are within reach. Observing industrial regulations, following BIS standards, leveraging AI, geospatial technologies, and real-time data visualization are all key. She called for more socially responsible corporations and philanthropic efforts, highlighting successful initiatives like Jal Sanchay Jan Bhagidari in Gujarat. She concluded by underscoring the importance of innovation, women-led water harvesting initiatives under JSA, and stronger regulatory frameworks-especially in industries like RO manufacturing where guidelines remain incomplete.

At the end of the session, Mr. Redhu extended special thanks to Ms. Archana Varma for her insightful contribution during the session. He noted, “Beyond the technical aspects, he highlighted one of the most valuable takeaways from this conversation is the emphasis on social responsibility. It is an extremely important dimension that we must carry forward.” He thanked her sincerely for her time and engagement. As a token of appreciation, Ms. Rajul Parikh presented her with a memento on behalf of WQIA.

Mr. Suresh Redhu announced the leadership transition, expressing gratitude for everyone’s support during his three years of service. He shared that the change is part of WQIA’s planned succession process. Mr. Sunil Trivedi from Sarjan Water Tech was introduced as the new President - he has been a key contributor to WQIA since its inception. Mr. Umesh Agarwal from Pure and Safe will take over as Vice President.

Other appointments include Mr. Sunil Dhole from Technorbital as Secretary, Mr. Himanshu Budhia from GSE Filters as Joint Secretary, and Mr. Ajay Shroff from Pratam Filters as Treasurer. Members welcomed the new team with a round of applause. The session ended with thanks, and everyone was invited to a tea/coffee break before the next session.

Keynote address by Dr. S. Sridhar on Water Treatment Standardization, Chief Scientist and a highly experienced chemical engineer with over 27 years of work in membrane technology at CSIR-IICT Hyderabad, was introduced by Ms. Rajul Parikh, she highlighted his important contributions to water purification in India. In his keynote address, Dr. Sridhar thanked the organizers, especially Dr. K. Chandrasekhar and the Water Quality India Association (WQIA), for the opportunity to speak. He reflected on his involvement with the Bureau of Indian Standards (BIS) and expressed gratitude for Dr. Pawan Labhesetwar to continue to have his guidance in developing these standards. He also praised the attendees for their efforts to improve public health by reducing waterborne diseases.

He discussed his involvement with IICT and the FAD 30 Committee, highlighting work on water treatment standards, membrane technologies, and ongoing efforts in standardizing RO and UV systems. He emphasized adhering to BIS standards, recommending a pH limit of 8.5 for alkaline ionized water, noting that higher values require further research despite some positive clinical studies. His vision at IICT was focused on promoting industrial growth through zero liquid discharge (ZLD) and recovering water and valuable products from complex effluents. He mentioned advancements in nano-filtration for mineral-rich groundwater, and biomedical uses of ultra-pure water (Type I–III), with support from CSIR-IICT, DST, and DBT. A major project with GFL in Gujarat is underway for developing proton-conducting membranes and hollow fibers.

Existing domestic water purification systems where RO membranes may not be necessary, and UV combined with Ultrafiltration (UF) can serve as an effective alternative. For existing setups, blending can be enabled using two T-joints and a needle valve, ensuring both pre-treatment and post-treatment. IS 10500 remains the primary and most followed standard for drinking water quality, while IS 16240 is now crucial for RO-based point-of-use systems, as highlighted by Dr. Neeraj Gupta. IS 1917 for UF systems is now published and ready for wider circulation. Testing methods fall under the IS-3025 series, with labs like NABL-accredited IICT and IAPMO’s Bengaluru facility (as mentioned by Mr. Mukthesh Pathi) capable of testing all 85 parameters. UV-based systems require BIS certification under IS 14724, while activated carbon filters (IS 14743). We have activated carbon filters that generally remove chlorine in the form of CL2 sediments and other impurities from water. As per the 19240:2023 Water Purification System Rules, BIS certification is mandatory to ensure safety, quality, and compliance with environmental norms.

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For RO systems, the standards cover design, materials, construction, performance, testing, labeling, and packaging to ensure safety and compliance with Indian drinking water standards, commonly used in homes, offices, and schools. Certification involves applying with required documentation to BIS, followed by document review, factory inspection, sample testing, and issuance of the certificate. The BIS standard IS 14724 for UV water purifiers, published in 1999, ensures that UV-based purifiers, including UV LED technology, are safe and effective in disinfecting water. Key criteria include design, water quality parameters, performance, materials, structural specs, testing, validation, operation, maintenance, monitoring, and recording, especially for community-based systems.

Dr. S. Sridhar emphasized the need for standardizing technologies such as Atmospheric Water Generators, medical-grade ultrapure water, and alkaline ionized water, highlighting the effective combination of Ultrafiltration (UF), Ultraviolet (UV), and Reverse Osmosis (RO) with strict adherence to equipment standards. Mr. Himanshu Budhia raised concerns about the fragmented industry, noting that while large corporates comply with standards, many smaller players do not do due to lack of regulation and enforcement, and inquired about when penalties would be implemented to ensure compliance. Dr. Sridhar proposed addressing regulatory measures and specifications in the upcoming October meeting. Dr. K. Chandrasekhar then invited Mr. Sunil Trivedi to felicitate our Keynote Speaker Dr. S. Sridhar.

Mr. Himanshu Budhia introduced Ms. Disha Zanwar, Scientist C and Deputy Director at the Bureau of Indian Standards (BIS), who presented an overview of Indian Standards on drinking water treatment. During her presentation, she highlighted the role of BIS - formerly known as the Indian Standards Institution (ISI) - which was established on 6 January 1947 with the objective of promoting standardization, quality control, and simplification in industry and commerce. She also discussed the BIS Act of 1986, which granted statutory status to BIS from 1 April 1987, and the BIS Act of 2016, which designated BIS as the National Standards Body, effective from 12 October 2017.

She discussed the standardization activities under BIS Technical Committee FAD 30, which is responsible for developing Indian Standards related to water purification systems for drinking purposes in both domestic and industrial sectors. Dr. S. Shridhar, Chairperson of FAD 30, was present. The committee includes representatives from organizations like Water Quality India Association (WQIA), IICT, NIT Calicut, Ministry of Jal Shakti, Ministry of Environment, and domain experts. Standards are developed through quarterly meetings based on consensus, followed by public circulation for comments, and finalized in line with WTO-TBT Code of Good Practice. Currently, three key standards exist: IS 16240 for RO-based systems, IS 14724 (2025 revision under publication), and IS 19197 (2025) for UF-based systems. These standards apply only to point-of-use (POU) systems and do not cover consumables like filters or media. UV is categorized as a disinfection method that inactivates microbes, while MF, UF, and RO are membrane-based filtration methods offering varying filtration outputs based on membrane porosity

The water disinfection system primarily inactivates microbes but may not remove dissolved solids or chemicals, while ultrafiltration (UF) targets particulate and microbiological contaminants but is ineffective against dissolved contaminants exceeding IS-10500 (Drinking Water Standard) limits.

RO, UV, and UF standards share a similar structure covering design, performance, safety, sampling, packaging, and marking. Implementation of Indian standards is generally voluntary unless mandated by the government; for example, IS-16240:2023 for RO-based water treatment systems was made mandatory by the Ministry of Environment through a notification dated 10 November 2023. BIS has issued 86 licenses under this standard and has four testing laboratories nationwide. Monitoring and enforcement authority lies with CPCB, while BIS can act against misuse of the ISI mark by licensed manufacturers. Complaints against licensed manufacturers should be raised with BIS, whereas complaints against unlicensed entities fall under CPCB's jurisdiction. For testing laboratories, if recognized by BIS, complaints can be addressed to BIS; if not recognized, BIS has no authority to take further action.

For IS 14724:2025 (under publication), the scope is expanded to include UV disinfection systems with flow rates up to 3 L/min. Specifications for influent/effluent water, turbidity, and contaminant disinfection have been included. LED-based UV tech has been introduced, microbial reduction testing methods detailed, and the marking clause updated. Manufacturers must declare maximum flow rate and ensure compliance with UV exposure safety.

The session ended with covering key developments in BIS standards for drinking water systems. Ultra-filtration membrane-based POU systems aim to reduce turbidity, particulates, and microbes. An R&D project is evaluating RO systems (up to 50 L/hr) to optimize

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recovery efficiency and membrane life. A draft code of practice for community water treatment plants is finalized and will be circulated soon. Standards for system components are under development. The Ministry of Jal Shakti recommended including reject water storage in IS 16240. The BIS Care App (Android/iOS) offers access to standards, license checks, complaint submission, lab info, and certified product lists.

Dr. Neeraj Gupta commenced his presentation by acknowledging the comprehensive input shared by previous speakers, Dr. Sridhar and Ms. Disha, which covered key standard requirements and updates. He noted that their insights allowed him to focus only on select areas of importance. As Chairperson of the WQIA Standards Committee, he emphasized his responsibility to brief the committee on new industry-relevant standards. He chose not to reiterate standards like IS 16240, IS 14724, and UF-related updates, which had already been addressed. Instead, he highlighted a critical new Quality Control Order (QCO) related to IS 302, concerning the safety of household and similar electrical appliances, stressing its potential impact across the industry.

He highlighted a key discrepancy between the scope of IS-302, which primarily covers household appliances, and the recently issued QCO that broadly extends to residential, commercial, and industrial appliances, making it a horizontal regulation. The QCO mandates compliance with IS-302 Part 1 (2024) for almost all electrically operated appliances under 250V single-phase, multi-phase, and DC-operated, with exemptions for products already regulated under another QCO-such as RO appliances under QCO 16240. However, Dr. Gupta pointed out that the exemption wording is legally flawed since QCOs fall only under the BIS Act, while some products are regulated by other Acts (e.g., Environmental Protection Act). He recommended revising the clause to include exemptions for products regulated under any applicable Act to avoid confusion.

He further clarified that the original intent of IS-302 was to regulate imports, not domestic manufacturers, and emphasized that products already covered by existing standards or regulations (e.g., ISI mark) do not need to comply again with IS-302. UV and other electrically powered water purifiers, unless covered under QCO 16240, remain within IS-302's scope. Following industry concerns, the implementation deadline for large enterprises has been extended to March 19, 2026, granting a one-year grace period after consultations with BIS, DPIIT, and ministerial approval. Dr. Gupta's input was noted for future revisions and clarity in the QCO language and concluded by stating that the latest extension for the IS-302 QCO implementation-now set for March 19, 2026-is final, as confirmed through discussions with BIS and other stakeholders. He emphasized the need for industry to prepare for compliance without expecting further extensions. He reiterated that the licensing process remains unchanged, as previously outlined by Ms. Disha: it involves an audit-based system requiring submission of independent test reports from accredited labs, fee rationalization, and a BIS audit of the manufacturing facility. He clarified that BIS licenses are issued to manufacturing facilities-not individual products-ensuring compliance at the source of production.

Mr. Anil Jauhri clarified that BIS certification under IS-302 is strictly product certification, not process or facility certification, although certain manufacturing infrastructure requirements may apply. Implementation of management systems like ISO 9001 is encouraged but does not change the nature of the certification. Mr. Ajay Popat and Mr. Suresh Redhu emphasized that the regulation's applicability depends on explicit BIS or statutory authority directives, and products certified under alternate valid frameworks are exempt from IS-302 compliance.

Dr. Neeraj highlighted a key change in the IS-302 ISI marking scheme: each model number must be individually approved and listed on the license, unlike previous schemes that allowed generic licensing. This measure aims to prevent misuse and restrict overseas manufacturers from obtaining licenses under the QCO. Mr. Suresh Redhu and Dr. Gupta further explained that certification is tied to the specific manufacturing facility, reinforcing the **Make in India** initiative by creating indirect trade barriers through mandatory quality standards.

Ms. Disha outlined the certification process differences for domestic and foreign manufacturers: domestic producers must apply through their nearest BIS branch office, while foreign manufacturers follow the Foreign Manufacturers Certification Scheme (FMCS) via BIS headquarters. Certification under the QCO is mandatory with no exceptions, underscoring strict enforcement by the government.

Dr. Neeraj detailed the BIS Act's compliance framework for the QCO, highlighting limited exemptions for legacy stock and imports, with export-only units fully exempt. He praised Water Quality India Association and industry contributions in developing IS 16240, after four

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years of rigorous work. Emphasizing the Standards Committee's role in guiding industry on compliance, he raised concerns about manufacturers violating IS 16240 despite holding BIS licenses, undermining consumer trust and fair competition. He cited a case where a manufacturer manipulated RO system testing by reversing needle valves to pass lab tests but altered flow during installation, underscoring the need for strict enforcement to uphold the standard's integrity and BIS credibility.

He explained that IS 16240 mandates testing RO systems with TDS control bypass valves fully open to ensure maximum bypass flow, a requirement extensively debated to address contamination risks from low TDS water due to aging pipelines. This clause safeguards consumer health by ensuring contaminant reduction even if the valve is misused or malfunctions, and any attempts to bypass this-such as reversing non-return valves at the customer site-violate the standard's intent. He also highlighted a case where a new entrant's digital TDS control system, linked to a mobile app, failed to keep the bypass fully open during testing, emphasizing that both physical and electronic bypass controls must comply with the standard for valid certification.

He also clarified that the term "valve" in IS 16240 encompasses any control mechanism, including dynamic software controls, requiring maximum bypass flow during BIS testing. He noted a case where intelligent switching based on TDS sensing prevented full bypass flow during contamination tests, leading to misleading results and violating the standard's intent to ensure consumer safety. Mr. Pawan added that lab testing often focuses on the RO unit alone, but with a forthcoming UF standard, both RO and UF will require separate testing to ensure full compliance.

Mr. Suresh Redhu emphasized that IS 16240 testing targets RO system performance only, with contamination tests requiring the bypass valve fully open and recovery tests fully closed. He pointed out that some labs misinterpret the requirement when a physical valve is absent, failing to ensure the bypass is fully open during testing. Dr. Neeraj reiterated the clause's purpose to prevent any bypass under worst-case conditions, while Mr. Vivek noted that although the valve must be fully open during testing, software controls may still block bypass flow as per standard methodology. Dr. Neeraj stressed that compliance must include both physical and intelligent control mechanisms.

Mr. Suresh referred to the Bureau of Energy Efficiency's testing method for variable speed air conditioners, emphasizing that, similarly, software or mechanical valves must allow 100% bypass opening during testing to ensure standard compliance. Mr. Pawan queried whether units bypassing only through UF under the upcoming UF standard would require certification for both UF and RO. Dr. Neeraj highlighted regulatory uncertainties around certification of combined systems and stressed the need for BIS to clarify standards applicable to products containing RO membranes.

Ms. Disha clarified that UF and RO are treated as separate products, with certification required only for the overall RO system when UF membranes are part of it. Mr. Redhu noted the absence of mandatory UF or UV standards until now but acknowledged that new standards will impact multi-technology products. Mr. Sunil Trivedi linked the discussion to NGT directives on water quality parameters and ongoing legal and regulatory involvement by MoEF&CC, indicating broader implications for certification and compliance going forward.

Dr. Neeraj Gupta emphasized that circumvention of IS 16240 critically undermines the standard's goal of ensuring consumer safety and product quality, creating unfair advantages for non-compliant manufacturers. The committee recommended that all systems with TDS control and RO bypass blending be tested with the bypass fully open, regardless of the control type-manual, mechanical, electrical, or software-based. He urged BIS to mandate full disclosure of all flow control mechanisms and require provisions allowing labs to override controls for accurate testing. Dr. Neeraj stressed that BIS-approved labs must rigorously verify these controls during certification and called for regular audits to maintain program integrity and consumer trust.

He concluded by urging strict enforcement of the standard's letter and spirit, highlighting cases where licenses were revoked and then quickly reinstated through workarounds, which erode BIS credibility. Dr. Neeraj underscored the importance of decisive action against violations to uphold QCO enforcement. He also acknowledged WQIA's ongoing active role in BIS subcommittees, contributing valuable data and industry support to initiatives like star rating and component-level testing, reinforcing collaboration to strengthen standards development and implementation.

Mr. Redhu thanked Dr. Neeraj and noted that many questions would be addressed separately, taking a final query from Utkarsh Gautam regarding hybrid smart water purification systems combining RO, UV, and UF with automated TDS controls. Utkarsh asked whether

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such innovations should be considered manipulation or embraced for their dynamic compliance and enhanced performance. Mr. Redhu clarified that this smart hybrid technology has existed for over a decade with patented designs by members present, and its limited use in standards was due to previous restrictions within the standards themselves, not the technology's availability.

Dr. Suresh Sisodia responded to Mr. Utkarsh, noting that hybrid technology was patented as early as 2008 and 2012, emphasizing its longstanding existence and attributing misunderstandings to Mr. Utkarsh's limited experience. Dr. Redhu clarified that RO and UV standards have distinct scopes, with current certification focused on RO only, while a UV standard is forthcoming. He highlighted ongoing efforts to regulate components and materials comprehensively, reinforcing the government's commitment to stringent health and hygiene standards in water purification.

Dr. Neeraj stressed the importance of adhering to existing laws and standards until officially amended, urging manufacturers to seek formal amendments for new technologies rather than circumventing rules. He reiterated that IS 16240's clause-mandating testing with the bypass valve fully open-applies universally to all control types, including physical, electrical, and software-based, emphasizing the need to uphold the standard's spirit to ensure fair competition and protect compliant manufacturers.

Ms. Disha proposed further committee discussions to achieve consensus and incorporate clearer guidance into the standard, reflecting the recommendations made.

Dr. Suresh Redhu concluded the session by stressing that testing must be conducted strictly in accordance with the standard, irrespective of whether controls are software-based or mechanical, to ensure consistent compliance.

Dr. K. Chandrasekhar invited Mr. Himanshu Budhia to address the gathering by highlighting the newly revamped WQIA website. Mr. Budhia shared that a sub-committee comprising himself and Mrs. Rajul Parikh was formed to lead this important initiative. He encouraged all members to actively use the website and to promote it widely within the industry to raise awareness about WQIA's initiatives and its growing impact. He then provided a detailed walkthrough of the website, explaining its layout and key features to the attendees.

Mr. Budhia elaborated that the homepage presents WQIA's mission, vision, and objectives, giving visitors a clear understanding of the association's purpose. He explained that the "About Us" section features - Who We Are, profiles of all board members, while the "Committees" section outlines the scope and functions of active committees such as Membership, Education, Standards, Public Relations, and NGT. He highlighted that the website also showcases honorary members and an expert panel, which includes prominent scientists and professionals from reputed institutions like the IITs. Members can submit queries through the website and receive expert responses, making it a rich knowledge-sharing platform.

He pointed out that the website provides a detailed account of WQIA's journey, key milestones, Membership benefits, and annual returns documents. He shared that the platform includes updates on current and upcoming events, including the 18th General Body Meeting. In addition, he highlighted that the members' section enables individuals to verify their membership status and view their names. He also explained that Gold Members receive special recognition, with their company logos linked directly to their respective websites. Mr. Himanshu Budhia clarified the membership types - regular, gold and Associate, detailing the associated fees, benefits, and eligibility for board positions under the Gold Membership category.

Finally, he encouraged members to contribute educational, non-promotional content such as industry-relevant blogs and technical insights. He stated that all content submissions would be reviewed prior to publication on the website to ensure quality and relevance. He also invited tech-savvy members to join the WQIA Website Task Force to support the ongoing development of the platform, keeping the website dynamic and aligned with WQIA's evolving initiatives. The session concluded with an open floor for questions and suggestions. Special appreciation was extended by Mr. Himanshu Budhia and WQIA President Mr. Sunil Trivedi to Mr. Vivek Burnwal for his voluntary efforts in designing and maintaining the website, which was met with a round of applause from all members.

The next session began with a Sponsor presentation by Platinum Sponsor Lexcru Water Tech Pvt. Ltd. - Mr. Shareyansh Shah introduced Lexcru Water Tech Pvt. Ltd., a leading manufacturer of residential RO components, with a specialization in RO booster pumps. Lexcru is the world's second-largest manufacturer of RO booster pumps and the largest in India for domestic RO membranes and filters. The company operates five processing units with over 2,000 factory employees. Their three core product lines include RO booster pumps

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(ranging from 50 GPD to 300 GPD), membranes, and filters. Lexcru holds the distinction of being the world's largest filter manufacturer due to its advanced molding unit. The company's tagline, "Innovation with Scale," reflects its high production capacity and in-house manufacturing capabilities. Mr. Shah highlighted the rigorous 3-stage pump testing process - amateur testing, motor testing, and in every 5-minute each pump has been tested for ensuring quality and reliability.

Mr. Suresh Sisodia pointed out that Mr. Shah made a statement regarding brands using aluminum winding in pumps, highlighting that company as a successful example with premium performance, and emphasized that aluminum can perform as well or better than copper if the technology is mastered. In response, Mr. Shreyansh Shah clarified that while that company has pioneered aluminum winding for over 25 years, some OEMs were unaware that certain suppliers use aluminum-wound pumps, and Lexcru has helped educate them on this distinction. The session concluded with Dr. K. Chandrasekhar thanking Lexcru Group for their platinum sponsorship of the WQIA meeting, followed by applause and the presentation of a memento to Mr. Shah by Mr. Ajay Popat.

Dr. K. Chandrasekhar opened the next session by inviting Mr. Rakshit Bhat to introduce the next speaker, Mr. Varun Tandon, CEO of the Water Management and Plumbing Skill Council (WMPSC). Mr. Tandon, with over 15 years of global experience in workforce development, sustainability, and leadership, has been instrumental in expanding WMPSC's role within India's national skill development framework, particularly in water and sanitation sectors.

Mr. Varun expressed gratitude to Dr. Chandrasekhar and the Water Quality India Association (WQIA) for the opportunity to participate. He outlined WMPSC's mandate as a semi-government organization operating under the Ministry of Skill Development, working collaboratively with government agencies, industry bodies, and training institutions to build a formalized and sustainable skill ecosystem. He highlighted key initiatives including the development of accredited training centers, certified trainers, apprenticeship programs, and digital certification linked to the Skill India platform.

Mr. Tandon elaborated on WMPSC's extensive programs ranging from vocational training for sales executives and inclusion of women in technical roles to large-scale workforce upskilling events, such as the 2019 gathering of 12,000 technicians. He detailed ongoing collaborations with national missions like Jal Jeevan Mission and the "Nal-Jal-Mitra" initiative, which has successfully trained over 21 lakh women SHG members in water quality testing. He also invited WQIA's engagement in establishing Centers of Excellence and co-creating skill development programs.

Responding to Mr. Anil Jauhri's concerns regarding the lack of skilled professionals for regulatory and voluntary compliance roles, Mr. Varun acknowledged the gap and confirmed WMPSC's capacity to swiftly design and implement new qualification packs. He welcomed collaboration with WQIA to pilot skill programs focusing on standards and regulatory compliance and proposed further discussions via email to initiate the process.

The meeting concluded with Dr. K. Chandrasekhar inviting Mr. Suresh Redhu to felicitate Mr. Varun Tandon with a token of appreciation, recognizing his valuable contributions and leadership in advancing India's water and plumbing skill development initiatives.

Mr. Shreyansh Shah opened the Next session by introducing Mr. Arpit Chhabra, a serial entrepreneur with over two decades of hands-on experience in the appliance and consumer electronics industry. He shared that IoTfy has supported numerous brands in the water purification space, in addition to other categories like air conditioners. Mr. Chabra highlighted that water purifiers were the first category IoTfy worked with, and despite early apprehensions about India's readiness for IoT-connected devices, the market has demonstrated strong adoption. He explained IoTfy's end-to-end capabilities in electronics design, firmware, cloud, mobile applications, and manufacturing, acting as a one-stop solution for brands. IoTfy is the first company in India to mass-produce Wi-Fi and Bluetooth modules used in smart appliances. With the rising adoption of AI and ML in domestic appliances, IoTfy is developing lightweight models to support predictive diagnostics and enhanced features. Mr. Chhabra emphasized the growing consumer demand, especially from Gen Z, for smarter, app-integrated water purifiers that offer transparency, control, and convenience. Key functionalities include TDS monitoring, filter life tracking, app-based service reminders, volume-controlled dispensing, and predictive maintenance using AI/ML models. These features ensure reliability, optimized performance, and better ROI for users, reflecting the evolution from basic water purification to intelligent, connected appliances.

Mr. Chhabra further emphasized that the value of IoT-enabled appliances lies in delivering peace of mind through real-time updates, giving users visibility into the current state of their devices. Drawing a parallel with fuel indicators in vehicles, he highlighted the

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importance of having similar insights for water filters and services. He stressed that water quality visibility is crucial, especially from the perspective of end users. Typically, a technician adjusts the TDS (Total Dissolved Solids) level during service visits; however, Mr. Chhabra strongly advocated that such controls should reside with the user, not the technician. He explained that water taste and quality preferences vary, and consumers should be able to regulate TDS based on their taste - ideally within the range of 30 to 120 ppm- through a mobile application. This kind of personalized control, according to him, enhances trust and transparency in the product and the brand. He suggested that app-based TDS regulation and dispensing volume control are examples of features that not only improve convenience but also empower users by placing operational control in their hands. Mr. Chhabra pointed out that while technician training, as highlighted earlier by Mr. Varun Tandon in reference to apprenticeships, is important, user autonomy ensures a safeguard against potential misguidance by undertrained personnel. In conclusion, Mr. Chhabra reiterated that IoTfy's connected solutions are designed to enable smarter, more transparent, and user-centric experiences in the water purification segment, ultimately supporting safer water and greater customer satisfaction.

Mr. Arpit Chhabra highlighted the key benefits of connected water purifiers for brands, including direct engagement with end-users, contextual upselling, predictive maintenance, and integration with CRM systems. He emphasized how insights into regional water quality trends - like varying TDS levels - can guide product recommendations and marketing strategies. For example, areas with TDS above 1500 ppm may require different purifier configurations compared to areas with 200-250 ppm. With a deployed base of over 4.5 lakh connected devices, Mr. Chhabra also shared future innovations such as app-based TDS control, improved water recovery, personalized water experiences, and voice control integration.

During Q&A, Mr. Himanshu Budhia raised a concern about giving TDS control to consumers, warning it might dilute manufacturer expertise and pose risks in case of health issues. Mr. Chhabra clarified that consumer control would be limited within safe, pre-defined guidelines set by manufacturers, maintaining safety while allowing some customization. He noted that service technicians already tweak TDS for taste, and empowering users slightly within bounds could enhance satisfaction and reduce service costs.

Another question raised the issue of resource efficiency as IoT scales, comparing it to the earlier rise of RO systems and water wastage concerns. Mr. Chhabra responded that responsible IoT use is key, advocating for event-based data logging rather than time-based, especially since water purifiers often generate low, stagnant data. Lightweight AI models on the device detect meaningful events before syncing with the cloud, thus conserving memory and bandwidth. He reiterated that user data remains with the brand, and users have full control to delete their data if needed.

Mr. Chandrasekhar thanked Mr. Chhabra for his insightful presentation. Mr. Utkarsh Gautam was then invited to present a token of appreciation and felicitate Mr. Arpit Chhabra on behalf of the organizing committee.

Mr. P.K. Mishra presented Key Provisions and Enforcement Strategies for the Water Purification System Rules, 2023. He is a consultant and former Director, Water Quality Management Division, CPCB, delivered a concise presentation on the key provisions of the Water Purification System Rules 2023, focusing on reject water waste management. He outlined the CPCB's role as the central authority responsible for pollution prevention and monitoring under various environmental laws, with oversight of national water and air quality networks. The genesis of the regulation was traced to directives from the Hon'ble NGT (2019) and Supreme Court, leading to the Ministry of Environment, Forest and Climate Change (MoEF&CC) notifying the final regulation in November 2023. These rules assign specific responsibilities to manufacturers, CPCB, SPCBs/PCCs, BIS, and water supply agencies. Notably, CPCB is tasked with issuing guidelines for storage, utilization, and disposal of rejected water, especially from RO systems, which produce highly concentrated wastewater.

Key provisions include mandatory BIS certification (IS 16240) for all domestic water purification systems post-rule enforcement, and regulation of discarded elements under existing waste management rules (Plastic, E-waste, Hazardous Waste). Manufacturers must submit annual compliance reports to SPCBs by 30th November, which will be forwarded to CPCB and then MoEF&CC. For commercial/industrial systems, CPCB is the nodal agency for issuing authorizations, ensuring compliance with environmental laws, and mandating consent to operate and registration under relevant waste management rules. Water supply agencies (e.g., Jal Nigam, municipal bodies) must disclose water source and TDS levels through billing systems and public awareness channels. CPCB and SPCBs will monitor implementation and promote public awareness on these provisions.

WATER QUALITY INDIA ASSOCIATION
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During the Q&A session, Dr. Neeraj raised a query regarding the sale of RO units without BIS certification and the actions taken by CPCB. In response, Mr. P.K. Mishra clarified that since the Water Purification System Rules 2023 were only recently enforced (from November 2023), the State Pollution Control Boards (SPCBs) have been entrusted with enforcement responsibilities. He emphasized that units without BIS certification cannot be sold, and mechanisms for action against violators are being established in coordination with SPCBs.

Mr. Redhu followed up by asking whether CPCB, like BIS, has a structured system to address such violations. Mr. Mishra responded that actions against violators will be taken under provisions of the Water Act and Environment (Protection) Act, similar to existing enforcement practices. He assured us that CPCB's grievance redressal mechanisms - such as online grievance portals - are available for consumers to report non-compliant products. The exact protocol for enforcement and consumer complaints is under finalization but will align with CPCB's regulatory mandate.

Mr. Budhia asked how commercial water purification systems are defined under the new rules. In response, Mr. P.K. Mishra stated that, as per the notification, any system with a flow rate exceeding 50 liters per hour is categorized as a commercial unit and is subject to specific compliance and authorization requirements under regulations.

Dr. Neeraj Gupta raised critical concern regarding low BIS certification uptake, noting that only 86 manufacturers have been licensed under IS 16240, despite thousands operating in the market. He highlighted the pressure on compliant manufacturers and urged CPCB to expedite enforcement and reinforce credibility of the standard. The session concluded with Ms. Pushpa Joshi presenting a token of appreciation to Mr. P.K. Mishra on behalf of the Water Quality India Association for his valuable insights and contributions.

Mr. Sunil Trivedi announced the formation of new sub-committees. He outlined the scope of work, roles, and responsibilities for each sub-committee and encouraged members to volunteer for participation. Meeting attendees expressed interest and submitted their names to join the sub-committees.

The sub-committees announced are as follows:

- Regulatory Affairs Committee
- Membership Committee
- Public Relations Committee
- Standards Committee
- Education Committee
- Liaison Committee

The meeting concluded with a vote of thanks delivered by Dr. Suresh Sisodia. An announcement was also made regarding the next WQIA General Body Meeting either in Chennai or Mumbai in the month of February, 2026.

Action Items:

- Sub-Committee's Engagement
- WQIA New Website
- Work with Water Management & Plumbing Skill Council (WMPSC)
- How we will engage with the National Water Mission and its Objectives
- Work with Trade Shows

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