





## INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

The International Association of Plumbing and Mechanical Officials (IAPMO®) was founded on May 17, 1926, with the mandate “to advance the latest and most improved methods of sanitation; to promote the welfare of and harmony between the owner, the builder, and the craftsman; to accomplish a uniformity in the application of the provisions of the ordinances; and to promulgate the mutual benefit of the members.”

The IAPMO Group focuses its comprehensive capabilities in the technical aspects of the plumbing and mechanical industries through its extensive knowledge base, which includes regulators, professional contractors and manufacturers.

Comprised additionally of six different business units, The IAPMO Group is truly the one-stop shop for all plumbing and mechanical code and product compliance.



## INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS – INDIA

The International Association of Plumbing and Mechanical Officials (IAPMO) has a strong cooperative presence in the nation of India and partnered with the Indian Plumbing Association (IPA) to develop a *Uniform Plumbing Code®* for the nation.

The registrar of companies of India approved the establishment of IAPMO Plumbing Codes and Standards India Private Limited, to be known as IAPMO-India. IAPMO and the IPA, both members of the World Plumbing Council (WPC), agreed upon a comprehensive plan to work together to establish a model code of plumbing installation and maintenance for all of India, the *Uniform Plumbing Code® – India*. The IPA Code committee worked with IAPMO staff in creating a document that recognized and utilized proven international concepts, always taking into consideration the proven plumbing practices within India.



## THE INDIAN PLUMBING ASSOCIATION

The Indian Plumbing Association (IPA), established in 1993, is the apex body of plumbing professionals in the country. Set up with an objective to promote advancements in plumbing and the building service industry, IPA has successfully created a forum for exchange of ideas and dissemination of information amongst its members. As a member of the World Plumbing Council, it encourages its members to achieve and maintain high standards of workmanship.

IPA's membership includes architects, builders, plumbing consultants, plumbing contractors, plumbing product manufacturers, traders and planners. IPA also conducts conferences and exhibitions throughout India and publishes the monthly magazine *Indian Plumbing Today*.

The idea is to make local plumbing professionals aware of issues, problems and prospects in the industry. IPA has succeeded in creating awareness about the need for safe plumbing, and is now ready to assist the Indian professionals with improving their skills and expertise.



# Sudhakaran Nair

President, Indian Plumbing Association

Since 2006, when the IPA-IAPMO collaboration began in India, five codes, specially created for the Indian Plumbing Industry, have been published. This is indeed a first for any organization associated with the construction field in the country. An updated version of the flagship code – Uniform Plumbing Code-India (UPC-I)–was released within just three years after publication of the first version in 2008, again an unprecedented achievement.

We have recently witnessed the establishment of testing and certification facilities for plumbing products for use in the Indian market through the IAPMO-Intertek partnership, with IPA performing a supporting role. Thirty educational and vocational training institutions have so far partnered with IAPMO and IPA on the Plumbing Education to Employment Programme (PEEP).

Mere statistics cannot adequately express the impact that this partnership has made in the plumbing profession in the country within a short period of seven years! This would not have become a reality but for the sense of purpose and wholehearted commitment the two organizations have shared.

On behalf of all my colleagues at IPA and on my personal behalf, I sincerely thank my IAPMO-USA and IAPMO-India colleagues for joining hands with IPA in our pursuit to improve plumbing standards in India and to bring the recognition due to our profession. I look forward to many more years of our rewarding partnership.



# Megan Lehtonen

Vice President of International  
Business Development

Since its inception in 2006, IAPMO Plumbing Codes and Standards India Private Limited has worked extensively to lay the groundwork necessary to become one of the most respected and reputable organizations in the industry. The relationships made through the development of codes and training for the plumbing and mechanical industry have driven IAPMO-India into the perfect position to offer elite services for the better of the industry, and the better of India at large. As much as ever before, we take our hats off to the Indian Plumbing Association (IPA,) led by Sudhakaran Nair, for its unprecedented dedication and passion that continues to keep India at the forefront of the industry around the globe.

We celebrate many major accomplishments this year – with major manufacturers coming forward to get their products tested and certified to ensure product conformance. What could be more important for products that deliver our world's most valuable resource? IAPMO-India's Conformity Assessment business is ready to change the plumbing marketplace throughout the country by focusing on the health and safety of plumbing products. Plumbing and mechanical manufacturers finally have third-party testing available to ensure their products are tested and certified to international standards for the health and safety of all throughout India.

Water. We have to continue to fight to conserve, protect, and reuse water in every way possible for generations to come. We are dedicated to this mission, through comprehensive training and industry development of proper codes and standards. Water Efficient Products – India (WEPI) is sure to make a major impact and will influence the purchasing decisions of consumers as they become more and more likely to buy plumbing products that have three stars for best efficiency. WEPI is an essential program to protect our most precious dwindling resource. Our Water Auditing Service will also begin to reduce water use across India – with one of our clients, ITC Hotels, leading the way to ensure their properties are as efficient as possible!

The accomplishments of this past year, and the new relationships formed, are a testament to our continuing dedication – and we now set our sights on 2014, looking forward to our most impactful footprint yet!



## Neeta Sharma

### TARGETING EDUCATIONAL INSTITUTES

to add our education programs to their curriculum continued at a dedicated pace through 2013. We are interacting with various universities to approve our programs so that colleges under them can easily adopt them. Builders and developers have a huge demand for trained personnel and certified materials, too. We offer them customized training programs of short duration.

Our Mechanical Education to Employment Program (MEEP) launched and two educational Institutes are already running at full pace. Various options of having alliance with NSDC on a number of short term courses in HVAC&R have also been initiated.

Proposals to Kerala Water Authority (KWA) are in the advanced stage of their approvals from the government. KWA will train their plumbers and professionals in the Trivandrum region from 2014 onward. This model can then be extended to other states. We are also having close discussions with Ministry of Drinking Water to be a key resource center for training of PHEs and plumbers across India and to promote third party certified labelled water appliances. This will surely provide headway to tackle concerns of water conservation, thereby our standard on Water Labelling, WEPI, finds its due credit and acknowledgement by the government and professionals; more so when there is no national standard available on water-labelled appliances (similar to star-rated electric appliances).

As "Green Buildings" or "Environmental Buildings" are designed to conserve water, electricity, and energy apart from the use of recycled material in construction, we now aim to be empanelled by IGBC or any other ministry, for education programmes, use of star label water appliances and third party inspection of buildings certified Green for plumbing, HVAC and refrigeration. Approval of IAPMO-India, as an inspection body for Infrastructure Projects-Plumbing and HVAC&R by NABCB, QCI comes as a huge advantage and assurance to various stakeholders to be sure of a continued and sustainable Green product.

Certification is the ultimate tool/indicator of acceptance of our standards. All of our efforts were also focused on getting as many manufacturers to accept our scheme as possible. Through discussions with our stakeholders, various issues were created out. With the support of the whole team, we are sure to take big leap in this area. With global and Indian manufacturers having become listed, the marketplace will soon see a good size sample of efficient products, tested for performance and efficiency.

Government of Kerala has decided to introduce the Additional Skill Acquisition Programme (ASAP) in selected government schools and government colleges in the state, with the objective of improving the employability of students in schools and colleges by imparting skill training to them in identified areas and as per the industry requirements. The signing of an MoU with them for imparting Plumbing Apprentice Program (PAP) is one step ahead toward our contribution to society at large, not only as a benefit to the society by way of generating the employability of the youth, but also by filling a huge gap of skilled manpower in the construction industry.



# Subhash Deshpande

## MY DEAR COLLEAGUES,

Though this is supposed to be the review of the year 2013, I think it's appropriate to review IAPMO-India's crusade to date, and you will shortly note why.

Mr. S.G. Deolalikar, my guru, founded the India Plumbing Association (IPA) in 1993 with a few like-minded people, including me. I had the opportunity to be the chairman of the Pune chapter. In 2006, Mr. Sudhakaran Nair took over as President of IPA. It was his vision that brought IAPMO to India. It was a privilege for me to be part of the first technical committee to review and develop the first international code in plumbing for India, that is, the 2008 *Uniform Plumbing Code-India (UPC-I)*.

Recognizing the dire need for formal education and training in plumbing in India, Mr. Deolalikar founded the Indian Institute of Plumbing (IIP), an educational arm of IPA. I volunteered to be one of the trustees of the IIP trust.

The third important event was when I received the World Plumbing Trainer's scholarship in 2007. I visited Australia to study the system of plumbing education there.

In 2008, the Plumbing Lab at the College of Engineering Pune (COEP) was inaugurated. It was a joint venture of IPA and COEP and I

enjoyed the complete support of IPA's Executive Committee in developing the lab with my colleagues.

These four events brought me to the forefront of the plumbing industry and offered me the unique opportunity to work with IAPMO-India as director of plumbing. I was the first director of plumbing. IAPMO-India was at the inception stage and the future was promising.

Soon after joining IAPMO-India, I was instrumental in developing the outline, curriculum and course material for short term education courses, namely Plumbing System Design and Plumbing Construction Management under the IPA-IAPMO's popular Plumbing Education to Employment Program (PEEP). These courses are based on the *UPC-I*.

IPA provided a wide platform to popularize PEEP and now we have more than 30 PEEP partners. The first three Train-the-Trainer programs were held by Tim Collings and me. Today, we have more than 200 trained trainers.

In 2009, Megan Lehtonen visited India and IPA was more than glad to adopt the Green Plumbers India (GPI) program for India. I was fortunate to work with Douglas Kirk to initiate the program. The GPI training and accreditation workshops are held in many cities in India and we have to our credit more than 200 Green Plumbers Accredited Specialists.

Developing the training material and training the people was not the only activity on our agenda.

# DIRECTOR PLUMBING

The other IAPMO codes were constantly being reviewed and adopted by IPA. To date, the following codes are jointly published by IPA and IAPMO-India, with the year of publishing.

- *Uniform Plumbing Code-India* 2008, 2011
- *Green Plumbing Code Supplement-India* 2010, 2013
- *Uniform Swimming Pool Code-India* 2011
- *Water Efficient Products-India* 2011, 2013
- *Uniform Solar Energy Code-India* 2012

To popularize the codes and to bring general awareness about the code-based designs and installations, IAPMO-India participated in many conferences, seminars, exhibitions, workshops and meetings of many government departments, organizations and associations.

On one hand, India had reputed plumbing codes, code-based designs and high quality plumbing materials available from local and international markets. What was missing was well trained plumbers who could assure the quality and workmanship in plumbing installations. The much-awaited Plumbing Technology Program (PTP) saw the light in 2010. Since then, thousands of aspiring plumbers and plumbers already in the trade have successfully attended the course. These certified Apprentice Plumbers are enjoying a better standard of living while ensuring health and safety of people through good plumbing.

Considering my passion, devotion and the training experience in India and abroad, today, I am popularly known as "Plumb-Acharya." But behind that is the strong support of dedicated team of IAPMO, comprised of Abdul Matheen, Swathi Saralaya, Ranjini Venugopal, Radhika Deolekar, Anjali Singh, Vanitha Honnurappa and Sherard Jones.

Russ Chaney, Allen Inlow and Megan Lehtonen were always encouraging. Allen once told me, "Subhash, all of us here are writing history. Don't get discouraged with the slow initial

response. One day people will recall who started good plumbing in India." His words moved me.

As the years passed, it was necessary for IAPMO-India to step out of the circle and broaden its role within the country. This year, Neeta Sharma joined us as the managing director and is doing a marvellous job in establishing good relations with hundreds of ministries, organizations and associations. She has initiated many new activities on behalf of IAPMO-India. With her dynamic leadership, IAPMO-India is sure to raise its bar soon.

Friends and colleagues, I retire this month to pursue my hobby of water colour painting. On this, S.G. Deolalikar wrote: "Early retirement suits your personality. But maintain the friendship with all in this trade, though you may be working in a very different subject." I promise that to everyone and leave with great satisfaction and gratitude towards my industry colleagues for their continued support.



## Abdul Matheen

### AIR CONDITIONING CONSUMES NEARLY

**25% TO 30%** of the world's total energy and a major contribution can be made by this industry toward reducing global warming. Global estimates indicate, residential, commercial and industrial air conditioning worldwide consumes more than one trillion kilowatt-hours of electricity annually. Vehicle air conditioners in the United States alone use 7 to 10 billion gallons of gasoline annually. And thanks largely to demand in warmer regions, it is possible that world consumption of energy for cooling could explode tenfold by 2050, giving climate change an unwelcome dose of extra momentum.

The world today is talking about moving from green buildings to zero energy buildings or carbon neutral buildings. Even though India has set the tone for this second green revolution by introducing mandatory EIA studies for large project initiatives by BEE, it is important to involve the entire asset of one billion people and lead the world. India is witnessing tremendous growth in infrastructure development. The construction industry in India is one of the largest economic activities undoubtedly, calling for increased use of natural resources such as energy, water and materials, which in turn would aggravate the global concern of carbon emissions and their impact on the quality of life. The construction sector therefore needs to play a responsible role toward preservation of the environment.

It is encouraging to learn that environmental concerns and issues are gaining due prominence, which is indeed a healthy sign and augurs well for the future. Sensitivity and level of awareness on issues pertaining to "Planet Earth" are on the rise. It is heartening that customers are demanding energy efficient and eco-friendly products and technologies, which in turn have facilitated the market transformation of "Green" buildings, and the demand for water and energy efficient products is on the rise.

IAPMO-India was initiated amid robust growth of the Indian building industry, mainly bolstered by the greater demand for the development of safe, sustainable and energy efficient codes, standards and guidelines. With the support and participation from the Industry, academia, allied organizations, international and national experts, IAPMO-India has come a long way in accomplishing its objectives to develop industry specific standards/codes and code-based education & certification programs in India.

The year 2013 was challenging and successful for IAPMO-India (Mechanical) in launching various initiatives in code development and code-based education to employment programs for the benefit of industry and society at large. The commencement of the Product Performance Certification Program for testing and certifying the energy performance of mechanical HVAC-R products in July 2013 has opened up new dimensions toward building an energy efficient India, besides water efficient initiatives.

# DIRECTOR MECHANICAL

IAPMO-India has a great role to play in nation building; the best and most selective way is to introduce the cutting-edge concept of MEEP (Mechanical Education to Employment Program) training to the university youths at the entry level of the industry in order to tackle the impending shortage of knowledge workers. This strategy will provide outgoing graduates or diploma holders to have dual-certification. This will mitigate the existing shortfall of trained professionals at entry level for which companies today have spent a lot. IAPMO-India has achieved wonders in plumbing education and now offers mechanical education systems to Indian citizens. MEEP graduates of the multi-level education programs created will be given the option of obtaining professionally qualified certifications with the following credentials:

- Mechanical Managers (MM) Academic program
- Mechanical Supervisors (MS) Academic program
- Mechanical Technicians (MT) Academic program

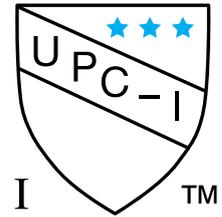
## **Short-Term Programs:**

- Certificate Course in Basic Refrigeration & Air Conditioning.
- Certificate Course in Repair & Maintenance of Refrigerators & Deep Freezer.
- Certificate Course in Repair & Maintenance of Water Cooler & Bottle Cooler.
- Certificate Course in Repair & Maintenance of Air Conditioner.
- Certificate Course in Repair & Maintenance of Car Air-Conditioning Unit.
- Certificate Course in Servicing & Maintenance of Air Conditioning Plants.
- Certificate Course in Installation and Commissioning of District Cooling Systems.
- Certificate Course in Mechanical HVAC-R Installation, Testing and Commissioning Technicians.
- Certificate Course in Mechanical HVAC-R Sales Technicians.

Our initiatives with Ministry of Rural Development (MoRD) as a "Program Implementing Authority" (PIA) for implementation of MEEP and PEEP programs across the state of Karnataka, followed by Rajasthan State, seek to educate 5 million students over 10 years each. IAPMO-India is optimistic about playing a responsible role towards preservation of the environment and building an energy efficient India.



## Charles Gross



## IAPMO-INDIA'S PRODUCT CERTIFICATION

program is based on standard ISO/IEC 17065, whereby products are certified to their performance standard and to the *Uniform Plumbing Code - India (UPC-I)*.

Although it was in 2007 that IAPMO-India formally established a successful partnership with the Indian Plumbing Association (IPA), it was a year earlier that IAPMO began its work in India and its partnership with the IPA, joining forces to develop the first India plumbing code, namely the *Uniform Plumbing Code - India (UPC-I)* in 2008. This 2008 UPC-I subsequently underwent updating to its current version, the 2011 UPC-I, which is now again undergoing review for the upcoming *2014 Uniform Illustrated Plumbing Code - India (UIPC-I)*.

In addition to the *UPC-I*, IAPMO-India and the IPA continued to work together to develop and update other related and complementing industry codes on a three-year cycle, namely the *2013 Green Plumbing Code Supplement - India (GPCS-I)*, *2012 Uniform Solar Energy Code - India (USEC-I)*, *2011 Uniform Swimming Pool Code - India (UPSC-I)*, and last but not least, the water efficiency plumbing fixture rating specification, *2013 Water Efficient Products India (WEP-I)*.

IAPMO India and the IPA didn't stop their joint efforts on development of plumbing-related codes, but instead continued working jointly to design and help initiate plumbing training and educational programs (now in session) throughout India for designers, contractors, students and engineers.

Similarly, IAPMO India worked with the upper hierarchy of ISHRAE (Indian Society of Heating, Refrigerating and Air Conditioning Engineers, <http://www.ishrae.in>), to develop the first ever *2012 Uniform Mechanical Code - India (UMC-I)*, primarily for heating and cooling products that are conventionally used within mechanical systems.

IAPMO India's codes, when coupled with industrial plumbing product performance standards (especially those standards cited in each respective code), help manufacturers to test their products at an IAPMO-recognized laboratory, such as Intertek Laboratory, for the subsequent IAPMO-India certification of their products. During 2013, four new *UPC-I* product certifications and one new *WEP-I* product certification were added to IAPMO-India's product listing directory website (at <http://www.iapmoindia.org/Pages/pld.aspx>) as follows:

- ASTRAL Poly Technik Limited (*UPC-I*, CPVC Hot & Cold Water Pipe & Fittings),
- Kohler India Corp. Pvt. Ltd. (*UPC-I*, Dual Flush Water Closets),
- Kohler India Corp. Pvt. Ltd. (*WEP-I*, Water Efficient Toilets),

- Superflo Private Limited (*UPC-I*, Anti-Siphon Fill Valves),
- Superflo Private Limited (*UPC-I*, Dual Flush Valves).

These five new certifications raised the total listings to nine on IAPMO India's product listing directory website at <http://www.iapmoindia.org/Pages/pld.aspx>, where all listings can be viewed for their specific models and respective descriptions. Within the first months of 2014, we're expecting the addition of at least one new *UPC-I* and one new *WEP-I* product certification, which will further raise the total listings from nine to 11.

The upcoming new *UPC-I*/*WEP-I* listings, along with the current *UPC-I*/*WEP-I* listings, manifest the industry's concern, contribution, support and production for enhanced sustainable water conservation products and measures in order for India's society to harness *UPC-I* compliant and certified plumbing fixtures that enhance society's safety and welfare. This increased awareness for water conserving products is one of the reasons that Intertek India Pvt Ltd (one of IAPMO's recognized laboratories) announced the construction of its plumbing test laboratory in Delhi for service beginning in July 2014, especially for *WEP-I* related products, i.e., faucet aerators, faucet flow restrictors, high efficiency flushing devices for urinals, low flow urinals, low flow toilets, etc.

The latest 2013 *WEP-I* version was revised from its 2011 version earlier this year and was subsequently just released to the industry during the recent IGBC Conference last October 2013, as was the 2013 *Green Plumbing Code Supplement - India (GPCS-I)* at the World Plumbing Council meeting last November 2013. Within the new 2013 *WEP-I* specification are supporting statements from such Green ratings organizations as ADaRSH (part of GRIHA, Green Rating for Integrated Habitat Assessment), and IGBC, respectively as follows:

***"We highly appreciate IAPMO India's certification of water efficient/ low flow plumbing fixtures and appliances through WEP-I. ADaRSH lays considerable emphasis on water efficiency and minimum 25% saving with respect to base case is mandatory for projects. ADaRSH and IAPMO-India together serve the cause of water efficiency, which is so critical in today's world"***

*Mr. R S Prasad, member, ADaRSH (Association for Development and Research of Sustainable Habitats)*

***"We support IAPMO-India's certification of water efficient/ low flow plumbing fixtures and appliances, such as faucets, showers, urinals, water closets, ablution sprays, clothes washers, dish washers, etc., which will certainly help in saving water to the tune of minimum 25%."***

*Mr. Gurmit Singh, vice chairman, Mumbai chapter, IGBC (Indian Green Building Council) executive council member, IGBC founding member.*

Needless to say that as each day goes by awareness grows for the installation and use of more certified water efficient products to the 2013 *WEP-I* specification. Using these types of products will help promote enhanced sustainable water conservation measures throughout India. As a result of these current and future new *WEP-I* listings, architects, consumers, contractors, engineers, plumbing instructors, plumbing designers, and inspectors alike now are and will continue, to be assured that these listed products comply with every standard and code governing their use throughout India.

# DIRECTOR OF INDIA PRODUCT CERTIFICATION

There's never been a better time than today to join other manufacturers in marketing your products within India's rapidly emerging market via IAPMO-India's product listing program. Your IAPMO-India certified products help give all society a greater level of assurance and confidence that installing and using these certified products helps protect the public's health, welfare, and safety as compared to the general uncertainties that exist in the use of unlisted products.

Now that you see where we started and the progress we are making with our product certification services, we kindly ask for your continued trust and opportunities to serve your entire product certification needs, as we're continually thinking of new ways to further enhance our services in an effort to serve you even better. Please contact us or peruse IAPMO-India's website and its product certification programs at <http://www.iapmoindia.org> for further details.



# Look for the Mark, DISCOVER THE VALUE



Uniform Plumbing Code – India (UPC-I)



Green Product listing to Water Efficient Products – India (WEP-I), Green Plumbing Code Supplement – India (GPCS-I), and Uniform Plumbing Code – India (UPC-I)



Uniform Mechanical Code – India (UMC-I)



Uniform Solar Energy Code – India (USEC-I)



Uniform Swimming Pool Code – India (USPC-I)



Green Product listings to the Green Plumbing Code Supplement – India (GPCS-I) and product code

*UPC-I, WEP-I, USEC-I, USPC-I and GPCS-I are jointly published by IPA and IAPMO India*

IAPMO India offers convenient, one-stop shop service and product marks of conformity that open doors and eliminate doubts.

The above marks can only be issued by IAPMO India, and IAPMO, the Global leader and the industry's premier choice for plumbing certification for over 45 years.

## Five simple steps to list your products through IAPMO India



**Intertek**

Valued Quality. Delivered.



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For a complete list of our services, please visit [www.iapmoindia.org](http://www.iapmoindia.org),  
or call +91 80 30714500 (India),  
or 909-472-4136 (USA), [charles.gross@iapmo.org](mailto:charles.gross@iapmo.org)

# News of the Year 2013

## Training for Public Works Department at Pune

World Plumbing Day (WPD) is an international event celebrated every March 11 everywhere. Initiated by the World Plumbing Council, the day is celebrated to highlight the important role plumbing plays in the health and safety of people.

WPD was celebrated by the IPA Pune chapter by organizing a meeting with the Public Works Department. More than 200 junior and senior engineers attended.



*L) The audience at WPD celebration. (R) Sitting on the dais: Mr. Nitish Phansalkar, Mr. Subhash Deshpande, Mr. Ugile, chief engineer, and others.*

Mr. Subhash Deshpande, director of plumbing, IAPMO-India, enlightened the audience with the importance of plumbing and an introduction to the *UPC-I*.

## MoU with IBSI, Pune

Pune is known as an Oxford of India. The Institute of Building Services (India) Pvt. Ltd. (IBSI), Pune, on World Plumbing Day entered in the field of plumbing education by signing the MoU with IPA and IAPMO-India for the Plumbing Construction Management (PCM) Program under PEEP.

The MoU signing ceremony was held at Hotel Pride, Pune on March 11, 2013. The MoU was signed by Nitish Phansalkar, chairman, IPA Pune Chapter, Subhash Deshpande, director of plumbing, IAPMO-India, and Salil Karkhanis and Rahul Dhadphale, both director IBSI. After the signing ceremony, Rahul Dhadphale made a presentation on IBSI and explained to the audience about the proposed activities of IBSI.



*Subhash Deshpande, Nitish Phansalkar and Salil Karkhanis with the signed MoU.*

# PLUMBING EDUCATION TO EMPLOYMENT PROGRAMME (PEEP)

Institute of Building Services (India) Pvt. Ltd. Pune is a unique education institution in the sense that every one of the members of the IBSI team are well qualified and experienced, most of them already familiar with the *UPC-I*. At the same time, it was essential for IBSI's proposed trainers to undergo the Train-the-Trainers Program.

The three-day Train-the-Trainers (TTT) Program was successfully conducted for six trainers of IBSI at COEP, Pune, on April 8 – 9, 2013.



*Subhash Deshpande and Nitish Phansalkar awarding a certificate to Salil Karkhanis.*



*Trainers of IBSI at COEP along with Subhash Deshpande.*

## **Unforgettable visit to Yamgarwadi**

Subhash Deshpande visited Yamgarwadi near Solapur on April 14, 2013, to inaugurate the first Trained Apprentice Program (TAP) batch of IIEDR there. With a 15-hour drive, it was quite a hectic day, but at the same time worth the trip.

Yamgarwadi is a very dry area, with almost no rains, and a river that flows fewer than 25 days in a year. There is no agriculture or industry to provide jobs. The school providing the TAP course is located on 18 acres of land and provides residential education up to the 10th standard to the children of Bhatke and Vimukta society.



*Students of the first batch.*



*Subhash Deshpande giving his inaugural speech.*

This is the first time that a skill development program for self employment is being offered at the school. All students are 10th/12th standard pass. They all belong to tribal casts such as *Pardhi, Bahurupi, Gondhali, Lamani, Vanjari, Kolhati, Nath Jogi, Wadar, Kaikadi, Smashan Jogi*, etc. These tribes are known as criminals, mainly thieves, and their parents are generally on "wanted" lists. That is why they never stay at one place. They do not have voting cards or any identity showing that they are residents of India. They have 48 dialects and many do not understand even Marathi or Hindi. To bring them together, much less for education, was a huge challenge and a social cause achieved by IIEDR.



*School at the barren land*



*Inaugural 'pooja' of plumbing products*

The batch of 20 was inaugurated at the hands of Subhash Deshpande in the presence of Subhash Inamdar, director, IIEDR. Mr. Deshpande was very glad to address the students and motivate them for skill development and a clear, legal career in the much neglected subject, plumbing.

## **Green Plumbers India Program**

Green Plumbers India (GPI) is a training and accreditation program of IAPMO-India and IPA to assist individuals and plumbing professionals in understanding their role in protecting the environment and public health through green plumbing practices.

A GPI workshop was held on July 5 – 7, 2013 (Friday till Sunday) at Pune. It was conducted by Mr. Subhash Deshpande, GPI's head trainer.

The workshop was attended by some existing Green Plumbers Accredited Trainers (GPATs) and GPIASs besides some fresh delegates who are attracted to this new career path, namely Green Plumbing. They came from Delhi, Mumbai, Nasik, Dhule, Kolhapur, Goa, Ahmadabad, Bengaluru, Coimbatore and Pune.



*The GPI delegates at Pune with the trainer, Mr. Subhash Deshpande.*



*Nitish Phansalkar, SG Deolalikar, Subhash Deshpande and Neeta Sharma.*

Mr. S.G. Deolalikar's dynamic presence along with Mr. Nitish Phansalkar, chairman, IPA Pune Chapter, graced the concluding session. Interacting with Mr. Deolalikar in person was a great opportunity for all. Mr. Deolalikar also stressed the need for water and energy

conservation and was happy to answer any and all questions coming from the delegates. He advised them to practice what they have learned in the previous three days that will benefit them, their clients and also the planet Earth.

## Seminar at BAI Sangli Centre

Builders' Association of India, Sangli Centre, held a seminar on "Plumbing in High-rise Buildings" on June 18, 2013, at Sangli. Mr. Subhash Deshpande, director of plumbing, IAPMO-India, was the chief guest and speaker. Mr. Mohan Bhate, MCGC Member, Sunil Kokitkar, chairman, and Sarang Kulkarni, secretary, were on the dais.



*The BAI seminar at Sangli in progress.*

The seminar was attended by more than 150 delegates comprised of members of BAI Sangli Centre, CREDAI India Sangli Centre, and Plumbers Association, Sangli. It was thus a unique gathering of owners, designers and installers. Mr. Subhash Deshpande in his 90-minute presentation informed about the *UPC-I* stressed upon the need for code-based plumbing designs and installations. He also informed about the plumbing education courses now made available by the Indian Plumbing Association and IAPMO India.

## IPA Nasik Chapter

On the occasion of World Environment Day IPA Nasik Chapter held a seminar on "Hot water Generation & Distribution for Green Buildings" on June 5, 2013. Mr. Subhash Deshpande, director of plumbing, IAPMO-India, was the

keynote speaker. Mr. Anant Rajegaonkar, president, CREDAI, was the chief guest.



*Subhash Deshpande delivering the address.*

Mr. Deshpande in his speech covered the topic in detail, emphasizing the need to conserve water and energy both during heating and distribution of hot water. Hot water is a very sensitive and crucial subject in plumbing, he said. He elaborated on topics such as quality of water, temperature controls, expansion of hot water, losses during waiting for hot water to arrive, insulation requirements, etc., with references to the provisions in the *UPC-I*.



*The delegates at Nasik.*

The seminar was attended by a large gathering of developer/builders and the plumbers who actively participated in the interaction.

## AROUND THE PLUMBING INDUSTRY:

### National Bureau of Water Use Efficiency

A National Bureau of Water Efficiency is being set up by the Ministry of Water Resources, Government of India. Indian Environment Law Offices (IELO) has been involved in developing a framework for the bureau from the legal, regulatory and institutional standpoint, with the focus on industry, commercial, domestic and urban sectors (ICDU).



Roundtable in progress.

This independent study was comprised of desk and field consultations with industry, government and non-government in four states of Maharashtra, Chhattisgarh, Meghalaya, Himachal Pradesh, in order to come up with a national framework on water use efficiency so as to supplement the efforts of the government to bring about systemic efficiency in all water intensive sectors.

An outcome of this study is a *Model National Framework on Water Use Efficiency* (ICDU) consisting of a set of general principles and legal options for setting up a National Institution on Water Use Efficiency.

Toward this objective, a National Roundtable to discuss the model framework was organized by IELO on Feb. 27, 2013, at India Habitat Centre, New Delhi. Mr. Subhash Deshpande, director of Plumbing, IAPMO-India, attended the roundtable representing both IAPMO-India and IPA, and participated in the deliberations.

Mr. Shashi Shekhar, additional secretary, Ministry of Environment and Forest (MoEF), assured that the Bureau will be established immediately under the Environment Protection Act (EPA). He compared the Bureau with Bureau of Energy Efficiency (BEE), which focused on four points, namely: awareness, self regulation, labelling and mandate.

### Seminar on Chapter 11 of NBC 2005

A seminar on New Chapter on Sustainability in the National Building Code of India 2005 was organized jointly by Bureau of Indian Standards (BIS), New Delhi, and School of Planning and Architecture, New Delhi, on March 5, 2013.

The National Building Code of India 2005 (NBC 2005) is a prestigious publication of BIS. In order to fulfil the need for highlighting the provisions for sustainability and providing the treatment thereof in a further comprehensive manner, a new chapter, namely *Part 11 Approach to Sustainability*, is being brought out, a draft of the same has already been prepared and is currently under wide circulation for eliciting public comments.

Neeta Sharma and Subhash Deshpande of IAPMO India and MK Gupta and SK Duggal of IPA attended the conference.

### Municipalika 2013

Municipalika 2013 – International Conference and Exhibition was held at Delhi March 13-15, 2013, with participation of more than 850 delegates from 112 cities of India, from mega and metro cities, small and medium towns, represented by mayors, municipal commissioners, local self government, urban development, housing and infrastructure development departments, professionals, technology and service providers, and academia, etc. Ms. Neeta Sharma, MD, IAPMO-India, attended.

# CII-USAID Workshop at Pune



Ms. Neeta Sharma at CII-USAID workshop at Pune.

On June 7, 2013, Neeta Sharma and Subhash Deshpande attended a CII-USAID workshop on “Promoting Water Use Efficiency in Industry and building to Address Climate Change” held at Pune. Neeta made a presentation on WEPI and stressed participation of all stakeholders. In the conclusion and recommendation document, the IAPMO India team referred to UPC-I and WEPI. Ms. Sharma was invited to participate on the CII committee working on the subject.

## Continued education at Hiranandani

Mr. Kishor Suplekar, senior project engineer of Hiranandani Constructions, informed that since signing the MoU for PEEP on May 15, 2009, his company regularly offers six monthly trainings to new and existing staff based on PCM curriculum. This is a regular effort by the management toward improving plumbing practices and following the codes to the extent possible. Mr. Suplekar, under the guidance of Mr. Cyrus Pithawalla, also circulates the bullet points of PEEP training to his staff for incorporating in the initial designs and final installations. The following pictures show some of the installations done following the training module.

Mr. Suplekar, however, regretted that though they would like to adopt UPC-I, many fittings are not available in India. In fact, this is a common complaint by many plumbing professionals. The government and municipal authorities are insisting on use of reclaimed water, however, it is difficult to ensure health and safety of people due to non-availability of required appurtenances in the local market.



Floor trap with 50 mm water seal.



Pipe colour coding and arrow marking.



Back water valves on storm drains, before connecting to nalah.

Hiranandani’s efforts are highly appreciated. All other developers and builders should also follow this good example.

## PEEP FEEDBACK

### Background:

IAPMOI and IPA are dedicated to the education of individuals who seek to work in the plumbing industry, and therefore have designed and developed a comprehensive plumbing education curriculum – Plumbing Education to Employment Program (PEEP) – to prepare multiple levels of professionals in India to understand, interpret, engage, and apply the provisions of the *Uniform Plumbing Code-India*.

IAPMOI and IPA have established the academic program in more than 25 reputed Education Institutions (EI), Training Institutions (TI), large government departments, building associations, NGOs, builders and developers. IAPMO India and IPA have collectively provided the support and educational resources to them.

The success of PEEP can be measured in terms of quality of out-coming students with respect to the knowledge and skills gained by the students explicitly as per the curriculum developed by IPA and IAPMO-India based on the latest internationally acclaimed plumbing codes and shall be able to meet the industry demands.

The success of PEEP is also measured in terms of academic and commercial success of the EIs and TIs. It depends on the institution's dedication toward the improvement of public health in India through the use of modern plumbing codes and practices, and trained plumbing professionals. The success of EIs and TIs also depends on its own reputation, utilizing qualified and trained instructors, ability to enroll eligible students through proper marketing, and affordable fees and sustainability of the program.

PEEP is offered to IAPMO-India IPA's Education partners through a memorandum of understanding (MoU) valid for three years. In many cases it is time to renew these MoUs.

In our endeavour to ensure the program's success, as well as the success of our education partners, we requested feedback on the PEEP from the EIs and TIs. We are glad to share it with you.

### College of Engineering Pune

The College of Engineering Pune (COEP) has signed an MoU for PSD and PCM Academic courses. PCM is offered as a part time course for building/plumbing working professionals. PSD is offered as an elective subject for the last year B.Tech. students.



In addition to its own faculty Prof. Nitin Mohite, guest lectures were organized from experts such as Rahul Dhadphale, Nitish Phansalkar, Salil Karkhanis, Manoj Deshmukh, Pravin Bora, Nilesh Gandhi, and Sanjay Javanjal.

Site visits were organized at Suzlon Corporate Office, Magarpatta city, and Hometel Hotel. Some of the projects undertaken by students are: Geographical Information System (GIS) Applications to Plumbing Services; Plumbing and Sanitation for Hotel; Plumbing in Hospital Building; and Plumbing in a 3 Storied Bungalow. All students are now either well placed or self-employed.



*Students of the first batch.*



*Final project presentation and certificate distribution at the hands of Ar. Narendra Dengle in the presence to Mr. Pravin Bora, IPA, and Dr. Mrs. Pathak, HOD, COEP.*

## Maharashtra State Board of Technical Education, Mumbai

On request of Maharashtra State Board of Technical Education (MSBTE), IPA and IAPMO-I have developed a syllabus of a course on plumbing, suitable for introducing in the diploma course of MSBTE. MSBTE is committed to introducing a syllabus of academic program known as "Plumbing Services" as an elective subject through the diploma courses run by all of its affiliated polytechnics all over the state of Maharashtra. The places and number of polytechnics offering Plumbing Services as an elective change every year depending on the student response. Mr. GB Dhanokar, joint director (MSBTE), on the occasion of World Plumbing Day wrote: "We wish you a very happy plumbing day. Our best wishes for your consistent efforts for better plumbing. We are thankful for your continuous support in promoting better plumbing through training & awareness activities at the knowledge centre."



## Pipal Tree Ventures Pvt. Ltd., Hyderabad



Mr. Anant Sapre, chief training officer, Pipal Tree Ventures Private Ltd. (PTVPL), reports: Although the first batch was ready, PTVPL could not start the PTP course due to other priorities. However, it has initiated the work of infrastructure development at the training centre near Hyderabad and will start the course soon.

PTVPL has obtained a labor contract for plumbing work at a project in Mumbai. After initial training in the centre, it has deployed the trainers at the site and provided further training. Trainers will thus be made fit for site conditions and with skills that are acceptable by professional builders.

## The Supreme Industries Ltd., Jalgaon

Supreme has been conducting a PAP course at its Knowledge Centre, at Gadegaon, Dist. Jalgaon, Maharashtra. So far more than 2,000 plumbers, plumbing contractors and other professionals have benefited. Many prominent personalities/officials from Jaipur development



*Subhash Deshpande having informal discussions with the PTVPL students.*

contractors are quite happy with the education imparted on plumbing. They feel the enhancement of their knowledge through this training will certainly help to upgrade the quality of plumbing work they execute. This will also help to avoid the mistakes at site.

After the training, Supreme felt the need to do more on plumbing education and this prompted development of plumbing education gallery. IPA and IAPMO-India training and material is found quite useful in making the plumbing education gallery, which is appreciated by everyone who visits the Knowledge Centre.

The PAP programme is very useful in upgrading plumbing education and in turn has helped to improve training activities carried out for different plumbing professionals at the Knowledge Centre.

## Supreme



## Sri Ramakrishna Advanced Training Institute, Coimbatore

Sri Ramakrishna Advanced Training Institute (SRATI), Coimbatore, is the first institution to sign an MoU with IAPMO-India and IPA under PEEP. It is also the first institution to renew the PSD program under the PEEP program.



In order to create awareness regarding plumbing education, SRATI has signed one more MoU to conduct the PAP and PTP courses. "There is a huge skill gap between present plumbers and the industry expectations. We will strive to create trained manpower in plumbing who will protect the public health by code based plumbing installations," said Mr. Prasad.



*Subhash Deshpande, KR Prasad and Megan Lehtonen signing the MoU for PAP and PTP on Feb. 6, 2013.*

*Mr. K.R. Prasad, Director SRATI informed that SRATI has so far trained 47 students (final year engineering students and practicing engineers) under the PSD course. Six students have now taken admission for the PTP Course.*

Mr. Ravikumar of Suguna Pumps and Mr. Dass of Finolex Pipes delivered special lectures. Ar. Gopinath Arunachalam Mr. Manickam of IPA, and Mr. Subhash Deshpande, Sree Kumar, Abdul Matheen of IAPMO India visited the training facility.

SRATI has developed a plumbing lab on its premises for furthering the education in plumbing. It further proposes to construct separate brick blocks to carry out real plumbing practical works under PTP and PAP.



Mr. Sheik giving instructions to students of PTP.



SRATI's Plumbing Lab at Coimbatore

## Jnanada Pratishthan, Pune

Jnanada Pratishthan's Indian Institute of Entrepreneurship Development & Research (IIEDR), has signed an MoU for the PTP course. Under the PTP, IIEDR is running the TAP program. Subhash Inamdar explains the implementation pattern:



Jnanada Pratishthan is a registered NGO working in the field of education. Its IIEDR is currently pursuing its objective through providing training, employment and entrepreneurial support for under-privileged, below poverty line youth of Maharashtra, who are deprived from conventional education due to various reasons.

IIEDR conducted the training courses at the Rural Building Centre at Wagholi, Pune. So far, 128 students have completed the training in eight batches since November 2010. Speakers from the construction/plumbing industry, such as

Mr. Ketan Dantale, Mr. Bhushan Bhalerao, Mr. Sanjay Mone, manufacturers such as Jaquar, and a few government agencies were invited as expert guest speakers.

Officials from Deepak Foundation, Bosch Foundation, Volkart Foundation, Honeywell Automation, etc., visited the Wagholi training facility. Mr. Subhash Deshpande, director of Plumbing, IAPMO-India, visited almost every batch and helped us improve the facility at every stage.

## New ventures, experiments, experiences:

Our focus is on employment through plumbing training. After getting experience of minimum 1½ years, we inspire them to start their own business as a service provider. We are of the opinion that it is a role model for the BPL category of school/college dropouts. To make it happen, we have taken the following initiatives.

1. We provide mindset training.
2. We provide soft skill and entrepreneurship training along with technical training.
3. Translated present syllabus into local language (Marathi). Our last two years' experience is that the students from villages are unable to understand the slides and the syllabus mainly because they are weak in English.
4. To improve the understanding of the subject, a at few places, we provide the support of and animation developed by us.



Visit to Plumbing Lab at COEP.

5. We conduct interviews of the past students who have made remarkable progress in their life, and our experience is that students do receive inspiration.
6. We also provide mentorship for one year while students work as an apprentice at site. We have appointed an employee for this work.
7. Actual on-site training is provided in addition to visits to various construction sites, Plumbing Lab at COEP, and water treatment plants of PMC.
8. Successes:  
To date, we could provide 100 % employment to all students. Working with renowned construction companies such as Phiroze Karaka, Nanded City, Vascon, B.G Shirke, Suma shilp, etc.

- Our training model, i.e. guaranteed employment after completion of short duration training of two months, is becoming a role model for school and college drop out students.
- Students' feedback is encouraging to our team members because they become self supported and are getting adequate business opportunities.
- Students are helping the institute by way of sending candidates from their native places. 20-30% of the students from batch No. 6 onward are from the native places of old students.
- School and college drop out population in India is nearly 16 crores and in absence of technical training and employment, they get diverted to Naxal and Mafia movements. We are proud that in a small way we could show them a different constructive path and therefore our opinion is that this is nation building work.
- Approximately 20% of the students have started their business as a service provider at their native places. On the contrary, entrepreneurship success rate in Maharashtra state varies between 4 to 8% in government and private training institutes.



IIEDR students at site and in the classroom.

## IIEDR's Unique Education Model:



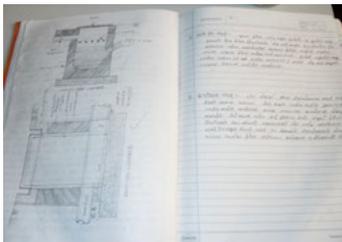
- World-Class Technical Training – Course designed by IPA and IAPMO-India is based on latest plumbing technology.
- Mind Set Development Training – Modules on how to set goals in life, positive thinking, inside-out approach to change the attitude.
- Soft and Entrepreneurship Skills Training – Training such as communication, presentation, leadership, creative thinking, management, decision making skills, costing, quoting.
- Apprenticeship and Mentorship – Apprenticeship and further mentorship to establish them as entrepreneur.

## Finding Solution to Problems

After two years of research, IIEDR has developed a concept of "Location Center

Development," i.e. trainers led training to be executed through trained and certified trainers at the location of the students.

Based on the experience of the last five batches, it was necessary to increase the spread in more areas of Maharashtra, making the course financially more affordable to BPL youth and availing the training near their locality. This stimulated IIEDR to modify the existing training delivery model. We are grateful that IAPMO-India and IPA allowed us the flexibility.



Student workbook sample.

IIEDR has gained sufficient expertise in executing the Trained Apprenticeship Plumber (TAP) course and it is ready to enter into a second leap of spreading itself all over Maharashtra.

The model consists of developing "Satellite Centres" across various regions of Maharashtra. IIEDR plans to develop four educational/NGO institutes in the year 2012-13. In the next 4-5 years it will be establishing around 15 Satellite Centers.

The present 60-day residential course is modified partly into Multimedia (2D animations & Videos), enhanced with the latest knowledge and simplified for easy communication to rural/semi-urban youth. Duration of the course will remain 60 days, total 240 hours.

<p><b>• Full Day</b></p> <ul style="list-style-type: none"> <li>• Classroom Training</li> <li>• Basic Practical</li> <li>• Mindset Development</li> <li>• @ Satellite Centre Location</li> </ul> <p><b>20 Day</b></p>	<p><b>• Full Time</b></p> <ul style="list-style-type: none"> <li>• On-the Job Training</li> <li>• Learn-While Doing</li> <li>• Stipend, Accommodation &amp; Food</li> <li>• @ Site</li> </ul> <p><b>20 Day</b></p>	<p><b>• Full Time Residential</b></p> <ul style="list-style-type: none"> <li>• Mindset</li> <li>• Evaluation as per IPA</li> <li>• Guidance from Experts</li> <li>• @ IIEDR Wagholi</li> </ul> <p><b>20 Day</b></p>
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a) First 20 days - Trainers led training at location centre at district / taluka place, attached to renowned education institute.

Training will be executed by certified trainers of IIEDR Pune.

- b) Next 20 days - On job training at site, with builder and supervised by IIEDR staff. Learn while doing, 100% practical.
- c) Last 20 days - At IIEDR Wagholi Pune, for 100% practical training with own staff and outside experts, examination and certification.

### Advantages:

1. Flexibility. Availability of PTP technical education at their nearby native location.
2. Onsite training (learn while doing technique), Improve confidence level of student.
3. Fee is now affordable, reduced to 1/3 (From Rs. 16,000 to Rs. 6,000)
4. Number of students for the training will increase; average will cross 20 numbers and yearly 200 for 2013. The concept will spread in the state, in two years' time.
5. Likely chances of crossing of breakeven point for the institute, matching income and expenses.
6. Supply of trained personnel to industry will increase, which will increase quality of output and reduce wastage and cost.



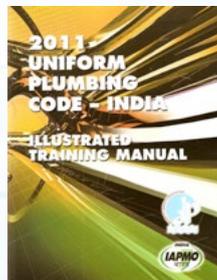
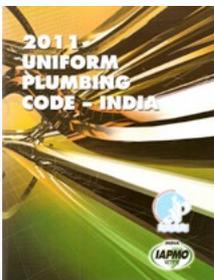
### IAPMO-India and IPA's Response

We are glad to hear the successes of some of our education partners. We are sure that it will be inspiring for those who for some reason could not start the plumbing academic course. We are sure that this article has provided solutions to some of the problems EIs/TIs may have and will assist them in achieving the success they deserve.

IAPMO-India and IPA have expertise in developing plumbing codes and code-based curriculum, course materials, training resources, setting examinations and training the trainers. We are aware that running any education course requires special management skills and resources. In that respect, we appreciate the efforts of each of our education partners in striving to successfully run the plumbing academic courses.

We have given full flexibility and freedom to the EIs and TIs w.r.t. training fees, training model (full time or part time), training type (residential, classroom), language of training, division of on-site and off-site training, etc. Being aware of the possible initial teething problems, we have at times overlooked few discrepancies. But let us be reminded that to be a successful education partner, each EI/TI will have to:

- a. Adhere to the complete syllabus.
- b. Follow the suggested timeline for each topic.
- c. Ensure that only the qualified faculty possessing 'PEEP Certified Trainer' certificate conduct the courses.
- d. Follow the requirement of minimum qualifications of students.
- e. Make sure that you are resourced with all materials, consumables, personal safety equipment, tools and equipment required for the hands-on training.



Reputation of the institution plays a very vital role in enrolling the students. A new EI will find it more difficult than a 150-year-old college. EIs known for tailoring course may not get plumbing students easily. A city's culture also plays some role. Finding students in Pune may

be easier than in Hyderabad. Be prepared to take the challenge.

Give more than expected. No, we are not talking about food or clothes. Soft skills, mindsets, mentorship and entrepreneurial support have helped some. Spending some money on translation local language could be a good investment. Make the course attractive. Display names of advisors, qualified trainers and visiting faculty. Monitor successful students even after they leave the institution. 100% guarantee on job placement is an attraction for a school drop out.

Most education partners have problems in balancing the income and expenditure. Again, learn from others. We have an example of a TI taking labour contracts in plumbing. It not only provides jobs for students, but also adds income to the TI. A point on capacity utilization is referenced. Smaller batch size means more overhead. You may have two batches in a year instead of three. Reduce waste, reuse materials, and recycle the debris to curb expenditures.

While the entire plumbing industry is facing an acute shortage of plumbing professionals, very few employers seem to be taking advantage of IAPMO-India-IPA's Plumbing Education to Employment Program (PEEP). We take this opportunity to appeal to all plumbing consultants, contractors, managers and government departments to contact our education partners for placement. PEEP can provide you well trained plumbing engineers, supervisors, managers, and master plumbers, as well as apprentices with code-based knowledge on plumbing designs, installations and maintenance thereafter.

*Mr. Subhash Deshpande is director of plumbing, IAPMO-India. Since joining IAPMO, he has been instrumental in developing and implementing various plumbing education and training courses in India. Considering his passion, devotion and the training experience in India and abroad, Subhash Deshpande is popularly known as 'Plumb-Acharya'.*

## Green Building Conference Validates IAPMO-India's Work



Story by Mike Flenniken

Megan Lehtonen, IAPMO's vice president of International Business Development, and Neeta Sharma, managing director of IAPMO-India, recently represented IAPMO at the Green Building Congress 2013: International Conference on Green Buildings, whose theme was "Futuristic Green Habitats & Technologies."

The Indian Green Building Council's 11th annual event, held in Chennai, India, was organized to provide a platform for stake-holders in the construction industry to share ideas and information, network and explore new opportunities. The event featured 30 different sessions and more than 100 speakers from around the globe.

Lehtonen and Sharma both delivered presentations on the Water Efficient Products-India (WEPI) rating system, a joint effort between IAPMO-India and the Technical Committee of the Indian Plumbing Association. During a session titled "Facility Management in Existing Buildings," Lehtonen spoke about retrofitting existing buildings using IAPMO's *Uniform Plumbing Code® (UPC)* to achieve maximum efficiency. Her presentation covered the ANSI-approved consensus development process of the *UPC* and the water savings and conservation that can be achieved by using third-party-certified plumbing fixtures, fittings and appliances.

During one of the parallel sessions on water efficiency, Sharma spoke on the code requirement specified in WEPI and Recommendations to Generate Awareness, along with the adoption of WEPI in government buildings/IGBC/GRIHA certified buildings. The presentation followed several ministries delivering messages on the necessity to draft policy to mandate water efficient fixtures in buildings. Sharma also covered testing and certification by third party agencies and how she agrees that it is the need of the hour. IAPMO-India's recent approval as a QCI Inspection Body will give the industry a viable solution for expertise in plumbing and mechanical inspections.

The IGBC has helped increase the green building movement in India from about 20,000 square feet in 2001 to about 1.65 billion square feet in 2013, and includes 2,236 registered buildings — 427 of which have a “green” rating.

Other highlights included:

- In addressing the Congress’ inaugural session, Tamil Nadu Gov. Konijeti Rosaiah voiced his support for IGBC initiatives that seek healthier and more sustainable infrastructure in the future, and said he was open to adopting and propagating recommendations that emerged from the conference.
- R. A. Rajeev, principal secretary of the Environment Department for the state of Maharashtra, said Maharashtra was the No. 1 state in terms of the number of green buildings. He also advocated drafting a policy now mandating that all public buildings be green, with the possibility of incentives. “Third-party inspections are the need of the hour,” he said.
- Housing Secretary Arun Kumar Misra chaired the inaugural session on Green Homes Existing Buildings, Green Interiors. He mentioned that the union government would soon finalize a draft policy to provide non-financial incentives to encourage green buildings. The Housing Ministry supports a number of incentives, such as allowing additional built-up space — over and above the permitted floor area ratio or floor space index — transferable development rights and interest subvention to encourage green buildings. He also encouraged the purchase of labeled appliances, as the consumer will recover the initial money spent on the appliances through savings over the lifespan of the product. He also expressed his interest in attracting experts from IGBC and the Confederation of Real Estate Developers Association of India (CREDAI) to train government department engineers on green building concepts.

- C. Shekar Reddy, the national president of CREDAI, said the government should consider doing away with the requirement that residential projects approved by the IGBC obtain clearance from the Environment Ministry. Doing so would eliminate the delay that results from waiting for approval from the ministry.



Lehtonen, who had attended this event at least five times in the past, said this year’s congress was by far the best one she had seen.

“They’re all good, but this one was by far superior because they had representatives from so many ministries, and an excellent panel of speakers. It was really great to hear them reiterate their movement toward third-party inspections and water-efficient products in buildings,” she said. “The Indian Green Building Council, led by the dynamic personality and dedicated Dr. Prem Jain, has huge goals and I think they are sure to reach them. They are completely committed, and really progressive.”

# IAPMO INDIA RECEIVES QCI APPROVAL AS INSPECTION BODY

IAPMO-India has recently been approved as an Inspection Body for Infrastructure Projects under QCI Scheme for Approval of Inspection Bodies for Infrastructure Projects.

The approval is for Scope Sector IAF 28/ NACE Scope 45, Construction, for Design Approval/ In Process/ Stage Wise/ Final Installation and Commissioning of Plumbing and Mechanical HVAC-R Systems/ Installations in Infrastructure Projects.

The relevant Manual/ Procedures/ Work Instructions/ Forms/ Formats prepared by IAPMO India as per the requirement of ISO/IEC Standard 17020 Conformity Assessment – Requirements for the operation of various types of bodies performing inspection are in place.



**QCI**

**Quality Council of India**  
 2nd Floor, Institution of Engineers Building,  
 Bahadur Shah Zafar Marg,  
 New Delhi - 110 002, India

11 November 2013

**QCI/ INFR-IB-024/ 13/ 003**

**Mr. Abdul Matheen**  
 Director (Mechanical)  
**IAPMO Plumbing Codes & Standards India Pvt. Ltd**  
 No.22, 12<sup>th</sup> B Main, HAL 2<sup>nd</sup> Stage,  
 Indiranagar, Bengaluru - 560008  
 Phone: 080 – 30714500  
 E-mail: neta.sharma@iapmo.org

**Subject: QCI Approval as Inspection Body for Infrastructure Projects**

Dear Mr. Matheen,

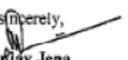
Based on your application under ‘QCI Scheme for Approval of Inspection Bodies for Infrastructure Projects’ for approval and subsequent assessment carried out, we are pleased to inform that QCI Approval has been granted to “**IAPMO Plumbing Codes & Standards India Pvt. Ltd.**” with its main office at Bangalore for scope as mentioned below as an Inspection Body for Infrastructure Projects w.e.f. 11 November 2013 valid until 10 November 2014:

IAF / NACE Scope	Description	Standards, Regulations, Methods, Procedures etc.
IAF 28 / NACE 45 <b>Construction</b>	Design Approval/ In process/ stage wise/ final installation and commissioning of Plumbing and Mechanical HVAC-R systems /installations) in infrastructure projects.	As per BIS/ National Building Codes/standards/regulations/ Plumbing and Mechanical Standards/Specifications/IAPMO India Plumbing and Mechanical Codes of Practices, Procedures and Client’s QAP’s.

The approval granted under QCI Scheme is subject to:

- 1) Obtaining accreditation as per ISO/IEC 17020 from NABCB within one year. No further approval will be given under the QCI Scheme.
- 2) Inspection in scope sector IAF 28 to be offered for Witness by QCI in the first inspection contract executed / under execution after grant of approval.

Yours sincerely,

  
**Mrutunjay Jena**  
 Joint Director (NABCB), QCI  
 Email: mjena.nabcb@qcin.org

QCI is an autonomous body, setup by Government of India, to establish & operate national accreditation structure and promote quality  
 Tel. : +91-11-2337 9321, 2337 8056 • Fax : +91-11-2337 8678 • Web : www.qcin.org

**Uniform Mechanical Code-India,  
Illustrated Training Manual (UMC-I, ITM™) and  
Mechanical Education to Employment Program (MEEP)  
During ACRECONF-India @ New Delhi, India  
(February 8, 2013):**

The Indian building industry today has a powerful and revolutionary new tool at its disposal with IAPMO-India's 2012 UMC-I, Illustrated Training Manual (2012 UMC-I ITM) and MEEP 1, 2 and 3 programs launched.



*Names of dignitaries during UMC-I ITM and MEEP release ceremony, in the order (standing L-R)*

1. Mr. C S Gupta, general secretary, IPA.
2. Mr. Sunil Kher, president ISHRAE Delhi Chapter
3. Mr. Pankaj Shah, past national president ISHRAE
4. Dr. Prem C Jain, chairman IGBC (Indian Green Building Council)
5. Ms. Megan Lehtonen, vice president of international business development, The IAPMO GROUP, USA
6. Dr. William P. Bahnfleth, president elect ASHRAE, USA
7. Mr. Sushil K Choudhury, national president ISHRAE.
8. Mr. Dipak Barma, national president elect, ISHRAE.
9. Mr. Ashish Rakheja, regional managing director, AECOM, chairman ACRECONF-2013.
10. Mr. R V Simha, past president ISHRAE and founder member, ISHRAE.
11. Abdul Matheen, director of Mechanical, IAPMO India.

The *Uniform Mechanical Code-India, Illustrated Training Manual™ (UMC-I, ITM™)* provides required guidelines for the design, installation and maintenance of heating, mechanical ventilation, cooling, refrigeration and miscellaneous building services and systems, while at the same time allowing latitude for innovation and new technologies. *UMC-I, ITM™* is the most comprehensive document ever created in India to standardize sustainable residential, industrial and commercial mechanical systems. The process of developing *UMC-I, ITM™* brought together volunteers representing varied viewpoints and interests to achieve consensus on mechanical issues. Widespread awareness and adaptation and of these codes could result in a combined effort by the entire construction and infrastructure sector towards a cleaner and greener environment, thereby greatly reducing the carbon footprint.

**MEEP was released during the ACRECONF in New Delhi on Feb. 8, 2013**



Skills and knowledge are the engines of economic growth and social development in any country. IAPMO-India launches both the Illustrated Training Manual and Mechanical Education to Employment Program.

Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of globalization. There is a growing sense that the past strategies of skills development have been inadequate in addressing the new challenges that India faces. The need for establishment of skill development programs and continuing education systems will provide an institutional mechanism to facilitate greater and active participation of the industry, and to better link skill development with the country's employment demands. The shortage of skilled workforce across many industries is emerging as a significant and complex challenge to India's growth and future. According to a survey, more than two million mechanical professionals in the HVAC-R domain are required to meet construction-industry demand by 2020. The growing skills gap reflects both the slim availability of high quality professionals in India and the galloping pace of the country's construction and allied service driven economy, which is growing faster than most countries in the world. As businesses propose to double and triple their workforces and India Inc. strives to maintain its position in the global marketplace, it has become imperative to prepare and plan for a world-class, competent, talented and innovative workforce.

IAPMO-India has a great role to play in nation building; the best and most selective way is to introduce the cutting-edge concept of MEEP (Mechanical Education to Employment Program) training at the university youths at the entry-level industry in order to tackle the impending shortage of knowledge workers. This strategy will provide out going graduates or diploma holders to have dual-certification. This will mitigate the existing shortfall of trained professionals at entry level for which companies today have spent a lot. IAPMO-India has achieved wonders in plumbing education systems and is now ready to offer mechanical education systems to Indian citizens.

MEEP was released during the ACRECONF in New Delhi on Feb. 8, 2013. MEEP graduates of the multi-level education programs created will be given the option of obtaining professionally qualified certifications with the following credentials:

- Mechanical Managers (MM) Academic program
- Mechanical Supervisors (MS) Academic program
- Mechanical Technicians (MT) Academic program

Commenting on the significance of the *UMC-I Illustrated Training Manual* and MEEP programs, Megan Lehtonen, vice president of international business development, IAPMO USA, opined: "It gives us a great opportunity to be associated with many likeminded professionals, societies and organizations pan India to develop The *UMC-I Illustrated Training Manual (UMC-I ITM)*, will thus be an invaluable combination of our globally gathered expertise and the knowledge of India's best and most seasoned HVAC professionals. Indeed a fruitful relationship that would go a long way in furthering sharing of knowledge for creating better standards and professionals who would ultimately work for the benefit of the Indian society."

"Codes and standards and code-based education systems form part of the mandatory requirement in building design to bring back mother Earth from the ill effects of global warming, Climate Change, and carbon emissions to contribute to water and energy conservation. We at IAPMO-India hope to sow seeds of change in the mechanical industry through codes, standards and education, through *UMC-I Illustrated Training Manual (UMC-I ITM)* and code-based education programs MEEP 1, 2 and 3 being launched today in our small and humble way," said Abdul Matheen, director of Mechanical, IAPMO-India.

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*ACRECONF (Air-Conditioning-Refrigeration-Conference) a international Conference of HVAC-R professionals, sponsored by ISHARE, based on the theme of reviving mother earth through on a better building is going to conduct six corresponding technical sessions stretching for two days and featuring renowned speakers from not only India but even abroad. ACRECONF is a conference which takes pride in addressing various burning issues like fire and life safety in hotels, water management in hotels, lighting design for green hotels, importance of facility management in hospitals, case study of international green hospitals, case study of international green hospitals, international tall buildings, engineered buildings and award green projects showcasing building services, importance of air quality in educational facilities, design of sport stadiums and metro stadiums, case study of green data centre, solid waste management*  
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## THE IMPORTANCE OF GREEN CODES AND STANDARDS

February 7-9, 2013- Delhi



*Megan Lehtonen shared her panel session on international codes and standards with Eric Melquiond, MD, Eurovent; Prof. Olli Seppanen, REHVA; and Christopher Stone, senior technical advisor, AHRI.*

ACRECONF 2013 was a great success for the mechanical industry highlighting a number of internationally renowned speakers. Taking place in Delhi on Feb. 7-9, IAPMO's Megan Lehtonen gave a presentation on Climate Change and the importance of Green codes and standards. ACRECONF is a two-day international conference, organized by the Delhi Chapter of ISHRAE, in association with ASHRAE India chapter. The first conference, which was convened in 2001, was attended by nearly 200 delegates. In each subsequent year, ACRECONF has attracted a lot of interest and grown rapidly. The last ACRECONF, held in 2012, was attended by more than 1,800 delegates. Buoyed by the success, ISHRAE decided to conduct ACRECONF India 2013 on a larger and grand scale, with the theme "360 Degree View on Emerging Mega Trends in Building Design."

**MoU with Dhanush EnggServices (India) Pvt. Ltd for propagation of Mechanical supervisors Academic Program (MEEP- MSAP)**



Bengaluru, India (April 10, 2013) – IAPMO-India and the Dhanush Engineering Services (India) Pvt. Ltd Hyderabad have signed a Memorandum of Understanding to implement the Mechanical Education to Employment Program (MEEP) curriculum jointly developed by IAPMO-India and Indian mechanical industry representatives. Dhanush Engineering Services (India) Pvt. Ltd is a pioneer in bringing the concept of mechanical-electrical-plumbing training programs across India. Dhanush Engineering Services (India) Pvt. Ltd has training centers in various locations, such as: Hyderabad, Cochin, Delhi and Mumbai over the past 10 years, the organization has rendered skill development service to the nation.



MEEP implementation is a monumental achievement toward improved health and safety of the Indian citizenry and will make great strides in developing a new highly-skilled and certified mechanical HVAC-R workforce to best implement and regulate the provisions of the *UMCI*. A careful needs assessment of the mechanical industry and consultation with eminent members of the mechanical industry led to the development of MEEP, with the goal of preparing multiple levels of professional groups in India to read, understand, interpret, engage and apply the provisions of the *UMCI* in order to design and perform initial installation and continued maintenance of mechanical systems. Through the diligent concerted efforts of IAPMO staff in the United States and India, MEEP programs targeting engineers, architects and construction managers have been fully developed and are near implementation across the entire country of India.



*MEEP-MSAP Students at Dhanush EnggService India Pvt. Ltd during the site visit to Revac Systems- Kitchen Ventilation manufacturer, Hyderabad. Thanks to Mr. M.Lawrence and Mr. PA Prabhu for their permission to tour the first batch of MEEP students.*

“MEEP has made great strides in recent months,” said Megan Lehtonen, vice president of International Business and Product Development. “This MoU signing with Dhanush Engineering Services (India) Pvt. Ltd is among the greatest of these strides. The voluntary adoption of the UMC-I and implementation of the MEEP Mechanical Supervisors Academic Program by Dhanush Engineering Services (India) Pvt. Ltd. is a true milestone.”

## ACREX India 2013

**“Dedicated to an eco-friendly environment”**

The theme “Dedicated to an eco-friendly environment” of ACREX India 2013 offers a perfect platform for air conditioning, refrigeration and allied building services such as electrical, lighting, plumbing and water treatment, fire and safety, automation and fenestration, to showcase technologically innovative, environmental friendly and energy-saving and sustainable products and services to meet the ever growing, demanding market of India.



*Megan Lehtonen along with Abdul Matheen and Mr. Chakradhar Majety of Dhanush MEP, during IAPMO India stall ACREX-2013.*

The 14th edition of ACREX India, held March 7 – 9, 2013 at Mumbai, organized by Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE) with the professional expertise of UBM India, aimed to surpass the expectations of the previous shows and set new precedents and standards for all such future exhibitions. Profile for exhibits included building automation, cabling systems, heating and domestic hot water, air-conditioning & air treatment, quality of energy, power supply, lighting management, renewable energies, facilities management operation and maintenance, energy suppliers and distributors, refrigeration, building management systems, measurement-monitoring, voice-data-image networks, safety, security, fire safety and access control, and ventilation.

## Auditors Training as per ISO/IEC 17025:



Abdul Matheen, director of Mechanical, IAPMO-India, receiving the certificate of accomplishment in the hands of Principal Trainer and Assessor Mr. A S Sudindra of QCI, on successfully completion of four days Training Program on "Laboratory Management and Internal Audit as per ISO/IEC 17025," organized by CII Institute of Quality, May 24 – 24, 2013.

## Development of Green Mechanical Code Supplement India (GMCS-I):



Department of Mechanical Engineering, IAPMO-India, has begun its efforts to develop an historic document on energy efficiency, keeping UMC-I and UMC-I, ITM as base documents. This is an historic and state-of-the-art document set to launch during ISHRAE's upcoming international exhibition, ACREX 2014 at Delhi.

## MoU with Bangalore University:

University Visveswaraya College of Engineering (UVCE)-Bangalore University, Bangalore signed MoU with IAPMO-India for implementation of MEEP & PEEP Programs:



IAPMO-India and the University Visveswaraya College of Engineering (UVCE)-Bangalore University, Bangalore have today a Memorandum of Understanding in which the University Visveswaraya College of Engineering (UVCE)-Bangalore University, Bangalore shall voluntarily adopt the *Uniform Plumbing Code – India* and *Uniform Mechanical Code – India* implement the Mechanical Education to Employment Program (MEEP) and Plumbing Education to Employment Program (PEEP) curriculum.

University Visveswaraya College of Engineering (UVCE) was established in 1917 under the name Government Engineering College by Bharat Ratna Sir M. Visveswaraya, and was affiliated to University of Mysore. It is the fifth engineering college to be established in the country. This is one of the oldest technical institutions in the country, imparting technical education leading to B.E, M.E, B.Arch, M.Sc (Engineering) and Ph.D. degrees in the various disciplines of engineering and architecture. The college is approved by the AICTE and the government of Karnataka. The departments are accredited with five A+ for three years by the National Board of Accreditation, New Delhi. UVCE has a five-star NAAC rating for the past four years. The college receives financial aid[2] under TEQIP program from the World Bank .



"The adoption of the *Uniform Plumbing Code – India* and *Uniform Mechanical Code – India* by the UVCE represents a monumental achievement toward improved health and safety of the Indian people through nationwide standardization of plumbing practices and the installation and maintenance of plumbing/sanitation systems," said Megan C Lehtonen, vice president of international business development for The IAPMO Group, parent organization of IAPMO-India. "Furthermore, the PEEP & MEEP educational curriculum will make great strides in developing a new highly skilled and certified plumbing workforce to best implement and regulate the provisions of the *UPC-I & UMCI*.

### **MoU with Construction Industry Development Academy (CIDA) for MEEP programs:**



The Construction Industry Development Association is a non-governmental organization (NGO) formed by like-minded professionals who bring decades of experience in the construction industry as consultants, advisers and builders.

The CIDA's main goal is to skill and knowledge, especially among civil, mechanical and environmental engineers, by providing skilled training on the latest standards, emerging technology, tools and equipment, safety aspects and handling of machinery, along with confidence-building measures. We have trained more than 600 engineering graduates who have a good subject knowledge – but lack the practical knowledge and professional confidence – in middle management training for such positions as draft men, marking engineers, surveyors, quantity surveyors, and worker training in such areas as masonry, bar bending, carpentry, scaffolding, electrical, plumbing and painting. HVAC training is now offered based on IAPMO-India's most sought-after courses. CIDA offers 12 MEEP courses for both short- and long-term programs. The MoU was signed in the presence of Megan Lehtonen and Neeta Sharma.

## **IAPMO-India and Government of Kerala sign MoU for Skill Training in plumbing Sector' under "Additional Skill Acquisition Program" (ASAP)**



The government of Kerala has decided to introduce the Additional Skill Acquisition Program (ASAP) in selected government schools and government colleges in the state. The objective is to increase the employability of students in schools and colleges by imparting skill training to them in identified areas and as per the industry requirements. This will be done in association with IAPMO-India for the welfare of the people of one of the most literate southern states of Kerala. IAPMO-India is registered RFP and was invited by Kerala government on behalf of prospective skill training service providers seeking to provide "Skill Course Training in Plumbing sector" for different batches of 30 students each enrolled by the first party for the period of three years from 2013-2016. The number of students will increase by hundreds and thousands in the coming years.

## Promoting Water use efficiency in Urban Water Sector to address climate change 11th December 2013 Organized by CII-Triveni Water Institute- BWSSB



The rapid growth of urban agglomerations is posing a serious challenge to ecosystems with increasing demand – supply gaps, calling for upgrading current water systems, expanding networks to accommodate the growing influx and improving delivery services. Unlike most developing countries, the Indian population is still growing and the competing use of land is continuously increasing. Therefore, appropriate demand and supply management measures need to be considered to promote efficient allocation of water resources to meet growing demands, within the limits of the ecosystem.

CII, under the aegis of the CII – Triveni Water Institute, with an intention to establish a road map to pursue greater efficiency in the water sector, organized a conference focused on

- Promoting water efficiency in industry
- Promoting water efficiency in buildings, both commercial & government
- Conducting a pre- feasibility study on reuse of municipal sewage in adjacent industry (understanding the industry – municipal interface)
- Information dissemination awareness and capacity building.

Neeta Sharma spoke on how codes help standardize the requirements. These codes once propagated appropriately to all stakeholders through awareness/training Program, help spread the best practices available in any sector. The *Uniform Plumbing Code* is one such code capturing the

best plumbing practices developed by the Indian Plumbing Association and IAPMO. Education to Employment Program based on UPCI cover imparting education to the entire range of manpower required in the plumbing industry – engineers/architects, consultants, contractors, technicians and plumbers. This, coupled with the use of *Green Plumbing Code Supplement – India* and *Water Efficient Products- India*, helps in conserving water.

The use of third party certified material in the projects not only contributes to its confirmation but also imparts confidence to the stakeholders to the requirements for which it is put to use. Further, third-party certification, from installation to commissioning of plumbing in infrastructure projects mentioned above, can be one solution to enforce sustainability of green projects.

IAPMO being the organization specializing in all of the areas mentioned above, it was recommended to adopt any/all of the water conservation techniques, thereby enabling efficiency of water use.

Mr. Kemperamiah, Chief Engineer, BWSSB, Dr. R.Lakshmi Narayana, KSPCB, also attended the conference, and spoke about the Urban concerns using Bangalore as an example, and on ZLD (Zero Liquid Waste), respectively.



The 13th World Plumbing Council was held at Delhi, India, on Nov. 14 and 15, 2013. The conference was also attended by IAPMO and IAPMO-India delegates. This two-day conference had three technical sessions, and speakers from several parts of the world gave their perception on diverse topics related to the plumbing profession.

This global event, held in India for the first time, saw more than 600 delegates from different parts of the world – including England, Scotland, Poland, Australia, China, Germany, Canada, Switzerland, The UAE, United States, Singapore and South Africa, in addition to different parts of India.

The conference ended on a high note, with Mr. Sudhakaran Nair, president of the India Plumbing Association, being elected as the chairman of the World Plumbing Council.

## **Kohler India Corp. Pvt. Limited Obtains First Three-Star 2013 WEP-I New Water Closet Listing from IAPMO-India**

Ontario, Calif. (Jan. 6, 2014) — Kohler India Corp. Pvt. Ltd. (aka Kohler India, headquartered at Gurgaon, Haryana, India, and part of the U.S.-based Kohler Co.), one of the major leading manufacturers of sanitary ware products for the architectural, commercial, industrial, institutional and residential sectors, recently turned to IAPMO Plumbing Codes and Standards India Private Ltd. (aka IAPMO India) to certify and list its highly efficient Brive+ two-piece water closet to its product performance standard, to the 2013 Water Efficient Products – India (WEP-I) specification, and to the 2011 *Uniform Plumbing Code – India (UPC-I)*. Kohler India’s water closet was tested, rated for efficiency, found to comply and is now displayed on IAPMO-India’s web product listing directory at <http://www.iapmoindia.org/Pages/pld.aspx>. Both of Kohler India’s *UPC-I* and WEP-I listings of a high-efficiency water closet using less than 4 liters per full flush (Lpf) are the first for this product category to be listed by IAPMO India.

“We are very excited to have IAPMO-India list Kohler’s Brive+ two-piece WC as the very first three-star-rated high-efficiency WC, to the newly released 2013 Water Efficient Products – India (WEP-I) specification. It was great working with IAPMO-India’s product listing service and we wish to continue working with them on certifying Kohler’s line-up of high-efficiency toilets,” said Mr. Salil Sadanandan, managing director of Kohler India.

As a result of Kohler India’s two new *UPC-I* and WEP-I listings, architects, consumers, contractors, engineers, plumbing instructors, plumbing designers, and inspectors alike now also know that their listed water closet complies with every standard and code governing their use throughout India, and helps to promote the use of green products that help to conserve water usage. Since 2007, IAPMO-India, a private, non-governmental organization, has established a successful partnership with the Indian Plumbing Association ([www.indianplumbing.org](http://www.indianplumbing.org)) to develop various industry codes – e.g., the *Uniform Plumbing Code – India (UPC-I)*, *Uniform Solar Energy Code – India (USEC-I)*, *Uniform Swimming Pool Code – India (UPSC-I)*, *Green Plumbing Code Supplement – India (GPCS-I)*, and the water-efficiency rating specification Water Efficient Products India (WEP-I) – as well as plumbing training and educational programs (now in session) throughout India for designers, contractors, students and engineers. IAPMO-India also similarly worked with the upper hierarchies of the Fire and Security Association of India (<http://www.fsai.in>) and the Indian Society of Heating, Refrigerating and Air Conditioning Engineers (<http://www.ishrae.in>) to develop the *Uniform Mechanical Code – India (UMC-I)* for products used within mechanical systems. Please visit [www.iapmoindia.org](http://www.iapmoindia.org) for more information about IAPMO-India and its plumbing and mechanical product listing programs.

There’s never been a better time than today to join other manufacturers and begin certifying your products within India’s rapidly emerging market via IAPMO India’s product listing programs. Your IAPMO-India-listed products help give your clients a greater level of assurance and confidence that installing and using your listed products help protect the public’s health, welfare, and safety, as contrasted with unlisted products.

For more information on having products listed, contact Charles Gross at [charles.gross@iapmo.org](mailto:charles.gross@iapmo.org) or (909) 472-4136.

## **IAPMO India Introduces UMC-I Illustrated Training Manual and Mechanical Education to Employment Program at ACRECONF-2013**

New Delhi, India (April 26, 2013) – The Indian building industry now has powerful and revolutionary new tools at its disposal with the introduction of IAPMO India's 2012-UMC-I Illustrated Training Manual™ (2012 UMC-I ITM™), and launch of the Mechanical Education to Employment Program (MEEP) during ACRECONF-2013 at the India Habitat Centre. ACRECONF (Air-Conditioning-Refrigeration-Conference) is an international conference of HVAC-R professionals, sponsored by ISHRAE.

The UMC-I ITM provides required guidelines for the design, installation and maintenance of heating, mechanical ventilation, cooling, refrigeration and miscellaneous building services and systems, while at the same time allowing latitude for innovation and new technologies. It is the most comprehensive document ever created in India to standardize sustainable residential, industrial and commercial mechanical systems. The process of developing the UMC-I, ITM brought together volunteers representing varied viewpoints and interests to achieve consensus on mechanical issues. Widespread awareness and adaptation of the UMC-I could result in a combined effort by the entire construction and infrastructure sector toward a cleaner and greener environment, thereby greatly reducing the carbon footprint.

The MEEP addresses a widening skills gap in India — the slim availability of high quality professionals compounded by the galloping pace of the country's construction and allied-service driven economy, which is growing faster than most countries worldwide. As businesses propose to double and triple their workforce and India strives to maintain its position in the global marketplace, it has become imperative to prepare and plan for a world-class, competent, talented and innovative pool of workers. In response to these challenges, IAPMO India has introduced the cutting-edge MEEP concept, training university students in order to tackle the impending shortage of knowledgeable, skilled workers. Graduates of the multi-level MEEP education programs will be given the option of obtaining professionally qualified certifications with the following credentials:

- Mechanical Managers (MM) Academic Program
- Mechanical Supervisors (MS) Academic Program
- Mechanical Technicians (MT) Academic Program

"It gives us a great opportunity to be associated with many likeminded professionals, societies and organizations pan India to develop the UMC-I ITM, and will thus be an invaluable combination of our globally gathered expertise and the knowledge of India's best and most seasoned HVAC professionals," said Megan Lehtonen, vice president of International Business Development, IAPMO USA. "Such fruitful relationships will undoubtedly go a long way in furthering the sharing of knowledge for creating better standards, and professionals who would ultimately work for the benefit of Indian society."

Abdul Matheen, director Mechanical, IAPMO India, said: "Codes, standards and code-based education form part of the mandatory requirements in building design to help heal the planet from the harmful effects of Global Climate Change, which also contributes to water and energy conservation. We at IAPMO India hope to sow seeds of change in the mechanical industry through codes, standards and education; through the UMC-I ITM and the MEEP education programs being launched today."

For more information on IAPMO India's latest initiatives, please contact Megan Lehtonen at (909) 472-4133 or by e-mail at [megan.lehtonen@iapmo.org](mailto:megan.lehtonen@iapmo.org).

## **IAPMO-India and Indian Plumbing Association Roll Out Additional Skill Acquisition Program**

Kerala, India (Jan. 13, 2014) — IAPMO-India and the Indian Plumbing Association (IPA) have partnered with the government of Kerala to provide plumbing training for students enrolled in the state's Additional Skill Acquisition Program (ASAP), a unique strategy designed to equip students with beneficial skill sets alongside their regular academic studies in schools and colleges.

The Indian government's National Skill Development Mission projects an increased demand for skilled manpower to sustain the nation's industrial and thereby economic growth, and that training that will promote skill formation within the general populace is not only essential, but will enhance their capacity to undertake gainful self employment and access to higher-paying employment within industries identified as skill sectors.

ASAP, a joint initiative of the government of Kerala's departments of Higher Education and General Education, aims to fulfill growing skilled manpower requirements and bridge the gap between supply and demand. Within this framework, ASAP will seek to provide quality industry-oriented skill training to more than 300,000 deserving students via a network of selected schools and colleges across Kerala over a period of five years.

The Plumbing Apprentice Program, to be administered by IAPMO-India and the IPA, is designed such that students enrolled in ASAP can take the program as an add-on and become equipped to take various jobs in the Indian plumbing industry.

IAPMO-India, in consultation with the government of Kerala, will administer the plumbing program through approved training programs including: Govt. College Kattapana, GHSS Perumbavoor; Govt. College Kasargod; IASC Thrissur; Gove. College Mananthavady; Govt. Model HS Calicut, and numerous others. Administration includes lectures and practical training, conducting of examinations, evaluations, assessments, and the issue of marks/grades and award certificates. The government of Kerala will issue certificates that are jointly signed by government officials and IAPMO India to students who successfully complete the program.

### **ABOUT IAPMO-INDIA**

*IAPMO Plumbing Codes and Standards India Private Limited (known as IAPMO-India) was founded in 2007 with offices at Bengaluru and Pune. IAPMO-India and the Indian Plumbing Association (IPA) have formed a strong and essential partnership to provide for the industry and India at large. The latest and most comprehensive plumbing codes and training and education programs for code-based plumbing installations and maintenance for all of India continue to improve through the expertise and focus of this partnership. The strength of these programs is anchored by the support from prominent organizations including CII, Indian Green Building Council, TERI, ISHRAE, BAI, state governments, and many others.*

*For more information, direct your web browser to <http://www.iapmoindia.org/>.*

# How Water Efficient Are YOUR PLUMBING FIXTURES?

Get Your Fixtures Tested and GREEN Listed To  
IAPMO India's 3 Star rating specification,  
"Water Efficient Products India" (WEP-I)

1 Star  fixture is efficient

2 Stars  fixture is very efficient

3 Stars  fixture is ultra efficient

***Congratulations to Hindware's First ever 3 Star rated GREEN  
WEP-I listing for their dual-flush water closet "INOX 30cm"***

available to view on IAPMO India's product listing directory  
at [www.iapmoindia.org/Pages/pld.aspx](http://www.iapmoindia.org/Pages/pld.aspx)



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WEP-I is jointly published by IPA and IAPMO India

# Quick Guide to 2013 "Water Efficient Products India" (WEP-I) 3 Star Rating Specifications

Star Rating by Water Consumption			
FIXTURE TYPE	GREEN	GREEN	GREEN
			
<b>Clothes Washers</b>	< 650 L/m <sup>3</sup>	535 L/m <sup>3</sup>	<b>400 L/m<sup>3</sup></b>
<b>Dishwashers</b>	16 L/Full Load	11 L/Full Load	<b>6 L/Full Load</b>
<b>Faucets</b> - Handheld Ablution Spray	5.7 Lpm	5.0 Lpm	<b>4.0 Lpm</b>
<b>Faucets</b> (non-metered) - Private	8 Lpm	5.7 Lpm	<b>5.0 Lpm</b>
<b>Faucets</b> (metered) - Public (Electronic/Mechanical)	1 L/cycle (Mechanical)	1 L/cycle (Electronic)	<b>0.5 L/cycle</b> (Electronic/Mechanical)
<b>Faucets</b> - Sink & Handheld Spray	8 Lpm	5.7 Lpm	<b>5.0 Lpm</b>
<b>Shower Heads</b> / Handheld Showers	9.5 Lpm	7.5 Lpm	<b>5.7 Lpm</b>
<b>Urinals</b>	< 3.8 Lpf	< 2 Lpf	<b>&lt;1 Lpf</b>
<b>Water Closets:</b>			
Combination, Asian/India (Squatting pan)	4.8 Lpf; 6 Lpf/3 Lpf	< 4.8 Lpf	TBD*
European	6 Lpf/3 Lpf	TBD*	TBD*
European (High-efficiency)	4.8 Lpf	< 4.8 Lpf	<b>&lt; 4.0 Lpf</b>

\* To Be Determined

The above marks can only be issued by IAPMO India, and IAPMO, the Global leader and the industry's premier choice for plumbing certification for over 45 years.

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