Opening Remarks/
JWWA’s Inspection & Certification Systems

~2015 Water Associations Meeting in Saitama

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Director,
Training and International Affairs Dept.
Japan Water Works Association

Agenda

• Ṣ. Review of 2014 Associations Meeting in Nagoya
• Ṣ. Outline on Quality Management of Materials by JWWA
• Ṣ. JWWA’s Inspection Service
• Ṣ. JWWA’s Certification Services
• Ṣ. Conclusion
Ⅳ. Review of 2014 Association Meeting in Nagoya

2014 JWWA General Assembly & Research Conference

Long Lasting Partnership between JWWA and
AWWA (USA),
CTWWA (Chinese Taiwan),
IWWA (India),
IWA (International)
KWWA (Korea),
MWA (Malaysia),
PERPAMSI (Indonesia),
PWWA (Philippine),
TWWA (Thailand),
WSAA (Australia)

29th-31st October 2014 - Nagoya-city, Japan -
AWWA: American Water Works Association

Jim Chaffee
(Immediate Past President)
Colin Chung
(Asset Management Manager)

CTWWA: Chinese Taiwan Water Works Association

Fu-Tien Chen (President)
Sun-Kuei Wang (Secretary General)
Yang-long Wu (Commissioner, Taipei Water Department)
IWWA: Indian Water Works Association

Anand Wachasundar
(Ex Director (International))

IWA: International Water Association

Ganesh Pangare
(Regional Director)
KWWA: Korea Water and Wastewater Works Association

Yong-Cheol Choi (Vice President)
Seong-hwan Ahn (Team Manager)

MWA: Malaysian Water Association

Syed Mohd Adnan ALHABSHI (President)
Mohmad Asari DAUD (Honorary Secretary General)
PERPAMSI: Indonesian Water Supply Association

Rudie Kusmayadi (Chair)
Ashari Mardiono (Secretary General)
Teguh Subekti (Executive Director)
Benny Andrianto Antonius
(Vice President PT. ATB Batam)

PWWA: Philippine Water Works Association

Edgar C. Lopez (President)
Nenita B. Javier (Office Manager)
Ester T. Vengco (Director)
TWWA: Thai Water Works Association

Leuchai Deethavorn (Vice Chairman)
Somchai Monburint (Vice Chairman)

WSAA: Water Services Association of Australia

Stuart Wilson
(Vice Executive Director)
Exhibition and Excursion

Water Associations Meeting

- Sharing Good Practices -

• Sharing knowledge, experiences and backgrounds
• Possibility of Mutual Cooperation
What we confirmed in the Associations Meeting in 2014

1) Information sharing, Capacity building, R&D and Consulting are common important roles and functions of water association

2) Each association’s activities are corresponds to their country’s current water issues and contribute to development of their water sector

3) Further collaboration with water associations will contribute to find a way out for water issues in the world

Fig.1 - Roles and Functions of Waterworks Associations

Number of Associations

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Outline on Quality Management of Materials by JWWA

Brief History of JWWA

1904 Establishment of JWWA
to Start with setting standard of the Water Quality Examination Method

• Water Related Products’ Standards (1914)
• Inspection Service (1934)
• Training Service (1958)
• Certification Service (1997)
**Brief History of Japanese Water Supply System & JWWA**

- 1887 Establishment of Modern Water Supply System in Yokohama
- 1904 JWWA Foundation
- 1914 JWWA Standardization
- 1934 JWWA Inspection Service
- 1958 JWWA Training Service
- 1997 JWWA Certification Service

**Water Related Products’ Standards**

- **Establishment in 1914**
  - Pipes, Fittings, Valves, Chemicals...

**JWWA Sets the Standards** and provides inspection / certification Services

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Branch Office for Inspection and Certification Services

Location of Inspection offices, etc
- Inspection offices
- Resident Inspectors
- Inspection outsourcing to water utilities

<table>
<thead>
<tr>
<th>grade of Inspection</th>
<th>Number of factories registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>40</td>
</tr>
<tr>
<td>Second</td>
<td>70</td>
</tr>
<tr>
<td>Third</td>
<td>275</td>
</tr>
<tr>
<td>total</td>
<td>385</td>
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</tbody>
</table>

Number of factories registered (Quality certification) : about 400

JWWA’s Inspection Services
Background and History of JWWA Inspection System

<Before 1934>
- Most Utilities Dispatched their staffs to the manufacturing factories etc.
  (with their own emblems and serial numbers)

- Inefficiency and Ineffective for both Utilities and Manufacturers (=Difficulty of Mass-production)

<In 1934>
- JWWA “Inspection Service” was started
- To use iron pipes identified with the “JWWA Inspection Certification Mark”

Current Inspection Service

[Diagram showing the process of ordering, delivering, and using inspected products with JWWA Certification Mark]

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**Water Related Products (Pipes)**

- Ductile iron pipe
- Steel pipe
- Rigid polyvinyl chloride pipe
- Polyethylene pipe for water distribution
- Stainless steel pipe

**Water Related Products (Ancillary equipments)**

**Valves, faucets, and taps**

- Ductile iron gate valve, Soft-seal gate valve
- Butterfly valve
- Underground fire hydrant
- Quick air valve
- Cooperation stop with saddle

**Covers and casings**

- Circular and rectangular iron covers
- Screw-type valve casing
- Resin concrete box
Water Related Products (Others)

Paints
- Epoxy resin powder paints for coating inside surfaces of water supply ductile iron pipes
- Liquid epoxy resin paints for waterworks
- Solvent-free epoxy resin paints for waterworks
- Synthetic resin paints for water supply ductile iron pipes
- Mortar linings
- Polyurethane coatings
- Polyethylene coatings

Others
- Rubber rings
- Polyethylene sleeves

Ductile iron pipe Hydrostatic test

<table>
<thead>
<tr>
<th>Ductile iron pipe</th>
<th>Hydraulic tester</th>
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<tbody>
<tr>
<td>Nominal size 300 or less</td>
<td>6.0 MPa</td>
</tr>
<tr>
<td>Nominal size 350 - 600</td>
<td>5.0 MPa</td>
</tr>
<tr>
<td>Nominal size 700 – 1,000</td>
<td>4.0 MPa</td>
</tr>
<tr>
<td>Nominal size 1,100 – 1,500</td>
<td>3.0 MPa</td>
</tr>
<tr>
<td>Nominal size 1,600 – 2,000</td>
<td>2.5 MPa</td>
</tr>
</tbody>
</table>

(Evaluation)
- Evaluate based on the visual inspection of products and any reduced readings in pressure gauge (JIS B7505: Bourdon gauge).

(Precautions)
- Ensure appropriate lighting for detection of any water leakage.
- Check the products before testing for any water leakage.
- Pay attention to higher water pressures.
Ductile iron pipe material testing

Ductile iron pipe Spheroidized ratio of graphite test

- Portable microscope
- Graphite, Pearlite, Ferrite

Graphite, Globular Rate: Over 80%
Inspection of internal coating of Ductile Iron Pipe

[JWWA’s Certification Services]
Water supply equipment
- Service Pipes, Pipe Joints, Faucets, Valves, and Water Heaters etc.
- Materials Installed in Households etc.

Certification Service

Customer

Ordering a product

Delivering certified product

Manufacturer

Public Announcement of Registration Products

Registration

Factory survey and issuing the certification
Based on JWWA Standards or Ministry Ordinance

JWWA

Third Party Certification Organization

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Conclusion

Reliability  Sustainability  NRW Reduction, Improvement of water quality

Preventive Maintenance

Reduction of Accidents, Earthquake Proof

Inspection System

Standards

Certification System

JWWA Collaborates;

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The End
Thank you for your attention.
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Inspection methods

- Joint performance testing
- Water quality effect test
- Mechanical property inspection (Tensile strength, elongation)
- Spheroidized ratio of graphite test
- Water-tightness test
- Geometrical and dimensional inspection
- Weight measurement
- Visual inspection
- Coating and lining inspection (Appearance, pin-hole, thickness)
- Markings inspection