Interpretation of Singapore's "Water Efficiency Labelling Scheme" System

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Abstract: Water efficiency label is a kind of information label which provides necessary information for consumers' purchase decision. As one of the earliest countries to implement water efficiency labeling program / Project in the world, Singapore's "water efficiency labeling program" system has achieved remarkable water-saving effect for its own country, which has great reference significance for China's water-saving management.

1 Research background

Water is the source of life, the essential of production, and the foundation of ecology. China's per capita water resource is only 28% of the world average. At the same time, China is also a major producer and consumer of water products at the end of the pipeline, such as toilets, faucets and washing machines. The market for high-water products is huge, and there are problems such as low efficiency, irrational structure, and irregular market for water-based products.

Since the 2011 Central Committee Document No. 1 "Decision of the Central Committee of the Communist Party of China and the State Council on Accelerating Water Conservancy Reform and Development" (Zhongfa [2011] No. 1), Article 20 of Chapter VI proposed: "Establishing a water efficiency control system" until now, the National Development and Reform Commission The Ministry of Water Resources and the General Administration of Quality Supervision, Inspection and Quarantine have issued a series of policy documents to actively promote the construction of China's water efficiency labeling system.

In order to implement the "Water Law", "Product Quality Law" and "Circular Economy Law" and other laws and regulations, as well as the "Opinions of the State Council on Implementing the Most Strict Water Resources Management System" (Guofa [2012] No. 3) and other document requirements, The water efficiency of the whole society is to establish a water efficiency labeling system. The "Measures for the Administration of Water Efficiency Labeling" (hereinafter referred to as the Measures) jointly formulated by the National Development and Reform Commission, the Ministry of Water Resources and the former General Administration of Quality Supervision, Inspection and Quarantine was officially released and implemented on September 14,

2017. On January 26, 2018, the "Implementation Rules for Toilet Water Efficiency Labeling" was released. The document stipulates that toilets that are shipped or imported from August 1, 2018 must have water effect labels.

Water efficiency label is the information label of water use efficiency of water products. It refers to the information label attached to the water use appliance/product. It is mainly used to indicate the water performance of the product (usually given in the form of water consumption, flow, etc.) for consumers (including Companies, governments, and individuals provide necessary information to guide and help consumers choose products with higher water efficiency.

At present, in addition to China, countries that implement water efficiency labeling schemes/projects mainly include Australia, Singapore and the United States. These countries have established a sound water-saving product certification system and deeply rooted water-saving labels, and have achieved significant water-saving effects.

Affected by its unique geographical location and topography, Singapore is a country with extreme water scarcity in the world, and its water management has been elevated to a strategic level of national security. Singapore, like Australia, has implemented the Water Efficiency Labelling Program as early as 2006, and is one of the first countries in the world to implement water efficiency labels. Therefore, the study of Singapore's water efficiency labeling system is of great value to my country's water conservation work.

The following is the specific situation of Singapore's water labeling system.

2 Responsible agency

The responsible agency for the Singapore Water Efficiency Labelling Scheme is the Public Utilities Board

(PUB) of the Singapore Government, which publishes the Water Efficiency Labelling Scheme (VOLUNTARY & MANDATORY). The content of the "Water Efficiency Labeling Plan" includes the functions of the executive agency and its responsibilities and powers, the scope of products implemented, the way to apply for water efficiency labels, the content of water efficiency labels, the use and promotion of water efficiency labels, etc. PUB will supervise the registration of water accessories, appliances, appliances and products to which the label and standard terms apply under WELS, and will supervise to enforce compliance with the plan.

3 Management organization and responsibilities

Singapore's water efficiency labeling plan is formulated and implemented by the Singapore Government Public Utilities Board (PUB). The Singapore Government Public Utilities Board (PUB) is Singapore's water management agency, which is responsible for ensuring the country's effective, sustainable and sufficient water supply. In the WELS program, PUB regularly conducts random checks on retailers and sellers, penalizes any violations of the terms of the "Water Efficiency Labeling Program" or products, and cancels the registered model.

4 Implementation mode

Singapore's water labeling scheme was a voluntary certification when it was launched in 2006. It became mandatory on July 1, 2009, and some products retain voluntary certification. The WELS plan stipulates that all products sold in Singapore must undergo energy-saving flow testing and registration before being sold in Singapore, otherwise it will be illegal. The manufacturer or agent can register the product with WELS. In addition to the manufacturer and product-related information, the corresponding test report is also required. The testing organization that can conduct the WELS test must be an independent tripartite laboratory accredited by the Singapore Laboratory Accreditation Scheme or an independent laboratory that has signed a mutual recognition agreement with the Singapore Accreditation Board.

5 Scope of implementation and standards

The Singapore Water Efficiency Labelling Scheme covers the following water appliance products, including mandatory WELS products and voluntary WELS products.

The products covered by the Mandatory Water Efficiency Labelling Scheme (WELS) are: faucets and mixers (sink/shower/sink/faucet), double flush low-capacity flushing tank (LCFC), urinal flushing valve, waterless urinal and household washing machine.

Voluntary WELS products are mainly shower

nozzles.

The WELS label of Singapore water appliance products is shown in Figure 1.

Figure 1. WELS label for water appliance products in Singapore

Water appliances within the scope of Singapore regulations should meet the standards and requirements stipulated by PUB. The standards are based on Singapore's national standards and the relevant standards of water appliances such as faucets and showers in the United Kingdom and Australia/New Zealand. The specific conditions involved in the standards are shown in Table 1:

Table 1. Singapore water efficiency products based on testing standards

product	According to testing standards
shower	SS448 : Part 3 : 1998 BS EN 200 : 2008 BS5412 : 1996 BS EN 817 : 2008 BS 1415:Part 2:1986 BS EN 1287:1999
Shower head	AS/NZS 3662:2005
Basin faucet	SS448 : Part 3 : 1998 BS EN 200 : 2008 BS5412 : 1996 BS EN 817 : 2008 BS 1415:Part 2:1986 BS EN 1287:1999
Sink tap	BS EN 200 : 2008 BS5412 : 1996 BS EN 817 : 2008 BS 1415:Part 2:1986 BS EN 1287:1999
Flush water tank	SS 574 : Part 1 : 2012
Urinal and urinal flush valve	PUB Drainage flow test method

Household washing machine	IEC 60456 Edition 5.0 (2010-02) BS EN 60456:2005
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6 Application for product registration

Under the requirements of the Water Efficiency Labeling Scheme, all importers, parallel importers, retailers, manufacturers, suppliers and distributors of water accessories/products are obliged to register their products.

To register water accessories, appliances, or product models to be labeled, suppliers should submit an application to the registration center online. A clear photo of the corresponding product model and required documents (test reports and certificates corresponding to the registered product model to prove compliance with PUB standards and requirements) should be provided. After the registration is approved by the registration center, the supplier can print water efficiency labels according to the requirements specified in the public publications for the registered water accessories, appliances, instruments or product models.

Before water fittings, appliances or product models are registered in WELS, the products of the corresponding models must meet and obtain relevant test certificates and reports to prove that they meet the mandatory standard requirements of this type of product specified by PUB. Therefore, in addition to submitting the test certificate and report on the water efficiency of the model registration, the supplier should also submit the relevant test certificate and report to prove that the model meets the mandatory standards and requirements of PUB for water accessories, appliances, instruments or products.

7 Testing agency

Test reports issued by independent laboratories in Singapore, these laboratories have been accredited by the required test standards under the "Singapore Laboratory Accreditation Scheme" (Singapore Laboratory Accreditation Scheme).

A test report issued by an independent laboratory outside of Singapore, which has been certified by a partner under the Singapore Certification Board-Mutual Recognition Arrangement (SAC-MRA partner) according to the required test standards.

The Singapore Accreditation Council (SAC) provides a list of recognized testing laboratories/national certification bodies.

8 Registration changes

If any registered water fittings, appliances or product models have been modified in any way, the supplier shall take the following measures, otherwise, the model

registration will be deemed invalid:

Inform the registration center of the detailed description of the modification online; and

If the water efficiency of the changed registered model is changed, the model should be tested again and the relevant test certificate and report should be submitted to the registration center, showing the changed water efficiency and other information/details that the registration center may require.

The registration center can modify the water efficiency rating of the registered model based on the submitted test certificate and report and information/details.

9 Conclusion

The water efficiency labeling system is an important market-based management system for the improvement of the water efficiency level of end-use water products. It takes the improvement of product water efficiency as the core and promotes the improvement of product quality. Singapore and Australia are both the first countries in the world to carry out water efficiency labeling schemes. The country has achieved good water saving effects through the implementation of the water efficiency labeling scheme (WELS), which has deeply rooted the concept of water saving. Studying the national policies and standards of advanced water efficiency labeling management system is of great significance for the establishment of China's water efficiency labeling system and water-saving management of water-using appliances. The establishment and promotion of the water efficiency labeling system will lead the development of water-saving technologies, promote enterprises to improve the overall quality of water products, regulate the water-saving industry market, and play an important role in promoting supply-side reforms.

References

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4. AS/NZS 3662:2005— Performance Of Showers For Bathing
5. BS EN 1287:1999—Sanitary tapware. Low pressure thermostatic mixing valves. General technical specifications