


TECHNOLOGY VERIFICATION FOR GLOBAL USE

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**International Affairs Department**

On March 23, Japan Sewage Works Agency (JS) Technical Committee approved the result of the verification for *the Advanced Energy Saving Wastewater Treatment Process: a compact final solid-liquid separator (SLS)* that Metawater Co., Ltd. developed.

** What is a Technology verification program for global use?**

The Technology verification program for global use aims to encourage Japanese businesses to enter the global water market. In the program, JS verifies the performance and applicability of domestic companies' wastewater technologies for overseas users. JS issues a certificate for a verified technology, and the Ministry of Land, Infrastructure, Transport, and Tourism (MLIT) releases a letter of introduction when a foreign country considers adopting the technology.

** Advanced Energy Saving Wastewater Treatment Process: a compact final SLS**

Metawater Co., Ltd., a developer, demonstrated the Advanced Energy Saving Wastewater Treatment Process in Da Nang, Vietnam.

In Vietnam, rapid urbanization requires an improvement of environmental health with the sewerage system. Metawater developed Advanced Energy Saving Wastewater Treatment Process as high maintainability, cost-saving wastewater treatment technology to meet such a requirement. Two years ago, JS verified the effluent quality, the electric power consumption rate, the footprint, and the maintainability of the Advanced Energy Saving Wastewater Treatment Process.

Figure 1 is a system flowchart describing the scope of the second verification.

The wastewater treatment process has recently required space-saving in Vietnam because land prices have increased. Though the final solid-liquid separation tank consisted of a settling part and a filtering part, in the beginning, the solid-liquid separator got to consist of only a filtering part with no settling part for more space-saving and energy-saving.

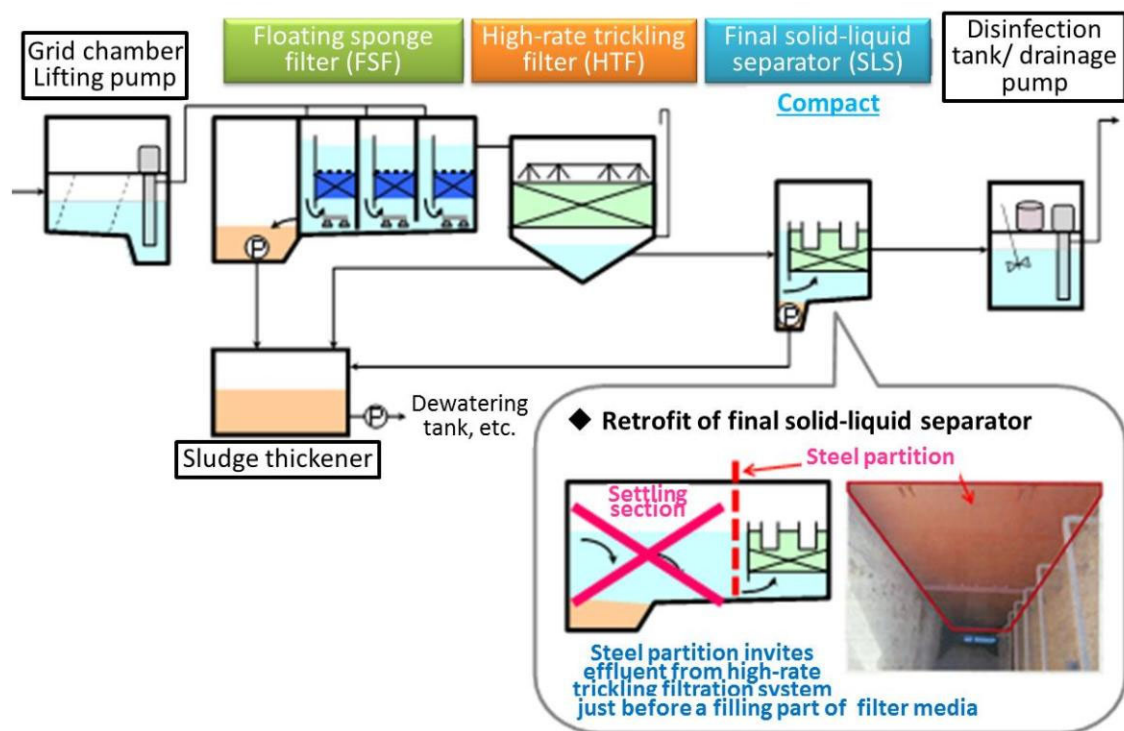


Figure 1: The scope of the second verification

### **Demonstration experiment**

The experiment was conducted for two months from August 2015 using actual wastewater. Demonstration facilities in Phu Loc Wastewater Treatment Plant in Da Nang have a capacity of 300 m<sup>3</sup> per day (its final SLS has 150 m<sup>3</sup> per day.) Photo 1 describes demonstration facilities. The experiment results showed that effluent from the system had both BOD and SS concentrations of less than 30 mg/L. Vietnamese effluent guidelines have two BOD standards: 30 mg/L and

50 mg/L. In the demonstration, the more complex value of 30 mg/L is set as a target BOD. A model design of wastewater treatment facilities with the capacity of 20,000 m<sup>3</sup>/ day demonstrated the new system, including the compact SLS, required about half the footprint of the conventional activated sludge process.

Photo 1: Demonstration facilities (The final SLS is near the side)

### **Future global presence**



This technology is promoted for the world market as a product name of the Pre-treated Trickling Filter (PTF) system. Currently, Japan International Cooperation Agency (JICA) project is going on in Hoi An City in Vietnam, which has world heritage Hoi An Ancient Town. The city is planning a new WWTP, including adopting the PTF system. We expect this verification will encourage the popularization of the PTF system in Vietnam and other countries in South East Asia.