

Design and O&M Method using Activated Sludge Model

Japan Sewage Works Agency (JS) developed **simulation technologies using Activated Sludge Model** for design and O&M of WWTP.

The technology enables:

- **Quantitative prediction of effluent quality or treatment costs** that used be difficult to calculate.
- Accurate design and O&M that meet particular requirements of each WWTP

WHAT IS ACTIVATED SLUDGE MODEL?

- A mathematical model that describes chemical reactions that occur during activated sludge process
- The model enables virtual representation of activated sludge process.
- When inputting data such as facilities requirements, operation conditions, and influent quality, the model quantitatively predicts effluent quality, sludge amount, power consumption, etc.

Usage of Activated Sludge Model

Master Planning

- Compare process
- Extension plan

Master Planning

- Study on the capacity of reactors
- Study on a machinery and electric equipment

Retrofitting

- Study on the adoption of nutrients removal
- Retrofit plan
- Construction work plan

Technical assistance

- Diagnose a treatment performance
- Propose an operation improvement