

Treatment of waste water containing uranium

RADIATION &
ENVIRONMENT
DEPT.

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It is an eco-friendly technology to minimize radioactive materials of drainage, which is generated from nuclear fuel processing facility and UF₆ cylinder washing process, through vacuum evaporation concentration in a low temperature and low pressure

Description

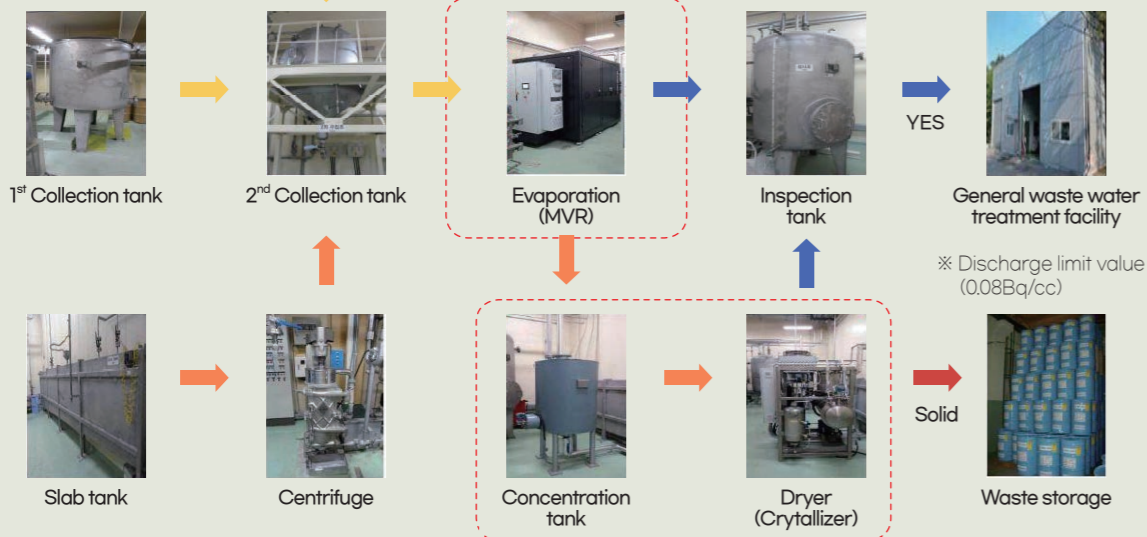
* Background

- To discharge treated waste water to the general environment when processing nuclear fuel and washing UF₆ cylinder, the radioactivity of waste water and secondary waste need to be reduced.

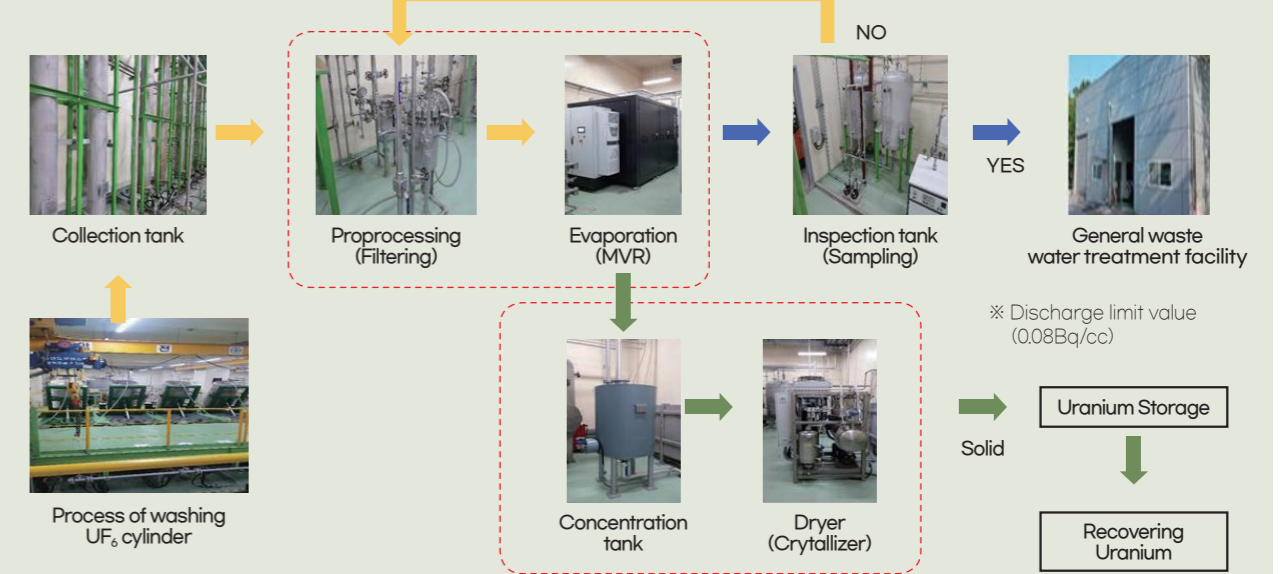
* Purpose and Necessity

- Secure an ECO-friendly and economical waste water treatment technology
- Minimize radioactive materials in drainage and secondary waste

* PROCESS



* PROCESS



* Principle

- Utilizing the characteristic that Uranium in waste water from nuclear fuel processing process and UF₆ cylinder washing process is not vaporized, waste water is separated into radioactive and condensed water with evaporation in low pressure and is discharged.
- Non-evaporated waste water is concentrated and dried. It is stored as radioactive solid waste by nuclear fuel processing process and it is reused with recover and refine process by UF₆ cylinder washing process.

* Benefits

- Minimizing radioactive materials in drainage
- Reduction of waste water treatment time
- Efficient manpower management by improving the treatment method and automatizing the machines
- Minimum machine space
- Reduction of secondary waste and management costs of waste

TECHNOLOGY READINESS LEVEL(TRL)

- Actual system proven through operation

Distinctiveness

* Characteristic

- Remove more than 99% of uranium in waste water by vacuum evaporation concentration process in low pressure
- Simplified process and no use to chemicals
- Collect waste water, refine and reuse uranium

Experience

- Commercial operation phase

Deliverables

- Facility design, installation and operation
- Operational training and consultation

BUSINESS MODEL

Technology Transfer

Licensing

Joint search

Service Execution

Others