

“Application of cavitation jet technique to operating nuclear power plant”

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A decontamination technology developed by the Mitsubishi Group was introduced. Reporting was made on the development of the radioactive crud removal system using cavitation jet technology.

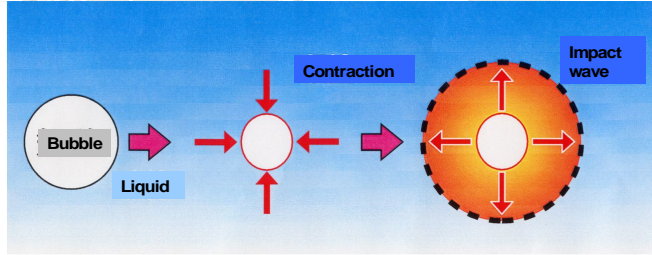
The characteristics of cavitation jet technology include the following.

- More effective than the crud removal method with air pressure
- The crud removal effect is exerted in a wide range by use of water.
- Shielding by water contributes to the reduction of dose exposure.
- Highly effective also in compact facilities
- Capable of inhibiting damage in the surface by enabling short-term decontamination

Given that the application of this technology conforms to the principle of ALARA, the company is committed to further promote the adoption of it.

Application of the cavitation jet technique to the operating plant (2/7) NO.3

2. Principle of cavitation jet generation
Cleanup and decontamination with cavitation jet (CJ) are technologies to generate cavitations by jetting high pressure water through the dedicated nozzle into the water for the purpose of stripping off radioactive clad from the surface of subject equipment .



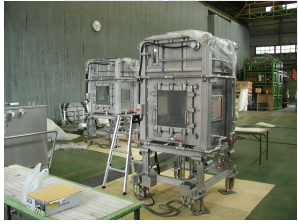
The diagram shows a sequence of three stages: 1. A bubble in a liquid. 2. The bubble contracting under pressure, labeled 'Contraction'. 3. The bubble expanding and creating an 'Impact wave' on a surface.

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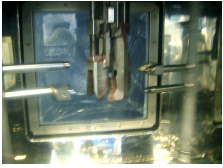

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4. Application examples
(2)Equipment decontamination in the dedicated cleanup tank
To accomplish reduction of radiation exposure during works for periodical inspection, the dedicated cleanup system decontaminates subject parts by means of cavitation jet. This achieves uniform decontamination effect regardless of its irregularity of the surface based on effective range of generated cavitation.



Full view of decontamination tank

Before decontamination	After decontamination
	
Deposition of brownish-red clad	Approx. DF8 (No significant clad stays)

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