

Decommissioning Process “Dismantling PCV/RPV/Buildings”Investigation Subject **“Understanding current status”**Issue **“Understanding the properties and the volume of dismantled materials”****Needs****1. Understanding the properties and the volume of dismantled materials****Desired state and reasons for it**

- In order to formulate a reasonable dismantling work plan and a waste processing plan, it is desirable to understand what kind and how much waste with what properties will be generated before dismantling the PCV/RPV/buildings.
- Particularly in the dismantling of buildings, a vast amount of solid waste is expected to be generated; therefore, in order to carry out rational processing and disposal, it is desirable to grasp the facility's contamination situation through nuclide analysis in advance, and to implement decontamination, dismantling, and storing management of the dismantling materials accordingly.

Current state against ideal

- The “Mid-and-Long-Term Decommissioning Action Plan 2025” released by TEPCO on March 27, 2025, does not indicate a specific period for dismantling PCV/RPV/buildings, and it shows limited studies on what methods and procedures will be used to dismantle the buildings, and limited estimates on the amount of waste generated during building dismantlement (TEPCO estimates that the fuel debris removal preparation work will generate approximately 300,000 m³ of waste generated by dismantling of the buildings around Units 1 to 4 including resin and other waste generated before the earthquake). It is indicated in the 16th Sub-Committee for the Evaluation of Fuel Debris Retrieval Methods that considering the need to reduce risks associated with spent resins and sludge, the waste processing buildings for Units 1 to 4 should be dismantled and removed.
- On the other hand, for the purpose of internal investigation in the PCV/RPV for fuel debris removal and environmental improvement in fuel debris removal work, implementation studies of radiation source investigation and decontamination in the building and related R&D activities are being conducted in parallel with these activities. In particular, the remote removal or decontamination of highly contaminated pipes is considered important for the fuel debris removal from Unit 2, where the radiation dose in the reactor building is higher than in Units 1 and 3.
- In addition, for the purpose of utilization in the safety assessment of fuel debris removal, data are being collected on the dispersion and migration behavior of dust generated by machining and cutting of fuel debris in dry and wet environments.
- Solid waste is classified and managed based on surface dose rates, while management based on radioactivity concentration has not yet been implemented.

Issues to be resolved

- It is necessary to understand the contamination status with reference to residual fuel debris, etc. in the PCV/RPV/building, which will be grasped during debris retrieval operations to be carried out in the future.
- Since the properties and quantity of dismantled materials are greatly affected by the contamination status, it is necessary to resolve this issue in conjunction with Issue No. Dismantling-101, and it is important to investigate dismantling model cases for specific facilities.

Relevant Issues

- DRB-202 "Establishing sorting criteria by alpha, beta and gamma contamination"
- DRB-203 "Developing dismantling scenario and sorting strategy"
- DRB-204 "Establishing work sequence"
- BST-001 "Remote control technology"