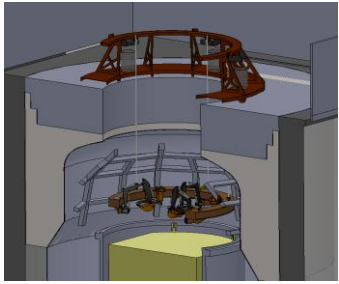
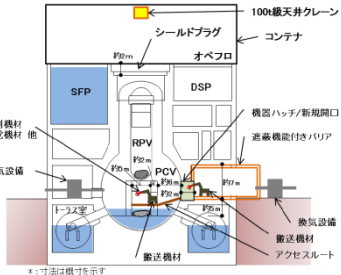


Purpose and Goal

Propose the method to retrieve the fuel debris in a safe manner, from the reactor well or the opening on the side of the PCV without submerging the PCV.

Overview and Feature

Application method
Suspended method using suspended collection equipment
Side method using prefab enclosure

Item	Suspended method	Side access method
Outline		
Conceptual procedures	Collection equipment is lowered to the location of fuel debris creating the openings on the PCV head, thermal insulation structure and RPV head. This method can provide handling close to the fuel debris or damaged equipment.	Create new access opening on biological shielding wall and the PCV. Install the enclosure assembled at the factory in front of the opening. Access to the fuel debris maintaining the airtight boundary. This method provides the shortest route to the fuel debris if those are located inside the RPV pedestal.

Basic concept

- Safety radiation shielding
- Minimization of leakage from the PCV boundary during the operation
- Dust and chip collection system used in air and the cooling water
- Practical installation method and structure design
- Prevention of hydrogen gas explosion by water and zirconium reaction etc.
- Recriticality prevention by continuous monitor

Proven high reliable manipulator

- Application of high radiation resistant manipulator
- Equipped with rescue and maintenance system for continuous operation.



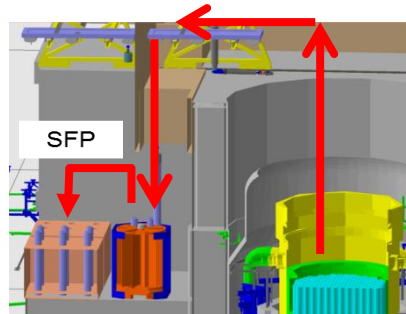
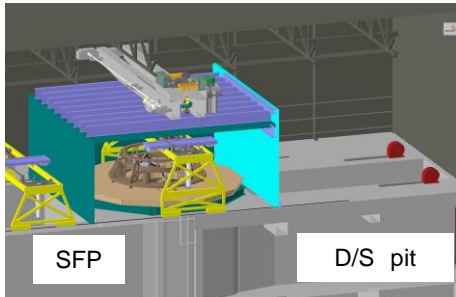
High radiation resistant manipulator



Double manipulator

<Output so far>

- *Chart for the fuel debris retrieval procedures*
- *Concept of cooling method of fuel debris*
- *Dust collection and recovering methods*
- *Study of airtight boundary maintenance and outline system*
- *Concept of the radiation protection*



Fuel debris retrieval procedures(plan)

<Output expected>

1. *Fuel debris retrieval method*
 - *Layout plan and drawing for equipment*
 - *Plan drawing for equipment transferring*
 - *Internal monitoring method*
 - *List of technologies required for the fuel debris retrieval*
 - *Equipment disassembly and removal procedures*
2. *Safety item to be considered*
 - *Exposure reduction*
 - *Seismic design*
 - *Concept of maintenance and repair*
 - *Consideration for the hydrogen gas accumulation*
3. *Plan to realize the method*

Overall Schedule

Item	2014			2015		
	10	11	12	1	2	3
Overall schedule	Selection ▼	Interim report meeting ▼			Final report meeting ▼	
1. Fuel debris retrieval method		←————→				
2. Safety item to be considered		←————→				
3. Plan to realize the method				←————→		