Status of Decommissioning of Deuterium Critical Assembly (DCA)

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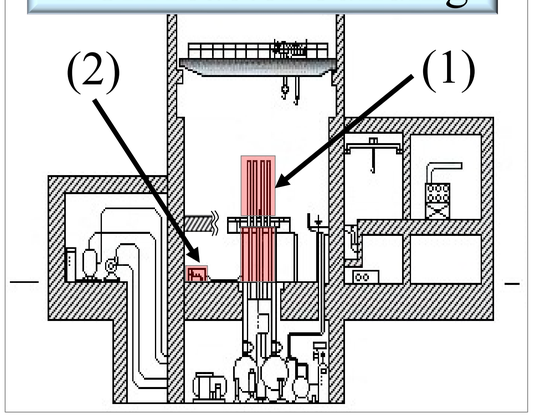
Shut down & Phase 1 2001 ~ 2003

DCA reactor building



※（3）Equipment installed in other building

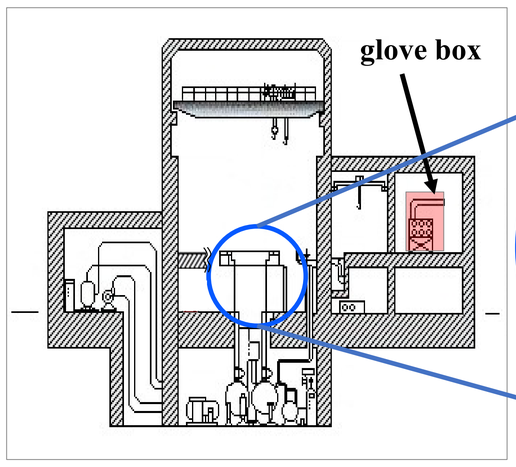
Outline of DCA

R&D for "Fugen",subcriticality measurement technology	
Moderator	Deuterium water
Shutdown	in 2001
Approval of decommissioning plan	in 2006
Maximum Output	1kw
Core tank	Cylindrical, Aluminum
	Diameter : 3m, Hight : 3.5m

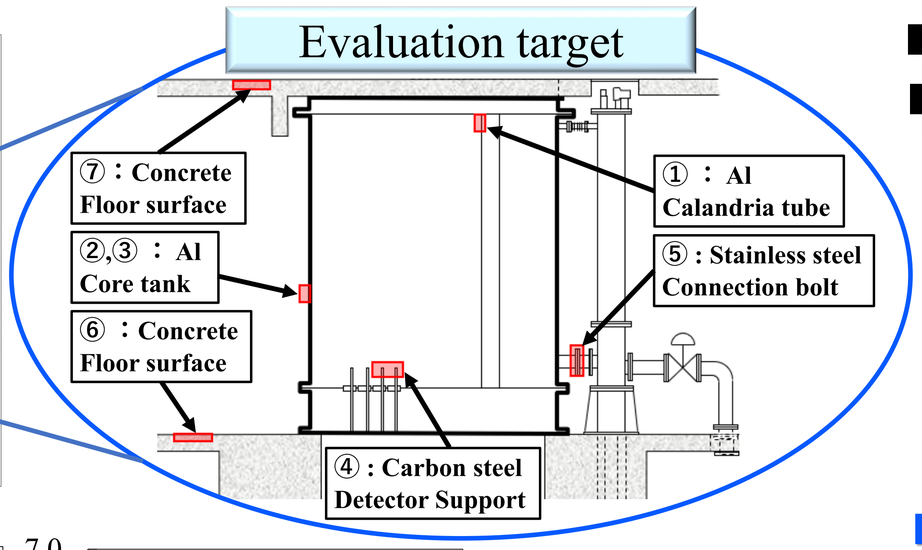
- **Removal of the fuel from the nuclear core tank**
- **Installation of sealing lid**
- **Dismantling and shutdown of equipment**

(1) Dismantling of safety and control rods
(2) Removal and haul-out of start-up neutron sources
(3) Shutdown of measurement and control system facilities ※

Phase 2 2003 ~ 2008



Evaluation target

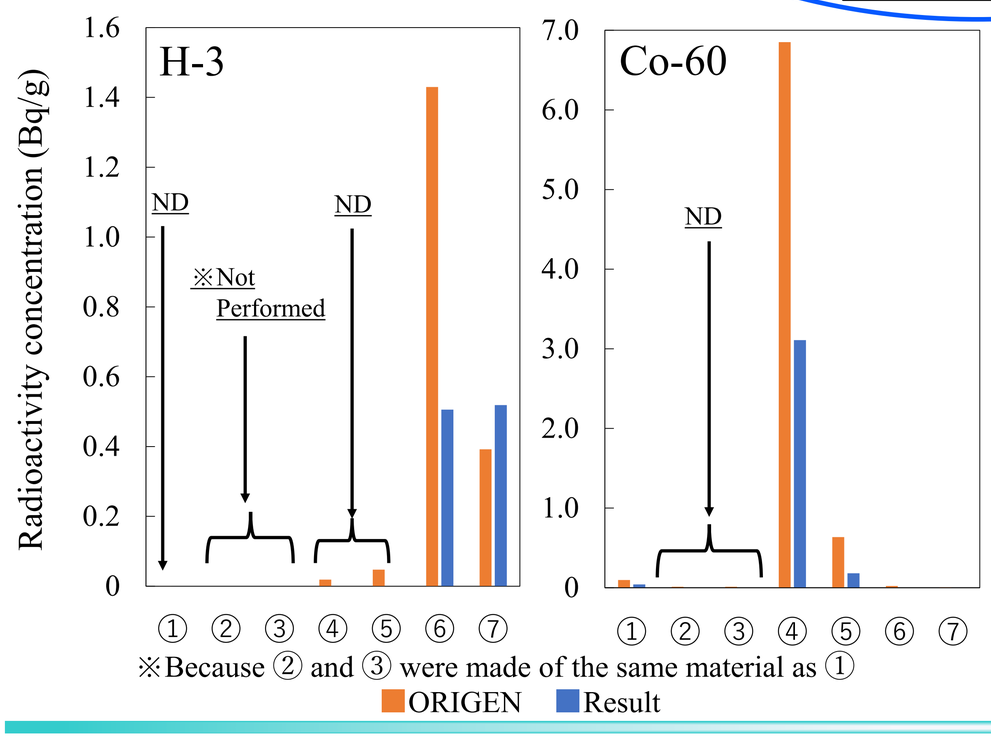


- **Deuterium water transportation**
- **Dismantling of equipment glove box**

BEFORE AFTER

Evaluate radioactivity concentration

Evaluations of radioactivity calculated values (ORIGEN) and measurement ones.



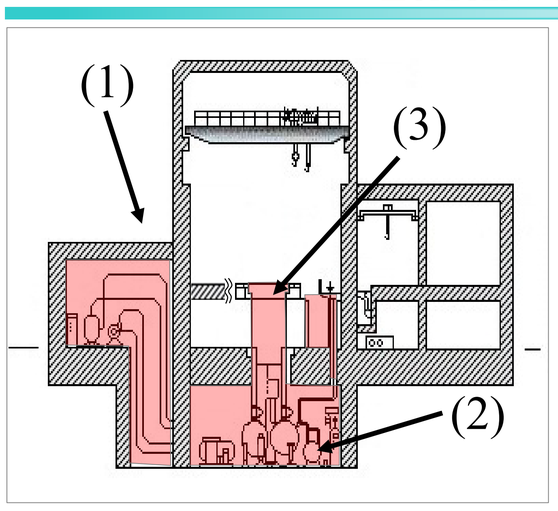
From the evaluation, the following prospects were obtained for efficient dismantling planning and safety management in the phase 3:

- How to sort dismantled items

Sorting	**Stainless steel material Carbon steal (Near the core)**	**Radioactive**
	Aluminum Carbon steal (Away from the core)	**Clearance**

- Reevaluation of depth relationship between concrete and H-3.
- Non-necessity of Radiation protection equipment because of Low radiation exposure from dismantled items.

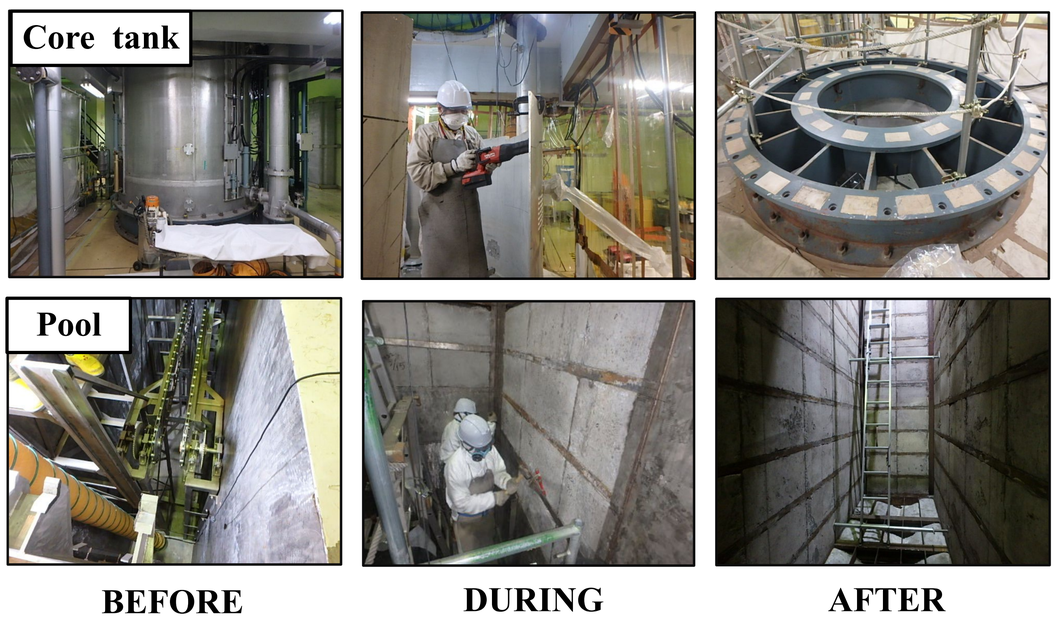
Phase 3 2008 ~ 2034



Dismantling of equipment

(1) Gas system
(2) Deuterium water system
(3) Materials around core tank(Core tank, Pool, etc.)

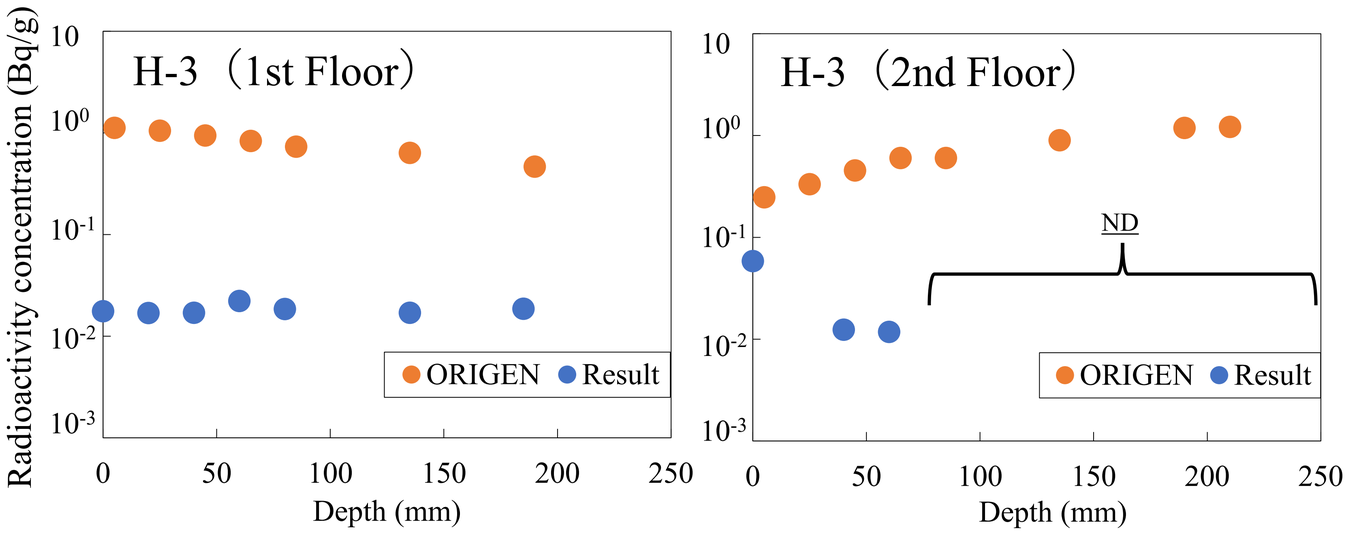
Optimal tools and radiation exposure management were selected for each situation and equipment.



BEFORE DURING AFTER

By the optimal tools and management, dismantling work was completed safety and efficiently.

Evaluate the radioactivity concentrations (concrete)



The evaluation values were all lower than the calculated values.
By conducting a more detailed evaluation, it will be possible to estimate the radioactivity classification of waste for each depth in the concrete.

Current Task
- ▣ Preparation of clearance inspection equipment
- ▣ Fuel transportation

Phase 4 5 years

Future Work for phase 4
- ☐ Clearance Verification
- ☐ Dismantling of the reactor building

After decommissioning
- ☐ Confirmation of completion decommissioning By NRA