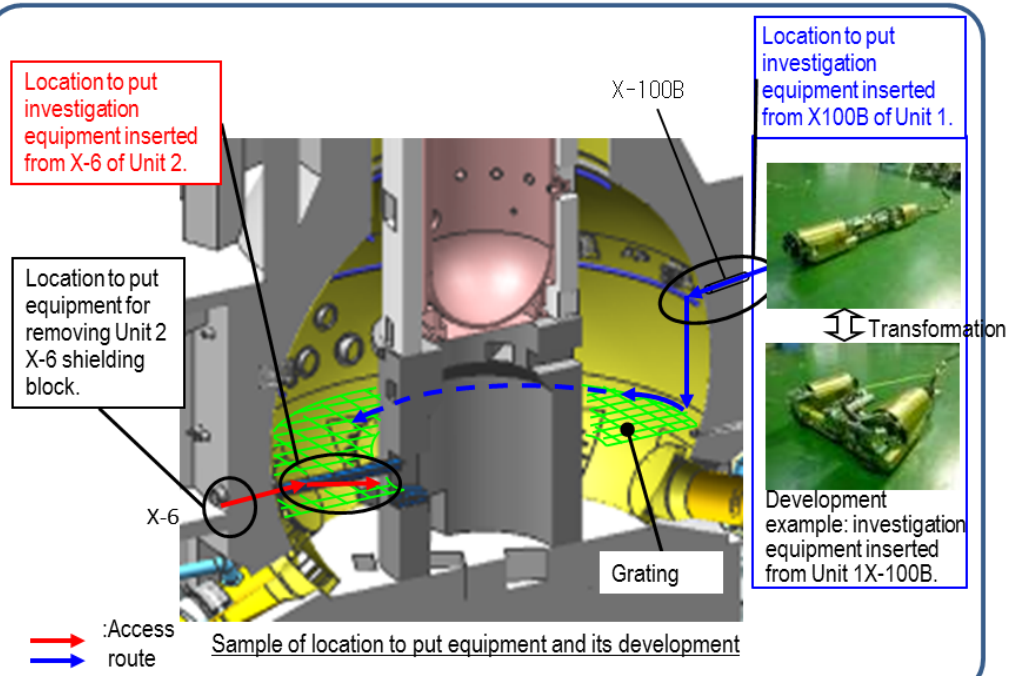
Development of internal PCV investigation technology

- Investigation equipment for unit 1 was produced and its functioning test completed as for pre-survey of outside of the pedestal (image of PCV, dose, temperatures etc., obtained). Equipment manufacturing for removing shielding block of Unit 2 and its verification test is planned to be completed in the preliminary investigation inside the pedestal.
- Basic verification and element test for additional investigation equipment for the accessing point will be completed to be prepared for full scale investigation in/outside of the pedestal where debris may be existing (distribution state of fuel debris and measurement of shape).

Contents of implemented measures

1. Development of equipment for preliminary investigation of internal PCV:
   Sample of equipment development is shown in the figure on the right.
   Development of equipment below is ongoing for demonstration test to be conducted next year.
   (1) Investigation equipment inserted from X-100B (Unit 1)
   Completed manufacturing of equipment and function verification test.
   Improvement items extracted by function investigation will be conducted by FY2014.
   (2) Equipment for removing X-6 shielding block(Unit 2)
   Manufactured components (manipulator, end effector etc.) of equipment, and equipment assembly is ongoing. Measures on the handling objective with large weight found from the results of on-site investigation is under the verification to be reflected to the development plan.
   (3) Investigation equipment inserted from X-6 penetration (Unit 2)
   As for the results obtained from the investigation conducted through X-53 in the previous year and issues, they are to be verified for changes in the equipment structure of transfer mechanism, and reflected to the development.
   Manufacturing of equipment / function verification test is planned to be conducted by FY2014.
2. Development of access method and equipment
   (access equipment in/out side the pedestal)
   Verified concept of access equipment for inside/outside of the pedestal, and establishment of specification of element making is ongoing. Also, verified is concept for access equipment required for prevention of dispersion of radioactive material when sending equipment into PCV.
   Element making/test done by FY 2017.
3. Development of inspection equipment and technology
   (debris measurement apparatus)
   Established equipment system structure for technology of measuring shape by light cutting method. Also, element test for measurement simulating disturbance environment (spray, rain etc.) inside the PCV is ongoing.



Sample of location to put equipment and its development

Issues and direction of next plan

- Correspond to new issues found in the demonstration test and site investigation results in the previous year (existence of unexpected obstacles and its large weight etc.) and, address the improvement for verification test.
- In the next plan, conduct the demonstration test, and promote equipment development .