

Status of Preparations for the Unit 2 Primary Containment Vessel Internal Investigation

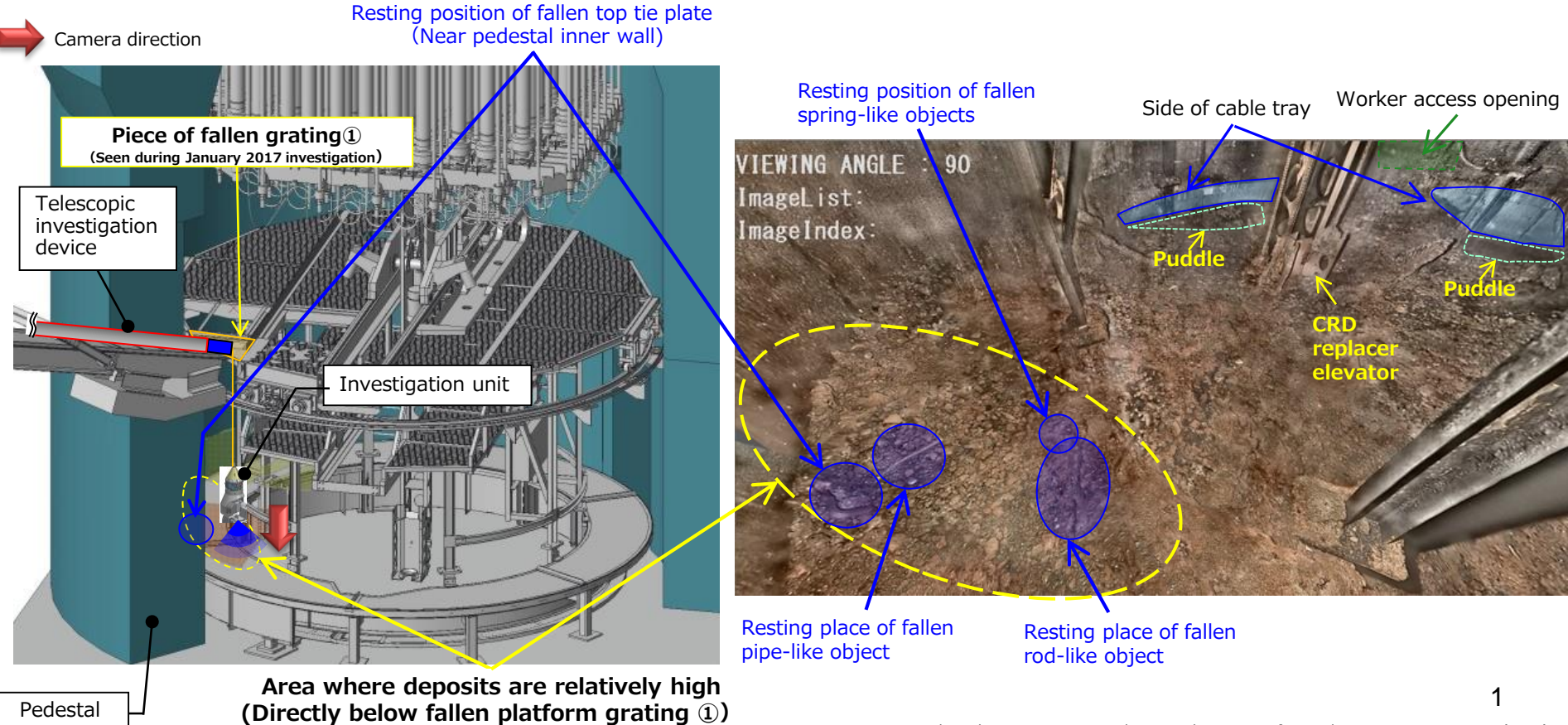
December 27, 2018



Tokyo Electric Power Company Holdings, Inc.

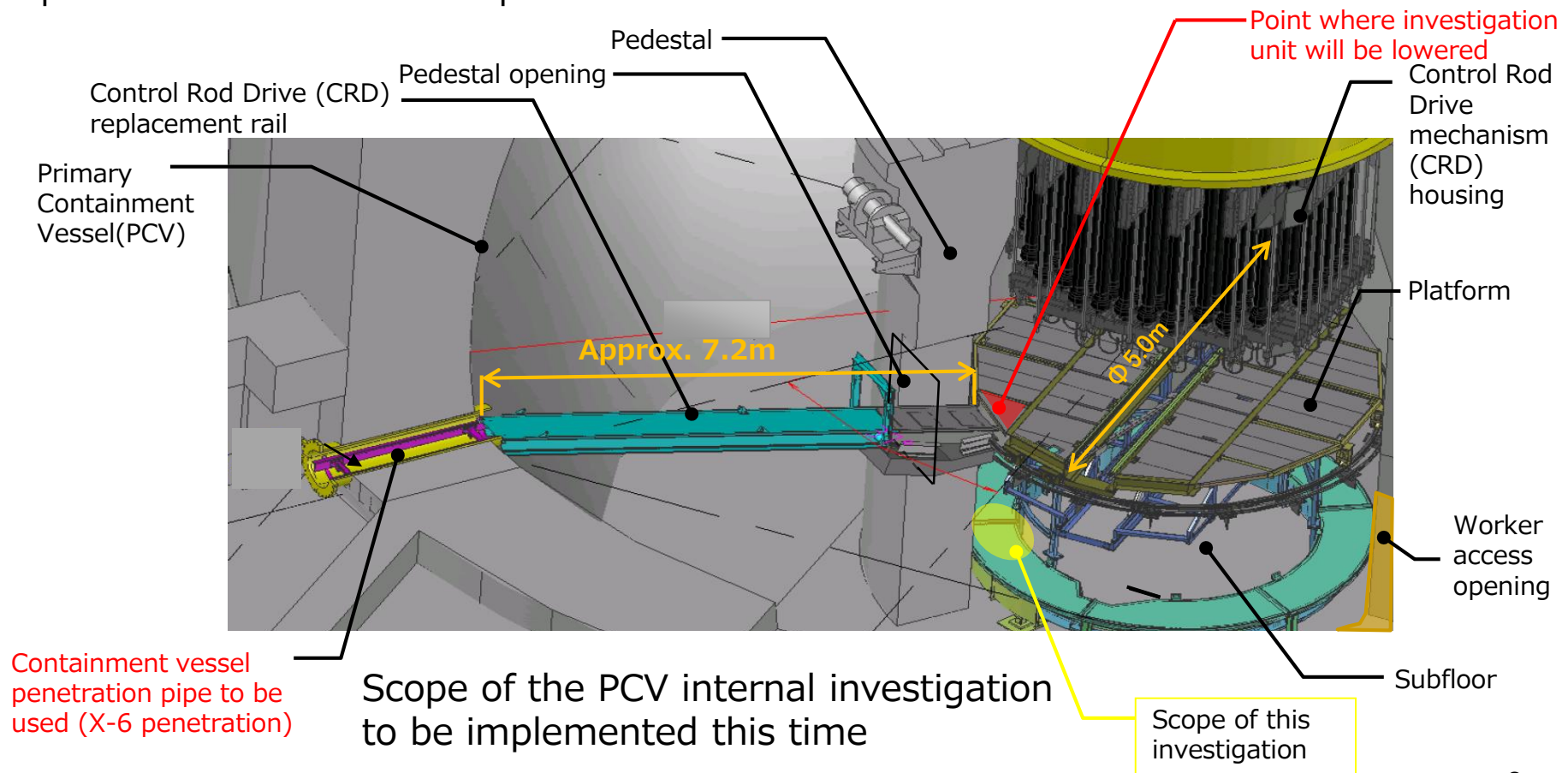
1 Results of PCV internal investigation implemented in January, 2018 **TEPCO**

- During the PCV internal investigation implemented in January 2018, the investigation unit was lowered from the area above the missing grating to examine the bottom of the pedestal. It was found that the existing structures show no major deformity or damage and that pebble and clay-like deposits cover the entire bottom of the pedestal.
- When viewing the area left of center of the pedestal from the location where the camera was lowered, fallen objects, such as parts of a fuel assembly (top tie plate), could be seen in the vicinity and the height of deposits in this area was higher than that in the surrounding area. Therefore, it is possible that the area directly above this location marks one of the paths by which fuel debris fell.



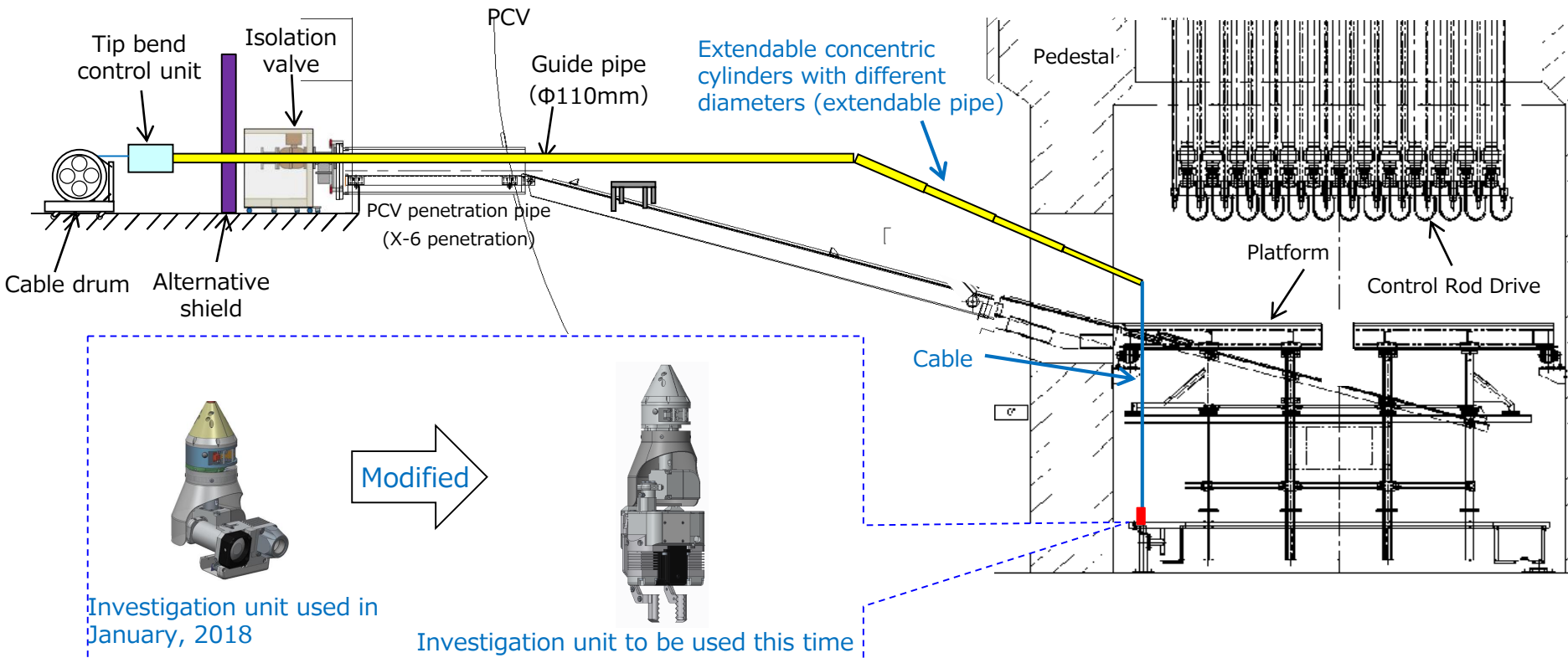
2 Overview of the PCV Internal Investigation to be implemented **TEPCO**

- Since the nature (hardness, frailty, etc.) of the deposits observed at the bottom of the Unit 2 pedestal is unknown, it is important to ascertain in advance whether or not these deposits can be removed by grasping them.
- During this investigation the investigation unit will be lowered from the same location it was lowered to the bottom of the pedestal during the January 2018 investigation to touch the deposits at the bottom of the pedestal and observe its behavior.



3 Investigation method (1/2)

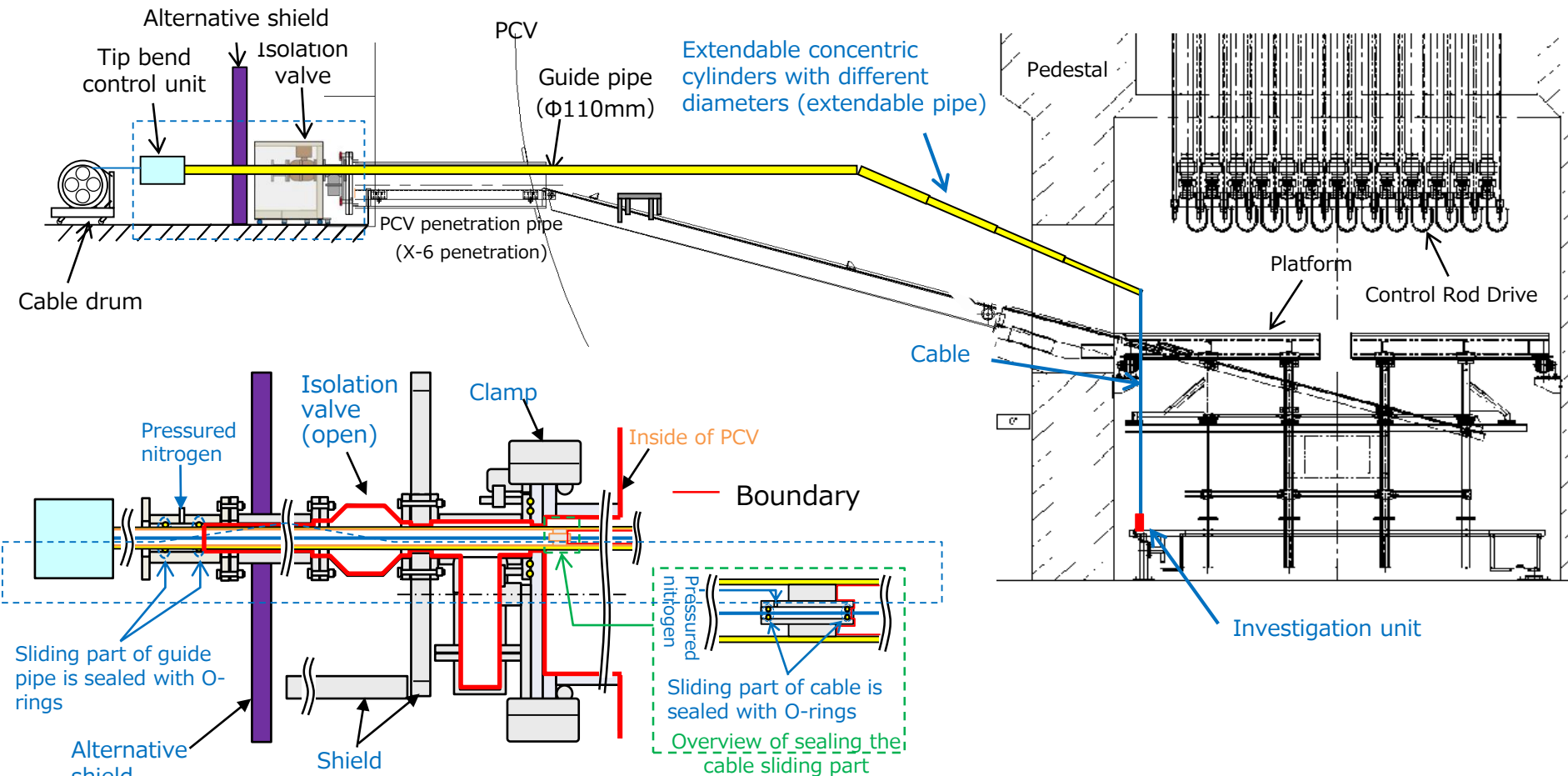
- After the investigation device reaches the area above the missing grating, the investigation unit will be lowered to touch deposits under the platform and observe its behavior. Photographs, videos and dose data will be taken before touching the deposits and saved as information used to examine the accident.
- The investigation unit used in January, 2018 will be modified so that a finger-like mechanism can be actuated to subject the deposits to mechanical force and observe the behavior of the deposits.
- As with prior PCV internal investigations, the concentration of radioactive substances in dust will be monitored during the investigation using dust monitors to confirm that gasses from inside the PCV are not leaking out and impacting the external environment.



Concept diagram of Unit 2 PCV internal investigation using the guide pipe

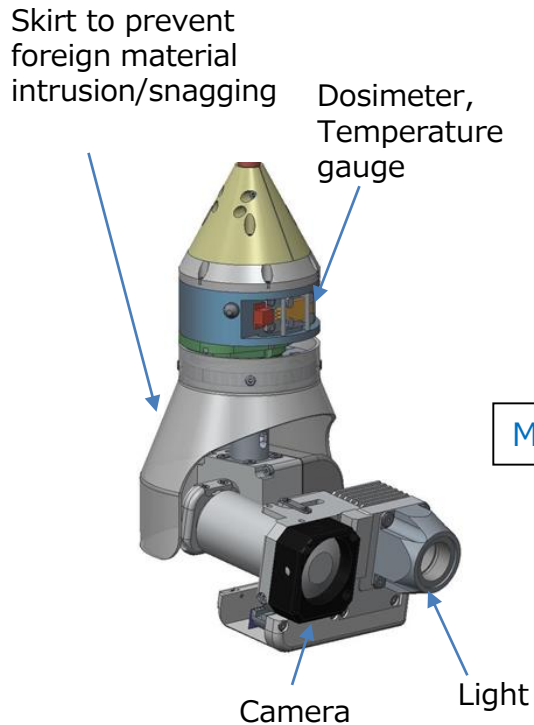
3 Investigation method (2/2)

- As with the PCV internal investigation conducted in January~February, 2017, a boundary will be formed as shown below by sealing the sliding part of the guide pipe with double O-rings and pressurizing the pipe with nitrogen to prevent gas inside PCV from leaking outside and affecting the surrounding environment during the investigation. A similar boundary will be formed for the sliding part of the cable as well.



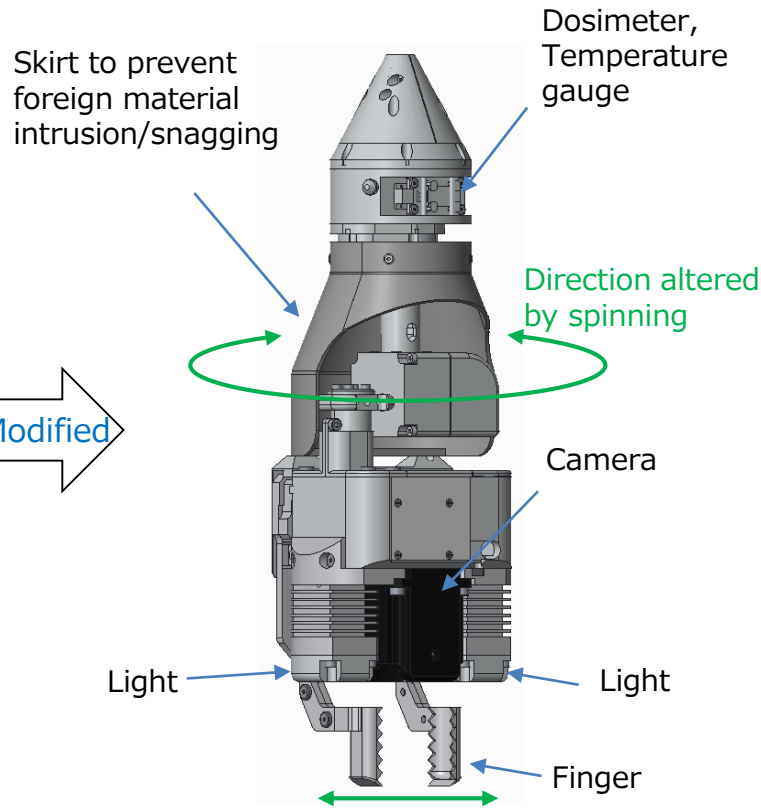
4 Modification of the investigation unit

- The cameras and lights on the end of the investigation unit have been modified, and the unit has been equipped with a finger-like mechanism.
- After the finger mechanism is allowed to come in contact with the deposits, the fingers will be actuated to subject the deposits to mechanical force and observe the behavior of the deposits.



Investigation unit used in January, 2018

Modified

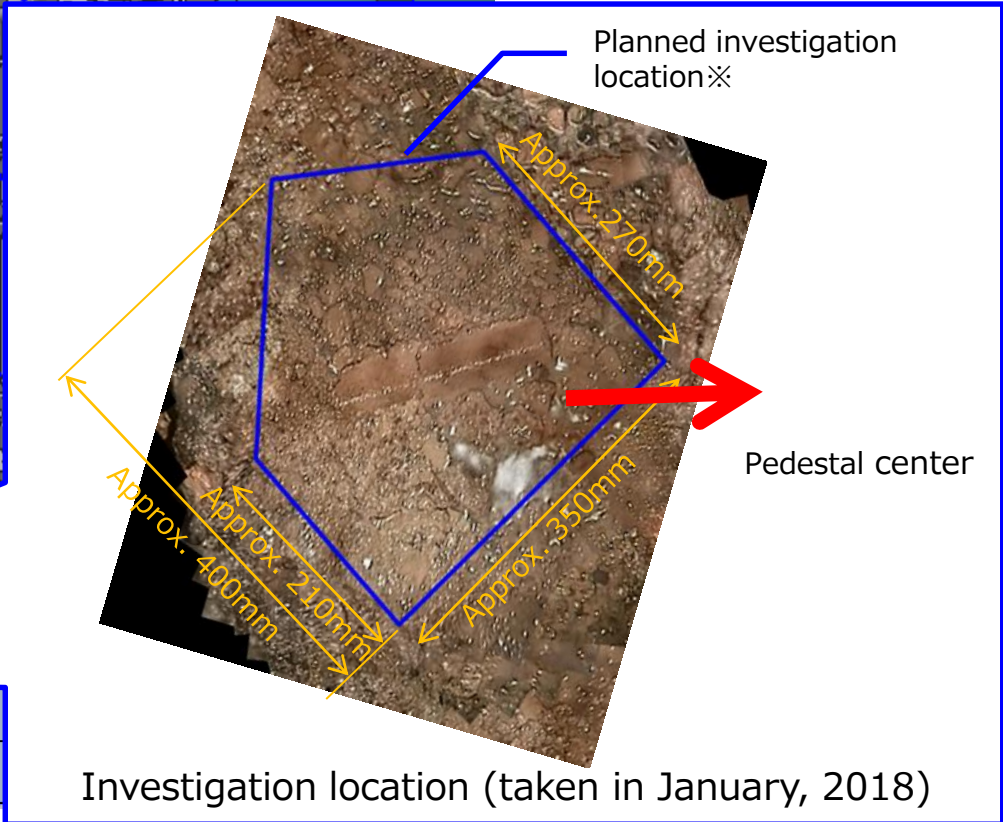
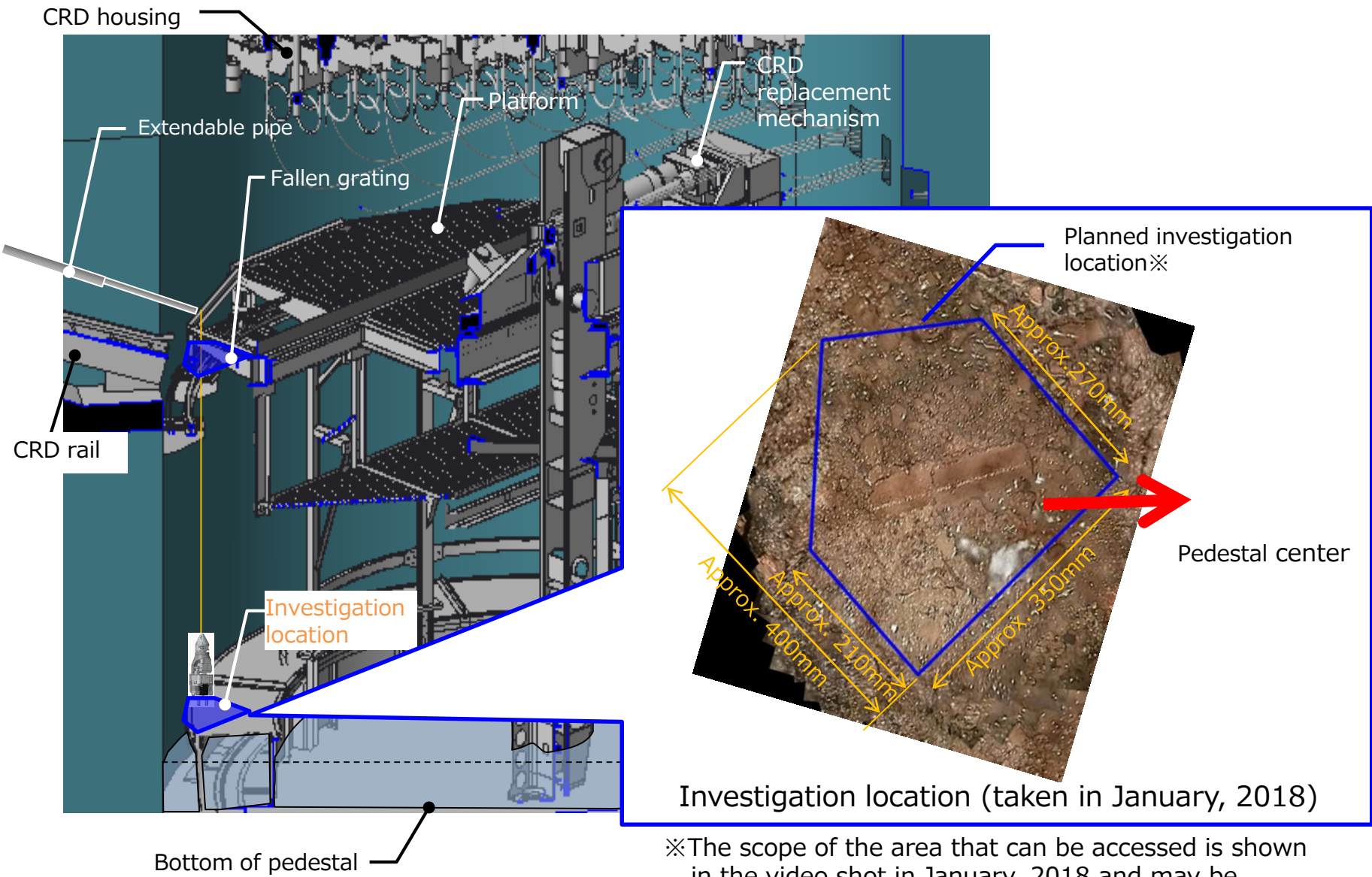


Opens/closes after coming in contact with deposits
Investigation unit to be used this time



Appearance of the investigation unit




5 PCV internal investigation location

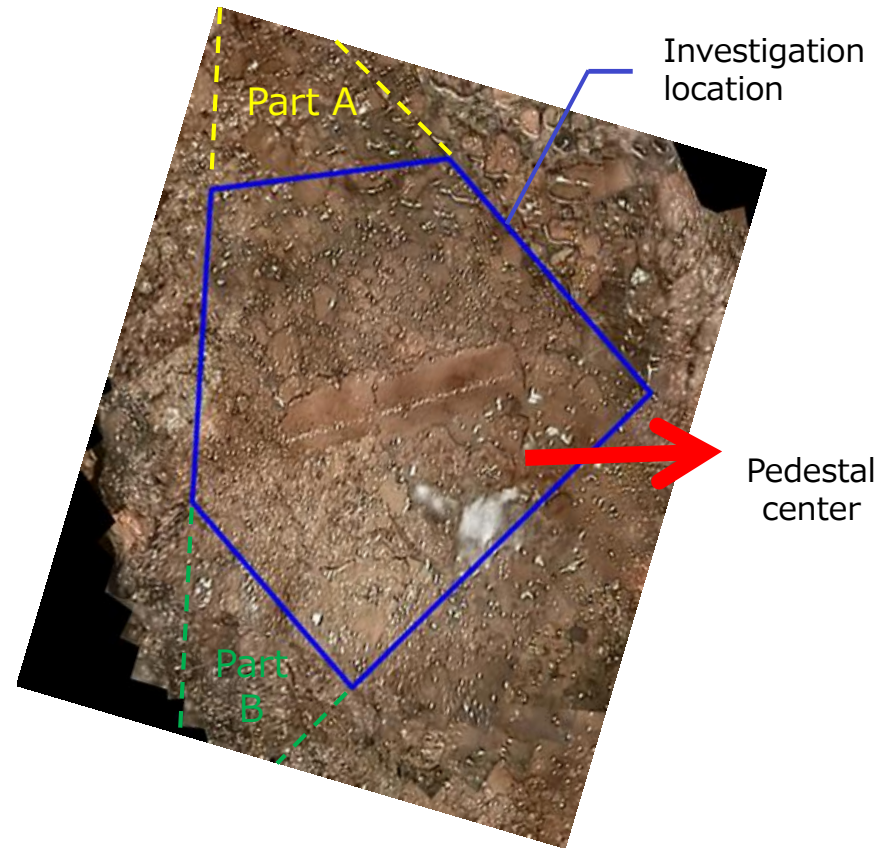
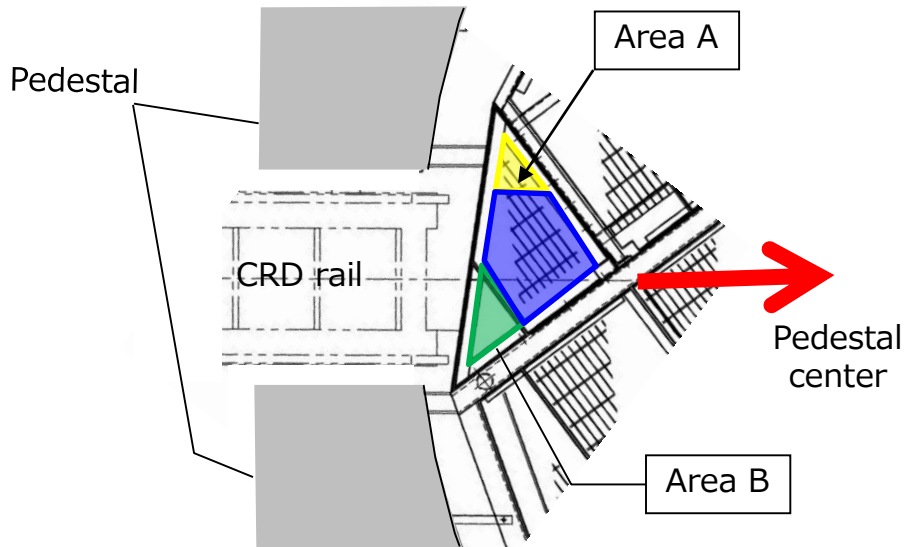


※The scope of the area that can be accessed is shown in the video shot in January, 2018 and may be changed depending upon actual conditions.

6 Planned schedule

- Training will begin in January, 2019. After that the investigation device will be brought onsite and installed.
- The PCV internal investigation will be conducted from the middle to the end of February, 2019. The investigation is scheduled to take one day, and the date will be determined based on work progress at the site.

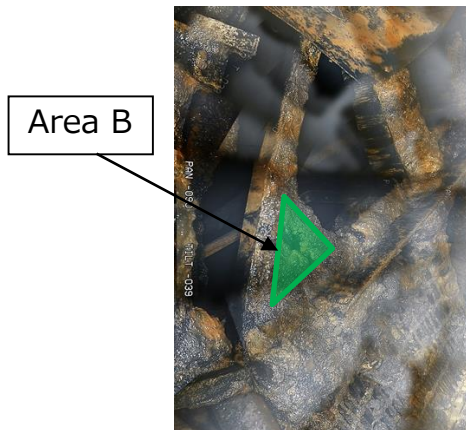
Work item	2019		
	January	February	March
Preparation	Training 	Investigation device brought in and installed 	
PCV internal investigation		PCV internal investigation 	



Scope of access at the bottom of the pedestal during this investigation
(reflected in the video shot in January, 2018)

- Area A : Inaccessible because the extendable pipe touches the pedestal wall
- Area B : Inaccessible due to the shape of the opening left by the fallen grating

Positional relationship of CRD rail and fallen grating



Result of investigation in area B
(taken in January, 2017)