Launch of Debris Removal and Transfer of Equipments inside the Reactor Well, Reactor Pressure Vessel, and Spent Fuel Pool of Unit 4 at Fukushima Daiichi Nuclear Power Station

Tokyo Electric Power Company

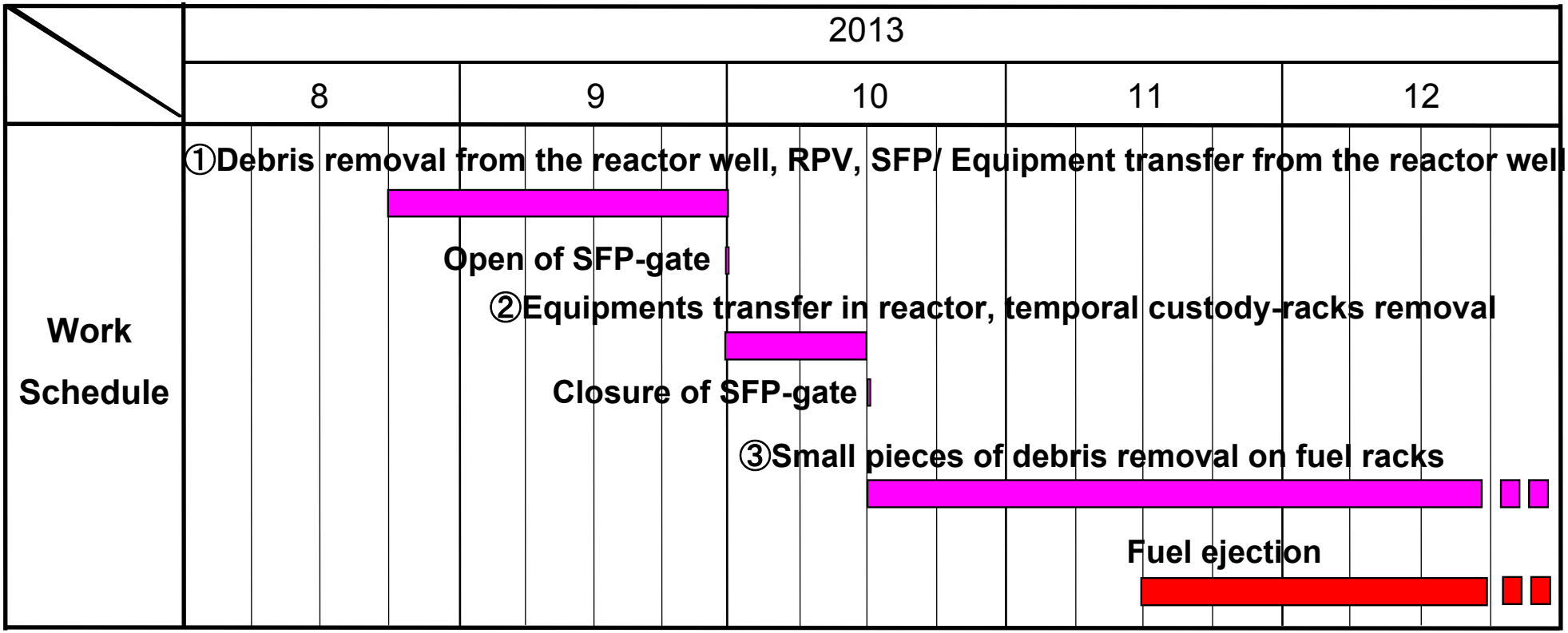
August 26, 2013

Outline and Schedule of Work

<Outline of work>

Prior to ejection of fuel in the SFP in Unit 4, we are performing debris removal from the Reactor Well, Reactor Pressure Vessel, and SFP, and transfer of equipments related to the fuel removal works and shroud replacement work.

Every work in Unit 4 will be performed by workers as dose equivalent percentage is relatively lower than that in other Units.



※Work schedule is subject to change due to work situation.

RPV：Reactor Pressure Vessel
SFP：Spent Fuel Pool

＊ Equipments related to shroud replacement work

Outline of Work

Coverage of work

① Debris removal from the reactor well, RPV, SFP／Equipment transfer from the reactor well*

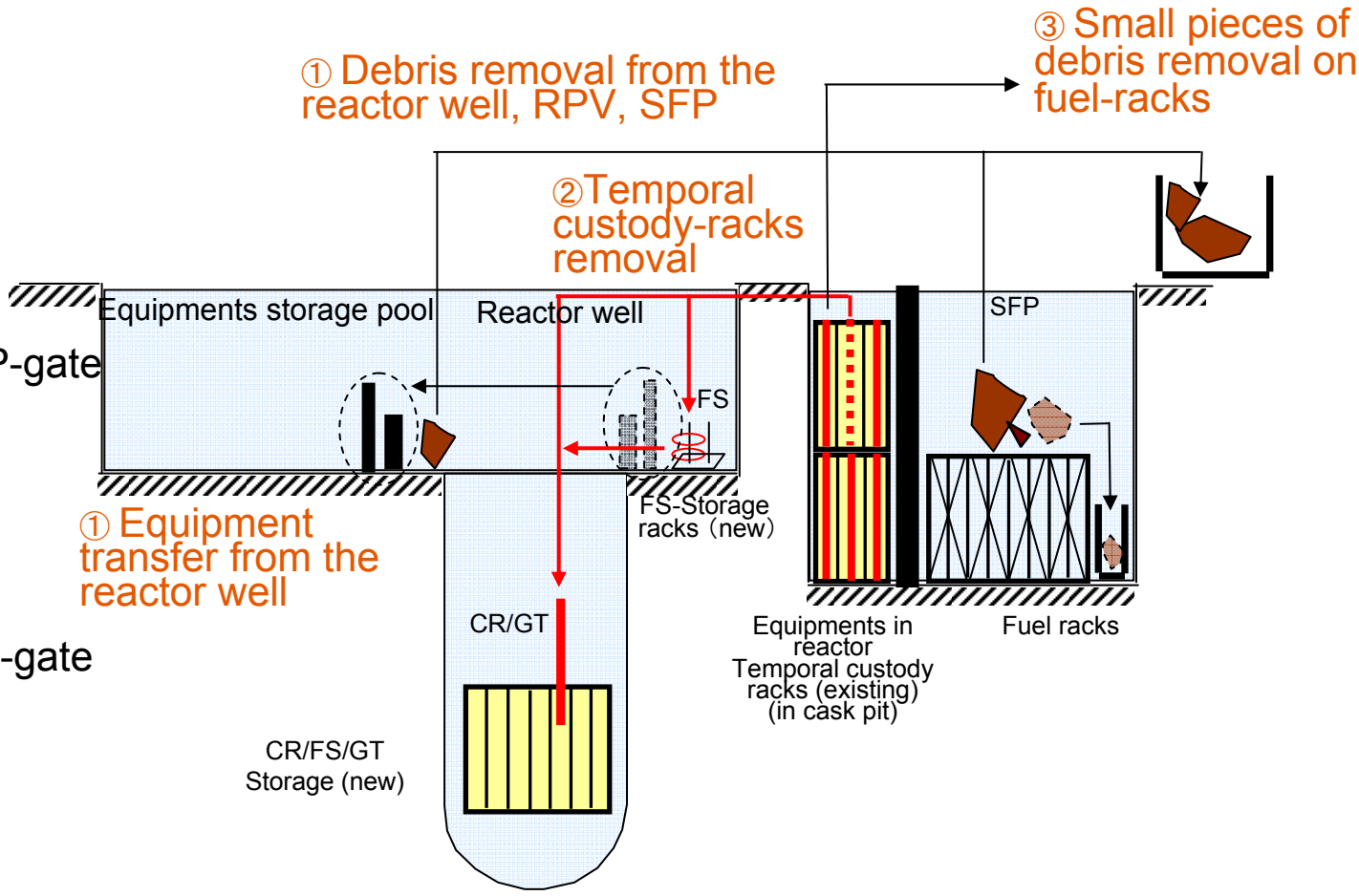
Opening of SFP-gate

②Equipment transfer from the reactor (CR.FS.GT), Temporal custody-racks removal

Closure of SFP-gate

③Small pieces of debris removal on fuel racks

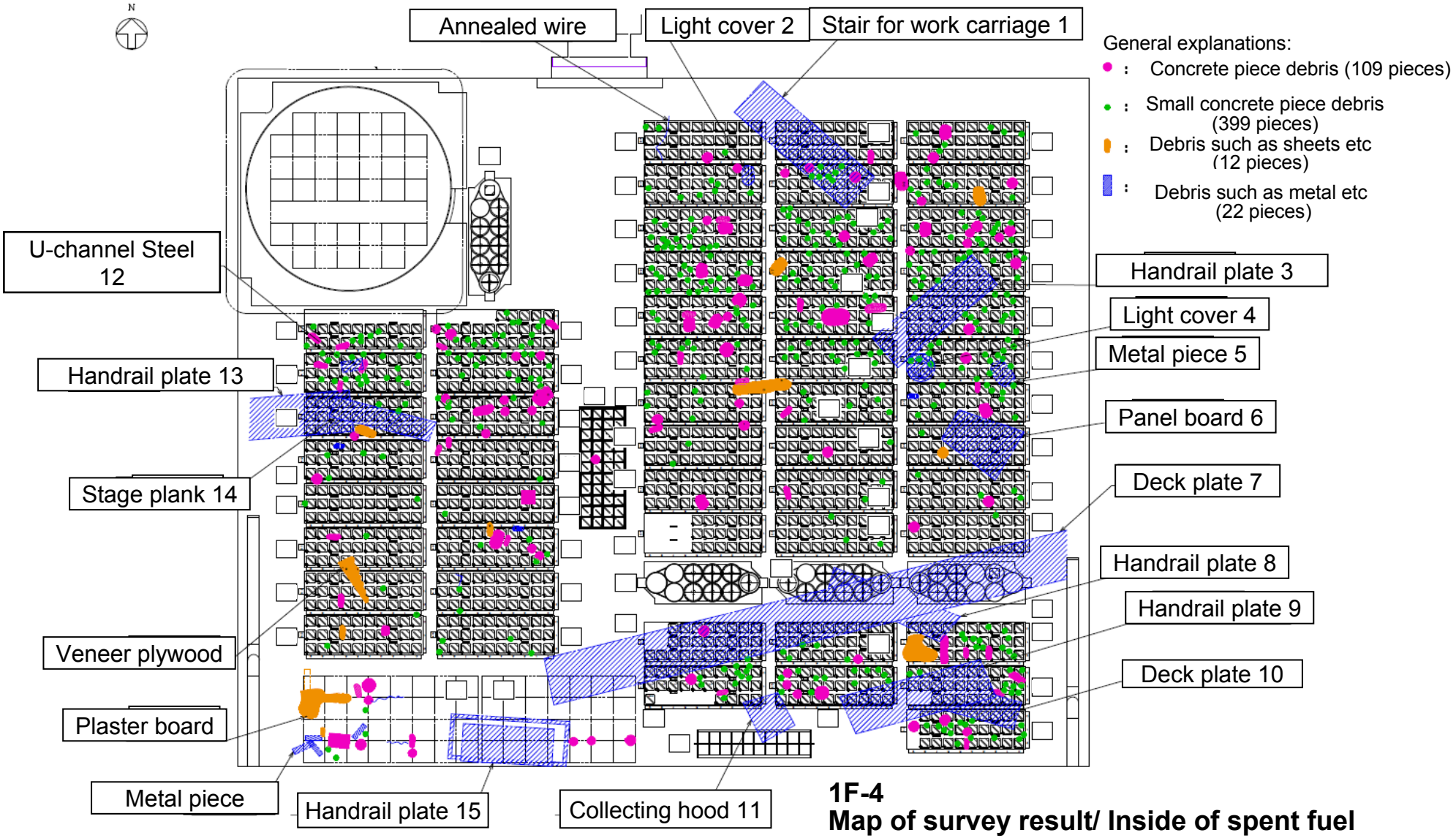
Fuel ejection



RPV：Reactor Pressure Vessel
SFP：Spent Fuel Pool
CR/FS/GT：Control Rod/Fuel Support/Control Rod Guide Tube

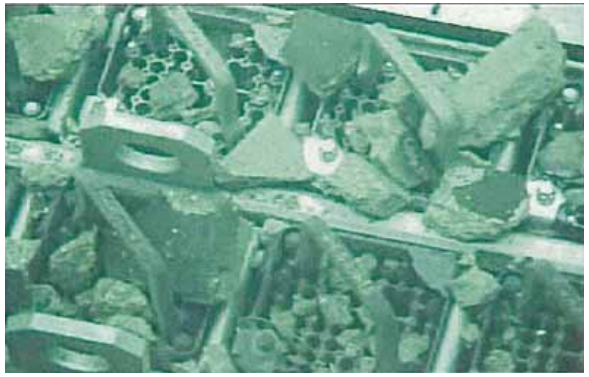
※ Equipments related to shroud replacement work

Debris Scattering in SFP



1F-4
Map of survey result/ Inside of spent fuel storage pool

Debris in SFP (Example)

Deck plate	Stairs for work carriage
 10000×600×50 (200kg)	 2000×600×1000 (200kg)
Stage plank	**Small piece debris**
 1500×50×200 (10kg)	 Approx. below 150×150×150

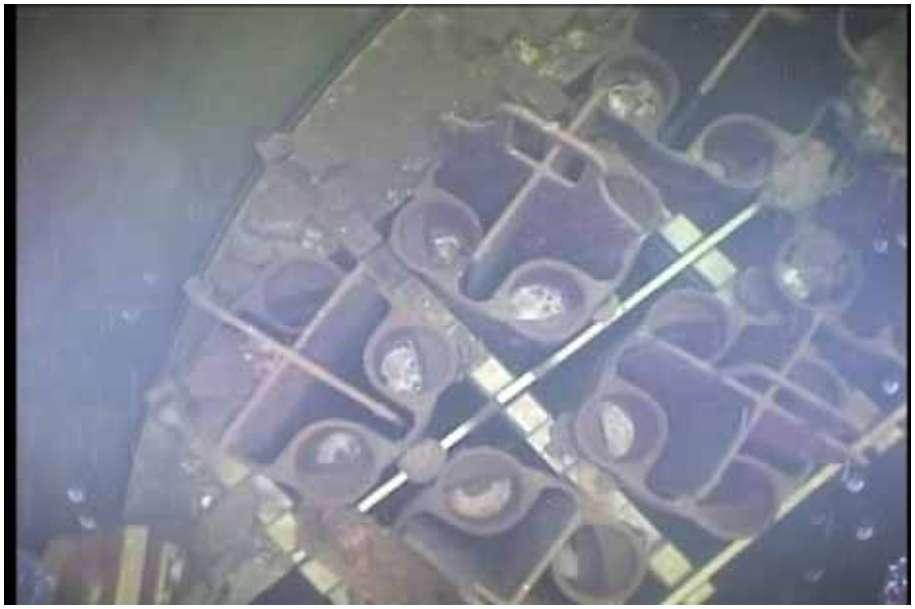
* Every measure and weight is a rough estimate.

(Unit: mm)

Equipments in Reactor in SFP

Current situation of equipments kept inside reactor

Inside cask pit: A photo taken from outside

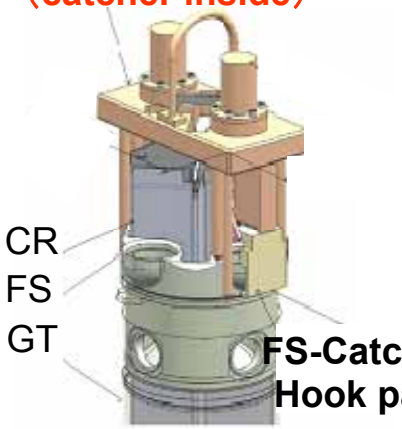


A photo taken from upper-level of cask pit

Equipments for Debris Removal and Transferring Equipments from Reactor (Example)

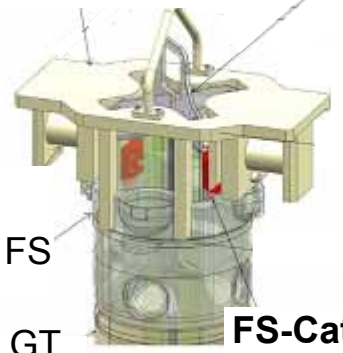
FS-Catcher

FS-Catcher
（catcher inside）



FS-Catcher Hook part

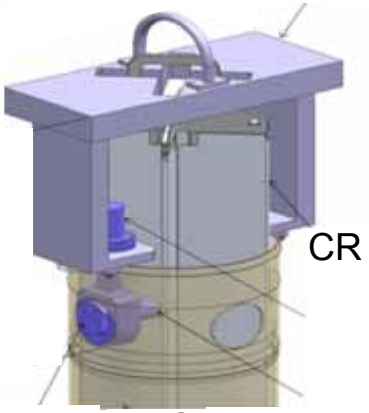
FS-Catcher (catcher outside)



FS-Catcher Hook part

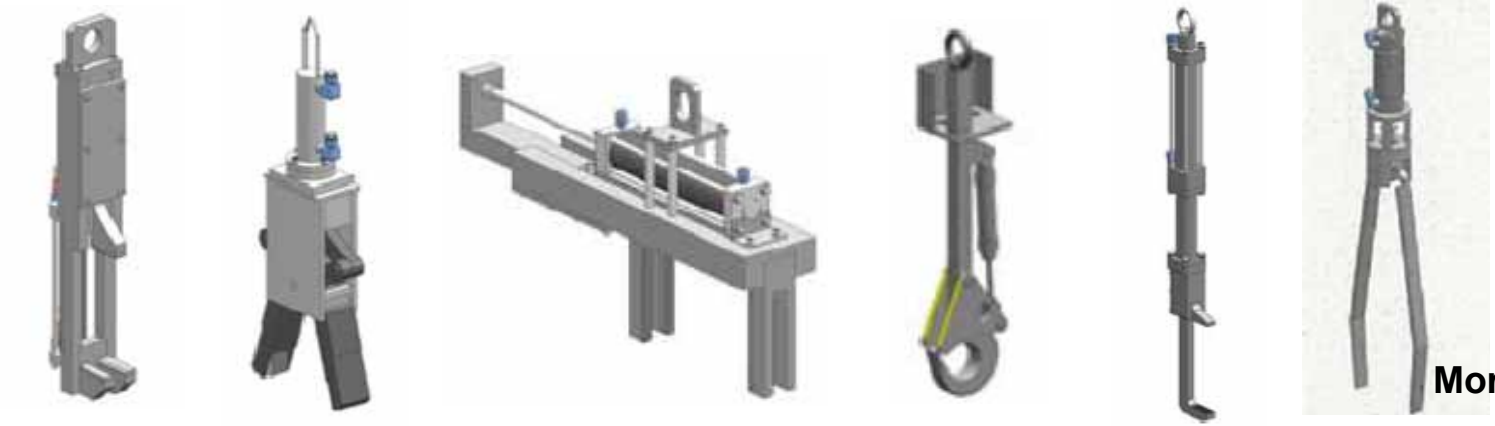
CR/GT-Catcher

CR/GT-Catcher



GT-Catcher (inside) Hook part

Tools for debris removal (example)



More than 20 sorts in all

Safety Countermeasure

○Equipments for debris removal

When removing large-scale debris, we hold the object at 2 to 4 points in order to prevent falling. We continue to watch the ongoing situation of holding through camera under water.

○SFP-Purifier

We are installing SFP-Purifier in order to develop the visibility of camera under water which provides the ongoing situation of holding.

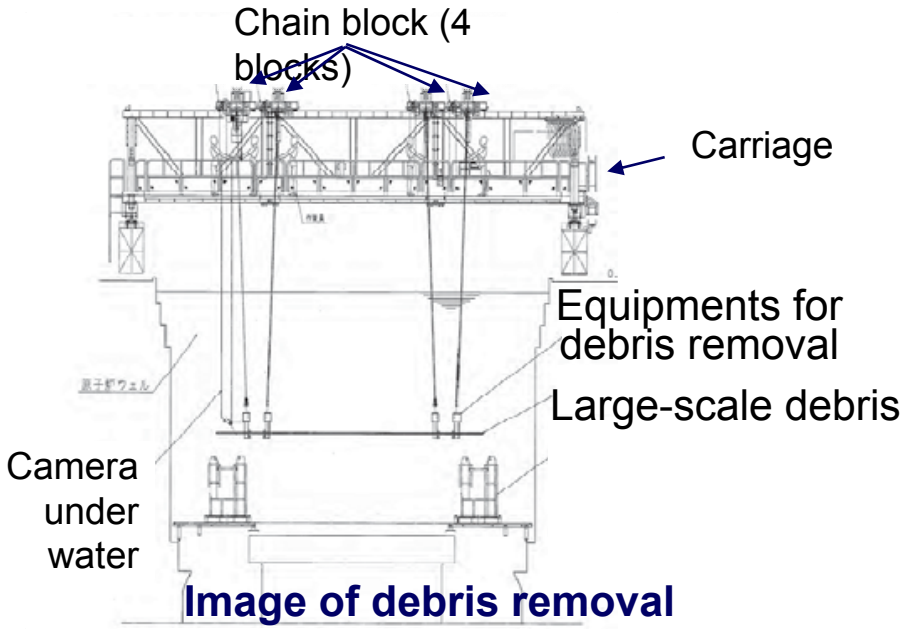


Image of debris removal

Water purifier (Appearance)

Filter (Appearance)

Suck-in collection tool (for small piece debris

Ends