＜Reference＞

External Visual Inspection Results of the Fuels Removed from the Spent Fuel Pool at Unit 4 in the Fukushima Daiichi Nuclear Power Station

April 30, 2014

Tokyo Electric Power Company

東京電力 TEPCO

Outlines of External Visual Inspection Results

- Purpose of inspection:

  In order to reverify that there are no problems with fuel soundness or fuel handling, external visual inspection was conducted removing the channel box covering the nuclear fuel assembly in the common pool.

- Inspection date:

  April 22 and 25, 2014

- Inspection results:

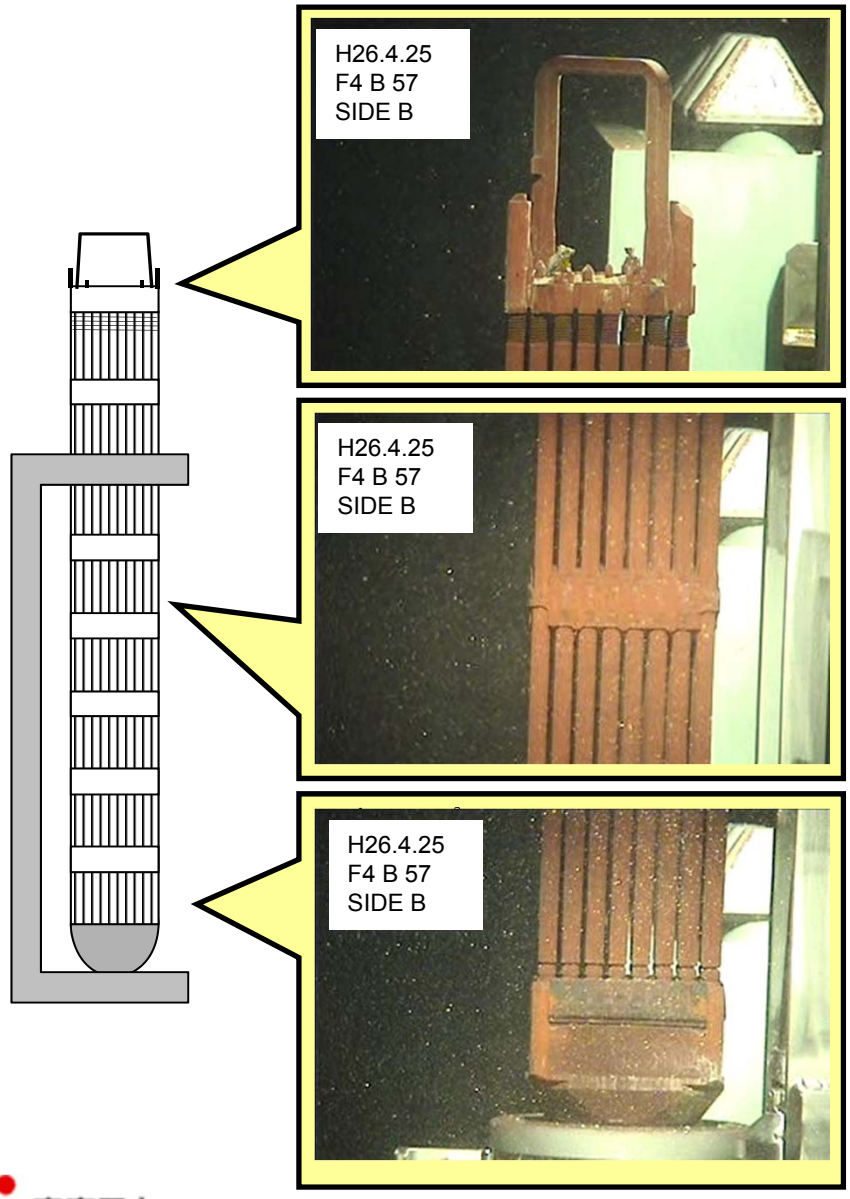
  [1] Chose one fuel from each type of fuels stored in the spent fuel pool at Unit 4. (four fuels in total).

  [2] Confirmed that there are no remarkable corrosion or damages to fuel cladding tubes or load transfer spots (tie rod and tie plate of upper/lower parts) of the nuclear fuel assemblies in terms of fuel soundness and fuel handling.

  [3] Confirmed that there are no problems with the rubble ingress into the nuclear fuel assembly and the deformation with the fixed washer of some fuel types (8X8 fuel and new type 8X8 zirconium liner-fuel), both of which were found through the inspection, in terms of fuel soundness and fuel handling.

Continuously, the fuel removal operation at Unit 4 will proceed with safety first.

Inspection results (fuel type: 8 X 8 fuel (1))



<Corrosion/ damages>

Found no corrosion or damages with the fuel cladding tubes or load transfer spots (tie rod and tie plate of upper/ lower parts) of the nuclear fuel assembly.

<Space between Fuel rods>

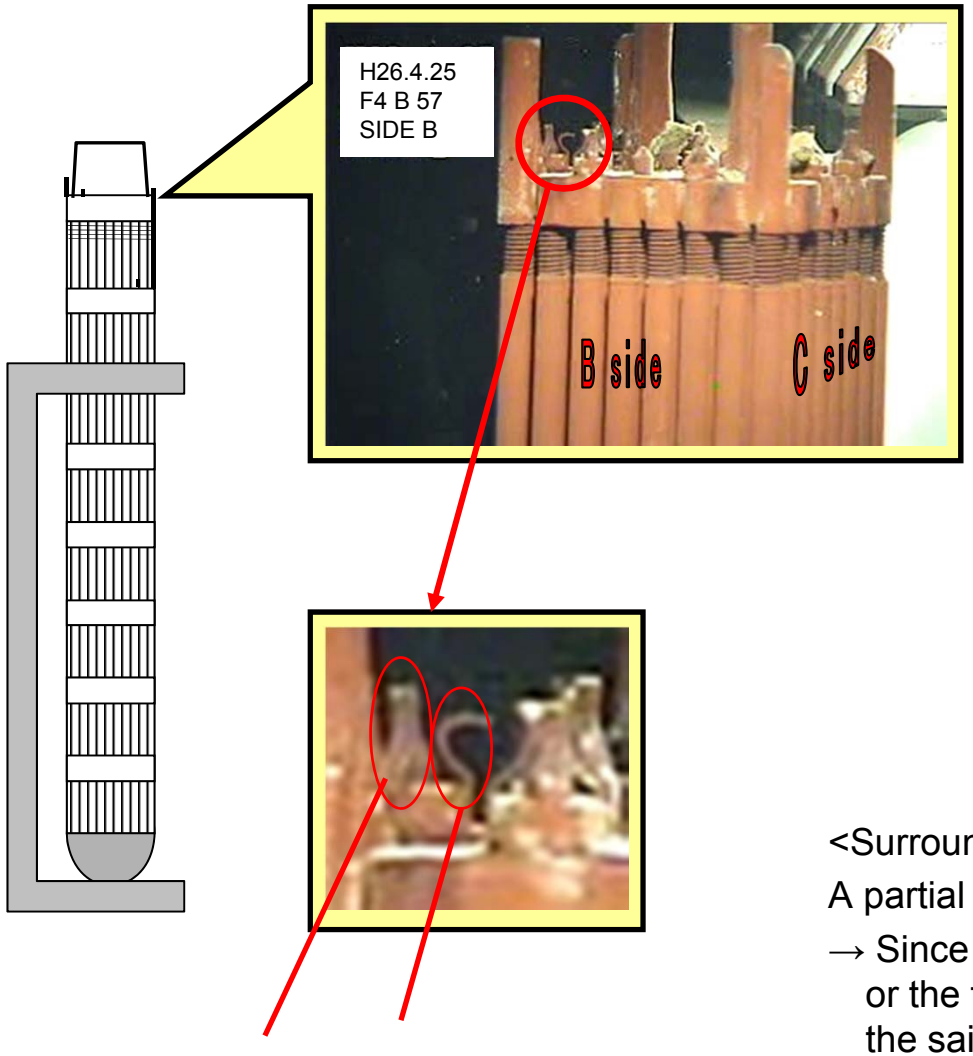
Found no deformation, etc with fuel rods or problems in space between fuel rods.

<Rubble ingress>

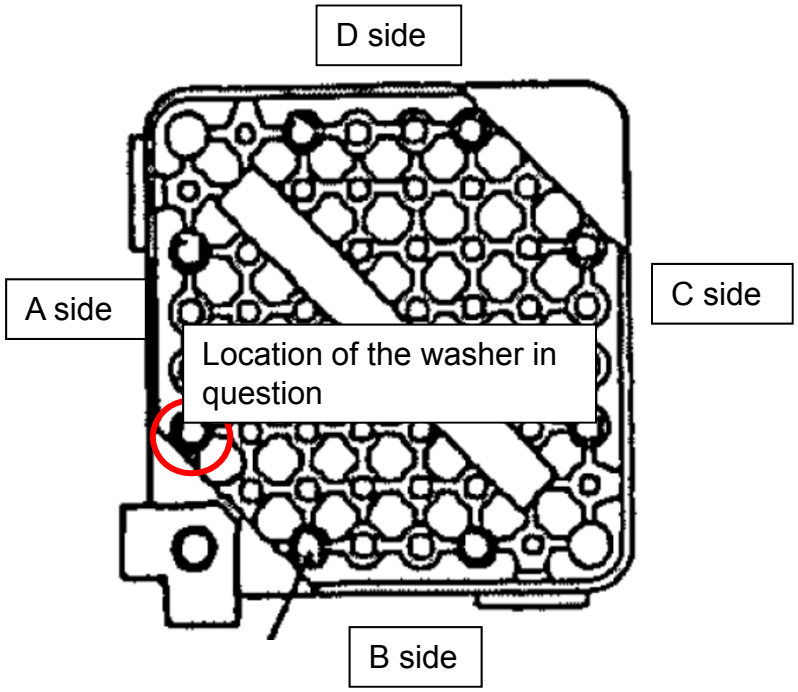
Found no damages to the fuel cladding tube, although a few millimeter rubbles are identified in the fuel assembly.

→ Through the exterior visual inspection, it is verified that there is no remarkable corrosion or damage which causes a problem in terms of fuel soundness and fuel handling.

Inspection results (Fuel type: 8 X 8 fuel [2])



Fixed washer (detent): a part to hold a bolt from both sides to keep it in place.

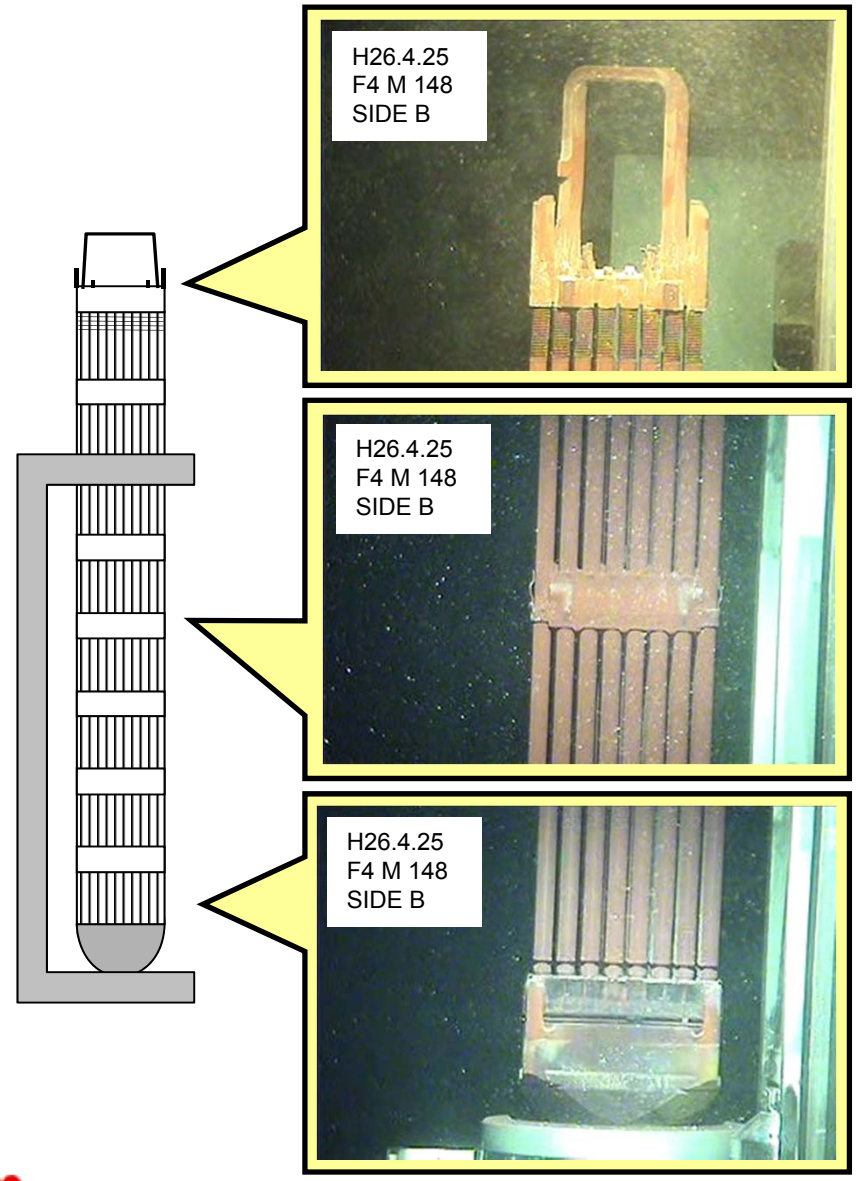


<Surrounding of fixed washer (detent)>

A partial deformation was found with the fixed washer.

→ Since the part in question is not the load transfer spot, or the function of the fixed washer is not lost, therefore the said deformation can not cause a problem in terms of fuel soundness and fuel handling.

Inspection results (Fuel type: New type 8 X 8 zirconium liner-fuel)



<Corrosion/ damages>

Found no corrosion or damages with the fuel cladding tubes or load transfer spots (tie rod and tie plate of upper/ lower parts) of the nuclear fuel assembly.

<Space between Fuel rods>

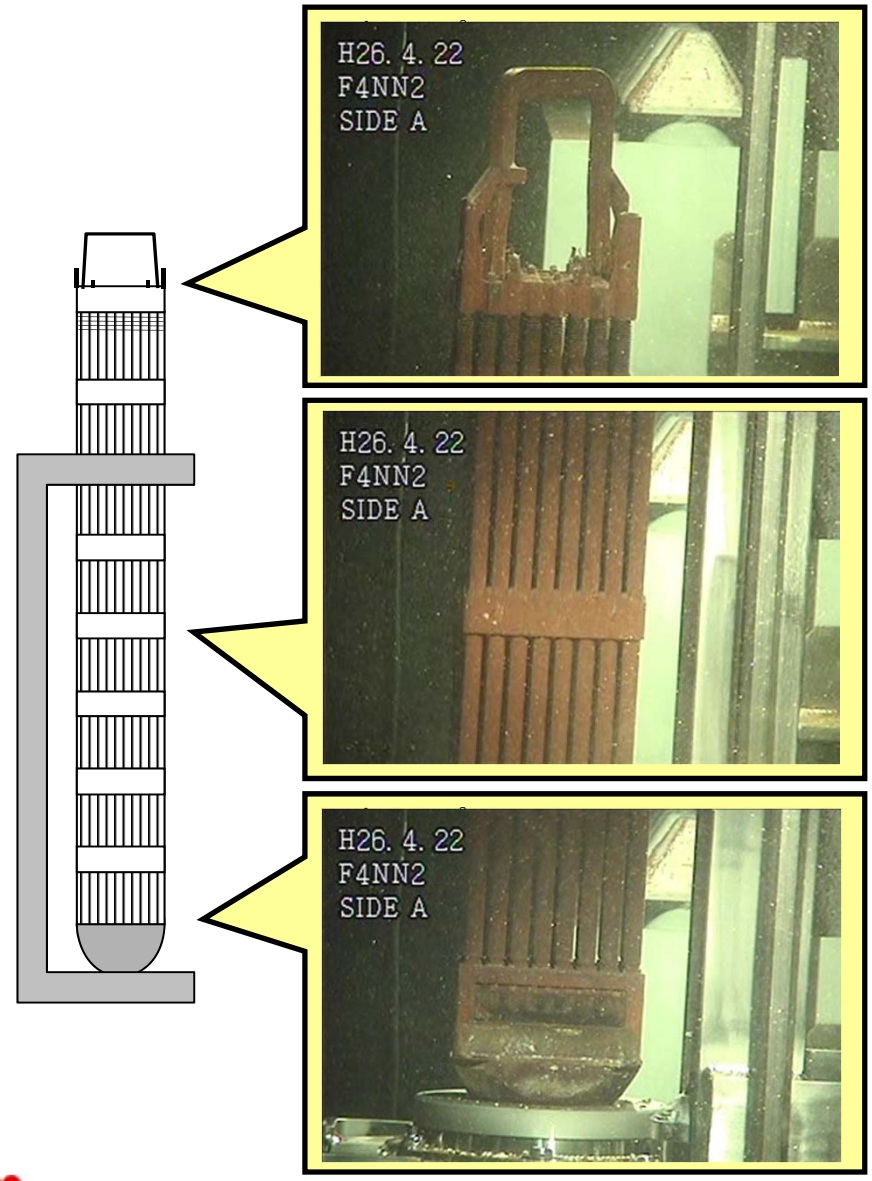
Found no deformation, etc with fuel rods or problems in space between fuel rods.

<Rubble ingress>

Found no damages to the fuel cladding tube, although a few millimeter rubbles are identified in the fuel assembly.

→ Through the exterior visual inspection, it is verified that there is no remarkable corrosion or damage which causes a problem in terms of fuel soundness and fuel handling.

Inspection results (Fuel type: High burnup 8X8 fuel)



<Corrosion/ damages>

Found no corrosion or damages with the fuel cladding tubes or load transfer spots (tie rod and tie plate of upper/ lower parts) of the nuclear fuel assembly.

<Space between Fuel rods>

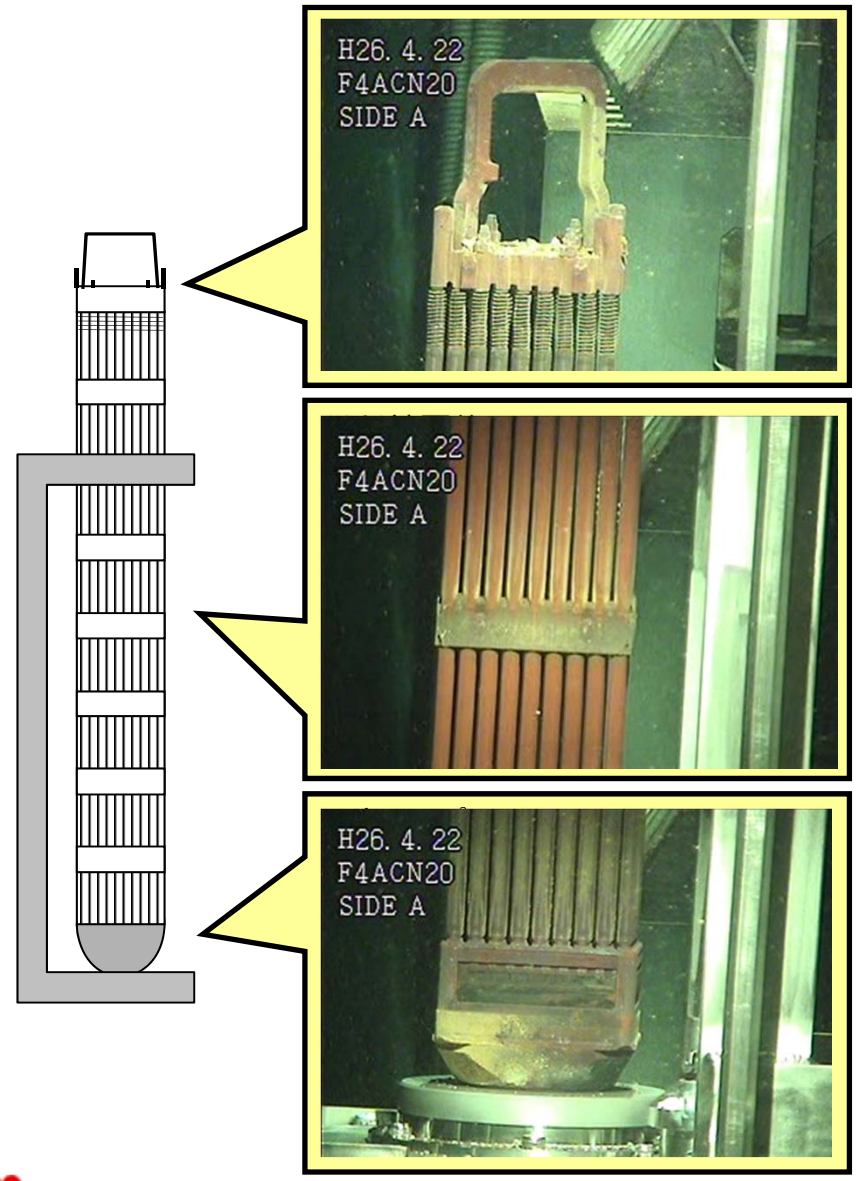
Found no deformation, etc with fuel rods or problems in space between fuel rods.

<Rubble ingress>

Found no damages to the fuel cladding tube, although a few millimeter rubbles are identified in the fuel assembly.

→ Through the exterior visual inspection, it is verified that there is no remarkable corrosion or damage which causes a problem in terms of fuel soundness and fuel handling.

Inspection results (Fuel type: 9X9 fuel [B type])



<Corrosion/ damages>

Found no corrosion or damages with the fuel cladding tubes or load transfer spots (tie rod and tie plate of upper/ lower parts) of the nuclear fuel assembly.

<Space between Fuel rods>

Found no deformation, etc with fuel rods or problems in space between fuel rods.

<Rubble ingress>

Found no damages to the fuel cladding tube, although a few millimeters rubbles are identified in the fuel assembly.

→ Through the exterior visual inspection, it is verified that there is no remarkable corrosion or damage which causes a problem in terms of fuel soundness and fuel handling.