

Improvements in the Surroundings (offshore) of ALPS Treated Water Dilution/Discharge Facilities at the Fukushima Daiichi Nuclear Power Station

<Reference Material>
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Company

- From late November through the end of December 2021, we conducted magnetic surveys and geological surveys in areas for which geological data must be ascertained in order to ensure safety of the project and deliberate in detail discharge facilities from amongst facilities for diluting and discharging water treated with multi-nuclide removal (hereinafter referred to as, "ALPS treated water").
- In the three target areas of the geological survey where we plan to construct the discharge tunnel, geological samples were collected and tests to measure the firmness of the ground were conducted. Based on the results of the surveys, and the results of geologic surveys performed in the past, we have determined that a discharge tunnel can be constructed within the bedrock through all the target areas. Furthermore, from the results of geological surveys we were able to acquire basic data required for designing and examining the project method of the discharge tunnel.

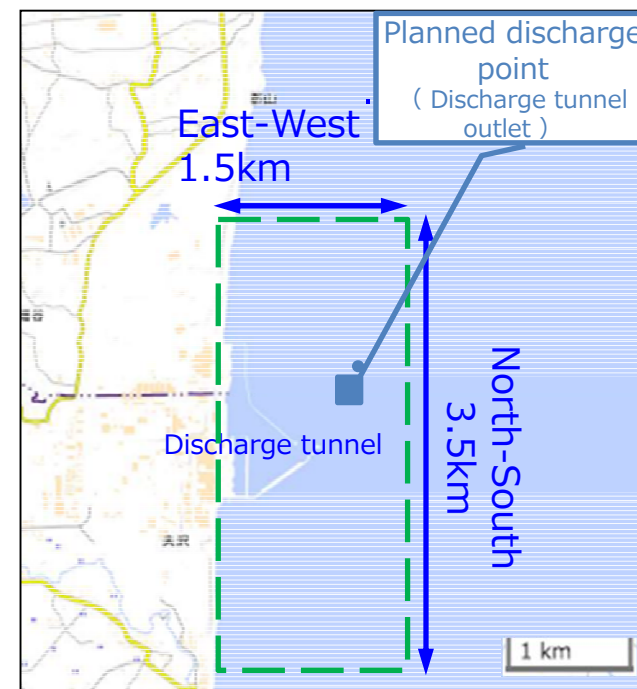
<Announced by February 24>

- Improvements in the surroundings (installation of floating lights ※1, etc., seafloor excavation, riprap lining construction, etc.) in the ocean area approximately 1km offshore from the power station ※2, which the Nuclear Regulation Authority was briefed on during the 12th Review Meeting on the Implementation Plan Regarding the Handling of ALPS Treated Water, will begin after April 25.
- These improvements in the surroundings do not constitute facility construction engaged in in conjunction with changes to the implementation plan. And, these shall be made while considering weather/ocean conditions and prioritizing safety.

※ 1 Navigational aids installed to demarcate offshore construction areas and ensure that public vessels can navigate the area safely (lighted buoys)

※ 2 Area around the planned location of the discharge outlet (within the area where fishing is not routinely conducted)

※ 3 Excavation for the discharge tunnel shall begin after approval of the implementation plan, however the shield machine that will be used to construct the discharge tunnel shall be brought to the power station by ship and stored at the site after April 24.

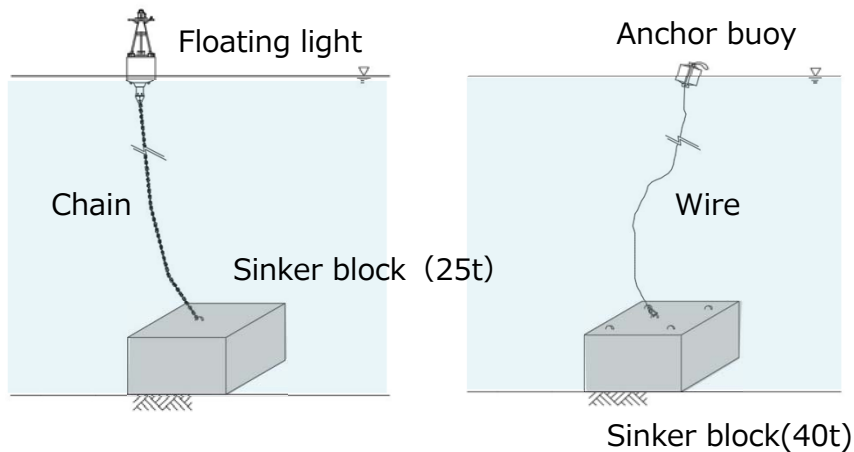


Area where fishing is not routinely conducted
East-West 1.5km North-South 3.5km

1. Overview of offshore improvements in the surroundings

① Floating lights/sinker block installation

- A crane ship will be used to position four floating lights attached to four sinker blocks (25t) in order to demarcate the offshore construction area.
- Sinker blocks used to moor ships will be positioned by a crane ship outside (four 110t blocks) and inside the harbor (three 25t and 40t blocks).

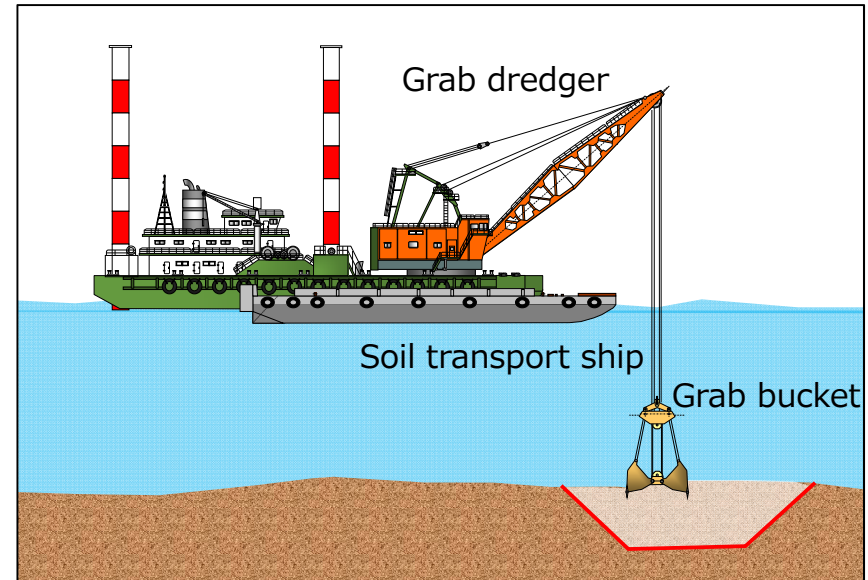


Floating light installation (concept diagram)

Ship mooring sinker block installation (concept diagram)

② Seafloor excavation/Riprap lining construction

- The seafloor will be excavated using a grab dredger in order to construct the discharge outlet caisson.
- Excavated seafloor soil shall be shipped to the power station unloading wharf inside the harbor, gathered, and brought on-site to the soil disposal yard.
- The crane ship will deposit riprap onto the seafloor in order to cover the surface of the area that has been excavated.



Seafloor excavation using a grab dredger (concept diagram)

2. Seawater monitoring plan, excavated soil analysis, and turbidity countermeasures during the improvements in the surroundings period

< Tasks to be implemented >

- During the improvements in the surroundings period, seawater from the vicinity shall be sampled along with some of the excavated soil.
- Turbidity shall be visually monitored while paying careful attention to tidal movements. In particular, work shall be done slowly during the initial phase of improvements and accelerated as suitable while watching turbidity and implementing measures to prevent it.

<Details>

- During the improvements in the surroundings period, seawater from the vicinity of the improvement area shall be sampled daily and turbidity shall be checked at four locations along the border of the work area (using a turbidity meter).
- Some of the excavated soil shall also be analyzed for cesium. (Analysis shall be conducted three times; at the beginning of improvements, during improvements, and when improvements conclude)

< Handling abnormalities >

- If a significant increase in cesium concentrations in the seawater are seen during improvements, or if a remarkable increase in seawater turbidity is observed, improvements shall be suspended.
- Monitoring shall continue and improvements shall only recommence after it is confirmed that there are no problems with seawater cesium concentrations or turbidity.
- If significant concentrations of cesium are found during soil analysis, the excavated soil shall be stored within containers on site.
- The installation of an oil fence (or silt fence), or the use of sedimentation agents, etc., to suppress the turbidity dispersion shall be examined as necessary.