Fukushima Daiichi Nuclear Power Plant
Start of marine soil coating construction inside the port

February 21, 2012
Tokyo Electric Power Company

Intention of Marine soil coating construction

According to past sampling, we detected relatively high concentrated radioactive materials from marine soil sampled at inside of the port. Since the marine soil will be spread by ocean wave, we plan to prevent spreading of marine pollution to outside of the port by covering marine soil with solidified soil.

Construction scope・Schedule

Construction scope

Front area of intake canal ,Unit1-4 and 5-6.（reference: Figure 1 ）

Schedule

- From late-December to mid-February
  Compounding solidified soil and laboratory investigation
- From late-January to early-February
  Survey of seabed scene inside the port.
- February 22
  Enter of work ships（Picture 1）
  ※ We will opening and closing of dust inhibitor.
- From February 25
  Test Construction（Figure 1）
  ※We will confirm workability and turbidity etc.
- From late-February
  Start Main construction
  ※Details have not yet been decided.
  Construction period will become 3 or 4 months.

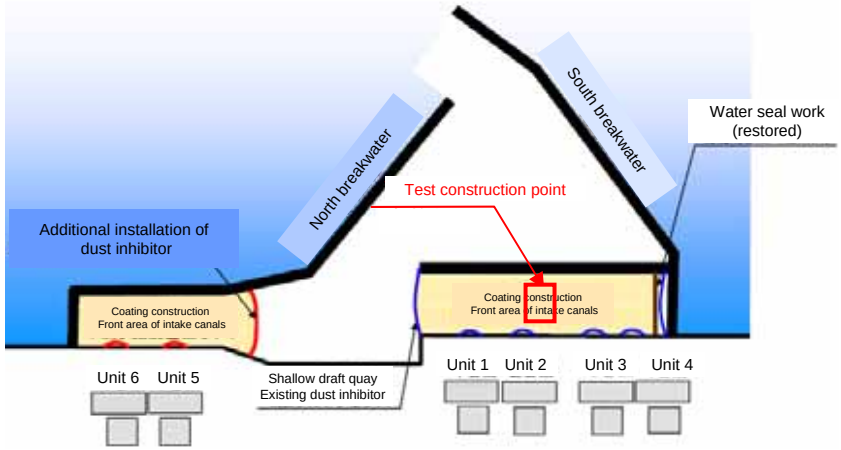


Figure 1　Scope of coating construction

Picture 1　Work ships（taken at Onahama Port）

Material design ・Construction technique

Material Design

・We will use solidified soil made from bentonite and cement as covering material since it doesn't affect to coastal environment and has less variability of quality of construction.

・For lower layer, we will use light weight solidified soil (Coating material A) to cover high natant floating mud of seafloor surface

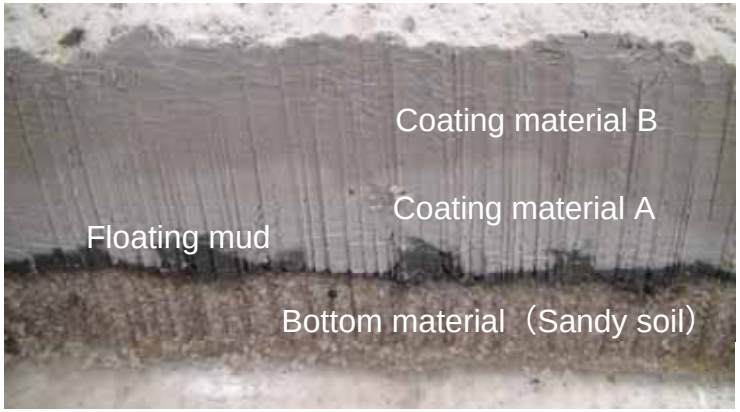
・For upper layer, we will use solidified soil (Coating material B) which has superior durability and easiness to fill

Construction

・We will transfer the coating material by sea from Fukushima Daini Nuclear Power Plant or Onahama Port and will made solidified soil from compounding the materials by solidification materials compounding ship at inside of port of Fukushima Daiichi Nuclear Power Plant. After that, we will discharge the solidified soil through tremie pipe installed at crane barge and coat the marine soil (Figure 2).

Test Construction

・We will conduct test construction at the side of Unit1-4 before main construction. Through this test, we will confirm workability and turbidity etc.



Picture 2　Profile of coating
（ laboratory investigation ）

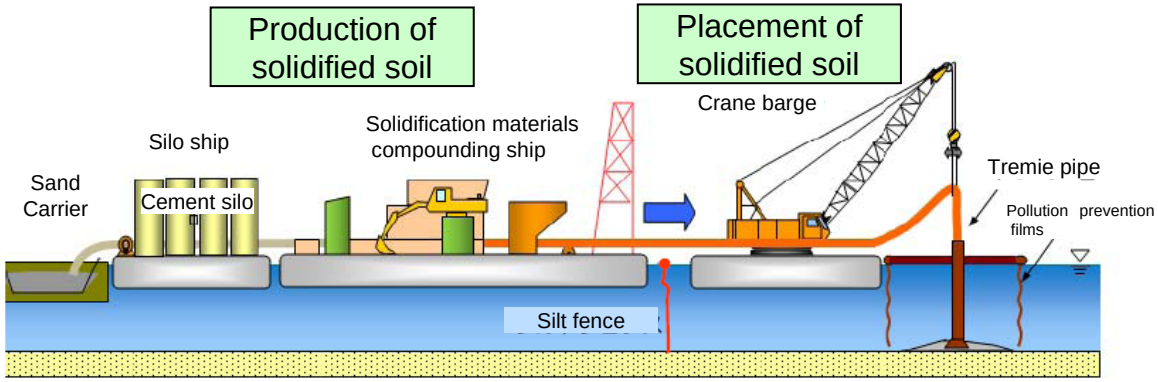


Figure 2　Schema of coating construction（Structure of work ships）

Confirmation of coating effect

Sampling survey of seawater is scheduled before and after the construction of coating, in order to grasp the influence on radioactivity concentration of seawater due to the construction based on the radioactivity concentration analysis.

Main environmental measures

Opening and closing of dust inhibitor, and additional installment etc.

- Opening and closing of dust inhibitor due to transportation of materials will be minimized by installing the fleet of mixed solidification material outside of existing dust inhibitor around the intake canals, Unit 1 – 4.
- On the side of Unit 5 and 6, additional dust inhibitors will be installed in front of the pump room and around intake canals to prevent contamination diffusion and sediment influx after coating.
- During construction of coating, pollution prevention films will be installed around tremie pipe on the crane barge as a duplicate countermeasure against contamination diffusion.

Environmental monitoring during construction

- During construction of coating, impurity will be measured in the port to monitor the diffusion of contamination into adjacent seas due to the construction.
- Monitoring of seawater will be conducted to confirm that radioactive materials of the intake canals do not diffuse inside and outside of the port.