Selected by NEDO for "Next-Generation Floating Offshore Wind Power System Demonstration Study (Development of Next-Generation Technologies to Promote the Introduction of Floating Offshore Wind Power Generation)"

~Technology Development for Cost Reduction through Design, Manufacturing, and Maintenance of Concrete Floaters~

August 17, 2026

TAISEI Corporation

Tokyo Electric Power Company Holdings, Inc.

Hokkaido Electric Power Co., Inc.

TAISEI Corporation, Tokyo Electric Power Holdings, Inc., and Hokkaido Electric Power Co., Inc., hereby announce that jointly submitted proposal entitled 'Technology Development for Cost Reduction through Design, Manufacturing, and Maintenance of Concrete Floaters' has been selected by the New Energy and Industrial Technology Development Organization (NEDO) for its commissioned project entitled 'Next-Generation Floating Offshore Wind Power System Demonstration Study (Development of Next-Generation Technologies to Promote the Introduction of Floating Offshore Wind Power Generation)'.

The Japanese government aims to maximize the deployment of renewable energy to achieve carbon neutrality by 2050. Offshore wind power, in particular, is regarded as the key to making renewable energy a primary power source. Furthermore, the "Vision for Offshore Wind Power Industry (2nd)" [※1], sets forth the target of forming a pipeline of at least 15GW of floating offshore wind projects by 2040, and to achieve this target, it is important to simultaneously reduce power generation costs while building a stable supply chain for floaters.

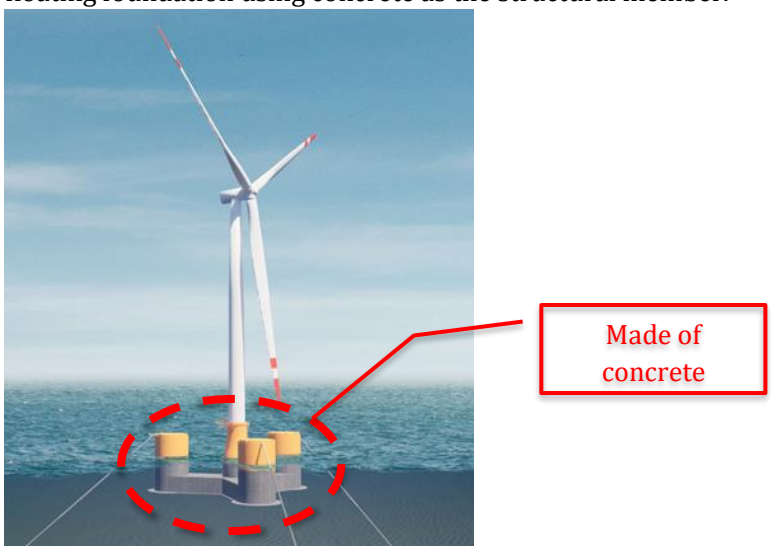
Concrete floaters are advantageous in terms of material supply and cost stability since the principal materials for the production can be procured domestically. Furthermore, by leveraging existing supply chains and port infrastructure for fabrication, concrete floaters will contribute to strengthening domestic supply chains and revitalizing regional economies. There are, however, technical challenges facing the dissemination and commercialization of concrete floaters, pertaining to design, mass production, and mooring technologies, as well as local acceptance, quality assurance, long-term durability, and the streamlining of inspection and maintenance management processes. Under the NEDO-commissioned project "Technology Development for Full Concrete Compact Semi-Submersible Floater and Deep Water Mooring System" (hereinafter referred to as the, "Previous Project") for fiscal years 2024 and 2025, we engaged in technology development and evaluations to address these challenges and advancements were made with the study of fundamental technologies necessary for the deployment of floating offshore wind power generation.

Building on the results of the Previous Project, a manufacturing validation of Concrete Semi-Submersible Floater※2, an assessment of the effects of combined deterioration※3, and an evaluation of the applicability of a method for monitoring cracks using fiber-optic sensing※4 will be conducted in an integrated manner as part of this project. Through these efforts, we seek to ensure the long-term durability of concrete floaters in anticipation of longer wind turbine service lives and further reduce power generation costs. Furthermore, we aim to commercialize Japan's first concrete semi-submersible floater by manifesting these achievements in the form of offshore demonstrations.

We will leverage our respective technologies and expertise to jointly promote this project, contributing to the realization of a carbon-neutral society.

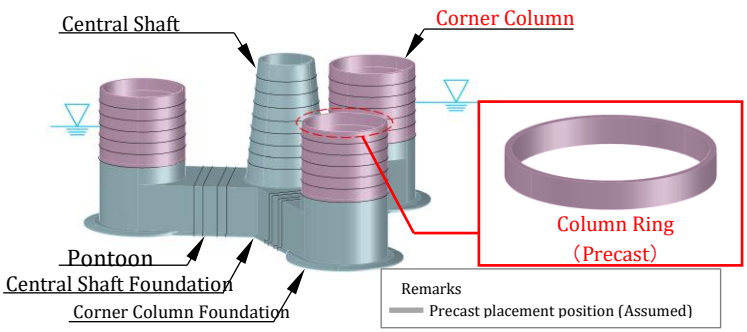
※1 Public-Private Council on Enhancement of Industrial Competitiveness for Offshore Wind Power Generation: Vision for Offshore Wind Power Industry (2nd), August 8, 2025
"A mid- to long-term strategy of the nation to expand the introduction of floating offshore wind power generation and to strengthen the competitiveness of the domestic offshore wind power industry. The aim is to create a globally competitive offshore wind industry through the development of human resources, technology advancement, and the strengthening of supply chains."

※2 Concrete Semi-submersible Floater
A semi-submersible floating foundation using concrete as the structural member.



(Reference) Image of a semi-submersible floater made of concrete

In this project, we plan to conduct manufacturing demonstration tests for column rings using the precast method.



Precast Method

A construction method in which concrete components are manufactured in a factory and assembled on-site.

This method enables consistent quality, shorter construction periods, and efficient mass production.

Column Rings

These are large, ring-shaped concrete components that form the columns of the floating structure; multiple components are joined together to construct a single column

(Reference) Precast Placement Diagram for a Concrete Floater

※3 Combined deterioration

A deterioration mechanism in which fatigue damage due to cyclic wave-induced loading and chloride ingress from seawater interact to accelerate the deterioration of concrete.

※4 Fiber optic sensing

A technology that utilizes fiber-optic cables as sensors to measure various physical parameters such as strain, temperature, pressure, and vibration.

<Outline of the Project>

Title	Technology Development for Cost Reduction through Design, Manufacturing, and Maintenance of Concrete Floaters
Period	July 2026 - March 2028 (Plan)
Major Roles of Participating Companies	[TAISEI Corporation] ➢ Demonstration Test for establishing Guidelines for Concrete Floater Manufacturing [Tokyo Electric Power Company Holdings, Inc.] ➢ Assessment of the Effects of Combined Deterioration on Concrete Floaters [Hokkaido Electric Power Co., Inc.] ➢ Applicability Assessment of Fiber Optic Sensing for Monitoring (Crack Detection) Concrete Floaters

End of announcement