

NEDO, IHI Complete Test of Ocean Current Power Generation



⇐A preparation for the verification test off the coast of Kuchino-shima (source: NEDO and IHI)

1) New Energy and Industrial Technology Development Organization (NEDO) and IHI corp announced Aug 25, 2017, that they have completed the verification test of a 100kW-class underwater-floating ocean current power generation system off the coast of Kuchino-shima (island), Kagoshima Prefecture, Japan. (verification 認証)

2) In the Black Current near the Tokara Islands, a test machine called "Kairyu" was installed. And NEDO and IHI confirmed that it showed an expected performance.

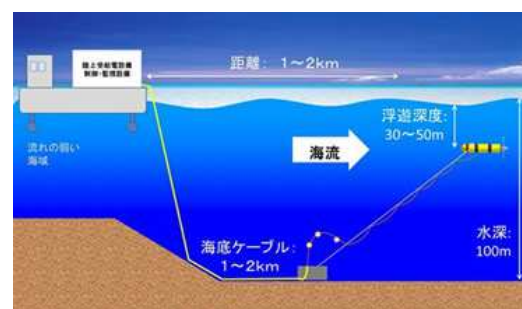
3) The underwater-floating ocean current power generation system moors a floating power generation unit under water from a weight (sinker) set up on the seabed. It generates power by using ocean current as energy that does not fluctuate much. Especially near the coastline of Japan, strong ocean currents that have more energy than most of the other ocean currents in the world are stably flowing throughout the year. (moor 停泊する、固定される fluctuate 変動する)

4) In the verification test, the Kairyu was towed by a ship in the Koshiki Strait off the coast of the Noma Cape (Minami-Satsuma City, Kagoshima Prefecture) for seven days from July 25, 2017, to generate a water current similar to the Black Current. And the underwater behavior of the system was checked. As a result, NEDO and IHI confirmed that it can generate 100kW of electricity with a rated current speed of 1.5m per second. (tow 牽引する behavior (機械などの) 運転、動き⇒挙動)

5) Furthermore, the installation and removal of the Kairyu were carried out in the Black Current area (approximately 100 meters in water depth) off the coast of Kuchino-shima, Toshima-mura (village), Kagoshima Prefecture, for seven days from Aug 12, 2017.

6) At that time, the Kairyu was floated at a water depth of about 30-50m in the actual Black Current. And NEDO and IHI confirmed that it can generate up to 30kW of power by controlling its position and depth with an autonomous control system. Also, they obtained test data on the characteristics of the ocean current and the methods of installation/removal in the actual ocean area, which are necessary for future commercialization. (autonomous 自律の)

7) NEDO expects to commercialize ocean current energy as a new renewable energy source especially for isolated islands. IHI will use the data obtained from the verification test for future research/development, aiming to commercialize the system in or after 2020. 【2017-08-31 | Nikkei】



水中浮遊式海流発電システムの装置構成↑

★Ice breaker for active discussion

1. What is your opinion about the ocean current power generation system?
2. Can you name other natural energy sources? Which one do you think is the most reliable?
3. What are the possible problems that ocean current power generation system can encounter?
4. How do you see the future of nuclear energy as a power source?
5. Make sentences using the following words: verification, moor, fluctuate, tow, autonomous and ocean current.