JR Tokai to start trial run of superconducting maglev train

The Associated Press

TOKYO, June 6 (Kyodo) — Central Japan Railway Co. will begin test runs in September to pave the way for launching a magnetically levitated train line between Tokyo and Nagoya in 2027, marking a milestone in its half-century of efforts to develop an ultrahigh-speed superconducting train system.

The railway operator, better known as JR Tokai, is extending its experimental track in Yamanashi Prefecture to 42.8 kilometers for the test, which involves the new LO series of vehicles.

In mid-May, the company started a second round of meetings with people in locations along the train line to explain the project in detail, including progress in the work of environmental assessments.

The project to develop a maglev train line to link Tokyo and Osaka in an hour was launched by the now-defunct Japanese National Railways at the Railway Technical Research Center in Tokyo in 1962. It succeeded in running a trial ML-100 maglev train for the first time in 1972.

The success was attributable to "accumulated (research and development) efforts since the commercial launch of the Tokaido Shinkansen bullet train system in 1964," said an official at the research center.

In 1979, the ML-500 vehicle, which looked like a flat spaceship, reached a speed of 517 km per hour on a trial track in Miyazaki Prefecture.

JR Tokai, one of the entities created through the 1987 privatization of JNR, built an 18.4-km track in Yamanashi in 1996 for trial runs under actual conditions such as curbs and tunnels. In 2003, the MLX-01 vehicle set a new world record of 581 kph.

"We are determined to build a bypass for the Tokaido Shinkansen Line," says JR Tokai President Yoshiomi Yamada.

The Chuo Shinkansen maglev train system uses magnetic levitation to propel vehicles with superconductive magnets cooled to a few degrees above absolute zero, or minus 273 C, at which electrical resistance is lost. Levitating about 10 centimeters above a guideway, vehicles can run at ultrahigh speeds even in steep locations in the Minami Alps mountain range along the Chuo Shinkansen Line, according to JR Tokai officials.

While maglev trains are already in service in Aichi Prefecture and the Chinese city of Shanghai, they are based on normal conduction.

Train cars of the LO series are 2.9 meters wide and 3.1 meters high, somewhat narrower than their counterparts of the new N700A adopted by the Tokaido Shinkansen service. A train of 12 cars can carry some 700 passengers.

The Chuo Shinkansen service is planned to make a one-way trip between Tokyo and Nagoya in as little as 40 minutes at a speed of 500 kph. Kanagawa, Yamanashi, Nagano and Gifu prefectures will each host stations on the line.

When full service between Tokyo and Osaka begins in 2045, JR Tokai plans to cover the distance in 67 minutes.

Vehicles of the LO series are already safe enough for commercial service, said Yasukazu Endo, head of JR Tokai's maglev experiment center in Yamanashi. "We will bring them to completion for greater safety."

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