

SP building undersea transmission cable tunnel

It will connect Jurong Island to the mainland

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ONE year after starting construction of Singapore's \$2 billion next-generation power network, Singapore Power (SP) is now following up by building a crucial new undersea transmission cable tunnel connecting Jurong Island (JI) to the mainland to export electricity from new power plants there.

Penta-Ocean Construction, which was awarded the latest contract in October, started work last month on the 5.2 km JI-Pioneer (Road) cable tunnel under the West Jurong Channel, Singapore Power disclosed in its just-released 2012/13 annual report. No project cost was mentioned because of contractual reasons.

"Cost-wise, it is a fraction of the \$2 billion mainland tunnel project. But the undersea tunnel is not a small project, and it is also more challenging as it goes deeper," said SP's CEO, Wong Kim Yin, in an interview.

Expected to be around 45 metres to 80 metres deep, the undersea cable tunnel is "planned in conjunction with the (next-generation) 400kV West Jurong Island substation and will accommodate up to 10 circuits" from JI to the mainland, SP added.

It will also house Singapore's next-generation 400

kV transmission cables (replacing current 230kV ones) which have greater capacity to handle the volume of electricity being generated and transmitted here.

SP had earlier carried out both preliminary and detailed soil investigations, as the tunnel will be built through Jurong sedimentary formation.

The undersea cable tunnel is scheduled for completion by 2018, in time to handle the substantial increase

project on the mainland. Comprising two ultra-deep, extra-high voltage power transmission tunnels running 16.5 km east-west and 18.5 km north-south, the tunnels are expected to be completed in Q2, 2017 and Q2, 2018 respectively.

Tunnelling proper of the two is set to start early next year, following the completion of the upper and lower access shafts this year.

In its annual report, SP said that it is leveraging cutting-edge technology and in-

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in transmission load from JI, which is seeing new plantings by gencos including Keppel Merlimau Cogen, Sembcorp Cogen, Tuas Power's multi-utilities complex and newcomer PacificLight Power.

"By 2019, transmission load in south-western Singapore is expected to increase by 62.5 per cent," SP said, explaining the need to expand the transmission cable network in that area, which includes Jurong Island and Tuas (where the new port will also be built).

Timing-wise, it will also tie in with the expected completion of the mega \$2 billion cross-island tunnel

vesting in network infrastructure to support key industries and economic and social developments. For instance, it said that to cater for future growth and development of petrochemical industries on JI, development of Tembusu 230kV and 400kV West Jurong Island substations is progressing. Rangoon 400kV substation is also set to be completed by this year-end to cater to power demand growth in central Singapore.

On the gas front, subsidiary PowerGas also supported the start-up of the Singapore LNG terminal in May this year by laying pipelines connecting SLNG to new transmission customers.