

6. Major Projects

6.1. Gas-fired Generating Units

To prepare for the retirement of coal-fired units and to increase the proportion of gas-fired generation, HK Electric is constructing three new gas-fired generating units in phases – L10, L11 and L12, at Lamma Power Station (“LPS”).

L10, a 380-MW combined cycle gas-fired generating unit, is already in the final stages of construction. Essential equipment, such as the gas and steam turbines, heat recovery steam generator and transformers has been installed on time. Synchronisation of the unit is targeted for Q4 2019 with commercial operation set for January 2020. By then, HK Electric’s gas-fired generation will be increased to about 50% of the total generating output.

With site formation completed, the contract for the superstructure works of L11 was awarded at end 2018 and construction will commence soon for the unit to be operational in 2022. The commissioning of L11 will further boost our gas-fired generation to about 55% of the total output.

The construction of L12 was approved by the Government in the 2019-2023 Development Plan. Site formation will begin in 2019 for commissioning by 2023, taking total gas-fired capacity further up to about 70%. With the addition of these three new gas-fired units, a total of six coal-fired and gas-fired units could retire by 2023 without compromising on system reliability.

6.2. Offshore Liquefied Natural Gas Terminal

Good progress has been made for the development of an offshore liquefied natural gas (“LNG”) terminal based on Floating Storage and Regasification Unit technology. The Environmental Impact Assessment Report was approved by the Government and the Environmental Permit issued in 2018.

Pre-construction work including tendering, infrastructural and site investigation activities is being completed at speed so that construction can begin as soon as possible for the terminal to be operational in 2022. The facility will enhance our much-needed security of gas supply while strengthening our negotiating power to procure LNG at competitive prices.



6.3. Other Infrastructural Works

Upgrades were carried out to two key sophisticated real-time computer systems at System Control Centre – the Energy Management System and Distribution Management System – to further improve the automation and control capabilities of our generation, transmission and distribution networks.

A number of major projects are also in progress across our transmission and distribution networks. The most significant one is the work associated with supplying power to MTR's Shatin to Central Link (Hong Kong Island Section), which is under construction. We installed two 132/25-kV 26.5-MVA single phase traction transformers and associated protection and control equipment at MTR's South Ventilation Building ("SOV") as well as two 132-kV single-phase cable circuits from Marsh Road 132-kV Switching Station ("MRS") to SOV. Besides, we retrofitted two 132-kV load break switches at MRS to provide supply to the new train line.

The advanced on-line partial discharge detection systems were put to wider use to monitor equipment in primary stations, while cable diagnostic techniques were deployed to identify weak components in our 11-kV cable network. The new technologies identified 19 instances where pre-emptive actions can be taken to maintain fault-free operations.

In addition, we commissioned 39 new distribution substations and replaced or refurbished aged equipment in the distribution network. Older cable circuits in the Mid-Levels area were replaced with modern ones to enhance system performance and reliability.

