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## SCHEME OF CONTROL AND REGULATORY OVERVIEW

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### SCHEME OF CONTROL

Our operations have been subject to a scheme of control regime since 1979. The Scheme of Control, which is entered into among HEC, PAH and the Hong Kong Government, sets out our rights and obligations, in particular our right to earn a Net Return for the sale of electricity which are designed to recover our operating costs (including tax), and provides a framework for the Hong Kong Government to monitor our financial affairs and operating performance. The Scheme of Control establishes the procedures governing the Hong Kong Government's review of our financial affairs through the Development Plan review, the auditing review and tariff review mechanisms.

The current Scheme of Control was entered into on 7 January 2008 for a term of ten years from 1 January 2009 to 31 December 2018, with an option for the Hong Kong Government to extend it for a further term of five years ending on 31 December 2023. If the Hong Kong Government does not exercise such option to extend the term of the Scheme of Control, under the current Scheme of Control we will, for the period from 1 January 2019 to 31 December 2023, through reasonable arrangements determined by the Hong Kong Government after consultation with us, continue to be entitled to earn from the market the same Permitted Return annually which we currently earn under the Scheme of Control (after recovery of tax and total operating costs and subject to deduction of certain interest on borrowed capital for the financing of Fixed Assets and other applicable deductions, with the assets to be taken into account for calculating the Permitted Return to include only assets that continue to be used in HEC's Electricity Related activities, and not to include any assets acquired or invested in after 31 December 2018 unless they have been reasonably and prudently purchased for use in HEC's Electricity Related activities and only if the purchase of such assets has been approved by the Hong Kong Government). For further details, see "*— Non-renewal of the Scheme of Control*" below.

Under the current Scheme of Control, each of HEC and the Hong Kong Government had the right during FY2013 and, if the term of the current Scheme of Control is extended until 2023, has the right during FY2018, to request modifications to the Scheme of Control. However, any modifications must be mutually agreed by the parties in writing before they take effect. An interim review of the Scheme of Control was conducted in 2013 and the conclusions are summarised in "*— 2013 and 2018 Interim Reviews of the Scheme of Control*" below.

### Tariff

The net tariff charged to our customers is made up of the Basic Tariff Rate, a Fuel Clause Charge or Rebate and a Rate Reduction Rebate.

#### (a) *Basic Tariff Rate*

Customers are charged for the electricity used by them at their applicable Basic Tariff Rate. Residential, commercial and industrial customers are subject to different tariff levels. For further details, see "*Business — Customers*". We calculate our proposed Basic Tariff Rates by aggregating the annual forecasts of our operating costs, Net Return and transfers to or from the Tariff Stabilisation Fund and dividing that aggregate amount by our forecast unit sales of electricity. Operating costs include, among other things, the standard cost of fuel, generation, transmission, distribution and administration expenses, depreciation, interest expense and tax.

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(b) *Fuel Clause Charge or Fuel Clause Rebate*

In setting the Basic Tariff Rate, we and the Hong Kong Government agreed upon a standard cost of fuel as an operating cost, which was set in 1986 based on the prevailing oil price at that time which was required to produce one unit of electricity. The difference between the actual cost of fuel (including coal, natural gas and oil) and the standard cost of fuel recovered through the Basic Tariff Rate is charged or credited to a Fuel Clause Recovery Account maintained in our books and passed on, or rebated, to our customers by way of a Fuel Clause Charge or a Fuel Clause Rebate, respectively. We are entitled to adjust tariffs through the Fuel Clause Recovery Account from time to time to reflect changes in the cost of fuel consumed by us for the generation of electricity. There is no fuel cost to recover for electricity generated by renewable energy.

(c) *Rate Reduction Reserve and Rate Reduction Rebate*

The balance in the Tariff Stabilisation Fund represents a liability in our financial statements and we are obliged in each year to pay a charge equal to the average one month HIBOR per annum on the average of the opening and closing balances of the Tariff Stabilisation Fund for that year to be credited to the Rate Reduction Reserve. The Rate Reduction Reserve may be reduced by rebates which are applied to the tariffs normally in the following year to effect tariff reductions or to minimise tariff increases. The balance of the Rate Reduction Reserve may not exceed the total annual charges for the current and the preceding three years. In November 2013, as part of the 2013 interim review of the Scheme of Control, we have agreed in principle with the Hong Kong Government, among other things, to streamline the administration of the Rate Reduction Reserve from the end of 2013 such that the year-end balance of the Rate Reduction Reserve for any given year will be transferred to the Tariff Stabilisation Fund in the subsequent year. For further details of the Tariff Stabilisation Fund, the Rate Reduction Reserve and the 2013 interim review of the Scheme of Control, see “— *Tariff Stabilisation Fund*” and “— *2013 and 2018 Interim Reviews of the Scheme of Control*” below.

### **Permitted Return**

The Scheme of Control regulates the tariffs which we can charge our customers by providing for a Permitted Return for each year during the term of the Scheme of Control. The Permitted Return for each year is equal to the aggregate of two components:

- (i) 9.99% of the total value of our Average Net Fixed Assets other than those attributable to our Average Renewables Net Fixed Assets for that year; and
- (ii) 11% of the total value of our Average Renewables Net Fixed Assets for that year.

### **Net Return**

Our Net Return for each year during the term of the Scheme of Control, which is the return accruing to the shareholders of HEC, is computed from the Permitted Return by taking into account certain deductions from, or adjustments to, the Permitted Return as set out below.

The following items are deducted from the Permitted Return for each year:

- (i) interest of up to a maximum of 8% per annum on the principal outstanding from time to time in respect of borrowings to finance Fixed Assets which have been capitalised or charged to total operating costs;

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- (ii) interest of up to a maximum of 8% per annum on the principal outstanding from time to time in respect of borrowings which have been swapped into another currency to finance Fixed Assets;
- (iii) a charge of average one-month HIBOR per annum on the average of the opening and closing balances of the Tariff Stabilisation Fund for that year (for further details, see “— *Tariff Stabilisation Fund*” below);
- (iv) interest of up to a maximum of 8% per annum on the increase in our customers’ deposits which represent the average of the opening and closing balances of our customers’ deposits for that year in excess of the balance as at 31 December 1998; and
- (v) an excess capacity adjustment of 9.99% multiplied by the average of the opening and closing balances of the Excess Capacity Expenditure less an allowed interest charge of up to 8% per annum on the average of the opening and closing balances of the Excess Capacity Expenditure.

In addition, the Scheme of Control also contains certain adjustments to the Permitted Return in the form of performance-based financial incentives which seek to encourage emission reduction, supply reliability, operational efficiency and customer services and promote energy efficiency and renewable energy while financial penalties are included to discourage under-performance in the foregoing factors. These performance related adjustments are in the range of -0.4% to +0.1% on the Average Net Fixed Assets minus the Average Renewables Net Fixed Assets (in the case of the incentive for emission reduction) or the Average Net Fixed Assets (in the case of other incentives), which are taken into account for the purposes of calculating the Net Return for each year.

### **Tariff Stabilisation Fund**

We are required to maintain the Tariff Stabilisation Fund, the main purpose of which is to accumulate and provide funds to ameliorate tariff increases or facilitate tariff reductions where appropriate. The Tariff Stabilisation Fund also serves as a buffer for our return. In each year where the Gross Tariff Revenue exceeds the aggregate of our total operating costs, Permitted Return (after taking into account deduction of certain interest on borrowed capital for the financing of Fixed Assets and certain other deductions and adjustments) and Scheme of Control taxation charges, the amount of such excess is transferred from our statement of profit or loss to the Tariff Stabilisation Fund. Conversely, where the Gross Tariff Revenue is less than the aggregate of our total operating costs, Permitted Return (after taking into account deduction of certain interest on borrowed capital for the financing of Fixed Assets and certain other deductions and adjustments) and Scheme of Control taxation charges, the amount of such deficit is transferred from the Tariff Stabilisation Fund to our statement of profit or loss for that year, provided that the amount transferred may not exceed the balance of the Tariff Stabilisation Fund, which may not go into a deficit position.

Each year, a charge equal to the average one-month HIBOR multiplied by the average of the opening and closing balances of the Tariff Stabilisation Fund for that year is transferred from the statement of profit or loss of HEC to a Rate Reduction Reserve, which amount shall be reduced by rebates applied to the tariffs normally in the following year so as to effect tariff reductions or to minimise tariff increases.

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Under the Scheme of Control, for each year's tariff review, projections for the then current year will take into account an upper limit on the projected year-end balance of the Tariff Stabilisation Fund, with a one-off rebate or tariff adjustment applied in the subsequent year to reduce any excess to or below the upper limit. The upper limit specified in the Scheme of Control is currently 8% of the annual total revenues of HEC from sales of electricity to our customers (including the Fuel Cost Account Adjustment and excluding rebates and charges made during that year). In November 2013, as part of the 2013 interim review of the Scheme of Control, we have agreed in principle with the Hong Kong Government, among other things, that such upper limit on the projected year-end balance of the Tariff Stabilisation Fund will be lowered from 8% to 5% once a written agreement is executed by all parties to the Scheme of Control. For further details relating to the tariff review and the 2013 interim review of the Scheme of Control, see "*— Tariff Review*" and "*— 2013 and 2018 Interim Reviews of the Scheme of Control*" below, respectively.

### Development Plan

The Development Plan is a plan under the Scheme of Control which relates to the provision and future expansion of our electricity generation and supply system. A Development Plan review is conducted jointly by the Hong Kong Government and us in order to establish an agreement relating to the level of projected Basic Tariff Rate:

- (i) whenever a Development Plan for major additions to our electricity generation, transmission and distribution system has been finalised for review and approval;
- (ii) whenever a Development Plan has been finalised for review and approval in respect of major variations to our electricity generation, transmission and distribution system, which would increase the projected Basic Tariff Rates significantly above those in the one previously approved;
- (iii) six months before the period covered by the previous Development Plan expires; and/or
- (iv) if, as a result of a tariff review, the proposed Basic Tariff Rate for the following year exceeds the limit equal to 5% above the projected Basic Tariff Rate most recently approved for that year by the Executive Council, by more than 5%,

following which the Development Plan will be submitted to the Executive Council for review and approval. Each Development Plan covers a period of at least five successive years or for the remaining term of the Scheme of Control, whichever is shorter.

#### *2004-2008 Development Plan*

Under the 2004-2008 Development Plan, which covered the period from 1 January 2004 to 31 December 2008 and which was approved by the Executive Council on 28 June 2005, we incurred capital expenditures of approximately HK\$11.9 billion of which approximately 52% was approved for our power generation system and new projects for minimising environmental impact, approximately 30% was approved for our transmission network and approximately 18% was approved for our distribution network. Our capital expenditure under the 2004-2008 Development Plan included investments in the commissioning of a gas-fired combined cycle unit at the Lamma Extension, the conversion of the

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previously oil-fired combined cycle unit to a gas-fired unit, the construction and commission of Lamma Winds, retrofitting two coal-fired units with low nitrogen oxide burners and flue gas desulphurisation plants, construction of new substations, reinforcement of existing circuits and replacement or upgrading of certain existing cables.

### *2009-2013 Development Plan*

The 2009-2013 Development Plan, which covered the period from 1 January 2009 to 31 December 2013, was approved by the Executive Council on 16 December 2008. The 2009-2013 Development Plan included approved capital expenditure of approximately HK\$12.3 billion in new and existing capital projects over its five year term, of which approximately HK\$4.4 billion was approved for our power generation system (including emission reduction projects and post-commission projects), approximately HK\$6.2 billion was approved for our transmission and distribution networks and approximately HK\$1.7 billion was approved for our customer and corporate services development. For FY2010, FY2011, FY2012 and 9M2013, we invested approximately HK\$2,426.8 million, HK\$2,886.9 million, HK\$2,612.9 million and HK\$1,192.7 million, respectively, in fixed assets, primarily for the retrofitting of emission control facilities, increasing the gas-fired generation capacity, station building and plant facilities improvement (including upgrading steam turbines, constructing new service buildings and installing a 1 MW TFPV system at Lamma Power Station), the replacement of overhead lines with underground cable circuits, the installation of cable circuits and equipment for electricity connection to new MTR lines, general transmission and distribution system expansion and other projects for improving supply reliability. From 1 January 2009 to 31 December 2012, we incurred capital expenditures of approximately HK\$10.4 billion (net of write-offs and disposals).

### *2014-2018 Development Plan*

The 2014-2018 Development Plan, which covers the period from 1 January 2014 to 31 December 2018, was approved by the Executive Council on 10 December 2013. The 2014-2018 Development Plan provides for an estimated total investment of approximately HK\$13.0 billion in new and existing capital projects over its five year term, of which approximately HK\$6.1 billion will be spent on our power generation system (inclusive of the estimated HK\$3.0 billion in relation to the L10 Project), approximately HK\$5.3 billion will be spent on our transmission and distribution networks and approximately HK\$1.6 billion will be spent on our customer and corporate services development. This estimated total capital expenditure of approximately HK\$13.0 billion represents an increase of approximately 5.7% over the approved total capital expenditure of approximately HK\$12.3 billion under the 2009-2013 Development Plan, and is expected to be funded by cash from our operating activities, bank loans and/or other debt markets fund raising activities. The estimated total capital expenditure as approved under the 2014-2018 Development Plan represents our continued commitment to provide a safe and reliable electricity supply to our customers.

Under the 2014-2018 Development Plan, we propose to implement the following investments in three main areas:

(i) *Power generation system*

We propose to carry out refurbishment projects for aged equipment and improvement works for our generating units at the Lamma Power Station as part of our efforts to improve operating efficiency and reliability, as well as to alleviate the tariff increase pressure that would arise from the

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installation of additional new generating units. In particular, we will carry out improvement works to one of our existing coal-fired units (L2), which has already been retrofitted for environmental reasons with a flue gas desulphurisation plant, to extend its useful life for another five years from the originally scheduled retirement in 2017.

We also propose to start the construction of the L10 Project in 2016, for which the capital expenditure is estimated to be approximately HK\$3.0 billion in respect of the period covered by the 2014-2018 Development Plan. The L10 Project comprises the construction of a new gas-fired power plant unit (L10) targeted to be commissioned by 2020, which is needed to sustain our current level of approximately 30% electricity generation from natural gas and to maintain the reliability of our electricity supply given the scheduled retirement of two of our existing coal-fired units (L1 and L3) in 2017 and 2018, respectively, and one gas-fired combined cycle unit (GT57) in 2020.

The Hong Kong Government's energy consultant considers that the refurbishment projects and the L10 Project mentioned above are necessary and justified for ensuring operational reliability and the proposed budgets to be reasonable. However, as the Hong Kong Government will undertake a review of the future fuel mix policy for electricity generation in Hong Kong and a review of the electricity supply regulatory framework for the electricity market after the expiry of the current scheme of control agreements in respect of the two power companies (collectively, the "Reviews"), the Hong Kong Government has included the L10 Project in the 2014-2018 Development Plan on a provisional basis only. The commencement of the L10 Project is subject to the receipt of a written confirmation from the Hong Kong Government to HEC which may only be issued after it has completed the Reviews. Accordingly, unless and until the Hong Kong Government issues such written confirmation, we may not include the capital expenditure of HK\$3.0 billion in respect of the L10 Project in the 2014-2018 Development Plan, or apply the Basic Tariff Rates categorised as "projected Basic Tariff Rate with L10 Project" as detailed below. If the L10 Project proceeds, our projected Basic Tariff Rates for each of the years from FY2016 to FY2018 will be higher. For further details about our projected Basic Tariff Rates, see below.

(ii) *Transmission and distribution networks*

The proposed projects for our transmission and distribution networks include the construction of new substations and additional circuits and improvements to and reinforcements of our existing system, in order to ensure that adequate transmission and distribution facilities are in place to meet new demand and to maintain the reliability of the supply and safety of our systems.

(iii) *Customer and corporate services development*

The proposed projects for our customer and corporate services development include customer information system development, energy and distribution management systems development, metering system development, motor vehicles and building renovation.

During our negotiations with the Hong Kong Government on the 2014-2018 Development Plan, and in light of the Reviews to be conducted by the Hong Kong Government, we agreed to shelve a few major capital projects, which we had included in our original proposals for the 2014-2018 Development Plan. Such major capital projects included the proposed installation of a second additional gas-fired generating unit (L11), the proposed construction of an offshore wind farm at Southwest Lamma Channel, and the proposed construction of a second gas pipeline from Gaolan in Zhuhai, the PRC to provide an alternative source of gas supply to meet an adequate, secured and long term supply of natural gas at a reasonable price level to our existing and future new gas-fired units at the Lamma Power Station. We may resubmit



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such major capital projects to the Hong Kong Government for its further consideration as and when the conclusions of the future fuel mix policy review are available. Furthermore, the Hong Kong Government has encouraged us to explore further opportunities to increase the use of renewable energy in our future developments.

On 10 December 2013, the Executive Council also approved, under the 2014-2018 Development Plan, the projected Basic Tariff Rate for each of the years from FY2014 to FY2018 as follows:

	FY2014	FY2015	FY2016	FY2017	FY2018
	(Hong Kong cents per kWh)				
Projected Basic Tariff Rate					
without L10 Project . . . . .	101.8	101.7	100.9	100.0	99.0
Projected Basic Tariff Rate					
with L10 Project . . . . .	101.8	101.7	101.0	100.4	100.0

The above “projected Basic Tariff Rate without L10 Project” category will apply during the period from FY2014 to FY2018. If the L10 Project commences in 2016 as scheduled, the above “projected Basic Tariff Rate with L10 Project” category will be applicable in the relevant period instead. In either case, the effect of the fluctuations in the projected Basic Tariff Rate during the period from FY2014 to FY2018 on the net tariff to be charged to our customers is expected to be offset by an adjustment in the Fuel Clause Charge such that the average net tariff is expected to be largely stable for the period from FY2014 to FY2018.

### Tariff Review

In October of each year, under the Scheme of Control, a tariff review is conducted jointly by the Hong Kong Government and us to determine, among other things, the actual Basic Tariff Rate for the following year, which may vary from the projected Basic Tariff Rate as previously approved for that year by the Executive Council in the latest approved Development Plan. During the tariff review, we and the Hong Kong Government shall agree on any revision, if necessary, of the major items of the latest approved Development Plan in respect of the then current year and the subsequent year. For each year’s tariff review, projections for the then current year will take into account an upper limit on the projected year-end balance of the Tariff Stabilisation Fund, with a one-off rebate or tariff adjustment applied in the subsequent year to reduce any excess to or below the upper limit. For further details relating to such upper limit on the projected year-end balance of the Tariff Stabilisation Fund, see “— *Tariff Stabilisation Fund*” above.

A proposed Basic Tariff Rate for a particular year that is not higher than 5% above the projected Basic Tariff Rate most recently approved for that year by the Executive Council would not require any further approval by the Executive Council. Any proposed Basic Tariff Rate exceeding this limit but not exceeding the limit by more than 5% would require the approval of the Executive Council without a full Development Plan review. However, a proposed Basic Tariff Rate which exceeds the 5% limit referred to above by more than 5% will necessitate a full Development Plan review, following which the approval of the Executive Council will be required.

As part of the approval of the 2014-2018 Development Plan, the projected Basic Tariff Rates for the five years from FY2014 to FY2018 were also approved by the Executive Council. The Basic Tariff Rate for FY2014 was determined on the basis of the approved projected Basic Tariff Rate for FY2014 under the 2014-2018 Development Plan. In comparison to FY2013, the Basic Tariff Rate for FY2014 will be

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increased by HK\$0.071 per kWh, or approximately 7.5%, to HK\$1.018 per kWh. However, such increase in the Basic Tariff Rate for FY2014 will be offset by a corresponding reduction of HK\$0.071 per kWh in the Fuel Clause Charge such that the average net tariff charged to our customers for FY2014 will remain unchanged at HK\$1.349 per kWh. Accordingly, we do not expect this will cause any material adverse impact on our tariff revenues for FY2014. For details relating to the projected Basic Tariff Rate for each of the years from FY2015 to FY2018, which was approved by the Executive Council on 10 December 2013 as part of the 2014-2018 Development Plan, see “— *Scheme of Control — Development Plan — 2014-2018 Development Plan*” above.

In addition, we will continue to maintain the existing tariff structure whereby we will offer a concessionary tariff scheme for our elderly, disabled, single-parent family or unemployed domestic customers as well as a “super saver discount” on electricity bills to our domestic customers to encourage energy conservation. For details, see “*Business — Customers*”.

### **Auditing Review**

An annual auditing review is performed jointly by the Hong Kong Government and us not later than three months after the end of our financial year. The purpose of the annual auditing review is to review financial, technical and environmental performance for the preceding financial year and, if necessary, review and agree to revise major items in the latest approved Development Plan.

### **2013 and 2018 Interim Reviews of the Scheme of Control**

The Scheme of Control provides that each of HEC and the Hong Kong Government had the right during FY2013 and, if the term of the Scheme of Control is extended, has the right during FY2018, to request modifications to the Scheme of Control. However, any modifications must be mutually agreed by the parties in writing before they take effect. In the course of its preparation for the interim review in FY2013, the Hong Kong Government engaged experts, academics, green groups and other stakeholders to solicit their comments and suggestions. While we did not request any modifications to the Scheme of Control pursuant to the interim review in FY2013, we discussed with the Hong Kong Government regarding their proposed modifications to the Scheme of Control.

In November 2013, as part of the 2013 interim review of the Scheme of Control, we agreed in principle with the Hong Kong Government to implement the following modifications to the Scheme of Control:

- (i) to promote energy efficiency, we will establish an energy efficiency fund to provide, subject to a ceiling, subsidies on a matching basis to owners of non-commercial buildings to carry out improvement works to enhance the energy efficiency of their buildings, with priority to be given to single residential blocks. We will pay into the energy efficiency fund an amount equal to the financial incentive payments that we will from time to time receive under the energy efficiency incentive mechanism in the Scheme of Control for outperforming the energy audits and energy saving targets set for each of the years from 2014 until the expiry of the current term of the Scheme of Control. It is expected that this energy efficiency fund will be launched in the first half of 2014. In addition, a loan fund established by HEC under the Scheme of Control, which amounted to HK\$12.5 million per annum over a five-year period, to provide interest-free loans to non-Hong Kong Government customers to implement energy-saving initiatives will be extended for a further period of five years from the original expiry date;



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- (ii) as part of our efforts to pursue continuous improvement in our supply reliability, operational efficiency and customer services, we will raise the performance thresholds for both the incentives which may be awarded and penalties which are payable in respect of those areas;
- (iii) we will lower the cap on the balance of the Tariff Stabilisation Fund from 8% to 5% of our annual total revenues from sales of electricity to our customers (including Fuel Cost Account Adjustment and excluding rebates and charges made during that year). This arrangement will help ensure that the balance of the Tariff Stabilisation Fund can be used to alleviate the impact of tariff increases on our customers as soon as possible. For further details relating to the upper limit on the Tariff Stabilisation Fund, see “— *Tariff Stabilisation Fund*” above;
- (iv) as part of our efforts to promote transparency of our operations, beginning in 2014, we agreed to publicly disclose on a dedicated website certain financial and operating data relating to the latest approved Development Plan and the proposed tariff adjustments for the upcoming year upon the conclusion of each annual tariff review exercise. The data to be publicly disclosed include our capital expenditure forecast, the projected year-end balance of the Tariff Stabilisation Fund and the Fuel Clause Recovery Account, and an analysis of the tariff adjustments;
- (v) to ensure the prompt and timely use of the Rate Reduction Reserve for the benefit of our customers, we agreed to streamline the administration of the Rate Reduction Reserve from the end of 2013 such that the year-end balance of the Rate Reduction Reserve for any given year will be transferred to the Tariff Stabilisation Fund in the subsequent year; and
- (vi) relevant expenditures incurred in respect of our pre-project studies and assessments will initially be placed in a separate suspense account, and will only be counted as Fixed Assets for the purpose of calculating the Permitted Return after a decision is made to proceed with the projects.

The above modifications will take immediate effect once a written agreement modifying the terms of the Scheme of Control is executed by all parties to the Scheme of Control. While an agreement in principle has been reached in respect of the above modifications to the Scheme of Control, during our discussions with the Hong Kong Government, we have maintained our position that no fundamental changes to the Scheme of Control should be made during the 2013 interim review and have rejected the proposals from the Hong Kong Government in the following areas:

- (i) reduction of the rates of Permitted Return;
- (ii) tightening of the mechanism for treating excess generating capacity by excluding any generating unit that fails the excess capacity test from earning the Permitted Return;
- (iii) exclusion of investments in any new or existing emission control facilities from earning the Permitted Return;
- (iv) return to customers 50% of the capital gain from the disposal of fixed assets if the proceeds exceed the original costs;
- (v) prior approval from the Executive Council to be obtained if a tariff increase exceeds the composite consumer price index published by the Hong Kong Government’s Census and Statistics Department; and

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- (vi) removal of the Emissions Performance Linkage Mechanism as set out in the Scheme of Control, which currently awards incentive for the outperformance or imposes penalty for the underperformance in respect of emission reduction thresholds.

Accordingly, no changes will be introduced to the Scheme of Control in relation to these rejected proposals as a result of the 2013 interim review. The Hong Kong Government has indicated that it will take into account views and comments received when conducting an overall review of the future regulatory framework for the electricity market after the expiry of the current Scheme of Control, and that such overall review will be conducted in 2014 as a separate exercise.

### **Non-renewal of the Scheme of Control**

If the Hong Kong Government does not exercise its option to extend the term of the Scheme of Control for a further term of five years ending on 31 December 2023, under the current Scheme of Control we will, for the period from 1 January 2019 to 31 December 2023, through reasonable arrangements determined by the Hong Kong Government after consultation with us, continue to be entitled to earn from the market the same Permitted Return annually which we are currently entitled to earn under the Scheme of Control (after recovery of tax and total operating costs and subject to the deductions set out in paragraphs (i) and (ii) and, if applicable, paragraphs (iii) and (iv) of “— *Net Return*” above, or such other amounts as may have been mutually agreed in accordance with the interim reviews).

In such event, under the current Scheme of Control, the Average Renewables Net Fixed Assets and the Average Net Fixed Assets (other than Average Renewables Net Fixed Assets) to be taken into account for calculating the Permitted Return for the period from 1 January 2019 to 31 December 2023 will only include assets that continue to be used in HEC’s Electricity Related activities, and will not include assets acquired or invested in after 31 December 2018 unless they have been reasonably and prudently purchased for use in HEC’s Electricity Related activities and only if the purchase of such assets has been approved by the Hong Kong Government.

### **Stranded Costs**

The Scheme of Control provides for us to recover stranded costs arising as a result of a change or a proposed change implemented by the Hong Kong Government to the electricity market structure, which causes a material impact to us in respect of our Electricity Related activities. Stranded costs are costs incurred by us in relation to our investments made or agreements entered into under the Scheme of Control in respect of Electricity Related activities (which include, among other things, costs of investments and fuel and power agreements previously approved by the Hong Kong Government). In the event of such stranded costs arising, we and the Hong Kong Government shall in good faith discuss measures that are reasonably required to mitigate the amount of stranded costs. If there are residual stranded costs that cannot be mitigated after we have implemented mitigation measures reasonably required by the Hong Kong Government, we are entitled to recover them from the market, consistent with international practice. Three years prior to the effective date of any changes which are introduced to the electricity market and in any event no later than 31 December 2020, we and the Hong Kong Government will agree on the amount of stranded costs and the mechanism for their recovery from the market by us.

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### PAH's Obligation under the Scheme of Control

Under the Scheme of Control, PAH is obliged to include in its published annual report a scheme of control statement showing our results for each year under the Scheme of Control. PAH does not have any other material rights and obligations under the Scheme of Control. The obligations of PAH under the Scheme of Control will not change so long as PAH remains a party to the Scheme of Control. In the event that the Hong Kong Government and PAH mutually agree that the obligations of PAH under the Scheme of Control are to be novated to or otherwise assumed by the Company, the Company is prepared, and is able, to assume and fulfil those existing obligations of PAH after the Listing. No such arrangement in relation to the Scheme of Control has been agreed among the parties as at the Latest Practicable Date.

### KEY LAWS, RULES AND REGULATIONS APPLICABLE TO THE GROUP

In addition to the Scheme of Control, our business and operations are subject to the relevant laws, rules and regulations of Hong Kong. In particular, the supply of electricity in Hong Kong is governed by a regulatory framework mainly comprising supply and safety regulations, environmental regulations and economic regulations. A summary of the key laws, rules and regulations which are material to our business and operations is set out below.

#### A. ELECTRICITY SUPPLY AND SAFETY REGULATIONS

##### The Electricity Ordinance

The Environment Bureau of the Hong Kong Government oversees all policy issues relating to the reliability, safety and efficiency of power generation, electricity supply and utilisation. In addition, the EMSD enforces the compliance by electricity suppliers with the provisions stipulated in the Electricity Ordinance (Chapter 406 of the Laws of Hong Kong).

The Electricity Ordinance, which establishes a regulatory framework to ensure electricity safety in Hong Kong, governs the generation, transmission, distribution and utilisation of electricity and is supported by a number of subsidiary regulations. It stipulates a number of powers and obligations of electricity suppliers who play a vital role in supplying safe and reliable power supply to the general public in Hong Kong. In general, an electricity supplier is required to connect electricity supply to a fixed electrical installation, which complies with the Electricity Ordinance, within a reasonable time after receiving such request from the owner of the installation, provided that it is not obliged to connect electricity supply to the fixed electrical installation where it is impracticable or unsafe to do so or where the owner does not agree to the supplier's usual contractual terms or to provide reasonable evidence of credit worthiness. For new installations, electrical safety is required to be assured and certified by a registered electrical contractor ("**REC**") and/or a registered electrical worker ("**REW**") and is further checked by the electricity supplier, subject to exemption under the exemption order(s) which may be obtained under the Electricity (Exemption) Regulations, as further discussed below.

##### The Electricity Supply Regulations

The Electricity Supply Regulations (Chapter 406A of the Laws of Hong Kong) set out technical specifications of electricity supply equipment as well as the technical requirements on voltage, testing and protective arrangements in respect of the distribution of electricity.

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In April 2002, the Hong Kong Government issued a voluntary *Electricity Supply Code* which sets out the requirements and general guidelines related to the design, construction, operation and maintenance of power systems and associated equipment specifically for the use of power companies in Hong Kong. The Electricity Supply Code is an interim measure prior to the enactment of proposed amendments to the Electricity Supply Regulations to remove outdated provisions and to upgrade the technical standards to that of international practices.

### **The Electricity (Exemption) Regulations**

The Electricity Ordinance provides that where the Director of Electrical and Mechanical Services (the “**EMS Director**”) is satisfied that an owner of an electrical installation or generating facility is capable of installing and maintaining the owner’s own fixed electrical installation safely, the EMS Director may exempt the owner, his electrical installations, his electrical workers or any combination of them, from any of the provisions of the Electricity Ordinance relating to electrical installations. The Electricity (Exemption) Regulations (Chapter 406C of the Laws of Hong Kong) stipulate that the EMS Director may only make the above exemption order in respect of fixed electrical installations that are used for the purpose of, among other things, generating and supplying electricity. HEC has been issued with exemption orders under the Electricity (Exemption) Regulations pursuant to which certain electrical workers and electrical installations of HEC are exempted from the provisions of the Electricity Ordinance to the extent prescribed in the orders.

### **The Electricity (Wiring) Regulations**

The Electricity (Wiring) Regulations (Chapter 406E of the Laws of Hong Kong) set out the safety requirements for the design, installation, testing and certification of fixed electrical installations. The Electricity (Wiring) Regulations aim to ensure the quality and workmanship of electrical installations in Hong Kong through a regulatory framework of REC and REW. The Electricity (Wiring) Regulations specifically require that whenever a fixed electrical installation is installed, and after any repairs, alterations or additions to it are completed, it must be inspected, tested and certified by a REC/REW before being energised for use. In order to facilitate compliance with the statutory requirements of the Electricity (Wiring) Regulations, the EMSD published a code of practice relating to these regulations. The code of practice elaborates on how the statutory safety requirements stipulated in the Electricity (Wiring) Regulations for fixed electrical installations could be met and provides comprehensive practical guidelines to help REC/REW to properly design, install, test and certify electrical installations.

### **The Electricity Supply Lines (Protection) Regulation**

The Electricity Supply Lines (Protection) Regulation (Chapter 406H of the Laws of Hong Kong) regulates construction works in the vicinity of underground power cables and overhead lines and imposes requirements to prevent electrical accidents and power interruption arising from such construction works.

The *Code of Practice on Working near Electricity Supply Lines* (the “**Electricity Supply Lines Code**”) elaborates upon the requirements of the Electricity Supply Lines (Protection) Regulation and sets out the requirements for, and reasonable steps to be taken to ascertain the existence of, any underground power cables and overhead lines in close proximity to any proposed construction works. In particular, the Electricity Supply Lines Code outlines the “Safe System of Work”, which requires site contractors and workers to obtain relevant information from power companies, engage a qualified “competent person” to locate underground cables and adopt safe working practices when carrying out

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works in the vicinity of underground power cables and overhead lines. In addition, power companies are also required to provide information relevant to power cables and lines in the vicinity of works upon request. The EMSD maintains and administers a list of approved “competent persons” for locating underground power cables.

### **The Gas Safety Ordinance**

The Gas Safety Ordinance (Chapter 51 of the Laws of Hong Kong) regulates, in the interests of safety, the importation, manufacture, storage, transport, supply and use of “gas”, which includes town gas, liquefied petroleum gas and natural gas. The EMSD is responsible for the enforcement of the Gas Safety Ordinance and is primarily involved in the enforcement of gas safety practices and its safe utilisation through, among other things, maintaining and administering a register of gas supply companies, gas contractors and installers, monitoring their performance and enforcing safety measures when necessary.

The Gas Safety Ordinance is supported by subsidiary legislation, including, among other things, the Gas Safety (Gas Quality) Regulations (Chapter 51A of the Laws of Hong Kong) which stipulate the standard of purity for gas supplied in Hong Kong, and the Gas Safety (Gas Supply) Regulations (Chapter 51B of the Laws of Hong Kong) which stipulate the requirements for the construction, use and maintenance of notifiable gas installations (which include terminals for importation of natural gas in liquid form and high pressure gas mains/service pipes and gas holders). Furthermore, the Gas Safety (Installation and Use) Regulations (Chapter 51C of the Laws of Hong Kong) deal with the safe installation, maintenance and use of gas systems, including gas fittings, appliances and flues mainly in domestic and commercial premises. In addition, the Gas Safety (Registration of Gas Supply Companies) Regulations (Chapter 51E of the Laws of Hong Kong) impose a general self-regulating duty on a registered gas supply company to ensure, in carrying on its business as a gas supply company, so far as is reasonably practicable, the health and safety at work of all its employees and to conduct its operations in a safe manner so that members of the public are not exposed to undue risks from gas. HEC is subject to such requirements as a registered gas supply company in respect of its business involving importation of natural gas for use as fuel at its power station.

### **The Boilers and Pressure Vessels Ordinance**

The Boilers and Pressure Vessels Ordinance (Chapter 56 of the Laws of Hong Kong) and its subsidiary legislation set out provisions relating to the control, use and operation of boilers and pressure vessels. They apply to pressure equipment which are engaged in commercial operation and do not apply to pressure equipment belonging to the Hong Kong Government, equipment used solely for domestic purposes, and equipment which forms part of fixed equipment used in a ship or a vehicle which is used for the carriage of passengers or goods. The Boilers and Pressure Vessels Ordinance generally regulates the registration, maintenance and examination of boilers, pressure vessels and steam containers, and control of their use and operation. In particular, it requires every boiler and steam receiver in Hong Kong to be operated under the direct supervision of a “competent person” holding a certificate of competency issued by the Boilers and Pressure Vessels Authority (currently, the Commissioner for Labour).

The enforcement of the provisions of the Boilers and Pressure Vessels Ordinance is carried out by the Boilers and Pressure Vessels Division of the Labour Department of the Hong Kong Government, whose major functions include the registration of boilers and pressure vessels, the conducting of examinations and the issuance of certificates of competency to qualified candidates as “competent

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persons” for various types of boiler and steam receiver, and the carrying out of spot checks on pressure equipment in work sites. Various codes of practice are also issued under the Boilers and Pressure Vessels Ordinance for the purpose of ensuring acceptable standards in the design, manufacture, installation, maintenance, examination, testing and operation of boilers and pressure vessels.

### B. ENVIRONMENTAL REGULATIONS

#### Enforcement Authorities

The EPD is responsible for the monitoring and enforcement of various regulated matters relating to environmental protection and impact, including those applicable to power generation and electricity supply operations in Hong Kong.

#### The Laws and Regulations Relating to Air Quality Control

##### *The Air Pollution Control Ordinance*

###### *Overview*

The Air Pollution Control Ordinance regulates the use of fuels for power generation, transportation and construction works, and plays a vital role in the regulation of air quality in Hong Kong by providing the statutory framework for establishing air quality objectives for Hong Kong as a whole, such as the provision of anti-pollution requirements for air pollution sources. Such air quality objectives set out concentration limits of key air pollutants in the ambient air, and are used as the basis for air quality impact assessments of projects and processes under the Air Pollution Control Ordinance, its subsidiary legislation and the Environmental Impact Assessment Ordinance (Chapter 499 of the Laws of Hong Kong).

The Air Pollution Control Ordinance enables the enactment of subsidiary legislation and also empowers the EPD, among other things, to (i) impose licensing controls on major stationary emission sources, and (ii) issue legal notices to air pollution sources to demand remedial action. Such licensing controls range from requiring prior approval for the installation and operation of equipment producing emissions to the prohibition of high sulphur content fuels for commercial and industrial appliances.

In particular, the Air Pollution Control (Specified Processes) Regulations (Chapter 311F of the Laws of Hong Kong) provide an administrative framework for the licensing of polluting industrial processes stipulated as “specified processes”, for the purposes of controlling and monitoring air pollution caused by industries with significant pollution potential. Under the Air Pollution Control Ordinance, electricity works are one of the specified processes subject to regulation, for which specified process licenses are necessary. Such licenses are renewable by the EPD for periods of not less than two years. HEC currently holds a specified process license in respect of Lamma Power Station which is due to expire on 31 December 2014.

###### *Technical memoranda for the allocation of emission allowances in respect of specified licenses*

The Air Pollution Control Ordinance further empowers the Hong Kong Government to periodically issue and publish technical memoranda for the purposes of practical prediction, measurement, determination and assessment of air pollution under the Air Pollution Control Ordinance (collectively, the “**Technical Memoranda**”). Among other things, each of the three Technical Memoranda stipulates the quantities of emission allowances for three air pollutants arising from electricity power plants, namely



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sulphur dioxides, nitrogen oxides and respirable suspended particulates. The aim of the Technical Memoranda is to incentivise power companies in Hong Kong to maximise the use of generation units equipped with advanced emission abatement equipment and to require power companies to consider reducing emissions by the increased use of renewable energy and waste-to-energy facilities.

### *The Air Pollution Control (Amendment) Ordinance 2013*

On 1 January 2014, the new Air Pollution Control (Amendment) Ordinance 2013 came into effect. The key change to the existing Air Pollution Control Ordinance resulting from this amendment ordinance is the implementation of new air quality objectives (as defined under the Air Pollution Control Ordinance), which are benchmarked against a combination of interim and ultimate targets under the World Health Organization's air quality guidelines. As discussed above, as part of the Hong Kong Government's ongoing commitment to protect public health and improve air quality, air quality objectives will continue to be used as the basis for the air quality impact assessment of projects or processes under the Air Pollution Control Ordinance and the Environmental Impact Assessment Ordinance.

### *Other applicable laws, rules and regulations to air quality control*

The other main laws, rules and regulations in respect of air quality control which affect the electricity generation sector in Hong Kong include the Ozone Layer Protection Ordinance (Chapter 403 of the Laws of Hong Kong) and the Factories and Industrial Undertakings Ordinance.

The Ozone Layer Protection Ordinance gives effect to the international obligations of Hong Kong in respect of the Vienna Convention for the Protection of the Ozone Layer of 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer of 1987, which includes controls over the use and import of products which are considered "ozone depleting" under the Ozone Layer Protection Ordinance. The Factories and Industrial Undertakings Ordinance contains, among other things, measures that regulate the operation of certain industrial machinery and restrictions on the use of carcinogenic substances or asbestos in industrial processes.

### **The Environmental Impact Assessment Regime**

The Environmental Impact Assessment Ordinance requires certain designated projects to follow an environmental impact assessment process and may also further require environmental permits for their construction and operation and/or, if applicable, decommissioning. Under the Environmental Impact Assessment Ordinance, designated projects include public utility electricity power plants as well as 400 kV electricity substations and transmission lines. The provisions of the Environmental Impact Assessment Ordinance are enforced by the Director of Environmental Protection of the EPD.

### **Controls on Noise Emissions**

Under applicable Hong Kong laws, rules and regulations, certain controls are imposed on construction noise, noise from commercial and industrial premises, as well as neighbourhood noises. In particular, the Factories and Industrial Undertakings Ordinance requires the provision of adequate protective gear for workers working in a noisy environment, while the Noise Control Ordinance (Chapter 400 of the Laws of Hong Kong) imposes restrictions on the length of time and use of equipment for certain construction activities.

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The Noise Control Ordinance also empowers the Secretary for the Environment to issue technical memoranda setting out principles, procedures, guidelines and limits in respect of, among other things, the measurement and assessment of noise emanating from any place other than domestic premises, public places or construction sites. The *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites* (Second Edition), which came into operation on 19 June 1997, prescribes requirements for an “acceptable noise level” for fixed sources of noise, such as power plants, as well as the methodology used to determine such “acceptable noise level”, the appropriate units of measurement, and the testing of compliance with such prescribed levels by the Noise Control Authority.

### **Regulation of Waste Management and Wastewater Discharges**

Waste which may result from electricity generation operations in Hong Kong is regulated by the Waste Disposal Ordinance (Chapter 354 of the Laws of Hong Kong), which stipulates, among other things, the control schemes for, and disposal facilities of, all types of waste. In particular, the packaging, labelling and storage of chemical wastes resulting from generation operations are regulated by the Waste Disposal (Chemical Waste) (General) Regulation (Chapter 354C of the Laws of Hong Kong), which provides specific requirements as to the packaging, labelling and storage of chemical wastes.

The discharge of wastewater as a result of, among other things, construction projects, the discharge of certain effluents and groundwater removal is regulated by the Water Pollution Control Ordinance (Chapter 358 of the Laws of Hong Kong) and its subsidiary legislation. The Water Pollution Control Ordinance requires the designation of control zones, within which discharges of effluents other than domestic sewage must be licensed, and also sets limits on the effluents which may be discharged into foul sewers, storm water drains and inland and coastal waters.

Other key laws and regulations affecting the waste management and wastewater disposal activities of electricity providers in Hong Kong include the Foreshore and Sea-bed (Reclamations) Ordinance (Chapter 127 of the Laws of Hong Kong), which affects the laying of submarine cables and construction of landing points in the context of electricity generation activities, as well as the Shipping and Port Control Ordinance (Chapter 313 of the Laws of Hong Kong) which prohibits, among other things, the pollution of the sea by oil from land-based and marine sources.

### **C. REGULATIONS IN RELATION TO INSTALLATION OF TRANSMISSION AND DISTRIBUTION LINES**

#### **The Land (Miscellaneous Provision) Ordinance**

Under the Land (Miscellaneous Provision) Ordinance (Chapter 28 of the Laws of Hong Kong), the Director of Highways is the authority for controlling excavations on all public roads and the Director of Lands is the authority for controlling excavations in unleased land other than public roads. The purpose of this ordinance is to strengthen the control on road excavations and to minimise delays and inconvenience to the public. The Hong Kong Government will charge a fee to cover the administrative cost for issuing excavation permits and carrying out audit inspections in streets, according to the “user-pays” principle. HEC is required to obtain excavation permit(s) in respect of the excavation works involved in the installation of transmission and distribution lines and currently holds excavation permits authorising the making and maintenance of such excavations.