



REGULATORY FRAMEWORK FOR ELECTRICITY IMPORTS

CONSULTATION PAPER

Closing date for submission of comments and feedback:

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REGULATORY FRAMEWORK FOR ELECTRICITY IMPORTS

INTRODUCTION

1. A key tenet of our strategy to enhance Singapore's energy security is to diversify our energy mix, both in terms of fuel type as well as supply sources. The liquefied natural gas ("LNG") terminal contributes to our diversification efforts as it will enable Singapore to buy gas from different suppliers all over the world. We are also investing in R&D and test-bedding projects to explore ways for Singapore to make greater use of alternative and renewable energy sources.

2. To further diversify our energy mix, we are considering importing electricity. This will allow us to tap into new energy options that may be unavailable or economically infeasible in Singapore such as coal and other renewable sources like hydro and geothermal. Importing electricity will also reduce the demand for land to build power plants in Singapore.

3. Besides enhancing our energy security, electricity imports can also bring about economic benefits. Imports could spur greater competition in our electricity market. As overseas power producers could have access to lower-cost fuels, labour and land, they can offer electricity at cost-competitive prices even after factoring in the cost of transmission to Singapore. This additional supply of cost-competitive electricity will exert downward pressure on electricity prices in Singapore. Through the application of appropriate regulatory measures such as the "contract-for-differences" method discussed below, we can further derive from the importers savings which can then be passed on to consumers (including households) to lower their electricity bills.

4. In addition, the new electrical interconnections with our neighbour countries for electricity imports will contribute towards achieving the longer term vision of an ASEAN Power Grid to enhance regional energy connectivity, trade and cooperation.¹ This will bring mutual benefits to both exporting and importing countries in terms of establishing a larger regional market for electricity trading, promoting investments, and ultimately enhancing regional electricity supply security and cost-competitiveness.

¹ The ASEAN Power Grid is envisaged to comprise 15 interconnection projects, with cross-border bilateral interconnections as basic building blocks. These interconnections will then be expanded at the sub-regional level, and eventually culminate in an integrated Southeast Asia power grid system. Singapore's interconnections under the ASEAN Power Grid Master Plan Study are: (i) Peninsular Malaysia-Singapore; (ii) Batam-Singapore; and (iii) Singapore-Sumatra.

REGULATORY FRAMEWORK

5. An electricity import project will likely take around 4~5 years to develop and implement, including laying the submarine power cables to connect the overseas power sources to the Singapore power system. To facilitate electricity importers in making their investment and commercial decisions, EMA will put in place a regulatory framework. The objectives of the framework are:

- a. To govern the orderly entry of electricity imports into our electricity market in a way that translates to cost savings for all consumers, in both the contestable and non-contestable sectors; and
- b. To ensure that the security and reliability of our power system are not compromised.

6. EMA has developed a preliminary framework for electricity imports, and would like to invite comments and feedback on the proposed framework. We are also open to suggestions on how it may be improved to meet the stated objectives above.

Requirements Pursuant to the Electricity Act

7. To import electricity to Singapore, the importer must first be authorised to do so under an electricity licence issued by EMA under the Electricity Act. The import licensee will be required to comply with all relevant codes of practices and performance standards applicable to the local generation licensees. It will also have to be registered with the Energy Market Company (“EMC”) as a market participant and comply with the Electricity Market Rules. This includes competing in the wholesale electricity market (by submitting half-hourly offers) to secure dispatch of the overseas power plants.

Quantity of Electricity Imports

8. In determining the total quantity of electricity imports to allow to Singapore, EMA seeks to strike a balance between economies of scale and operational risks to our power system. A potential option is to mitigate concentration risk by spreading imports across various sources. EMA is tentatively looking at importing up to 600 MW per source country, and is open to further refinements to this threshold, based on industry feedback.

Process to select the Importer(s)

9. We can adopt a competitive tender process to select the licensees. EMA is considering a two-stage competitive tender process. The first stage is to short-list interested parties based on their financial track record, technical experience and preliminary proposals. In the second and final stage, the short-listed parties will be required to develop and submit to EMA a detailed proposal for evaluation and final selection. EMA could potentially conduct and award the tender in 2013. Given the long

lead time of 4~5 years for an importer to develop and implement its import project, the importer could start selling electricity to Singapore from 2017/18.

Securing Benefits for Consumers

10. Electricity import, by itself, will introduce new cost-competitive supply into our electricity market to spur more competition and exert downward price pressure to directly benefit contestable consumers in the wholesale market and retail market.

11. To ensure the benefits will also flow to non-contestable consumers, EMA is considering to require each tenderer in the second stage tender process to offer a contract-for-differences (“CfD”). A possible design for the CfD is such that it will effectively pay the importer at the CfD strike price or the prevailing pool price, whichever is lower, for the electricity imported to Singapore – typically called a “one-way CfD”. All else being equal, we will prefer the tenderer who offers the lowest CfD strike price and who can therefore generate the greatest amount of benefits to consumers. More specifically:

- a. The one-way CfD is a financial contract structured such that whenever the half-hourly pool price is above the strike price, the importer is obliged to pay the difference between the pool price and the strike price (“CfD debit”) for the expected amount of electricity to be imported to Singapore. If the pool price is below the strike price, there would be no payment to or by the importer for the difference.
- b. The importer will be paid by EMC at the prevailing pool price for the electricity imported to Singapore. Together with the CfD debit, the importer will effectively be paid the strike price or prevailing pool price, whichever is lower.
- c. The one-way CfD would benefit both non-contestable and contestable consumers in the following ways:
 - i. The one-way CfD can be used to offset the cost of electricity to non-contestable consumers. This can be done by using the savings under the one-way CfD to provide targeted help to needy households and/or to blend with vesting contracts to lower regulated tariffs for non-contestable consumers.
 - ii. With the amount of electricity to be imported already hedged by the one-way CfD, the importer will be incentivised to bid competitively in the wholesale market to secure dispatch of the overseas power plants. This will exert additional downward pressure on pool prices.

12. In general, a longer CfD duration would provide more revenue certainty to the importer. This would help the importer to mitigate its business risk and also secure better financing terms for the import project, which would in turn incentivise the tenderers to offer a lower CfD strike price to benefit consumers. To have sufficient certainty, the importer may require a CfD duration of up to 20 years. EMA will grant to each selected tenderer an electricity import licence to authorise it to import a specified amount of electricity (based on the import limit) for the duration of the licence. The licence duration should be long enough to cover the import project development and implementation timeframe and thereafter the duration of the CfD.

Participation of Local Generation Licensees or Their Affiliates

13. One question which we have received from some industry players is whether the local generation licensees or their affiliates would be allowed to participate in the tender, as selecting these parties could potentially increase their market power in Singapore. EMA's preliminary view is that if we adopt the one-way CfD mechanism as described above, it could prevent the importer from exercising market power even if it is linked to the local generation licensees or their affiliates.

REQUEST FOR COMMENTS AND FEEDBACK

14. Please send your comments and feedback via e-mail to:

ema_mdspd@ema.gov.sg

15. We request that all comments and feedback reach EMA by **30 March 2012**.

16. Please note that any anonymous submissions will not be considered. EMA reserves the right to make public all or parts of any written submissions made in response to this Consultation Paper and to disclose the identity of the source. Any part of the submission, which is considered by respondents to be confidential, should be clearly marked and placed as an annex. EMA will take this into account regarding disclosure of the information submitted.

17. EMA will acknowledge receipt of all submissions electronically. Please contact Ms Rachel Su at 63767596 or Mr Chong Zhijia at 63767564 if you do not receive an acknowledgement of your submission within two business days.

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