



**REQUEST FOR PROPOSAL TO BUILD, OWN AND OPERATE NEW  
GENERATION CAPACITY**

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**Version 2.0**

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## Document History

Version No.	Version Date	Summary of Changes
1.0	4 June 2024	-
2.0	16 Oct 2024	<ul style="list-style-type: none"><li>• Additions:<ul style="list-style-type: none"><li>➤ Paragraph 3.2h</li><li>➤ Paragraphs 1.2, 1.3 of Annex A</li><li>➤ Part 1 of Annex B</li><li>➤ Footnote 12</li></ul></li><li>• Amendments:<ul style="list-style-type: none"><li>➤ Tables 4, 7b</li><li>➤ Paragraphs 2.3, 2.7, 2.8, 2.9b, 2.17, 2.18, 4.6b, 4.6f</li><li>➤ Paragraphs 1.1 of Annex A</li><li>➤ Paragraphs 3(b)(vii), 5, 8 of Part 2 of Annex B</li><li>➤ Paragraph 1.6 of Annex C</li><li>➤ Footnote 14</li></ul></li><li>• Deletions:<ul style="list-style-type: none"><li>➤ Table 7a S/N 8</li></ul></li></ul>

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## SECTION 1: INTRODUCTION

- 1.1 Singapore's electricity demand is driven by factors such as temperature, population and economic activities. Our system peak demand has been increasing steadily and is projected to grow at a Compound Annual Growth Rate ("CAGR") of 3.1% - 5.5% (or 2.6GW - 5.2GW) from 2024 to 2033. Over the next six years (2024 to 2030), our system peak demand is projected to grow at a CAGR of 3.7% - 5.7% (or 2.0GW - 3.4GW).<sup>1</sup>
- 1.2 The growth in system demand is driven largely by the growth in existing and emerging electricity-intensive sectors such as advanced manufacturing, digital economy, food and transport sectors.

Table 1a: Projected System Peak Demand (GW)<sup>2</sup>

<b>Year</b>	<b>Total (Upper/Base/Lower)</b>
2024	8.5 / 8.3 / 8.1
2025	9.0 / 8.8 / 8.6
2026	9.4 / 9.1 / 8.9
2027	10.0 / 9.6 / 9.2
2028	10.6 / 10.1 / 9.5
2029	11.4 / 10.6 / 9.8
2030	11.8 / 11.0 / 10.1
2031	12.3 / 11.4 / 10.3

Table 1b: Projected Total Generation (GWh)<sup>3</sup>

<b>Year</b>	<b>Total (Upper/Base/Lower)</b>
2024	61,400 / 60,200 / 59,100
2025	64,900 / 63,400 / 62,100
2026	68,000 / 66,300 / 64,500
2027	72,900 / 69,800 / 66,900
2028	78,100 / 73,500 / 69,300
2029	83,900 / 77,700 / 71,500
2030	87,300 / 80,600 / 73,400
2031	91,000 / 84,000 / 74,900

<sup>1</sup> The electricity demand forecast presented in Table 1a and 1b is based on the information available as of May 2024.

<sup>2</sup> The numbers are rounded to the first decimal place.

<sup>3</sup> Refers to gross electricity generation by commercial power generation companies and consumers with own/embedded generation including solar generation. The numbers are rounded to the nearest hundredth.

1.3 Table 2 shows the projected total electricity supply in the coming years. The projection takes into account the planned retirement of generating units and projected growth of other generation resources (e.g. solar photovoltaic (“PV”), waste-to-energy facilities, embedded generation), and does not include electricity imports projects.<sup>4</sup> This is considering that necessary regulatory approvals and licences have to be obtained before the electricity import projects can commence construction. Given this uncertainty, to ensure the continued reliability and security of our Power System, electricity import projects are not included in the supply projections until they are firm (e.g. commencement of construction work). For avoidance of doubt, the projected electricity supply has taken into account the following:

- a. About 0.9GW of existing generation capacity is expected to retire over the next 7 years as these plants will be relatively old (>35 years old);
- b. Projected domestic solar PV growth to 2GWp by 2030 with a solar PV effective capacity of 27%;<sup>5</sup>
- c. New fast-start generation capacity by Meranti Power (680MW) and PacificLight Power (100MW) in 2025; and
- d. New combined cycle gas turbine (“CCGT”) generation capacity of Keppel Sakra Cogen (600MW) and Sembcorp Cogen (600MW) in 2026, YTL PowerSeraya (600MW) in 2028.

Table 2: Projected Electricity Supply (GW) and Reserve Margin (%)<sup>6</sup>

Year	Projected Total Electricity Supply	Projected Reserve Margin corresponding to the Projected System Peak Demand (Upper/Base/Lower)
2024	10.9	29 / 32 / 34
2025	11.6	29 / 32 / 35
2026	12.8	36 / 40 / 44
2027	12.9	28 / 34 / 39
2028	13.5	27 / 34 / 42
2029	13.4	18 / 26.6 / 37
2030	13.4	14 / 22 / 33
2031	12.7	3 / 11 / 22

<sup>4</sup> For waste-to-energy facilities and embedded generation, a load factor of 70%, derived from historical generation data, is used to determine their capacity contribution to the required reserve margin.

<sup>5</sup> With a solar PV effective capacity of 27%, this means that 2GWp (equivalent to 1.54GWac) of solar provides about 416MWac of effective supply. More details on the solar effective capacity are available on <https://go.gov.sg/solar-effective-capacity>.

<sup>6</sup> The projected electricity supply is rounded to the first decimal place, and the projected reserve margin is rounded to the nearest whole number.

- 1.4 **If demand grows in line with base demand projections, the reserve margin for 2029 – 2031 is projected to fall below the 27% reserve margin required to ensure power system security.**<sup>7</sup> EMA's 1-year ahead base demand projections have a historical average accuracy of 98%, while the 5-6 years ahead base demand projections have a historical accuracy of ~93%. **Additional generation capacity will be needed from 2029 to ensure sufficient generation capacity to meet the projected growth in demand and ensure power system security.** EMA is therefore launching this request for proposal ("RFP") for the private sector to build, own and operate ("BOO") new generation capacity in 2029 and also in 2030 to provide more time for participants to plan and deliver the required additional generation capacity.
- 1.5 This RFP is not and does not purport to be a tender for electricity supply or sale to EMA or any other party in Singapore and shall in no circumstances whatsoever be construed as such. Any agreement or acceptance of any proposal or any indication of agreement or acceptance as regards any proposal or matter under this RFP shall not create any contractual or legally binding relationship between EMA and any party or impose any legally binding obligations on EMA or any party. The RFP Winner (as defined below) is required to ensure that it has built and/or reserved the relevant rights and access to the relevant infrastructure capacity and generated electricity, as necessary for its project.

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<sup>7</sup> In Singapore, the minimum reserve margin has been set at 27% to ensure system security. The reserve margin is a system-wide indicator. For more details, please refer to <https://go.gov.sg/required-reserve-margin>.

## SECTION 2: RFP REQUIREMENTS

### Size and Technology of the New Generation Capacity

- 2.1 The power system requires one new CCGT generating unit of at least 600MW in 2029 (“**2029-generating unit**”) and another in 2030 (“**2030-generating unit**”).<sup>8</sup> In consideration of the increasing generation capacity in the southwestern region, **one of these two new generating units shall be sited outside the southwestern region of Singapore**. EMA is open to other types of generation technology if it is demonstrated to be superior in terms of performance and capabilities.
- 2.2 For participants proposing a generating unit greater than 600MW, the licensed and registered capacity of such generating unit shall be capped at 600MW unless the participant provides its own dedicated online reserves (i.e. primary and contingency reserves) to cover potential outage above 600MW.
- a. To ensure power system security, such new generating unit will need to be coupled with a dedicated supply of online reserves (i.e. both primary and contingency reserves) to cover its generation capacity above 600MW. For example, if the new generating unit is registered with Energy Market Company Pte Ltd (“**EMC**”) to potentially offer and be scheduled by EMC to supply up to 800MW of energy plus online reserves for any half-hour trading period, the participant shall install and register one or more facilities capable of instantaneously delivering in aggregate no less than 200MW of online reserves (“Dedicated Backup Facilities”).
  - b. While the Dedicated Backup Facilities are not required to be connected at the same voltage level as the new generating unit, they must be connected at 66kV or above. Allocation of online reserves cost to the new generating unit based on the modified runway method under the Market Rules will be capped at 600MW subject to the participant ensuring that the Dedicated Backup Facilities are available to fully backup the new generating unit’s scheduled supply above 600MW.

### Timeline

- 2.3 Interested parties who wish to participate in the RFP (each a “**Participant**”) shall submit their proposals in accordance with the requirements set out in **Section 4** (each a “**Proposal**”) by no later than **3pm Singapore time on 1 November 2024** (“**Closing Date**”). For avoidance of doubt, a Participant is allowed to submit multiple proposals so long as each proposal meets the

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<sup>8</sup> The maximum gross generation capacity at an ambient temperature of 32 degree Celsius.

requirements stipulated in this RFP document. EMA will evaluate each proposal independently.

- 2.4 EMA will commence the evaluation period which will end with the notification to each Participant of the result of the 2029-generating unit by **31 December 2024**, and the result of the 2030-generating unit by **31 March 2025**. EMA will evaluate the Proposals for each delivery year independently based on the selection process set out in **Section 3**.
- 2.5 Each awarded Participant (“**RFP Winner**”) will be issued a Generation Licence and is required to complete the registration of the new generating unit as a Generation Registered Facility (“**GRF**”) with EMC (a) by no later than 1 January 2029 for the 2029-generating unit and/or (b) by no later than 1 January 2030 for the 2030-generating unit.
- 2.6 EMA reserves the right to not award any Proposals.

#### Performance Bond

- 2.7 EMA will shortlist the Participant(s) to award the RFP to (“**Shortlisted Participant(s)**”). Prior to being officially/formally awarded the RFP, a Shortlisted Participant will be required to furnish a Performance Bond (**as defined below**) in favour of EMA for a sum of S\$100 million (a) within 14 days of EMA’s notification (in the case where the Shortlisted Participant has been shortlisted to build and deliver the 2029-generating unit); and (b) within 28 days of EMA’s notification (in the case where the Shortlisted Participant has been shortlisted to build and deliver the 2030-generating unit).<sup>9</sup> Failure to furnish the Performance Bond within the time stated may result in the Shortlisted Participant being disqualified, which will entitle EMA to shortlist another/other Participant. After a Shortlisted Participant has furnished the Performance Bond to EMA, EMA will notify the Shortlisted Participant on the official/formal award of the RFP (“**Notice of Award**”). For the avoidance of doubt, a Shortlisted Participant shall not be regarded as being awarded the RFP until and unless the Shortlisted Participant receives the Notice of Award from EMA.

#### **2.8 In this RFP, “Performance Bond” means:**

- a. a guarantee issued by a participating financial institution under the eGuarantee@Gov programme meeting the requirements set out in Part 1 of Annex B; or

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<sup>9</sup> Refer to Annex B for more details on the Performance Bond.



- b. (provided EMA's prior written consent is obtained) a guarantee in the form set out in Part 2 of Annex B or in such other form as may be reasonably required by the EMA and issued by:
- i. a bank or insurance company registered with the Monetary Authority of Singapore; or
  - ii. a licensed finance company registered with the Monetary Authority of Singapore.

For the avoidance of doubt, the Performance Bond shall be unconditional, irrevocable and on-demand. The Shortlisted Participant(s) may furnish multiple Performance Bonds that collectively fulfil and meet the required Performance Bond sum of S\$100 million per generating unit provided that each and every Performance Bond meets the requirements stated in this RFP document.

- 2.9 The Performance Bond serves to secure (i) the RFP Winner's timely delivery of the new generating unit based on project implementation milestones, and (ii) the RFP Winner's due and faithful performance and fulfilment of the performance parameters as declared in the Proposal and/or as approved by EMA ((i) and (ii) collectively referred to as "**Performance Conditions**").
- a. The project implementation milestones stipulated in the Performance Conditions shall include but are not limited to: (1) Delivery of Gas Turbine(s), Steam Turbine(s) and Heat Recovery Steam Generator(s) to the Site; and (2) deadline to register the new generating unit as a GRF with EMC under the Wholesale Electricity Market Rules ("**Registration Date**"). In the event that progress of the project is materially impacted by any circumstance that is beyond the RFP Winner's control, the RFP Winner may make a written request to EMA to extend the Registration Date. EMA may grant an extension of the Registration Date as EMA in its sole discretion deems fit, taking into consideration the duration of the circumstance in question, and whether and what reasonable measures have been or are being undertaken by the RFP Winner to mitigate the impact of the circumstance in question and to resume progress as soon as practicable or to ensure that any delay in the progress is minimised. Any extension of the Registration Date granted by EMA shall be valid and effective only upon EMA's written approval notified to the RFP Winner and receipt of the Performance Bond with the revised Registration Date.

- b. The performance parameters stipulated in the Performance Conditions include (1) Fuel Changeover (“FCO”) Capability; (2) Low Gas Pressure Trip Setting; (3) Flexibility for Simple Cycle Mode; and (4) Start-up Time; and (5) Innovative and/or Decarbonised Technologies or Business Models. The RFP Winner shall demonstrate its due and faithful performance and fulfilment of the performance parameters as declared in the Proposal and/or as approved by EMA during registration of the new generating unit as a GRF with EMC.

The Performance Conditions shall be specified in EMA’s notification of being shortlisted for the award of the RFP to the Shortlisted Participant(s), and/or EMA’s Notice of Award to the Shortlisted Participant(s).

- 2.10 EMA reserves the right, in its sole and absolute discretion, to drawdown on the Performance Bond or such part of it as EMA deems necessary for breach of any of the Performance Conditions by the RFP Winner. Without prejudice to the foregoing, EMA will not drawdown on the Performance Bond if the RFP Winner fails to meet the project implementation milestones (save for the last project implementation milestone to register the new generating unit as a GRF) by the respective agreed completion date for such milestones.
- 2.11 Where the RFP Winner is required to build and deliver the 2029-generating unit or the 2030-generating unit (as the case may be) in accordance with the Performance Conditions and has furnished the Performance Bond as required under paragraph 2.7 above in respect thereof, EMA reserves the right to drawdown the Performance Bond if the RFP Winner fails to complete the registration of the generating unit as a GRF with EMC by the Registration Date. In that event, EMA shall be entitled to demand and drawdown up to S\$200,000.00 per day under the Performance Bond for each day of delay up to 90 days after the Registration Date if the RFP Winner fails to complete the registration of the generating unit as a GRF with EMC by the Registration Date; thereafter, the drawdown rate will increase to S\$1,000,000.00 per day and drawdown will continue until the Performance Bond sum is fully drawn down or until completion of the registration of the generating unit as a GRF with EMC, whichever is earlier.
- 2.12 EMA will reduce the Performance Bond sum progressively upon completion of each project implementation milestone, as stipulated in the Performance Conditions and/or EMA’s Notice of Award. The progressive reduction of the Performance Bond sum is illustrated in Figure 1 below.

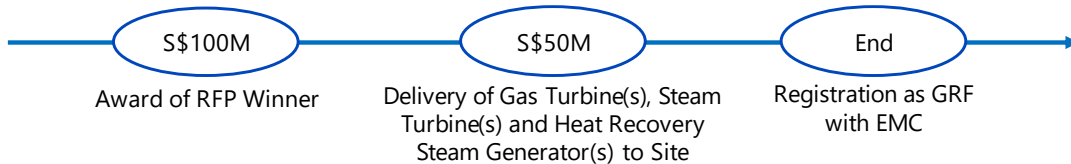


Figure 1: Illustration of Reduction of Performance Bond Sum

Preparatory Work (Security Assessment, Environmental Assessment, Gas and Electricity Connection)

- 2.13 As commissioning of the new generating unit is dependent on the completion of its gas and electricity connection, and availability of network capacity, all Participants shall consult PowerGas and SP PowerGrid on the gas and electricity connection of their Proposals respectively. PowerGas and SP PowerGrid will require at least eight (8) weeks to provide their assessments on the connection schemes. Hence, Participants are strongly encouraged to engage PowerGas and SP PowerGrid no less than eight (8) weeks before the RFP Closing Date. Please note that the consultation would not be processed if Participants do not submit the complete set of information as listed in Table 3 below, to PowerGas and SP PowerGrid.
- 2.14 The email contact of PowerGas and SP PowerGrid are: Mr Tan Yong Wah at ([yongwahtan@spgroup.com.sg](mailto:yongwahtan@spgroup.com.sg)) and Mr Don Chng Chee Keong ([cheekhiang@spgroup.com.sg](mailto:cheekhiang@spgroup.com.sg)) respectively.
- 2.15 As part of the consultation, Participants shall provide the information listed in Table 3 to PowerGas and SP PowerGrid.

Table 3: Requirements by PowerGas and SP PowerGrid

Type of Connection	Information that Participants shall provide for PowerGas' and SP PowerGrid's assessments
<b>Gas Connection</b>	<ul style="list-style-type: none"> <li>i. Target date of commissioning of each generating unit</li> <li>ii. Target date of gas admittance</li> <li>iii. Plant location plan (including gas entry point and gas metering station etc). Please note that the final gas entry point shall follow as proposed by PowerGas during consultation</li> <li>iv. Gas injection source</li> <li>v. Maximum Daily Quantity (BBtu/day)</li> </ul>

	<ul style="list-style-type: none"> <li>vi. Maximum Instantaneous Flowrate (BBtu/day)</li> <li>vii. Projected 5 Years Load Profile (BBtu/year)</li> <li>viii. Maximum Gross Generation Capacity (in MW) while firing on gas and alternate fuel; and the corresponding rated gas consumption (BBtu/day)</li> <li>ix. De-load rate (MW/minute) during FCO process</li> </ul>
<b>Electricity Connection</b>	<ul style="list-style-type: none"> <li>i. Target date of commissioning of each generating unit</li> <li>ii. Target date of energization of Connection Circuits</li> <li>iii. Location of the power plant (including switchhouse etc)</li> <li>iv. Capacity of each generating unit</li> <li>v. Load requirement for auxiliaries</li> <li>vi. Switchhouse switchgear configuration</li> <li>vii. Conceptual Single Line Diagram (“SLD”) up to grid connection point</li> <li>viii. Calculation Report/declared value for maximum prospective initial symmetrical three-phase (“3Ph”) and single line to ground (“SLG”) short-circuit currents at the switchhouse bus without grid connection to demonstrate that the fault current contributions from proposed generating unit does not exceed the limit given by SP PowerGrid during consultation. The calculation should base on International Electrotechnical Commission (“IEC”) 60909</li> </ul>

2.16 As the planting of the new generating unit will need to undergo the Security-By-Design approval process with the Centre of Protective Security (“CPS”) and likely involve Environmental Impact Assessment (“EIA”) approval process with the Urban Redevelopment Authority (“URA”), Participants are encouraged to engage the relevant consultants early in preparation for the submission.

Planting Site

2.17 A greenfield site ("**Greenfield Site**") has been made available for any Participant without available land to build. Details about the **Greenfield Site** can be found in **Annex C**.

2.18 The Greenfield Site is intended to accommodate two new CCGTs co-located in the same plot. This will serve a twofold purpose to (i) optimise land use and (ii) facilitate and enhance synergies in the shared use of balance of plant facilities. If the RFP Winner takes up a plot on the Greenfield Site, building a second generating unit on the remaining plot of land will meet the above objectives. Therefore, if the RFP Winner takes up a plot on the Greenfield Site, the RFP Winner agrees and acknowledges the following:

a. The RFP Winner shall submit a Viable Offer (as defined below) in each of the three (3) subsequent RFPs launched by EMA to BOO new generation capacity (each a "**Subsequent RFP**"), such obligation to cease (i) when the RFP Winner is awarded the right to BOO a second generating unit sited on the remaining part of the Greenfield Site under any Subsequent RFP or (ii) if the RFP Winner is not awarded the right to BOO a second generating unit sited on the remaining part of Greenfield Site under any Subsequent RFP (in which the RFP Winner has submitted Viable Offers).

b. A "**Viable Offer**" in the above paragraph 2.18a refers to a proposal to BOO a generating unit on the remaining part of the Greenfield Site, which fulfils (i) the cardinal requirements stipulated in this RFP and (ii) any other cardinal requirements which are specified in a Subsequent RFP and which relate to the remaining plot. For avoidance of doubt, only the part of the Greenfield Site required for the first generating unit will be allocated to the RFP Winner in this RFP, whereas the remaining part of the Greenfield Site will only be allocated in a future RFP to the winner of such RFP to BOO a second unit generating unit on the remaining part of the Greenfield Site.

c. The requirements stated under above paragraphs 2.18a and 2.18b shall be included as licence condition/s of the RFP Winner's Generation Licence.

### Revenue Support

2.19 There will be no revenue support for any new generating unit built under this RFP. Participants should not request for any form of revenue support in the proposals.

## SECTION 3: RFP SELECTION PROCESS

3.1 The RFP selection process consists of two levels: Cardinal Requirements and Evaluation Criteria.

### Cardinal Requirements

3.2 A proposal that does not meet the following cardinal requirements will be disqualified for further evaluation:

- a. **Timely Delivery of the New Generating Unit:** The Participant must demonstrate its ability to deliver and complete the registration of the new generating unit as a GRF with EMC (a) by no later than 1 January 2029 for the 2029-generating unit or (b) by no later than 1 January 2030 for the 2030-generating unit. The design and performance of the new generating unit shall not have any adverse impact on the gas and electricity networks when connected thereto and shall comply with all applicable requirements stipulated in the Transmission Code, Gas Supply Code, and other relevant codes of practice and standards of performance issued or approved under the Electricity Act.
- b. **Legal and regulatory requirements:** The Participant must be a Singapore-incorporated company that will hold, if granted, the Generation Licence if selected by EMA through the RFP. If the Participant is a consortium, the consortium can meet this requirement by incorporating or nominating a Singapore-incorporated company to hold the licence.
- c. **Financial Ability and Experience:** The Participant must demonstrate its ability to finance the proposed generation business and have the capability and experience to perform the duties under the Electricity Act 2001 and the Generation Licence.
- d. **Submission of Generation Licence Application:** The Participant must submit a Generation Licence application (if it is not an existing Generation Licensee) or submit a modification to Schedule A of its Generation Licence (if it is an existing Generation Licensee) via the GoBusiness Licensing portal as part of the Proposal.<sup>10</sup> This shall be done prior to the RFP Closing Date.

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<sup>10</sup> For Participants using the greenfield site identified under Annex C of the RFP document, Participants to state "119975" under the postal code field when submitting the licence application through the GoBusiness Licensing Portal.

If the Participant plans to submit multiple proposals, the Participant shall consolidate all the proposed new generating units as a single application via the GoBusiness Licensing portal.

- e. **Impact on Existing Generation Capacity:** A proposal which involve retirement of any existing generating units will be disqualified if such retirement was not approved by EMA prior to launch of this RFP.
- f. **Emission Standards:** Demonstrate ability to meet prevailing Tier 1 requirements under the Emission Standards Framework.<sup>11</sup>
- g. **Performance Bond:** The Participant must, together with the submission of its Proposal to EMA, furnish the Performance Bond Undertaking as per the format specified in **Annex A**.

**h. [Only applicable for Participants taking up the Greenfield Site] Provision for Planting of Second CCGT:** Participants taking up the Greenfield Site shall cater the necessary design provisions to support the second CCGT (e.g. seawater water intake pumphouse and its associated electro-chlorination plant, process water discharge, switchhouse building, gas receiving station and the balance of plant facilities, etc.). Participants must demonstrate their intent to construct these expanded facilities through supporting documents submitted. Proposals failing to demonstrate this intent will be disqualified from further evaluation.

Evaluation Criteria

3.3 Proposals that meet the Cardinal Requirements will be further evaluated based on the evaluation criteria outlined in Table 4:

Table 4: Evaluation Criteria

S/N	Criteria	Weightage	Description
1	Optimised Use of Land	10%	Proposals will be assessed based on <b>landtake efficiency</b> for additional infrastructure required for the new generating unit. <sup>12</sup>
2	Availability & Reliability of	20%	Proposals will be assessed based on the track record of generating units of

<sup>11</sup> Please refer to <https://go.gov.sg/consultation-emissions-standards-framework> for the Emission Standards Framework.

<sup>12</sup> Landtake efficiency refers to MW/ha, where “MW” refers to the installed capacity of the proposed generating unit (excluding any dedicated backup reserves coupled with the generating unit), “ha” refers to landtake for new infrastructure that will be built for the proposed generating unit (including any expansion of balance of plant facilities and dedicated backup reserves coupled with the generating unit).

	the New Generating Unit		<p>the same make and model, using the following formula:</p> <ul style="list-style-type: none"> <li>• Availability (%) = [(AH + OH)/Total Hours] x 100% Where, <ul style="list-style-type: none"> <li>➤ AH is the number of hours the generating unit was available but not in the operating state</li> <li>➤ OH is the number of hours the generating unit was in the operating state</li> <li>➤ Total Hours is the total number of hours over the generating unit's total length of service</li> <li>➤ AH, OH and Total Hours will be based on available aggregated data<sup>13</sup></li> </ul> </li>   <li>• Reliability (%) = [OH/(OH + FOH)] x 100% Where, <ul style="list-style-type: none"> <li>➤ OH is the number of hours the generating unit was in the operating state</li> <li>➤ FOH is the number of hours generating unit was in forced outage state</li> <li>➤ OH and FOH will be based on the same aggregated data used for Availability</li> </ul> </li>   <li>• Track Record will be based on Total Hours Where, <ul style="list-style-type: none"> <li>➤ Total Hours is the total number of hours over the generating unit's total length of service</li> <li>➤ Total Hours will be based on the same aggregated data used for Availability</li> </ul> </li> </ul>
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<sup>13</sup> The aggregated data shall be based on all the units (same make and model) installed world-wide and does not consider non-generating unit causes (e.g. balance of plants).



3	Market Concentration	10%	Each Proposal will be assessed based on its impact on the generation market Herfindahl-Hirschman Index (“HHI”), against that of other Proposals, considering expected generation capacity retirements and expected new entry by end-2029 and end-2030 respectively for the 2029-generating unit and the 2030-generating unit.
4	Concentration Risk	10%	Proposals will be assessed based on the location of planting site. Proposals sited outside of <del>Western</del> and <del>Southwestern region</del> of Singapore will be scored favourably.
5	Quality of Proposal	10%	Proposals will be assessed based on the extent of preparatory works that have been undertaken by the Participants. Proposals which provide reasonable timeline and demonstrated extensive engagements with key consultants and key equipment suppliers, as well as performed relevant security, environmental and financial assessments will be scored favourably.
6	Commitment to Offer Price Competitive Contracts	10%	Each Participant shall propose a <b>Standing Offer</b> to supply electricity in accordance with the following framework: <ul style="list-style-type: none"> <li>The Standing Offer shall be made to any persons (including but not limited to consumers, SP Group, and electricity retailers) nominated by EMA, and/or to increase supply in the Singapore Wholesale Electricity Market under any scheme EMA may introduce (e.g. Standby Capacity Scheme).</li> </ul>

		<ul style="list-style-type: none"> <li>• The Standing Offer capacity shall be the lower of either: <ul style="list-style-type: none"> <li>I. the licensed capacity of the new generating unit after catering for reserve and regulation provision, which will be assumed at 15% as a reasonable level, unless otherwise justified. For example, if the licensed capacity of the new unit is 600MW, the commitment would be capped at 510MW after factoring 15% for reserves and regulation provision; or</li> <li>II. the total available and uncontracted capacity of all the Participant’s licensed CCGT generating units <u>including the new generating unit</u>, after catering for reserve and regulation provision which will be assumed at 15% as a reasonable level, unless otherwise justified.</li> </ul> <p>Available and uncontracted capacity refers to available CCGT generation capacity, less contracted load determined based on withdrawal energy quantity (“WEQ”) of affiliated electricity retailer, vesting contracts, relevant Contract for Differences (“CfDs”), Electricity Futures Market (EFM) contracts, etc.</p> </li> <li>• The non-fuel component of the Standing Offer price shall be a non-negative percentage (%) discount off the non-fuel component of the prevailing vesting long-run marginal cost (“LRMC”). Should there be no vesting LRMC available, the non-fuel vesting component (in \$/MWh) shall</li> </ul>
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			<p>be that of the last available vesting parameter. <b>The Participant shall specify the quantum of such discount in its proposal to be submitted for this RFP.</b></p> <ul style="list-style-type: none"> <li>• The fuel component of the Standing Offer price shall be based on price of the relevant gas supply procured or to be procured by the Participant to serve the person(s) nominated by EMA.</li> <li>• The Standing Offer shall remain throughout the lifespan of the new generating unit, and shall be fulfilled by the Participant upon being notified by EMA to do so including the supply duration as specified by EMA of up to 36 calendar months, with a notice period of at least 30 calendar days.</li> <li>• <b>The Standing Offer shall be included in the RFP Winner's generation licence.</b></li> </ul> <p>For avoidance of doubt, a failure to submit an offer for this evaluation criterion, or deviation from the above requirements (e.g. inclusion of additional conditions), will not result in the disqualification of the proposal but it will result in zero score for this criterion.</p>
7	Innovative and/or Decarbonised Technologies <del>or Business Models</del>	10%	<p><b>Proposals that include, but not limited to (a) technologies that enable the use of low/ zero carbon fuels such as low carbon hydrogen, blending of above 30 vol% H2 with natural gas, biomethane, or biomass etc; or (b) technologies that allow for efficient and cost-effective CO2 capture will be scored favourably. The</b></p>

			proposals will be assessed as a whole and include factors such as credibility of proposal and magnitude of decarbonisation.
8	Enhanced Technical Parameters	20%	Proposals that include any enhanced technical capabilities (as detailed in 8.1 – 8.4) will be scored favourably. These enhanced technical capabilities will be included in the Performance Conditions. <sup>14</sup>
8.1	Fuel Changeover Capability <sup>15</sup>		Proposals that can complete FCO operation earlier than ten (10) minutes upon initiation of FCO process to alternative fuel, and have a higher FCO permissible loading level (i.e. least deloading required to enable FCO to commence) for FCO operation, will be assessed favourably. <sup>16</sup> For avoidance of doubt, this criterion does not consider blending of natural gas with hydrogen.  Participants may refer to Appendix F13 of the Transmission Code for FCO requirements.
8.2	Low Gas Pressure Trip Setting		Proposals will be assessed based on the use of natural gas as primary fuel, and gas pressure trip setting lower than 16barg will be assessed favourably. <sup>17</sup>  Low Gas Pressure Trip Setting is measured at the System Offtake Point as defined in Section A of the Gas Network Code (“GNC”).

<sup>14</sup> The RFP Winner shall demonstrate its due and faithful performance and fulfilment of the enhanced technical capabilities and Innovative and/or Decarbonised Technologies or Business Models as declared in the Proposal and/or as agreed with EMA during registration as GRF. EMA reserves the right, in its sole and absolute discretion, to forfeit the Performance Bond or such part of it if the RFP Winner failed to do so.

<sup>15</sup> Clause 6.11.4 (f) of the Transmission Code states on the design of fuel changeover of generation facility.

<sup>16</sup> Transmission Code states that each newly commissioned generation facility, which is to be registered with EMC on or after 1 January 2021, shall be designed to complete FCO operation within 10 minutes upon initiation.

<sup>17</sup> Transmission Code states that each newly commissioned generation facility, which is to be registered with EMC on or after 1 January 2021, shall be designed to operate at its rated MW Capacity with a low gas pressure trip setting no greater than 16barg.

8.3	Flexibility for Simple Cycle Mode		Proposals with flexibility to operate on simple cycle mode at the GT full load capacity for at least four (4) hours continuously will be scored favourably. Participant shall provide supporting documents to demonstrate the new generating unit's operating mode capability.
8.4	Start-up Time		Proposals will be assessed based on the start-up time from each stage (i.e. cold, warm and hot). Proposals with a faster start-up time will be assessed favourably. Start-up time is measured from notification given to achieve full load. Participant shall provide the supporting document to demonstrate the new generating unit's start-up time capability.

## SECTION 4: INSTRUCTIONS FOR PRE-SUBMISSION AND SUBMISSION OF PROPOSALS

### PRE-SUBMISSION

#### Official point-of-contact

- 4.1 For the purpose of the RFP, the official email contact of EMA is: [Capacity\\_Development@ema.gov.sg](mailto:Capacity_Development@ema.gov.sg).
- 4.2 Each Participant shall provide its official contact details (listed in below Table 5) via email to EMA at [Capacity\\_Development@ema.gov.sg](mailto:Capacity_Development@ema.gov.sg) as soon as reasonably possible. This is to provide an official contact point between the Participant and EMA, such that any official information or notification with regard to the RFP will be disseminated to the relevant official contact points. Should there be any change to such official contact point during the course of the RFP, the Participant is to update EMA via email.

Table 5: Official Contact Details

Participant Name:	
Name of Contact Point:	
Designation:	
Email:	
Contact Number:	
Fax Number:	

### SUBMISSION OF PROPOSALS

#### Requirements for submission of Proposals

- 4.3 Participants shall fully comply with all terms, conditions and requirements set out in this RFP document without any modifications. Failure to comply may result in disqualification.
- 4.4 The Proposal shall minimally comprise the following sections:
- a. An Entity Section that specifies the Participant's identity, relationships, experience and capabilities;
  - b. A Project Section that covers the project management aspects of the Proposal, and performance and capabilities of the proposed new generating unit;

- c. A Commercial Section that describes the commercial aspects of the Proposal; and
- d. Any other information that the Participant may deem relevant for the purposes of this RFP.

4.5 The Proposal's Entity Section shall contain the following:

- a. Structure and organisation of Participant, including information and details of all members of any consortium (collectively "**Consortium Members**", and each a "**Consortium Member**") using the format given in the **Form of Submission**, including **Form A** and **Form B**;
- b. Details of the entity to be licensed as a Generation Licensee if awarded the RFP, namely: (i) a certified true copy of the entity's Certificate of Incorporation; and (ii) certified true copies of relevant ownership documents, including documents lodged with the Accounting & Corporate Regulatory Authority ("**ACRA**") showing the shareholder structure, names and addresses of significant shareholders and the composition of the board of directors;
- c. Credentials of the Participant, including all Consortium Members, if any, with respect to their capability and experience to perform the duties under the Electricity Act 2001 and the Generation Licence. This includes documents such as audited financial statements for the last 2 full financial years, financing plan with details of sources of capital and repayment schedule and resume/CV of key appointment holders;
- d. Participant and all Consortium Members, if any, shall provide more information on persons empowered to act in **Form C** and other information in **Form D**; and
- e. Undertaking by Participant and all Consortium Members, if any, to Safeguard Official Information using the **Form E**.

4.6 The Proposal's Technical Section shall contain but not limited to the following information:

- a. Detailed project schedule including but not limited to the key project implementation milestones listed in Table 6a and Table 6b:

Table 6a: Performance Conditions - Milestones

S/N	Project Milestones	Declared Date
1	Registration as Generation Registered Facility (“GRF”) with EMC	

Table 6b: Other Milestones

S/N	Project Milestones	Declared Date
1	Appointment of Owner’s Engineer	
2	Signing of EPC Contract	
3	Completion of SBD study	
4	Receipt of URA’s Provisional Permission	
5	Delivery of Gas Turbine(s) to Site	
6	Delivery of Steam Turbine(s) and Heat Recovery Steam Generator(s) to Site	
7	Gas Admittance Date of Gas Connection	
8	Energisation Date of Electricity Connection	

- b. Location and plant layout (including gas entry point and gas metering station, switchhouses etc) clearly demarcating the land to be occupied by the new generating unit (including new balance of plant facilities) and the land occupied by existing generating units (if any). For Participants taking up the Greenfield Site, the Participant shall clearly demarcate the amount of land to be occupied by first and second new CCGTs (including balance of plant facilities);
- c. Declared performance and capabilities of the new generating unit as listed in Table 7a and Table 7b:

Table 7a: Performance Conditions – Performance Parameters

S/N	Type of Performance and Capability of the new generating unit	Declared Parameters
1	Start-up time from Hot Stage (minutes)	
2	Start-up time from Warm Stage (minutes)	
3	Start-up time from Cold Stage (minutes)	
4	Time taken to complete FCO operation (minutes)	
5	Permissible loading level(s) for FCO operation (%)	
6	Low Gas Pressure Trip Setting while firing on Primary Fuel (barg)	
7	Flexibility for Simple Cycle Mode at the GT full load capacity for at least 4 hours continuously (Yes/No)	



<b>8</b>	<b>Innovative and/or Decarbonised Technologies or Business Model</b>	
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Table 7b: Other Performance Parameters

S/N	Type of Performance and Capability of the new generating unit	Declared Parameters
1	Type of generation technology	
2	Maximum generation capacity at 32°C (MW) while firing on natural gas	
3	Maximum generation capacity at 32°C (MW) while firing on alternate fuel	
4	Gas consumption (in BBtu/day) while firing at maximum generation capacity	
5	Grid connection point	
6	Voltage level (kV)	
7	Short-circuit currents at the switchhouse bus without grid connection (kA)	
8	Availability (%)	
9	Reliability (%)	
10	Track record (hour)	
11	Type of primary fuel	
12	Type of alternate fuel	
13	Efficiency at maximum generation capacity while firing using primary fuel (%)	
14	Efficiency at maximum generation capacity while firing using alternate fuel (%)	
<b>15</b>	<b>Emission intensity (tCO<sub>2</sub>e/MWh)</b>	

- d. Supporting documents (e.g. technical datasheets or undertaking letter from Original Equipment Manufacturer, assumptions, reference source) for the declared performance and capabilities listed under paragraph 4.6(c);
- e. Letters or emails issued by PowerGas and SP PowerGrid for the proposed gas and electricity connections respectively. The letter or email to be issued by PowerGas and SP PowerGrid shall confirm receipt and review of Participant’s proposed gas and electricity connection request based on information in paragraph 2.15 of this RFP document provided to PowerGas and SP PowerGrid. The RFP Winner would need to provide the technical details subsequently with its formal connection application, and the proposed connection scheme of PowerGas and SP PowerGrid will be subject to the Power System Operator (“PSO”)’s endorsement; and

f. Any innovative technology or design that could potentially enable greater decarbonisation. This includes, but not limited to (a) technologies that enable the use of low/ zero carbon fuels such as low carbon hydrogen, blending of above 30 vol% H<sub>2</sub> with natural gas, biomethane or biomass etc; or (b) technologies that allow for efficient and cost-effective CO<sub>2</sub> capture shall be assessed for decarbonised power generation based on the quality of the proposed solutions. The proposals will be assessed as a whole and include factors such as:

i. Credibility of Proposal – proposals are thought through and implementable during the point of RFP submission. This should be supported by engineering studies/drawings (e.g. plot plans, utility flow diagrams), cost estimates (e.g. CAPEX, OPEX), documentation/guarantees from OEM/suppliers/technology providers; and

ii. Magnitude of Decarbonisation – proposals show how much decarbonisation can be achieved and should include supporting documentation/guarantees from the relevant OEM/suppliers/technology providers as well as plans to show that the future upgrades (e.g. to Balance of Plant, control systems) have been catered for.

4.7 The Proposal's Commercial Section shall contain declaration of the commitment to supply energy to any person(s) nominated by EMA, as outlined in S/N 6 of Table 4: Evaluation Criteria.

4.8 Each Participant shall, together with the submission of its Proposal to EMA, furnish a Performance Bond Undertaking in the form set out in **Annex A**. As stated in paragraph 3.2(g), a Participant who fails to furnish the Performance Bond Undertaking will be disqualified.

4.9 The Proposal and any other documents provided shall be in the English language. All monetary values shall be clearly specified and denominated in Singapore Dollars.

### **Mode of Submission**

4.10 Participants are required to submit their Proposals through softcopy submissions via email to EMA at: [Capacity\\_Development@ema.gov.sg](mailto:Capacity_Development@ema.gov.sg).

4.11 The soft copies shall be submitted in both Microsoft WORD and PDF format. Multiple emails are allowed because of the email size limit. Each email shall be

below 25 MB. Participants must clearly communicate the references to the Proposals if multiple emails are submitted.

### **Deadline for Submission**

- 4.12 All Proposals must reach EMA via email by no later than the Closing Date. Any Proposal submitted after the Closing Date will not be considered by EMA.
- 4.13 EMA will acknowledge receipt of all submissions electronically within three (3) business day from the Closing Date. Please promptly contact EMA ([Capacity\\_Development@ema.gov.sg](mailto:Capacity_Development@ema.gov.sg)) if you have not received an acknowledgement of your submission by then.

### **Validity of Proposals**

- 4.14 Proposals that have been submitted shall remain valid and binding for one hundred and eighty (180) days from the Closing Date.
- 4.15 Proposals shall neither be modified nor withdrawn after the Closing Date, unless approved by EMA.

### **Clarifications before Closing Date**

- 4.16 Participants may engage EMA for clarifications on this RFP document. All clarifications must be formalised in writing to EMA and sent via email to EMA from the email address specified in Table 5 by no later than **30 September 2024**. Formal clarifications by EMA will be in writing only.
- 4.17 Notwithstanding the above, EMA is open to meeting Participants to clarify any aspects of this RFP. These meetings serve only as informal discussions, and nothing said or communicated by EMA during such meetings shall be taken as a formal response.
- 4.18 EMA may invite Participants to make presentations to EMA with regard to their Proposals. Details of such presentations, if necessary, will be arranged by EMA. In the event EMA requests for written clarification with regard to any aspect of the Participant's Proposal, the Participant shall use reasonable endeavour to provide full and comprehensive responses within three (3) business days of such request.

### **Compliance with Instructions**

- 4.19 Participants shall submit their Proposals in accordance with all the requirements set out in this RFP document. Incomplete submissions may be deemed invalid and may not be considered by EMA.
- 4.20 EMA shall not be liable to any Participant for any information in this RFP which is incomplete or inaccurate. It is the Participant's responsibility to acquaint itself with the information contained in this RFP document and all other information that it may need to know in order to prepare its Proposal or to subsequently function and operate as a Generation Licensee if appointed by EMA.
- 4.21 All expenses incurred in the preparation and submission of any Proposal shall be borne by the Participant and no claims for any costs or expenses incurred will be considered by EMA, regardless of the acceptance or rejection of any Proposals.
- 4.22 Participants shall not make use of any information or material obtained directly or indirectly from EMA, without the prior written consent of EMA, other than for the purposes of this RFP.
- 4.23 Participants shall not disclose any information or material obtained directly or indirectly from EMA, without the prior written consent of EMA, to any third parties.
- 4.24 EMA is not obligated to disclose any information with regard to any Participant's Proposal.
- 4.25 EMA reserves the right to accept or reject any or all Proposals and its decision shall be final and shall not be subject to any appeal. EMA will not entertain any correspondence concerning the acceptance or rejection of any Proposal (including but not limited to the reasons for the acceptance or rejection of any Proposal).
- 4.26 The validity, interpretation and performance of this RFP and any Proposals submitted by Participants in response to this RFP shall be governed by and construed in accordance with the laws of the Republic of Singapore without regard to the principles of conflicts of law thereof. By submitting a Proposal, the Participant hereby irrevocably submits to the exclusive jurisdiction of the courts of the Republic of Singapore.
- 4.27 A waiver by EMA of any term or condition of this RFP in any instance shall not be deemed or construed as a waiver of such term or condition for the future, or of any subsequent breach of the RFP process thereof.

- 4.28 Prior to the Closing Date, EMA reserves the right to make changes to this RFP document (including but not limited to the RFP process, selection criteria) through the issuance of a corrigendum or addendum thereto. Where EMA issues a corrigendum or addendum, EMA and the Participants shall, if EMA considers necessary, execute such further documents and take such further steps as may be reasonably necessary or desirable to effectuate the purpose of this RFP.
- 4.29 All information related to this RFP shall remain the property of EMA. All documents submitted by the Participant in response to this RFP shall become the property of EMA. However, any intellectual property in the information contained in the Proposal submitted by the Participant shall remain vested in the Participant. EMA will keep the details of all Proposals confidential unless it is required by law to disclose any information related to a Proposal.
- 4.30 This RFP document, or any modification, corrigendum or addendum issued thereto, is furnished solely for the purpose of assisting Participants in making their own independent evaluation of the roles and requirements of a Generation Licensee. It is not meant to be all-inclusive or to contain all the information that a Participant may require to submit a Proposal, and/or to subsequently perform the role of a Generation Licensee if appointed by EMA. Participants shall make their own assessment regarding the relevance and adequacy of the information contained in this RFP and shall carry out their own due diligence to assess/determine whether or not to submit a Proposal in response to this RFP and/or subsequently perform the role of a Generation Licensee if appointed by EMA.
- 4.31 No part of this document shall be construed as forming part of or used to interpret any subsequent contracts entered into by the Participant, whether with any downstream retail customer or any other party.
- 4.32 EMA does not make any representation or warranty, express or implied, as to the accuracy, completeness or reasonableness of the information contained in this RFP document or any modification, corrigendum or addendum issued thereto, or any other written statement which is otherwise communicated or made available to the Participants, whether by or on behalf of EMA, nor does EMA accept any liability in relation to any such information or statement for any lack of accuracy, completeness or reasonableness.
- 4.33 EMA reserves the right to terminate or suspend the RFP process at any time before the appointment of any Generation Licensee(s) without giving any reason and shall not be liable for any expenses or costs incurred by any Participant or any other person up to or arising from such termination or suspension.

**FORM OF SUBMISSION**

**REQUEST FOR PROPOSAL FOR PRIVATE SECTOR TO BUILD, OWN AND OPERATE NEW GENERATION CAPACITY**

Having examined the Request for Proposal (“**RFP**”) issued by the Energy Market Authority (“**EMA**”) for the above, we attach our proposal submission (“**Proposal**”) comprising the following items for EMA’s consideration:

- i. Form of Submission.
  
- ii. *[Participant to list down items attached]*

Whereas it is understood that the EMA reserves the right to accept or reject this Proposal without divulging any reason, we: (a) warrant that the information provided in this Proposal is valid and correct; and (b) acknowledge and agree to all the terms and conditions set out in the RFP and the application thereof to our Proposal.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2024.

Authorised Signature of Participant	_____	Authorised Signature of Witness	_____
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Name	_____	Name	_____
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Designation	_____	Designation	_____
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Company Address	_____	Company Address	_____
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Company Stamp	_____	Company Stamp	_____
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<b>NOTICE</b>	This form duly completed <b>MUST</b> accompany every Proposal. Any change to its wordings may render the submission liable to <b>DISQUALIFICATION</b> .
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## FORM A

### STRUCTURE AND ORGANISATION OF PARTICIPANT

No	Item	Details
1	Full Name of Participant (Note 1)	
2	Registered Address	
3	Contact Person's name Telephone Email Facsimile	
4	Legal Form (Note 2)	
5	Memorandum and Articles of Association and Joint Venture Agreement Attached (Note 3)	
6	Structure / Organisational Charts Attached	
Notes: (1) In case of a consortium, names of all Consortium Members MUST be included. (2) E.g. company, partnership, cooperative, consortium, joint venture, etc. (3) Or similar agreement (e.g. shareholders agreement, consortium agreement, etc.)		

## FORM B

### PARTICIPANT MEMBERS

No	Item	Lead Member	Member 1	Member 2	Member 3
1	Name				
2	Country of Registration				
3	Registered Address				
4	Name, Position and Designation of Contact Person				
5	Value of Contribution (Share of Total Equity)				
6	Description of Company				
7	Ultimate beneficial owners (if not listed) or listed parent company/ies				

Note: The Participant shall produce additional forms for additional members, as necessary.



**FORM C**

**PERSONS EMPOWERED TO ACT**

The following persons are empowered to sign contract documents and act on the Participant's behalf for this project:

Name	NRIC No.	Position Held

## FORM D

### **OTHER INFORMATION**

Participant and all Consortium member(s) must indicate if the following statements apply to the entity or persons empowered to act in Form C anywhere in the world within the summary table below:

<b>Full name(s) of Participant, Consortium member and/or key personnel</b>		
S/N	Statement	Response
1	Convicted of any offence or misconduct (e.g. fraud, corruption, tax evasion)	Yes / No
2	Breach of legal, environmental or social obligation	Yes / No
3	[For entity only] Subject of insolvency or winding-up proceedings	Yes / No
4	[For person only] Bankrupt or has made any composition or arrangement for the benefit of his creditors	Yes / No
<p>If the response to any of the statements above is “yes”, please provide further details including year of incident. The answer must also name the organisation or member being referred to.</p>		
<p>If the response to any of the statements above is “yes”, please provide evidence of the measures taken, following the relevant conviction or breach of obligations, that are sufficient to demonstrate its reliability as a potential electricity importer. The answer must also name the organisation or member being referred to.</p>		

Participant should submit a separate completed table for each Consortium member(s) and key personnel unless the answers to all statements are ‘no’. Where all responses from the Participant are ‘no’ to the statements above, the Participant needs to submit one response only.

**FORM E**

**UNDERTAKING TO SAFEGUARD OFFICIAL INFORMATION**

To: Energy Market Authority (the “**Authority**”)

1 My attention has been drawn to the Official Secrets Act 1935 and in particular to Section 5 thereof which relates to the safeguarding of official information.

2 I understand and agree that all official information acquired by me in the course of my work and consultancy with the Authority and/or any government ministry, department, organ of state, statutory board or government-owned company is strictly confidential in nature, and undertake not to publish or communicate such information to any unauthorised person in any form at any time, without the official sanction of the Chief Executive Officer of the Authority and/or such government ministry, department, organ of state, statutory board or government-owned company.

3 I shall ensure that any other person who is authorised by me to have access to any official information shall similarly sign an undertaking to safeguard official information.

4 I undertake to return any document received from the Authority, and any other copies made or reproduced from such document or part thereof whenever required by the Authority.

5 I further understand and agree that any breach or neglect of this undertaking may render me liable to prosecution under the Official Secrets Act.

..... (Signature of Company Representative)	..... (Full name in BLOCKS and NRIC)
..... (Designation)	..... (Name of Company)
..... (Date)	
..... (Signature of WITNESS)	..... (Full name in BLOCKS and NRIC)
..... (Date)	

## ANNEX A: PERFORMANCE BOND UNDERTAKING

### PERFORMANCE BOND UNDERTAKING

#### THIS PERFORMANCE BOND UNDERTAKING (“Undertaking”)

is issued by:

**[NAME OF PARTICIPANT]**, a company incorporated and registered in Singapore with company registration number [ • ] and having its registered office at [ • ] (“**Participant**”)

in favour of:

**ENERGY MARKET AUTHORITY**, a body corporate established under and by virtue of the Energy Market Authority of Singapore Act 2001 and having its principal office at 991G Alexandra Road #01-29 Singapore 119975 (“**Authority**”).

#### WHEREAS:

- (A) The Authority has issued a Request for Proposal To Build, Own And Operate New Generation Capacity on [date] (“**RFP**”).
- (B) Pursuant to the terms of the RFP, the Authority requires all participants to provide, together with the submission of their proposal, this Performance Bond Undertaking.
- (C) The Participant is responding to the RFP with a proposal (reference [ • ] dated [date]) (“**Proposal**”) and is furnishing this Undertaking in compliance with the RFP.

#### NOW IT IS HEREBY AGREED AS FOLLOWS:

##### 1. Performance Bond

1.1 If the Participant is shortlisted for the award of the RFP, the Participant undertakes and agrees to furnish a Performance Bond (as defined below) for a sum of S\$100 million to the Authority.

1.2 In this Undertaking, “**Performance Bond**” means:

- (a) a guarantee issued by a participating financial institution under the eGuarantee@Gov programme meeting the requirements set out in Part 1 of Annex B; or
- (b) (provided EMA's prior written consent is obtained) a guarantee in the form set out in Part 2 of Annex B or in such other form as may be reasonably required by the EMA and issued by:
  - i. a bank or insurance company registered with the Monetary Authority of Singapore; or
  - ii. a licensed finance company registered with the Monetary Authority of Singapore.

**1.3 The Participant undertakes that the Performance Bond:**

- (a) shall be unconditional, irrevocable and on-demand;
- (b) shall be furnished to the Authority within 14 days of the Authority's notification to the Participant of the Participant being shortlisted for the award of the RFP; and
- (c) shall serve to secure the Participant's due and faithful performance and fulfilment of all the Performance Conditions (as defined in the RFP).

**2. Termination**

2.1 This Undertaking shall automatically terminate on (a) the date on which the Performance Bond is furnished if the Participant is shortlisted for the award of the RFP or (b) the date a person or party other than the Participant is awarded the RFP or (c) the date the Authority issues a notice that it will not award the RFP or (d) the date the Authority approves the Participant's request to withdraw its Proposal, whichever is the earlier.

**3. General**

**3.1 Interpretation.** Capitalised terms in this Undertaking shall bear the same meaning as those defined in the RFP, save where otherwise expressly defined herein.

**3.2 No Assignment and other dealings.** The Participant shall not assign, transfer, mortgage, charge, subcontract, declare a trust over or deal in any other manner with any of its rights and obligations under this Undertaking.

**3.3 No Variation.** No variation of this Undertaking shall be effective unless it is approved in writing by the Authority.

**3.4 Waiver.** No failure or delay by the Authority to exercise any right or remedy provided under this Undertaking or by law shall constitute a waiver of that or any other right or remedy, nor shall it prevent or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall prevent or restrict the further exercise of that or any other right or remedy.

**3.5 Governing law.** This Undertaking and any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with it or its subject matter or formation shall be governed by and construed in accordance with the laws of the Republic of Singapore.

**3.6 Jurisdiction.** This Undertaking is issued subject to the jurisdiction of the Singapore courts.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2024.

Authorised Signature of Participant	_____	Authorised Signature of Witness	_____
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Name	_____	Name	_____
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Designation	_____	Designation	_____
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Company Address	_____	Company Address	_____
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Company Stamp	_____	Company Stamp	_____
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## ANNEX B: SPECIMEN OF PERFORMANCE BOND

### **PART 1**

The Performance Bond shall be a guarantee issued under the eGuarantee@Gov programme with the template reference code [GOV\_UT] (or such other template reference code as EMA may from time to time notify the Participant in writing) and any other data fields (e.g. case reference number) as EMA may specify from time to time. For more information on the template and the application for such a guarantee from participating financial institutions, please visit [www.eguarantee.gov.sg](http://www.eguarantee.gov.sg).

### **PART 2**

#### PERFORMANCE BOND

#### THIS PERFORMANCE BOND ("Performance Bond")

is issued by:

**[NAME OF BOND ISSUER]**<sup>18</sup>, a branch registered in Singapore with unique entity number [ • ] and having its registered office at [ • ] ("**We**", "**Our**" or "**Us**").

in favour of:

**ENERGY MARKET AUTHORITY**, a body corporate established under and by virtue of the Energy Market Authority of Singapore Act 2001 and having its principal office at 991G Alexandra Road #01-29 Singapore 119975 ("**Authority**").

#### WHEREAS:

- (A) On [date], a Performance Bond Undertaking ("**Undertaking**") was issued by **[NAME OF PARTICIPANT]**, a company incorporated and registered in Singapore with company registration number [ • ] and having its registered office at [ • ] ("**Participant**") in favour of the Authority in compliance with the

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<sup>18</sup> The Bond Issuer has to be a local bank, wholesale bank, qualifying full bank or full bank or insurance company approved by Monetary Authority of Singapore.

Request for Proposal to Build, Own And Operate New Generation Capacity dated [date] (“**RFP**”) issued by the Authority.

- (B) On [date], the Participant received the Authority’s notification of being shortlisted for the award of the RFP. In accordance with the Undertaking, the Participant is therefore required to furnish an irrevocable on-demand performance bond in favour of the Authority for the sum equivalent to the total of S\$100 million as security for its due and faithful performance and fulfilment of all the Performance Conditions (as defined in the RFP).
- (C) The Participant will be / has been issued with a Generation Licence (“**Generating Licence**”) and will be required to deliver and complete the registration of the new generating unit as a Generation Registered Facility (“**GRF**”) with Energy Market Company Pte Ltd (“**EMC**”) by no later than 1 January 2029/2030\* (delete where applicable).
- (D) We, at the request of the Participant, have agreed to furnish an irrevocable on-demand performance bond to the Authority on the terms of this Performance Bond.

**WE HEREBY AGREE** as follows:

- 1. **Undertaking:** We warrant that the provision of this Performance Bond does not contravene any law and that we have obtained all necessary approvals in relation to the provision of this Performance Bond.
- 2. **Guarantee:** We shall unconditionally pay to the Authority any sum or sums up to a maximum aggregate of Singapore Dollars One Hundred Million (S\$100,000,000) (“**Performance Bond Sum**”) upon receiving the Authority’s first written demand for payment made pursuant to Clause 6 of this Performance Bond without any proof of actual default on the part of the Participant and without need to satisfy any other condition.
- 3. **Independence:**
  - (a) Notwithstanding any reference to an underlying transaction, this Performance Bond shall be construed and interpreted as independent from the transactions that gave rise to it or the obligation of the Participant or any other person to reimburse us or any rights or obligations between the Authority and the Participant.
  - (b) We shall not be discharged or released from this Performance Bond by:



- (i) any arrangement between the Authority and the Participant with or without our consent;
  - (ii) any other or further arrangement between the Participant and us with or without the Authority's consent;
  - (iii) any alteration in the obligations undertaken or to be undertaken by the Participant;
  - (iv) any forbearance on the Authority's part whether as to payment, time, performance or otherwise;
  - (v) anything that the Authority may do or omit to do;
  - (vi) the Authority requiring further or other security from the Participant in respect of the same or similar subject matters as those covered by this Performance Bond; or
  - (vii) any other dealing, act or omission that but for Clause 3 would discharge our liability.
- (c) Our liability under this Performance Bond shall not be affected, impaired or discharged by any changes whatsoever in the constitution of the Participant or the liquidation, administration, insolvency or other incapacity of the Participant.
4. **Guarantee Period:** Our liability under this Performance Bond shall continue and this Performance Bond shall remain in full force and effect from the date of this Performance Bond until 1 January 2029/2030\* (delete where applicable), and shall thereafter be automatically renewed for successive periods of 180 days unless we give the Authority at least 90 days written notice prior to the expiry of our liability of our intention not to renew this Performance Bond and the Authority shall be entitled, upon receiving such notice of our intention either to:
- (i) make a claim under this Performance Bond; or
  - (ii) direct us to extend the validity of this Performance Bond for a further period not exceeding 180 days (and this Performance Bond shall then expire at the end of such further period).
5. **Early Termination:** This Performance Bond shall terminate prior to the expiry date (as set out in Clause 4) upon the occurrence of any of the following events, whichever is earlier:
- (a) the date on which the aggregate amount paid under this Performance Bond by us to the Authority has reached the Performance Bond Sum;  
or

- (b) the date on which we receive the Authority's valid notice of our discharge with a clear reference to this Performance Bond.

Upon the early termination of this Performance Bond in accordance with Clause 5(a) or 5(b), our future liability under this Performance Bond shall automatically and irrevocably cease, without prejudice to any of **our obligations** which has accrued prior to such early termination.

6. **Notice of Claims:** The Authority may make a claim at any time on this Performance Bond by way of a notice in writing addressed to us and the same being received by us at \_\_\_\_\_ [insert address of bond issuer], before the expiry of this Performance Bond.
7. **Multiple Claims:** The Authority may make more than one claim on this Performance Bond so long as the aggregate amount specified in all such claims does not exceed the Performance Bond Sum.
8. **Payment:** We shall be obliged to effect the payment required under each claim within five (5) business days of our receipt of the written notice from the Authority. We shall be under no duty to inquire into the reasons, circumstances or authenticity of the grounds for such claim and shall be entitled to rely upon the Authority's written notice received by us as final and conclusive. **We shall effect payment to the bank account stated in the Authority's notice of claim.** All payments made by us under this Performance Bond shall be made in full without set-off or counterclaim of any kind and free and clear of and without deduction of or withholding for on account of any tax of any nature now or subsequently imposed by any country or any subdivision or taxing authority of or in any country or any federation or organisation of which any country is a member. For the purposes of this Performance Bond, "business day" means a day other than a Saturday, Sunday, or public holiday in Singapore.
9. **Waiver:** Without prejudice to the conditions of Clause 6, no delay or omission in exercising any right, power, privilege or remedy in respect of this Performance Bond shall impair such right, power, privilege or remedy or be construed as a waiver of it, nor shall any single or partial exercise of any such right, power, privilege or remedy preclude any further exercise of it or the exercise of any other right, power, privilege or remedy. The rights, powers, privileges and remedies provided in this Performance Bond are cumulative and not exclusive of any rights, powers, privileges or remedies provided by the law.
10. **Governing Law and Jurisdiction:** This Performance Bond is issued subject to the laws of the Republic of Singapore and all parties hereto agree to the exclusive jurisdiction of the Singapore courts.

11. **Rights of Third Parties:** A person who is not a party to this Performance Bond has no right under the Contracts (Rights of Third Parties) Act 2001 to enforce any term of this Performance Bond.

**Performance**

**Bond No:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Authorised  
Signature of  
Bond Issuer \_\_\_\_\_

Authorised  
Signature of  
Witness \_\_\_\_\_

Name \_\_\_\_\_

Name \_\_\_\_\_

Designation \_\_\_\_\_

Designation \_\_\_\_\_

Company  
Address \_\_\_\_\_

Company  
Address \_\_\_\_\_

Company  
Stamp \_\_\_\_\_

Company  
Stamp \_\_\_\_\_

## ANNEX C: POTENTIAL AVAILABLE GREENFIELD SITE



Figure 2: Location of EMA's Identified Greenfield Site

1. RFP Winner taking up the greenfield site shown in Figure 2 shall take note of the following:

### 1.1 Seawater intake

- i. A designated area totalling 60m along the shorefront and 143m inland has been safeguarded for the pumphouse and its associated electro-chlorination plant, as indicated by the blue box in Figure 2.
- ii. Seawater intake is to be routed through the 10m service corridor (demarcated in yellow line). This space shall cater for seawater intake pipelines for 2 sets of 2xCCGTs, as well as the required road access of 5m-wide for maintenance purposes. The seawater intake pipelines and/or piperacks could be developed by either a party appointed by EMA or by the RFP Winner. As part of the RFP submission, the RFP participant is required to propose details for developing the seawater intake. The RFP participant is required to explore optimisation of land to be used for its set of 2xCCGTs with provision for future development of another separate set of 2xCCGTs sharing the same service corridors.

- iii. The RFP Participant shall consult Land Transport Authority to ensure the relevant Code of Practice is complied with (e.g. at the entrance of road access from Meranti Road marked as “Y”). There is a covered drainage reserve to the north of the 10m service corridor. Should any section of the road access that will be built over the covered drainage reserve, the RFP Participant is to consult PUB to ensure it complies to their requirement.
- iv. Participant may explore using the 2-tunnel culvert, 3m x 3m per tunnel, to cross Meranti Road, or any other methods which do not affect the integrity of current structures and users.
- v. A 5m service corridor has been safeguarded for the intake water pipe adjacent to Meranti Road to the power plant as shown by the pink line in Figure 2.
- vi. There are two existing Very Large Crude Carrier (“VLCC”) pipelines (demarcated in red line) buried approximately 6m below the ground within the service corridor along the northbound of Meranti Road. The VLCC pipeline owners are to be consulted if the RFP Winner is laying services above/below the VLCC pipelines or is constructing entrance(s) to the plot above the VLCC pipelines.

## 1.2 Process and surface water run-off

- i. The process and surface water runoff shall be discharged into the drain along Meranti Crescent, leading to Meranti Lane and then to the sea (dotted blue line and the discharge location into the sea is marked with the symbol ‘X’). Participant shall ensure that any direct connection of the discharge pipe(s) to the drain wall do not have negative impact on the structural integrity of the drain. The participant shall consult JTC for in-principle no objection and PUB’s approval to connect the outfall pipe to existing drain, including justification on no flood risk and backwater analysis due to additional flow from the proposed development during the detailed design stage and comply with all requirements imposed by PUB. The participants will need to check if the existing drain depth is feasible for direct connection for the discharge water pipes and upgrade the existing drainage system if there is any inadequacy of existing drain capacity due to the additional flow from the proposed development.
- ii. The available drainage drawings of the affected drains and Jurong Island Drainage Catchment plan (updated at point of sharing and subjected to revision) will be provided for assessment of the drainage capacity. Participants may write to EMA (Capacity\_Development@ema.gov.sg) to

request for information on the drainage capacity and the Jurong Island Drainage Masterplan. The participants will need to make necessary provision to obtain further information, such as purchasing the as-built plans from PUB or BCA, carrying out site investigation, etc. to verify the information provided and for detailed study purposes.

- iii. EMA will be carrying out thermal discharge and Hydrodynamic study at 'X', and Navigation, mooring and structural impact studies for the Singapore Refining Company VLCC jetty. As the study will be carried out concurrently with the publication and award of the RFP, EMA shall update if significant modification or mitigation measures are required. RFP Winner shall carry out the required mitigation measures unless they can propose alternative mitigation measures that are acceptable by the relevant Agencies.

### 1.3 Land

- i. The first generating unit shall be sited at plot 'A' of the site (as depicted in Figure 2) to avoid sterilising land for future development. Only the land required for the first generating unit will be leased. The Participant shall specify the land size required for plot 'A'.
- ii. Likewise, the Participant shall specify the land size required for the subsequent second new generating unit (plot 'B'), which may be allocated upon winning future RFPs for new generation capacity.
- iii. The Participant shall not exceed the maximum area outlined by the coordinates in Figure 2, which is planned for 2xCCGTs.
- iv. The Participant may adjust the land required to achieve better land optimisation, subject to EMA's approval.

1.4 Any other requirements imposed by agencies from-time-to-time.

1.5 All utility services (such as electricity cables, water pipelines, sewer, telco, gas pipeline etc) shall be routed underneath the site entrance(s) only. The Participant shall consult JTC before the design of the new generating unit plant is finalised.

1.6 Other relevant information on the **Greenfield Site** may be available on Integrated Land Information Service ("INLIS").