

Guidelines

For New Enhanced Dispatch Arrangement

Registration Record

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ELECTRICITY SUPPLY ACT 1990

[Act 447]

GUIDELINES FOR NEW ENHANCED DISPATCH ARRANGEMENT

GP/ST/ No.12/2017

In exercise of the power conferred by Section 50C of the Electricity Supply Act 1990 [Act 447], the Commission issues the following guidelines:

Citation and Commencement

1. These Guidelines may be cited as the Guidelines for New Enhanced Dispatch Arrangement.
2. These Guidelines shall come into operation on the date of registration.

Application of these Guidelines

3. These Guidelines shall apply to generation licensee or other licensee as approved by Energy Commission to supply and sell electricity through the power system in accordance to and in compliance with the NEDA Rules as provided under these Guidelines to the Single Buyer who is authorised under the Act responsible for the management of procurement of electricity and related services.

Rules for NEDA Implementation

4. The content of the New Enhanced Dispatch Arrangement Rules shall be as in ANNEX 1.

Notice by the Commission

5. The Commission may issue written notices from time to time in relation to these Guidelines.

Amendment and Variation

6. The Commission may at any time amend, modify, vary or revoke these Guidelines.

Dated: 17 April 2017



DATUK IR. AHMAD FAUZI BIN HASAN
Chief Executive Officer
for Energy Commission

**ANNEX 1:
NEW ENHANCED DISPATCH ARRANGEMENT RULES**



New Enhanced Dispatch Arrangement Rules

March 2017

Version 2.0

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New Enhanced Dispatch Arrangement Rules (NEDA Rules) 2017

PART I

PRELIMINARY

1. PURPOSE

- 1.1 These Rules may be cited as the New Enhanced Dispatch Arrangement Rules 2017 (“**NEDA Rules**”) and shall replace the NEDA Rules (version 1.1) published in September 2015 with effect from the date of registration of Guidelines and Rules for New Enhanced Dispatch Arrangement.
- 1.2 The New Enhanced Dispatch Arrangement (“**NEDA**”) is to enhance competition and cost efficiency of the Single Buyer market with the following objectives:
 - (a) to improve cost efficiency in generation through short-run competition;
 - (b) to enable energy-efficient options, particularly the use of efficient technology, such as cogeneration, to participate in the electricity market;
 - (c) to provide opportunity for non-PPA/SLA generators, such as co-generators, franchise utilities with generation facilities, Ex-PPA/SLA generators and other generators which manage their own fuel requirements and with the approval of the Energy Commission to operate as merchant generators to supply and sell energy to the Single Buyer to enhance their business options by maximizing the use of their facilities in a cost-efficient manner for the benefit of the electricity supply industry and the consumers.
- 1.3 The NEDA Rules provide the guidelines and principles on the operation of the New Enhanced Dispatch Arrangement. It also prescribes the obligations and rights of the Participants, the Single Buyer, the Grid System Operator, the Grid Owner as well as the Distributors.
- 1.4 The NEDA Rules incorporate amendments to the NEDA Rules (version. 1.1) which including but not limiting to, categorisation of NEDA Participants, registration process, fuel supply arrangement, bidding process, provision of information, settlement and non-dispatch.

2. APPLICATION AND ADMINISTRATION

- 2.1 The NEDA Rules is supplementary to and should be read in conjunction with the Single Buyer Rules.
- 2.2 The NEDA Rules apply in conjunction with the following documents:
 - (a) the Electricity Supply Act 1990;
 - (b) the Energy Commission Act 2001;
 - (c) the Malaysian Grid Code;
 - (d) the Single Buyer Rules;

- (e) regulations, codes, rules, guidelines or directions issued by the Minister or Energy Commission;
- (f) the Licences issued by the Energy Commission under the Electricity Supply Act 1990; and
- (g) the relevant power purchase agreements or the service level agreements.

In the event of any inconsistency or conflict between the NEDA Rules and the documents listed in this rule 2.2, those documents listed in rule 2.2 are to take precedence over the NEDA Rules.

- 2.3 These NEDA Rules shall apply in Peninsular Malaysia and shall be governed by the laws of Malaysia.
- 2.4 The Energy Commission may suspend the operation of NEDA in emergency situation to maintain the security and safety of the Grid System and/or Distribution Network in accordance with the provisions of the relevant laws of Malaysia.
- 2.5 The Energy Commission shall be responsible for the administration and maintenance of the NEDA Rules.
- 2.6 The New Enhanced Dispatch Arrangement will be under the oversight of the Single Buyer oversight panel chaired by the Energy Commission to ensure the operation is fair, independent and transparent.

3. DEROGATIONS AND LIMITATION OF LIABILITY

- 3.1 If any contract, agreement or arrangement exists at the date of any of the provisions of the NEDA Rules comes into force the Energy Commission shall make a determination whether the technical conditions of the specific contract, agreement or arrangement are in line with the provisions of the NEDA Rules.
- 3.2 If the technical conditions of the specific contract, agreement or arrangement are in line with the provisions of the NEDA Rules then the NEDA Rules shall prevail.
- 3.3 If the technical conditions of the specific contract, agreement or arrangement preclude compliance with certain provisions of the NEDA Rules then an appropriate specific derogation will be issued to the NEDA Participant, by the Energy Commission after consultation with the Single Buyer and Grid System Operator.
- 3.4 The provision of a specific technical derogation or exemption does not release the derogated party from compliance with all other provisions of the NEDA Rules and the provisions of any commercial agreement or from any commercial liability arising from such technical derogation or exemption.
- 3.5 It is recognised that some NEDA Participants have existing commercial agreements with the Grid Owner, the Distributor or other parties. Nothing contained in the NEDA Rules, including any amendments, is intended to modify the parties' rights and obligations under these agreements.

In the event of any conflict, the existing commercial agreements take precedence only to the extent that it does not affect the security and safety of the Grid System and the Distribution Network or seek to impose any liability on the Energy Commission, Single Buyer, Grid System Operator and the Distributor in the discharge of their obligations under the Single Buyer Rules and NEDA Rules, the Malaysian Grid Code and the Malaysian Distribution Code in accordance with the terms thereof.

PART II

INTERPRETATION, TERMS AND DEFINITIONS

4. INTERPRETATION

4.1 In the NEDA Rules, unless the contrary intention appears:

- (a) words and phrases used that are not defined in the NEDA Rules shall have the same meaning as defined in the Single Buyer Rules;
- (b) a capitalised word or phrase listed in the terms and definitions in rule 4.2 has the meaning given in that Rule;
- (c) the singular includes the plural and the plural includes the singular;
- (d) headings are for convenience only and do not affect the interpretation of the NEDA Rules;
- (e) a reference to a person includes an individual, company, body corporate, trust, partnership, joint venture, association, corporation or other body corporate and any government agency;
- (f) a reference to a thing includes the whole and any part of it;
- (g) a reference to a part, a rule, or an appendix is a reference to a part, a rule, or an appendix in the NEDA Rules;
- (h) “function” includes a function, power, duty, responsibility and authority; and
- (i) the words “include” or “including” are not used as, nor are they to be interpreted as words of limitation, and when introducing an example, do not limit the meaning of the words to which the example relates.

4.2 In these Rules, unless the context other requires, the definitions of the terms are as follow:

Term	Definition
<i>Actual System Marginal Price</i>	The price of the most expensive Marginal Generator dispatched by the Grid System Operator to meet actual demand in a Half-Hour Period.
<i>Applicant</i>	A Generator that wishes to register to participate in NEDA in accordance with the Registration procedure under the NEDA Rules.
<i>Availability</i>	Export Capacity from a Generation Facility that a NEDA Participant is available for participation in NEDA and “ Available ” shall be construed accordingly.
<i>Bid</i>	Any bid made by a NEDA Participant in accordance with, and subject to, the provisions of Part VI.

Term	Definition
<i>Bidding NEDA Participants</i>	All NEDA Participants, except Price Takers, who submit Bids under NEDA and are subject to Central Dispatch.
<i>Bidding Period</i>	Either: <ul style="list-style-type: none"> <li data-bbox="794 465 1437 808">(a) an off-peak bidding period if it relates to: <ul style="list-style-type: none"> <li data-bbox="906 533 1437 607">(i) the time interval 00.00 hours to 07.59 hours; or <li data-bbox="906 629 1437 808">(ii) the time interval 22.00 hours to 23.59 hours, (together the “Off Peak Bidding Period”); or <li data-bbox="794 831 1437 949">(b) a peak bidding period if it relates to the time interval 08.00 to 21.59 hours (“Peak Bidding Period”).
<i>Bidding Window</i>	The twenty-four (24) hour period where Bidding NEDA Participants may submit Bids for a Trading Day, commencing on Gate Opening and closing on Gate Closure.
<i>Billing Period</i>	A Month for the purposes of Settlement.
<i>Cancelled Start Event</i>	Has the meaning given to the term in rule 24.1.
<i>Cessation Application</i>	Has the meaning given to the term in rule 10.1.
<i>Cessation Approval</i>	Has the meaning given to the term in rule 10.2.
<i>Centrally Dispatched Generation Facility</i>	A Generation Facility connected to either the Grid System or the Distribution Network with a Registered capacity rating of not less than 30 MW and classified as a Centrally Dispatched Generating Facility by the Energy Commission. “ Central Dispatch ” and “ Centrally Dispatched ” shall be construed accordingly.
<i>Cogeneration Plant</i>	A Generation Facility where a single fuel source is used for the simultaneous production of thermal energy and electrical or mechanical energy.

Term	Definition
<i>Day</i>	A calendar day lasting twenty-four (24) hours.
<i>Day Ahead Dispatch Interval</i>	A thirty (30) minute period ending on the hour or on the half hour.
<i>Day Ahead Dispatch Schedule</i>	The finalised schedule for the dispatch of each Generation Facility by each Day Ahead Dispatch Interval for the Trading Day to meet the Day Ahead Load Forecast.
<i>Day Ahead Load Forecast</i>	A day ahead forecast of total electricity sent out to the Grid System to meet customer's demand for the following day.
<i>Default Bid</i>	Has the meaning given to the term in rule 18.1.
<i>Delivery Obligation</i>	The obligation by a NEDA Participant to deliver in a Half-Hour Period in accordance with its successful Bids and the dispatch instructions issued by the Grid System Operator.
<i>De-registration</i>	Has the meaning given to the term in rule 9.1.
<i>Dispatch Instruction</i>	The oral or written instruction or electronic signal communicated to the NEDA Participant by the Grid System Operator directing the Generation Facility to commence, increase, decrease, maintain or cease the generation and delivery of electricity energy into the Grid System.
<i>Dispatched Generators</i>	NEDA Participants that are dispatched by the Grid System Operator in a relevant Half-Hour Period.
<i>Distribution Network</i>	The system consisting (wholly or mainly) of electric lines which are owned or operated by a Distributor and used for the distribution of electricity to electricity consumers or other Distributors in Peninsular Malaysia.
<i>Distributor</i>	A person who is licenced under Section 9 of the Electricity Supply Act 1990 and is connected to the Grid System and distributes electricity for the purpose

Term	Definition
	of enabling a supply to be given to any premises and is registered under the Single Buyer Rules as a Distributor in accordance with the registration process outlined in the Single Buyer Rules.
<i>Draft Rule Change Recommendation</i>	A draft recommendation on a Rule Change provided to the Energy Commission by a Rule Change Panel under rule 33.
<i>Eligible Generator</i>	A Generator that is eligible to participate in NEDA in accordance with the NEDA Rules.
<i>Emergency</i>	An emergency situation requiring immediate action in order to maintain the safety and security of the Grid System and/or Distribution Network.
<i>Energy Commission</i>	Suruhanjaya Tenaga or the Energy Commission established under the Energy Commission Act 2001.
<i>Export Capacity</i>	Energy that is not required for on-site demand or contracted under an existing PPA/SLA and therefore is available for export onto the Grid System and/or Distribution Network and is Registered under NEDA.
<i>Ex-PPA/SLA Generator</i>	A Generator that has previously held a PPA or SLA in respect of a Generation Facility, which has now expired, utilising Power Sector Gas. (For clarity, the term does not include a Generator that has previously held a PPA or SLA which has expired and its fuel supply is not under the Power Sector Gas arrangement)
<i>Failure to Meet Dispatch</i>	Where the electricity exported to the Grid System by an Ex-PPA/SLA Generator or a Large Merchant Generator is less than its Delivery Obligation in that Half-Hour Period.
<i>Fast Start Generator</i>	A Generating Facility of an Ex-PPA/SLA Generator or a Large Merchant Generator which is capable of Two-Shifting.

Term	Definition
<i>Final Rule Change Recommendation</i>	A final recommendation on a Rule Change provided to the Energy Commission by a Rule Change Panel under rule 33.
<i>Firm Participation Date</i>	Has the meaning given to the term in Appendix D.
<i>Forecast System Marginal Price</i>	The price of the most expensive Marginal Generator included in the Day Ahead Dispatch Schedule to meet the Day Ahead Load Forecast in a Half-Hour Period.
<i>Franchise Utility</i>	An electricity network operator which owns and operates on-site generation and holds a Generation Licence issued by the Energy Commission.
<i>Gas Framework Agreement</i>	The agreement between Petronas and Tenaga Nasional Berhad for the supply of natural gas for the purposes of electricity generation.
<i>Gas Supply Agreement</i>	The agreement between Petronas and a Generator for the supply of natural gas to a Generation Facility.
<i>Gate Closure</i>	09.59 hours on the Working Day preceding the Trading Day.
<i>Gate Opening</i>	10.00 hours two (2) Working Days prior to the Trading Day.
<i>Generation Facility</i>	Any plant capable of producing electricity and connected to the Grid System or Distribution Network in Peninsular Malaysia.
<i>Generation Licence</i>	A generation licence issued by the Energy Commission pursuant to Section 9 of the Electricity Supply Act 1990.
<i>Generator</i>	A person who holds a Generation Licence in Peninsular Malaysia.
<i>Grid Owner</i>	The party that owns the high voltage backbone Transmission Network and is responsible for maintaining adequate Grid System capacity in accordance with the provisions of the Malaysian Grid

Term	Definition
	Code and Licence standards and registered as the Grid Owner under the Single Buyer Rules in accordance with the registration process outlined in the Single Buyer Rules.
Grid System	Transmission System in Peninsular Malaysia under the operation and control of the Grid System Operator as prescribed in the Malaysian Grid Code.
Grid System Operator	The entity responsible for operational planning, real time rescheduling, dispatch and control of the Grid System in compliance with the provisions of the Malaysian Grid Code and coordinating all parties connected to the Grid System and registered as the Grid System Operator under the Single Buyer Rules.
GSO Non-Compliance Notice	A notice to be issued by the Grid System Operator where the Ex-PPA/SLA Generator or the Large Merchant Generator has a Failure to Meet Dispatch occur in a Half-Hour Period.
Half-Hour Period	A period of thirty (30) minutes beginning on the hour or the half hour.
Heat Rate	<p>A table containing either:</p> <ul style="list-style-type: none"> (a) for Ex-PPA/SLA Generators, up to ten (10) heat rate points; or (b) for PPA/SLA Generators, such number of heat rate points provided for in the relevant PPA or SLA, <p>expressed in kJ/kWh.</p>
Hydro Plant	Generation Facility where the prime movers and/or driving turbines are driven by water.
Key Information	Has the meaning given to the term in rule 12.1.
Key Information Item	Has the meaning given to the term in Appendix B.
Large Merchant Generator	(a) A Generator with Cogeneration Plant;

Term	Definition
	<p>(b) A Generator with Renewable Plant;</p> <p>(c) A Franchise Utility;</p> <p>(d) A Part-PPA/SLA Generator;</p> <p>(e) An expired PPA/SLA Generator on Own Fuel; or</p> <p>(f) any other Generator with Generation Facility approved by the Energy Commission to participate in NEDA;</p> <p>with an Export Capacity of not less than 30MW who manages its own fuel supply arrangements and does not hold a PPA/SLA with the Grid Owner or a Distributor.</p>
<i>Least Cost Dispatch Scheduling Methodology</i>	A methodology for developing the Dispatch Schedules such that the lowest cost marginal Generation Facility is forecast to be dispatched first to meet demand followed by the next lowest cost marginal Generation Facility until all demand is met.
<i>Licence</i>	A licence issued by the Energy Commission under Section 9 of the Electricity Supply Act 1990.
<i>Malaysian Distribution Code</i>	The document that sets out the principles governing the relationship between the Distributors, the Grid System Operator and all users of the Distribution Network.
<i>Malaysian Grid Code</i>	The document that sets out the principles governing the relationship between the Grid System Operator, the Grid Owner, the Single Buyer and all users of the Grid System, as amended from time to time.
<i>Marginal Generator</i>	Has the meaning given to the term in rule 20.2.
<i>Market Participant Interface or MPI</i>	Has the meaning given to the term in rule 11.1.
<i>Maximum Ramp Down Rate of Generation Facility</i>	The maximum speed at which a Generation Facility is capable of reducing its output, specified as a negative number in MW/min.

Term	Definition
<i>Maximum Ramp Up Rate of Generation Facility</i>	The maximum speed at which a Generation Facility is capable of increasing its output, specified as a positive number in MW/min.
<i>Merchant Generator</i>	All NEDA Participants other than PPA/SLA Generators, including but not limited to Ex-PPA/SLA Generators, Price Takers and Large Merchant Generators.
<i>Metered Output</i>	Active energy (expressed in kWh) delivered to the Grid System or the Distribution Network by a Generation Facility at the delivery point (as may be specified in the Metering Guidelines) as measured by a meter approved for Settlement during Registration, provided at all times that such meters meet the requirements of the Metering Guidelines, the Malaysian Grid Code and/or Malaysian Distribution Code. Where the Generation Facility is situated with on-site load, the Metered Output shall be the net output delivered to the Grid System or the Distribution Network.
<i>Metering Guidelines</i>	Guidelines issued and updated from time to time by the Single Buyer with the approval of the Energy Commission, specifying the requirements to be met by the NEDA Participant in respect of its Generation Facilities' metering equipment for the purposes of Settlement.
<i>Minimum Stable Load</i>	The minimum level of generation required for stable output in respect of a Generation Facility.
<i>Month</i>	A calendar month or, where applicable, a part-calendar month.
<i>Monthly Cap</i>	The cap on the price, Heat Rate and VOR that Bidding NEDA Participants shall not exceed in their Bids, calculated and published by the Single Buyer in accordance with rule 19.5 for the applicable Month.
<i>NEDA</i>	The New Enhanced Dispatch Arrangement for the scheduling and dispatch of generation to enhance short-run competition and improve cost efficiency of generation as prescribed under the NEDA Rules.

Term	Definition
<i>NEDA Rules (or The Rules, or These Rules)</i>	The New Enhanced Dispatch Arrangement Rules which set out the principles and prescribe the guidelines on the operation and the roles, functions, obligations and rights of the Single Buyer, the Grid System Operator, the Grid Owner, the Distributors and the NEDA Participants on NEDA, as amended from time to time.
<i>NEDA Agreement(s)</i>	The agreement(s) between a NEDA Participant and the Single Buyer or the Grid Owner or a Distributor, whichever relevant, whereby the NEDA Rules are given contractual effect and made binding between the relevant parties.
<i>NEDA Participant</i>	PPA/SLA Generators and Merchant Generators.
<i>Non Centrally Dispatched Generation Facility</i>	A Generation Facility connected to either the Transmission System or the Distribution Network with a Registered rating of less than 30 MW and classified as a Non Centrally Dispatched Generation Facility by the Energy Commission. “ Non Central Dispatch ” and “ Non Centrally Dispatched ” shall be construed accordingly.
<i>Own Fuel</i>	All fuel that is not Power Sector Gas.
<i>Part-PPA/SLA Generator</i>	A PPA/SLA Generator that has greater Export Capacity than the capacity contracted under the PPA or SLA, and which registers such additional capacity as a Part PPA/SLA Generator, provided that such additional Registered capacity must be equal to or more than 30 MW.
<i>Petronas</i>	Petroliam Nasional Berhad.
<i>Planned Generation Schedule</i>	The planned generation for a Price Taker’s Generation Facility for a Trading Day based on forecasts and prudent utility practice.
<i>Power Sector Gas</i>	Gas procured under the Gas Supply Agreement by Generators and listed in the Gas Framework Agreement.

Term	Definition
PPA	A power purchase agreement between a Generator and the Single Buyer or the Grid Owner for the supply of electrical energy and ancillary services by the Generator to the Single Buyer.
PPA/SLA Generators	NEDA Participants that hold a PPA or a SLA with the Single Buyer, Grid Owner or a Distributor.
Price as Bid	Has the meaning given to the term in rule 21.
Price Quantity Pair	Each price (in RM/kWh) for a specific quantity of electricity (in MW) in respect of a Generation Facility.
Price Taker	<p>(a) A Generator with Cogeneration Plant;</p> <p>(b) A Generator with Renewable Plant;</p> <p>(c) A Small Franchise Utility;</p> <p>(d) An expired PPA/SLA Generator on Own Fuel; or</p> <p>(e) any other Generation Facility approved by the Energy Commission to participate in NEDA,</p> <p>with an Export Capacity between 100kW and not exceeding 30MW and without a PPA/SLA.</p>
Reference Generator	Means a Generation Facility having the meaning given to the term in rule 19.5.
Registration	Registration of a Generation Facility to participate in NEDA in accordance with part IV and “Registered” should be construed accordingly.
Registration Data	The information provided by a NEDA Participant as part of Registration.
Registered Start-Up Cost	The costs incurred by a Fast Start Generator calculated on the basis of its assessment of the Start-Up Costs, as provided by the Fast Start Generator on Registration.
Registration Amendment	Has the meaning given to the term in rule 8.4.

Term	Definition
<i>Registration Amendment Notice</i>	A request to amend a NEDA Participant's Registration Data provided in accordance with rule 8.
<i>Renewable Plant</i>	A Generation Facility that generates power from renewable resources
<i>Rule Change</i>	The process in relation amending the NEDA Rules, or any such amendment to the NEDA Rules, as set out in part X.
<i>Rule Change Panel</i>	A panel convened by the Energy Commission under rule 31 to provide recommendations on Rule Change Proposals.
<i>Rule Change Proposal</i>	A proposal for amending the NEDA Rules developed in accordance with part X
<i>Settlement</i>	Those processes and procedures for the calculation of payments under relevant PPA/SLA and/or under NEDA Rules.
<i>Settlement Invoice</i>	Has the meaning given to the term in rule 21.4.
<i>Settlement Letter</i>	Has the meaning given to the term in rule 21.7.
<i>Single Buyer</i>	Any person or a unit, department or division forming part of a licensee who is authorised under the Act for management of procurement of electricity and related services, which includes planning, scheduling, procuring and settlement, and registered as the Single Buyer in accordance with the Single Buyer Rules.
<i>Single Buyer Rules</i>	The document that sets out the objectives, roles and functions of the Single Buyer and the roles of other Participants in the Single Buyer market, as amended from time to time.
<i>SLA</i>	A service level agreement between TNB Generation and the Single Buyer or the Grid Owner in respect of a TNB Generation Facility for the supply of electrical energy and ancillary services by the Generation Facility to the Single Buyer.

Term	Definition
<i>Small Franchise Utility</i>	Franchise Utility with an Export Capacity of less than 30MW.
<i>Start-Up Costs</i>	Costs of starting-up a Generation Facility from zero output in order to comply with its Delivery Obligation.
<i>Tenaga Nasional Berhad (TNB)</i>	Tenaga Nasional Berhad, a company incorporated in Malaysia under the Company Act 1965, having its registered office at 129, Jalan Bangsar, 59200 Kuala Lumpur, Malaysia.
<i>Three Month Ahead Dispatch Interval</i>	A period of one (1) hour.
<i>Three Month Ahead Load Forecast</i>	A three month ahead forecast of electricity sent out by the Three Month Ahead Dispatch Interval for each Generation Facility connected to the Grid System in Peninsular Malaysia to meet the corresponding three month ahead electricity demand of electricity consumers.
<i>TNB Distribution</i>	The distribution division of TNB.
<i>TNB Generation</i>	The generation division of TNB.
<i>Trading Data</i>	All relevant data relating to Settlement for a NEDA Participant for a Trading Day, to be provided to the Single Buyer pursuant to rule 21.4
<i>Trading Day</i>	A period from 00.00 to 23.59 in which a NEDA Participant shall meet its Delivery Obligation. It is also referred to as “D Day” in some parts of the Rules.
<i>Transmission System</i>	The system consisting (wholly or mainly) of high voltage electric lines (66kV and above) owned or operated by the Grid Owner and used for the transmission of electricity from one power station to a substation or to another power station or between substations or to or from any external interconnection, and includes any plant, apparatus and meters owned or operated in connection with the transmission of electricity.

Term	Definition
<i>Two-Shifting</i>	A Generation Facility that is capable of starting-up from zero output and shutting down to zero output within twenty-four (24) hours.
<i>Urgent Rule Change Procedure</i>	The procedures undertaken by the Energy Commission under rule 36 to make Rule Change unilaterally, where safety and security of electricity supply, the viability of the electricity supply industry or NEDA Participants, or the achievement of the Energy Commission's objectives under the Electricity Supply Act are threatened.
<i>Variable Operating Rate or VOR</i>	A unit of measurement expressed in RM/kWh.
<i>Week</i>	The seven (7) day period commencing 00.00 hours on Monday and ending at 23.59 hours on Sunday.
<i>Week Ahead Dispatch Interval</i>	A period of one (1) hour.
<i>Week Ahead Dispatch Schedule</i>	A schedule for the dispatch of all Generation Facilities by the Week Ahead Dispatch Interval to meet the Week Ahead Load Forecast.
<i>Week Ahead Load Forecast</i>	A week ahead forecast of total electricity sent out to the Grid System to meet customer's demand for the following week.
<i>Working Day</i>	Any day on which commercial banks are open for business in Kuala Lumpur, Wilayah Persekutuan. Working Days shall not include: public holidays in Kuala Lumpur, Wilayah Persekutuan; Saturdays; or Sundays.

PART III

PRINCIPLES OF NEDA

5. GENERATION SCHEDULING AND DISPATCH ARRANGEMENTS

- 5.1 Under NEDA, the current cost-based bidding system is complemented by introducing an optional price-based bidding by which a NEDA Participant may offer bids in accordance and subject to the NEDA Rules (the “**Bid**”). This will enhance competition in generation dispatch and result in more competitive energy prices.
- 5.2 Scheduling and dispatch under NEDA is similar to existing operations but incorporates Bids made by NEDA Participants in accordance with NEDA Rules and co-optimises PPA/SLA Generators and Merchant Generators at the same time.
- 5.3 If dispatched, the PPA/SLA Generator shall be paid based on the lower of the VOR and Heat Rate specified in the PPA/SLA or any optionally offered VOR and/or Heat Rate provided pursuant to the NEDA Rules and any such approved amendments. All settlement of PPA/SLA Generators shall be under the arrangements, and subject to the rights and obligations, specified in the relevant PPA/SLA. The optional offered VOR and/or Heat Rate may only be of a value less than the VOR and Heat Rate specified in the PPA or SLA.
- 5.4 A Generator may participate in more than one capacity (for example, as a PPA/SLA Generator and as a Part PPA/SLA Generator). Where that is the case, they shall (except to the extent approved by the Energy Commission otherwise) comply with all obligations imposed on them severally in each capacity.
- 5.5 There shall be no violation of contract with existing PPAs/SLAs as, once a PPA/SLA is registered pursuant to the NEDA Rules, the PPA/SLA Generator may choose whether to participate and submit Bids under NEDA.

6. FUEL MANAGERMENTS

- 6.1 All Merchant Generators, other than Ex-PPA/SLA Generators, shall manage their Own Fuel requirements for their Generation Facilities.
- 6.2 Subject to rule 6.4, all Ex-PPA/SLA Generators supplying electricity solely to the designated off taker approved by Energy Commission shall be eligible for Power Sector Gas.
- 6.3 An Ex-PPA/SLA Generator shall specify whether it will be utilising Power Sector Gas or Own Fuel as part of Registration requirements.
- 6.4 An Ex-PPA/SLA Generator shall obtain the approval of Energy Commission that it is eligible for Power Sector Gas prior to becoming a NEDA Participant.

- 6.5 An Ex-PPA/SLA Generator shall amend its Registration in order to switch from using Power Sector Gas to managing its Own Fuel requirements.
- 6.6 A re-registration made pursuant to rule 6.5 shall be effective:
- (a) where an Ex-PPA/SLA Generator has provided a Registration Amendment Notice by 1 June in a calendar year, from 1 January of the next calendar year; or
 - (b) where an Ex-PPA/SLA Generator has provided a Registration Amendment Notice after 1 June in a calendar year, from 1 January of the calendar year following the next calendar year.
- 6.7 An Ex-PPA/SLA Generator that switches from utilising Power Sector Gas to Own Fuel and amends its Registration in accordance with rule 6.5 may not switch back to Power Sector Gas.

PART IV

NEDA PARTICIPATION AND REGISTRATION

7. PARTICIPATION IN NEDA

7.1 To participate in NEDA, the Generators shall register with the Energy Commission as a NEDA Participant. The Energy Commission will keep and maintain a register of the NEDA Participant.

7.2 The categories of the NEDA Participants are as follows:

(a) PPA/SLA Generators

(b) Merchant Generators

Merchant Generators consist of the following categories of Generators without a PPA/SLA with the Grid Owner or a Distributor:

(i) Ex-PPA/SLA Generators

This category of Generators consists of expired PPA/SLA Generators supplying power solely to the Grid Owner and approved by Energy Commission on Power Sector Gas.

(ii) Large Merchant Generators

This category of Generators consists of Cogeneration Plants, Part PPA/SLA Generators, expired PPA/SLA Generators on Own Fuel, Franchise Utilities, Renewable Plants, and any other Generation Facilities licenced by the Energy Commission with export capacity of not less than 30MW.

(iii) Price Takers

This category of Generators consists of Cogeneration Plants, Small Franchise Utilities, expired PPA/SLA Generators on Own Fuel, Renewable Plants and any other Generation Facilities licenced by the Energy Commission with export capacity of less than 30MW but not less than 100kW.

7.3 NEDA Participant shall comply with the legal and regulatory requirements in the documents listed in the rule 2.2, where relevant.

7.4 A NEDA Participant may require to provide the Single Buyer with collateral in the form and with the amount as approved by the Energy Commission ahead of making any Bids.

8. REGISTRATION AS NEDA PARTICIPANTS

- 8.1 To participate in NEDA, an Applicant shall:
- (a) possess appropriate Generation Licences issued by the Energy Commission;
 - (b) register with the Energy Commission as NEDA Participants in accordance with the Registration process set out in Appendix D; and
 - (c) have concluded the relevant NEDA Agreement(s).
- 8.2 Applicants shall be responsible for their own costs and expenses incurred in relation to the Registration process.
- 8.3 Each NEDA Participant shall keep the Registration Data relating to it and its relevant Generation Facilities under review to ensure that the Registration Data is accurate and complete.
- 8.4 Where a NEDA Participant wishes to or is required to amend its Registration Data in whole or in part ("**Registration Amendment**"), it shall submit a Registration Amendment Notice to the Energy Commission.
- 8.5 A Registration Amendment Notice shall contain:
- (a) details of the NEDA Participant's existing Registration Data; and
 - (b) details of the NEDA Participant's proposed Registration Data.
- 8.6 Within three (3) Months of receipt of a Registration Amendment Notice, the Energy Commission shall either:
- (a) refuse the Registration Amendment and provide the NEDA Participant with an explanation of why such Registration Amendment is not possible; or
 - (b) approve the Registration Amendment and send the NEDA Participant a Registration Amendment Confirmation.

9. DE-REGISTRATION

- 9.1 The Energy Commission may de-register a Merchant Generator by way of written notice to the relevant Merchant Generator in the following circumstances:
- (a) where a Merchant Generator has not been Available for a period of one (1) calendar year and does not provide satisfactory evidence on request that it will become Available within the following six (6) Months;
 - (b) where a Merchant Generator has not submitted a Bid under NEDA for a period of one (1) calendar year;
 - (c) where a Merchant Generator no longer holds a Generation Licence;
 - (d) where a Merchant Generator has not, in the reasonable opinion of the Energy Commission, complied with the conditions imposed on it by the Single Buyer in relation to the number of GSO Non-Compliance Notices of which it has been the subject pursuant to rule 23.
 - (e) where a Merchant Generator has, in the reasonable opinion of the Energy Commission, materially breached the NEDA Rules and has not rectified such breach within thirty (30) Working

Days of written notice of such breach from the Energy Commission, provided that this shall not preclude the relevant Merchant Generator from raising a Dispute pursuant to the NEDA Rules, and the relevant provisions of the NEDA Rules shall apply for resolution of the Dispute;

- (f) where a Merchant Generator has contravened any regulations, codes, guidelines or directions made under the Act;
 - (g) where a Merchant Generator has failed to secure the compliance and obligations under the titles or approvals of the relevant authorities; or
 - (h) any other circumstance which, in the reasonable opinion of the Energy Commission, justifies de-registration of the relevant Merchant Generator (“**De-registration**”).
- 9.2 The date on which such De-registration shall take effect shall be specified by the Energy Commission in its De-registration notice to the Merchant Generator. The De-registration notice shall also be published on the MPI.
- 9.3 De-registration shall be without prejudice to all liabilities and obligations accrued prior to the date of De-registration specified by the Energy Commission in the notice provided under rule 9.2.
- 9.4 The effect of a De-registration shall be the following:
- (a) the relevant Merchant Generator shall cease to be a NEDA Participant;
 - (b) the Single Buyer shall update the list of NEDA Participants on the MPI, removing the relevant Merchant Generator; and
 - (c) the relevant NEDA Agreement(s) shall be terminated or the Merchant Generator shall cease to be a party to the relevant NEDA Agreement(s) (as applicable).
- 9.5 Following De-registration, an Eligible Generator wishing to participate in NEDA shall be required to complete a new Registration process and, to the extent relevant, enter into the relevant NEDA Agreement(s) in order to participate in NEDA.

10. VOLUNTARILY CEASING TO BE A NEDA PARTICIPANT

- 10.1 Where a Merchant Generator no longer wishes to be a NEDA Participant, it shall apply to the Energy Commission in writing to cease to be a NEDA Participant (“**Cessation Application**”).
- 10.2 The Energy Commission shall, within twenty-eight (28) Working Days after receiving a Cessation Application, approve the Cessation Application by written notice to the Merchant Generator, where it is satisfied that the relevant Merchant Generator should no longer be required to comply with the relevant provisions of the NEDA Rules (“**Cessation Approval**”).
- 10.3 The date on which such cessation shall take effect shall be specified by the Energy Commission in its Cessation Approval notice to the Merchant Generator. The Cessation Approval notice shall also be published on the MPI.
- 10.4 Cessation shall be without prejudice to all liabilities and obligations accrued prior to the date of cessation specified by the Energy Commission in the notice under rule 10.3.
- 10.5 The effect of a Cessation Approval shall be the following:

- (a) the relevant Merchant Generator shall cease to be a NEDA Participant ;
- (b) the Single Buyer shall update the list of NEDA Participants on the MPI, removing the relevant Merchant Generator; and
- (c) the relevant NEDA Agreement(s) shall be terminated or the Merchant Generator shall cease to be a party to the relevant NEDA Agreement(s) (as applicable).

10.6 Following ceasing to be a NEDA Participant, an Eligible Generator wishing to participate in NEDA shall be required to complete a new Registration process and, to the extent relevant, enter into any relevant NEDA Agreement(s) in order to participate in NEDA.

PART V

MARKET PARTICIPATION INTERFACE AND PROVISION OF INFORMATION

11. MARKET PARTICIPANT INTERFACE (MPI)

- 11.1 The Single Buyer will provide a software portal (“**Market Participant Interface**” or “**MPI**”) and make available a virtual location on the World Wide Web for the MPI that is accessible to the NEDA Participants to interface with NEDA.
- 11.2 The Single Buyer will ensure that the MPI:
- (a) is accessible by all NEDA Participants on the World Wide Web;
 - (b) presents data and information clearly;
 - (c) is updated regularly;
 - (d) is adequately resourced, responsive and stable; and
 - (e) utilises access security with respect to each NEDA Participant.
- 11.3 The Single Buyer will, in addition to any other matters specified in the Single Buyer Rules and the NEDA Rules and publish and keep updated the following information on the MPI:
- (a) Registration forms;
 - (b) a list of all NEDA Participants and their capacity within NEDA; and
 - (c) the **Key Information** required by NEDA Participants to prepare their Bid.
- 11.4 The Key Information shall be published by the Single Buyer on the MPI shall include:
- (a) at 12.00 hours one (1) Working Day before each Trading Day, the Forecast System Marginal Price based on the indicative Day Ahead Dispatch Schedule;
 - (b) at 17.00 hours one (1) Working Day before each Trading Day:
 - (i) the Day Ahead Load Forecast used for the Day Ahead Dispatch Schedule; and
 - (ii) the NEDA Participant-specific Day Ahead Dispatch Schedule;
 - (c) on the last Working Day of each Week:
 - (i) the Week Ahead Load Forecast for the following Week; and
 - (ii) one (1) Week in arrears, the Actual System Marginal Price;
 - (d) on the first Working Day of the last Week before the end of each Month, the Price/Heat Rate/VOR caps for the upcoming Month; and
 - (e) whenever required:
 - (i) any Generation, Grid System or Distribution Network constraints; and
 - (ii) any suspension of NEDA.

11.5 The Single Buyer shall provide adequate documentation and reasonable training for NEDA Participants regarding the use of the MPI.

11.6 Each NEDA Participant shall install or have available hardware, equipment and information technology systems that allow it to participate in and use the MPI and shall bear its own costs and expenses in so doing.

12. PUBLICATION OF INFORMATION BY THE SINGLE BUYER

12.1 The Single Buyer shall publish on the MPI each Key Information Items in Appendix B in accordance with the provisions of that Appendix (the “**Key Information Item**”).

12.2 The Single Buyer may publish any additional material or information on the MPI if it reasonably believes it is expedient and necessary to do so for the proper and efficient operation of NEDA.

12.3 Where there is a technical error or defect in the MPI which prevents the Single Buyer from publishing the Key Information or any Key Information Item at the times specified in Appendix B, then the Single Buyer shall use reasonable endeavors to identify an alternative physical or virtual location for the publishing of the Key Information or any Key Information Item.

12.4 If there is any delay in the publishing of the Key Information or Key Information Item at the times specified in Appendix B, the Single Buyer shall notify the Energy Commission and the NEDA Participants of the delay, which notification shall include at a minimum the reason for the delay.

12.5 In the event of any errors in the information provided by the Single Buyer on the MPI, the Single Buyer shall be entitled to correct such information and shall use reasonable endeavors to notify the Energy Commission and the NEDA Participants, via the MPI, of such corrections. NEDA Participants shall notify the Energy Commission and the Single Buyer of any manifest errors they identify as soon as reasonably practicable.

PART VI

BIDDING, SCHEDULING AND DISPATCH

13. SUMMARY OF RULES ON BIDDING

13.1 Detailed Rules on bidding by NEDA Participants are provided below. In summary:

- (a) PPA/SLA Generators and Ex-PPA/SLA Generators may Bid their reduced Heat Rate and/or VOR for each Bidding Period, subject to:
 - (i) in the case of PPA/SLA Generators, a cap being the values specified in the applicable PPA/SLA and in the format specified in the PPA/SLA. Only one VOR value shall be specified for each Bidding Period; and
 - (ii) in the case of Ex-PPA/SLA Generators, the Heat Rate and VOR caps set out in the Monthly Cap applicable at the relevant time. Bids for Heat Rate can specify up to ten (10) points, each point decreasing with increased output, separated by a minimum of 10MW and not be less than the Minimum Stable Load, and shall specify one VOR value for each Bidding Period;
- (b) Large Merchant Generators shall Bid up to ten (10) Price Quantity Pairs for each Bidding Period, each Bid increment separated by a minimum of 10MW and not be less than the Minimum Stable Load and with prices increasing as the quantity increases; and
- (c) Price Takers are not entitled to submit any Bids into NEDA.

14. BIDDING INTO NEDA

14.1 The Bidding **Window** for each Trading Day shall be (in the usual course) be as follows:

Dispatch on (D Day)	Bidding Window opens on (D-2 day)	Gate Closure on (D-1 Day)
Monday from 00.00 hours	Thursday at 10.00 hours	Friday at 9.59 hours
Tuesday from 00.00 hours	Friday at 10.00 hours	Monday at 9.59 hours
Wednesday from 00.00 hours	Monday at 10.00 hours	Tuesday at 9.59 hours
Thursday from 00.00 hours	Tuesday at 10.00 hours	Wednesday at 9.59 hours

Friday from 00.00 hours	Wednesday at 10.00 hours	Thursday at 9.59 hours
Saturday from 00.00 hours	Thursday at 10.00 hours	Friday at 9.59 hours
Sunday from 00.00 hours	Thursday at 10.00 hours	Friday at 9.59 hours

- 14.2 A Price Taker shall submit the planned generation of its Generation Facility for a Trading Day based on forecast and prudent utility practice (the “**Planned Generation Schedule**”) to the Single Buyer by 2:00pm on the Working Day preceding the Trading Day (i.e. on D-1 Day) via the MPI.
- 14.3 The Time Line of the Day Ahead (D-1 Day) Dispatch Schedule is as summarised in Appendix A.
- 14.4 Bids will be limited to the following two **Bidding Periods** in each Trading Day:
- (a) Off Peak: 00.00 hours to 07.59 hours and 22.00 hours to 23.59 hours; and
 - (b) Peak: 08.00 hours to 21.59 hours.
- 14.5 NEDA Participants who are subject to Central Dispatch (the “**Bidding NEDA Participants**”) may submit Bids during the Bidding Window in respect of each Bidding Period of the Trading Day as follows:
- (a) PPA/SLA Generators shall provide a Heat Rate and/or VOR, which shall be lower than the Heat Rate and/or VOR set out in the relevant PPA/SLA;
 - (b) Ex-PPA/SLA Generators shall provide a Heat Rate and/or VOR; and
 - (c) Large Merchant Generators shall provide Price Quantity Pairs.
- 14.6 Bidding NEDA Participants may provide segments of capacity from its Generation Facility at different prices for each Bidding Period provided that each Bid must be for a minimum capacity of 10MW and must not be less than the Minimum Stable Load.
- 14.7 Bidding NEDA Participants shall submit their Bids to the Single Buyer by Gate Closure via the MPI.
- 14.8 Bidding NEDA Participants may update their Bids via the MPI during the Bidding Window up to Gate Closure. There shall be no amendments to the prices included in the Bids submitted after Gate Closure.
- 14.9 Where a Bidding NEDA Participant has confirmed it is Available prior to Gate Closure but does not provide a Bid in accordance with this rule 14, the Default Bid for that Bidding NEDA Participant shall be used to prepare the Day Ahead Dispatch Schedule, for dispatch by the Grid System Operator and for Settlement where dispatched.
- 14.10 The Single Buyer shall update the MPI to reflect Bids received from Bidding NEDA Participants.

15. VALIDATION

- 15.1 The Single Buyer shall review Bids to confirm whether, for each Half-Hour Period, Bids comply with the requirements of the NEDA Rules and any additional validation criteria specified by the Single Buyer from time to time.
- 15.2 The Single Buyer may reject any Bid, in whole or in part, where the Bid:
- (a) does not comply with the requirements of the NEDA Rules (including, for the avoidance of doubt, any guidance issued alongside the NEDA Rules); or
 - (b) would in its view be likely to involve the Single Buyer being in breach of:
 - (i) any duties under legislation or its licence;
 - (ii) the Malaysian Grid Code;
 - (iii) the Malaysian Distribution Code; or
 - (iv) any PPA or SLA.
- 15.3 The Single Buyer shall inform the affected Bidding NEDA Participant via the MPI where a Bid has been rejected and the reason it was rejected. A rejected Bid shall not be considered for the purposes of the Least Cost Dispatch Methodology (a methodology for developing the Dispatch Schedules such that the lowest cost marginal Generation Facility is forecast to be dispatched first to meet demand followed by the next lowest cost marginal Generation Facility until all demand is met).

16. MODIFICATIONS TO AVAILABILITY

- 16.1 A NEDA Participant may modify its Bid for a Trading Day by notice to the Single Buyer in accordance with the MPI before Gate Closure for that Trading Day.
- 16.2 After Gate Closure, a NEDA Participant (other than Price Taker) may modify the Availability of a Generation Facility downwards or upwards (provided that the maximum Availability shall be limited to the Availability included in its Bid) via the MPI:
- (a) one (1) hour prior to the relevant Half-Hour Period of the relevant Delivery Obligation; or
 - (b) where it is not possible to comply with rule 16.2 (a) above, as soon as reasonably practicable prior to the relevant Half-Hour Period of the relevant Delivery Obligation and notify GSO,
- and any failure to modify a Generation Facility's Availability in accordance with this rule 16 shall be subject to the provisions of rule 23.
- 16.3 Any other Bid information may only be modified with the express consent of the Single Buyer.
- 16.4 Where after Gate Closure a NEDA Participant notifies a reduction or an increase in the Availability of a Generation Facility in accordance with rule 14 in respect of any Half-Hour Period of the relevant Trading Day, Settlement shall be on the basis of the actual capacity dispatched by the Grid System Operator.

17. SCHEDULING AND DISPATCH

- 17.1 The Single Buyer shall schedule the NEDA Participants based on a Least Cost Dispatch Scheduling Methodology such that the lowest marginal cost Generation Facility is forecast to be dispatched first to meet demand followed by the next lowest marginal cost Generation Facility until all demand is met as prescribed in the Single Buyer Rules.
- 17.2 The Single Buyer shall prepare and submit the Day Ahead Dispatch Schedule to the Grid System Operator by 12.00 on the Working Day preceding the commencement of the Trading Day.
- 17.3 In preparation of the Day Ahead Dispatch Schedule, the Single Buyer shall take into account the Start-Up Costs in the Bids submitted by Ex-PPA/SLA Generators and Large Merchant Generators with two-shifting Generation Facilities which are capable of starting-up from zero output and shutting down to zero output within twenty-four (24) hours (the **“Fast Start Generators”**).
- 17.4 The Grid System Operator may provide feedback to the Single Buyer on the Day Ahead Dispatch Schedule by 15.00 on the Working Day preceding the commencement of the Trading Day.
- 17.5 The Single Buyer shall prepare, finalise, revise and publish on the MPI the relevant sections of the Day Ahead Dispatch Schedule, which shall take into account the feedback provided by the Grid System Operator, by 17.00 on the Working Day preceding the commencement of the Trading Day.
- 17.6 On the Trading Day, the Grid System Operator will issue dispatch instructions to the NEDA Participants in accordance with the Day Ahead Dispatch Schedule or the latest least cost dispatch schedule produced by the Grid System Operator in accordance with Least Cost Dispatch Scheduling Methodology, taking into account, and subject to:
 - (a) real-time Grid System conditions;
 - (b) its obligations under its Licence and the Malaysian Grid Code; and
 - (c) the latest Bids received from NEDA Participants prior to Gate Closure and the latest Availability declared by NEDA Participants.

18. DEFAULT BID

- 18.1 The Default Bid for a relevant Bidding NEDA Participant shall be:
 - (a) for PPA/SLA Generators, the Heat Rates and VOR set out in the relevant PPA/SLA as recorded in the Registration Data;
 - (b) for Ex-PPA/SLA Generators, the Heat Rates and VOR specified in the Registration Data; and
 - (c) for Large Merchant Generators, the default Price Quantity Pairs submitted in the Registration Data,as may be amended from time to time, provided such amendment has taken effect.
(“Default Bid”)

19. MONTHLY CAP

- 19.1 A Monthly Cap is the cap on the price, Heat Rate and VOR that Bidding NEDA Participants (except PPA/SLA Generators) shall not exceed in the Bids and published by the Single Buyer.
- 19.2 Large Merchant Generators bidding Price Quantity Pairs shall not include prices in their Bids that are higher than the Monthly Cap. Where Bids include prices that are higher than the Monthly Cap, the Bid shall be rejected via the MPI.
- 19.3 Ex-PPA/SLA Generators shall not include Heat Rates or VOR in their Bids that are higher than the Monthly Cap. Where Bids include Heat Rates or VOR that are higher than the Monthly Cap, the Bid shall be rejected via the MPI.
- 19.4 The Monthly Cap shall be published by the Single Buyer on the MPI one (1) Week prior to the start of the Month to which the Monthly Cap relates.
- 19.5 The Single Buyer shall calculate the caps by identifying the most expensive PPA/SLA Generator that:
- (a) is available for dispatch during the relevant Month according to the Three Month Ahead Load Forecast;
 - (b) operates on primary fuel; and
 - (c) for the avoidance of doubt, the reference PPA/SLA Generators for the most expensive Heat Rate and the most expensive VOR may be different PPA/SLA Generators,
- using a simple merit order stack (the “**Reference Generator**”).
- 19.6 Using the Reference Generator’s Heat Rate, VOR and fuel price, the Single Buyer shall calculate the price cap for the purposes of the Monthly Cap, which shall be of:
- Monthly price cap =
- (Monthly Capfor HeatRate× most expensiveprimary fuel price) + Monthly Capfor VOR

20. SYSTEM MARGINAL PRICE

- 20.1 The Single Buyer shall publish the **Forecast System Marginal Price**, which is the price of the most expensive Marginal Generator included in the Day Ahead Schedule to meet the Day Ahead Load Forecast in a Half-Hour Period, based on the current draft of the Day Ahead Dispatch Schedule on the MPI by 12.00 hours on the Working Day preceding the commencement of the Trading Day.
- 20.2 The **Marginal Generator** for the purposes of the calculation of the Forecast System Marginal Price and the Actual System Marginal Price shall be:
- (a) a Centrally Dispatched Generation Facility;
 - (b) not ramping up or down at the Maximum Ramp Up Rate of Generation Facility or Maximum Ramp Down Rate of Generation Facility;
 - (c) not generating at Minimum Stable Load or maximum load;

- (d) not a Hydro Plant;
- (e) not Renewable Plant;
- (f) not a testing unit;
- (g) running under normal industry conditions;
- (h) not a constrained generator due to transmission or fuel constraint;
- (i) not subject to gas curtailment;
- (j) running on primary fuel (i.e. not running on back-up fuel); and
- (k) not a must run plant whether on active power or ancillary service.

20.3 Price Takers shall be paid for the energy delivered to the Grid Owner or a Distributor by a Generation Facility at the delivery point as measured by approved meters (the **“Metered Output”**) at the higher of the Forecast System Marginal Price and the **Actual System Marginal Price**, which is the price of the most expensive Marginal Generator dispatched by the Grid System Operator to meet the actual demand in a Half- Hour Period.

PART VII

SETTLEMENT

21. SETTLEMENT

- 21.1 This part of the Rules on Settlement shall not apply to Settlements for PPA/SLA Generators or Part PPA/SLA Generator in relation to their PPA/SLA contracted capacity, which shall be governed by the terms of their respective PPAs and SLAs, including in relation to Heat Rates and VOR that are Bid lower than the PPA/SLA Heat Rates and VOR.
- 21.2 The Single Buyer shall use information provided by NEDA Participants as part of Registration or contained in Bids for Settlement. It is the responsibility of each NEDA Participant to ensure that any information affecting them is accurate and to notify any identified discrepancies to the Single Buyer as soon as reasonably practicable.
- 21.3 Dispatched Generators shall be paid:
- (a) subject to the Monthly Cap, prices for Metered Output as follows for each type of NEDA Participant:
 - (i) PPA/SLA Generators, at lower of the PPA/SLA Heat Rates and VOR or Heat Rates and VOR as Bid;
 - (ii) Ex-PPA/SLA Generators, the Heat Rates and VOR as Bid;
 - (iii) Large Merchant Generators, the price determined by reference to the Price Quantity Pair as Bid ("**Price as Bid**"); or
 - (iv) Price Takers, the higher of the Forecast System Marginal Price and the Actual System Marginal Price, capped at the Registered capacity; and
 - (b) if the relevant NEDA Participant is a Fast Start Generator and it has been issued with a dispatch instruction by the Grid System Operator to start-up, it shall be paid:
 - (i) its Start-Up Costs as Bid; or
 - (ii) in the event of a Cancelled Start Event, its Registered Start-Up Costs where it has complied with its obligations under rule 24.
- 21.4 Each NEDA Participant shall send an invoice to the Single Buyer (or, in the case of Price Takers, to TNB Distribution) for amounts owed to the NEDA Participant by the Single Buyer in respect of each relevant Billing Period within seven (7) Working Days after the end of the relevant Billing Period, which shall:
- (a) be based on the pricing principles and formulae set out in Appendix C and the Metered Output in each Half-Hour Period provided in rule 21.3;
 - (b) specify the Trading Data (in a format as shall be specified by the Single Buyer from time to time) for that NEDA Participant for each relevant Trading Day, ("**Settlement Invoice**").

- 21.5 For the purpose invoicing under rule 21.4, Large Merchant Generators (excluding Part PPA/SLA Generator) and Price Takers shall use the meter reading obtained from the MPI.
- 21.6 Subject to rule 21.8, rule 21.9 and rule 22, the Single Buyer (or TNB Distribution acting as the agent of the Single Buyer) shall pay the amounts owed to the NEDA Participant in relation to the Billing Period within thirty (30) Days of receipt of the hard copy Settlement Invoice by the Single Buyer (or, in relation to Price Takers, by TNB Distribution).
- 21.7 The Single Buyer (or, in relation to Price Takers, TNB Distribution) shall issue a letter to the relevant NEDA Participant for each relevant Billing Period as soon as reasonably practicable after payment of the amounts owed to the NEDA Participant in relation to the Billing Period by the Single Buyer (or TNB Distribution acting as the agent of the Single Buyer) ("**Settlement Letter**"). The Settlement Letter shall state the amount assessed as payable, including where the Single Buyer (or, in relation to Price Takers, TNB Distribution) disagrees with any information specified in a Settlement Invoice, specifying the amount in dispute and the undisputed amount. For the avoidance of doubt, the amounts paid by the Single Buyer (or, in relation to Price Takers, TNB Distribution) under this rule 21.7 shall be the amount specified in the Settlement Invoice, unless modified by the Settlement Letter.
- 21.8 If any amount in a Settlement Letter is different to the Settlement Invoice, such amount shall be considered to be not agreed and Settlement shall be carried out according to the Single Buyer's (or TNB's Distribution) assessment of the amount owed in the Settlement Letter. Any dispute in relation to a Settlement Invoice shall be raised promptly by the NEDA Participant and in any event within three (3) Months of the date of the Settlement Letter and if the dispute is not raised within that time then the Settlement Letter is taken to have been agreed. Disputes shall be resolved in accordance with NEDA Rules.
- 21.9 The settlement formula is as provided in Appendix C.

22. SET OFF

- 22.1 Where the Single Buyer (or TNB Distribution acting as agent of the Single Buyer) is under an obligation under Single Buyer Rules to make any payment to a NEDA Participant, the Single Buyer or TNB Distribution may (but shall not be obliged to) set off such payment against any amounts the relevant NEDA Participant owes the Single Buyer (or TNB Distribution) in pursuant to the NEDA Rules provided that it is in accordance with and not in violation of the provisions in the PPA/SLA and any other commercial agreements between the NEDA Participant and the Single Buyer or TNB Distribution.
- 22.2 The obligations of the relevant NEDA Participant in respect of any such amounts referred to in rule 22.1 shall be deemed to be satisfied and discharged to the extent of any set-off in accordance with this rule 22.

PART VIII

NON-DISPATCH

23. FAILURE TO MEET DISPATCH BY GENERATOR

- 23.1 Where a Merchant Generator (except Price Taker) has successfully Bid into NEDA and has been issued a Dispatch Instruction but is subject to a Failure to Meet Dispatch, the Grid System Operator shall issue a GSO Non-Compliance Notice to the Merchant Generator and the Single Buyer.
- 23.2 The Single Buyer may conduct an investigation into a Failure to Meet a Dispatch.
- 23.3 The Single Buyer may, following an investigation, impose such conditions as it considers appropriate in the circumstances on continued participation in NEDA by the relevant Merchant Generator. Where a Merchant Generator has failed to comply with its Delivery Obligation, the Single Buyer shall notify the Merchant Generator in writing to make a payment for such non-compliance. Such payment shall not exceed RM 150 (Ringgit One Hundred and Fifty Only) for each MW shortfall in its Delivery Obligation as set out in the GSO Non-Compliance Notice. Such amount shall be set off from the next invoice from that Merchant Generator in accordance with rule 22. The Single Buyer shall inform the Energy Commission of any such non-compliance by the Merchant Generators.

24. NON-DISPATCH BY GSO

- 24.1 A Fast Start Generator shall be paid its Registered Start-Up Costs by the Single Buyer where:
- (a) the Grid System Operator has issued a dispatch instruction for the NEDA Participant to provide its Delivery Obligation; and
 - (b) the Grid System Operator cancels such dispatch instruction after the commencement of start-up of the Generation Facility in accordance with the dispatch instruction given earlier, (the “**Cancelled Start Event**”).
- 24.2 Following a Cancelled Start Event, the Fast Start Generator shall submit an invoice for the Registered Start-Up Costs incurred due to the Cancelled Start Event to the Single Buyer as part of its Settlement Invoice for that Billing Period issued in accordance with part VII.

PART IX

DISPUTE RESOLUTION

25. THE PROCEDURES FOR DISPUTE RESOLUTION

- 25.1 The procedures for raising and resolving disputes concerning the compliance with the NEDA Rules shall be the same and in accordance to the provisions in the Single Buyer Rules.
- 25.2 The Energy Commission may decide to hear and determine a dispute itself or refer the dispute to arbitration by the Kuala Lumpur Regional Centre for Arbitration (KLRC) for mediation or arbitration.

26. APPLICATION OF DISPUTE RESOLUTION PROCESS

- 26.1 The dispute resolution process set out in this part of the Rules does not apply to disputes between NEDA Participants concerning the performance of obligations under the generator contracts.
- 26.2 Subject to rule 26.1, the dispute resolution process set out in this part relates to disputes that may arise between NEDA Participants concerning:
- (a) the application or interpretation of the NEDA Rules;
 - (b) a NEDA Participant's view that the Single Buyer has performed its functions or otherwise acted in a manner that is inconsistent with the Single Buyer Rules and/or NEDA Rules;
 - (c) the Single Buyer's view that a NEDA Participant has acted in a manner that unreasonably prevents the Single Buyer from achieving its objectives under the NEDA Rules; or
 - (d) a NEDA Participant's view that the Single Buyer has performed its functions or otherwise acted in manner that unreasonably discriminates against a NEDA Participant as prescribed in the Single Buyer Rules and/or NEDA Rules.
- 26.3 It is intended that the dispute resolution process set out in this part or implemented in compliance with the NEDA Rules should to the maximum extent possible:
- (a) be simple, quick and inexpensive;
 - (b) preserve or enhance the relationship between the parties to the dispute;
 - (c) take account of the skills and knowledge that are required for the relevant procedure;
 - (d) place emphasis on conflict avoidance; and
 - (e) encourage resolution of disputes without the involvement of the Energy Commission, formal legal representation or reliance on legal procedures.

27. RAISING A DISPUTE

- 27.1 Subject to rule 26.1 and rule 27.2, a dispute relating to any of the matters set out in rule 26.2 may be raised with the Energy Commission by a Participant by serving a statement to the Energy Commission that sets out:
- (a) a brief history of the dispute and the circumstances giving rise to it;
 - (b) a statement of its issues in relation to the dispute, and in particular, how the dispute relates to the matters set out in rule 26.2; and
 - (c) a statement of the actions that have been taken by the parties to the dispute in attempting to resolve the dispute prior to raising it with the Energy Commission.
- 27.2 Prior to raising a dispute with the Energy Commission under rule 27.1, a party to a dispute shall ensure that:
- (a) it has raised the dispute with the other NEDA Participant or NEDA Participants that are party to the dispute; and
 - (b) it has made every attempt to negotiate the dispute in good faith and come to an agreement that resolves the dispute without the involvement of the Energy Commission.
- 27.3 Subject to rule 27.4, where a dispute is raised with it under rule 27.1, the Energy Commission shall within 10 Working Days elect to:
- (a) hear and determine a dispute itself; or
 - (b) refer the dispute for mediation or arbitration by KLRCA.
- 27.4 The Energy Commission shall only hear and determine a dispute itself where:
- (a) doing so would not give rise to a conflict of interest; and
 - (b) it has the necessary expertise to hear and determine the dispute itself.

28. DISPUTES REFERRED TO KLRCA

- 28.1 If the Energy Commission refers the dispute for mediation or arbitration by KLRCA, the Energy Commission shall serve a written notice on the parties to the dispute to that effect and the rules of arbitration of KLRCA shall apply.
- 28.2 Any mediation or arbitration conducted in accordance with rule 28.1 shall be conducted in Kuala Lumpur, in English, by a single mediator or arbitrator in accordance with the laws of Malaysia.

29. DISPUTES HEARD AND DETERMINED BY THE ENERGY COMMISSION

- 29.1 In hearing and determining a dispute raised under rule 27.1 itself, the Energy Commission may:
- (a) request a meeting of the parties to the dispute, either together or separately;

- (b) request parties to the dispute to provide it with any information of the form and type that it considers necessary to assist it in making a decision.
- 29.2 A determination on a dispute may be made by the Energy Commission after consideration of the issues raised under rule 27.1, or any other matters considered relevant by the Energy Commission.
- 29.3 A determination on a dispute by the Energy Commission may require a party to do any or all of the following in such manner and within such time or times as is specified in the decision:
- (a) take specified action;
 - (b) refrain from taking specified action; or
 - (c) pay a monetary amount to another party.
- 29.4 Each party to a dispute that is required by a determination of the Energy Commission to take specified action, to refrain from taking specified action or to pay a monetary amount must:
- (a) do so within such period after being notified of the determination as is specified in the decision; and
 - (b) report to the Energy Commission as soon as practicable after doing so.
- 29.5 Where a dispute is heard by the Energy Commission, the costs of a dispute resolution process shall be recovered from one or both parties to the dispute or in a manner otherwise decided by the Energy Commission. In deciding to allocate costs against one or more parties to a dispute, the Energy Commission may have regard to any relevant matters, including (but not limited to) whether the conduct of a party to the dispute unreasonably prolonged or escalated the dispute or otherwise increased the costs of the proceedings.

PART X

RULE CHANGE

30. RULE CHANGE

- 30.1 The process to be followed in relation to submitting and deciding a Rule Change is similar to the provisions in the Single Buyer Rules.
- 30.2 The Energy Commission may amend the NEDA Rules on its own initiative or in response to a Rule Change Proposal by a NEDA Participant, a Distributor, the Single Buyer, the Grid System Operator, the Grid Owner or other interested persons, which shall be assessed by either the Energy Commission (in the case of minor or urgent amendments to the NEDA Rules) or a standing Rule Change Panel (for all other Rule Change Proposals).
- 30.3 Subject to the following provisions, the Energy Commission may amend the NEDA Rules via a Rule Change:
- (a) if a Rule Change Panel has provided a Final Rule Change Recommendation to the Energy Commission in which it declares that it considers that the Rule Change would better facilitate the objectives and operation of NEDA; or
 - (b) under the Minor Rule Change Procedures specified under rule 34; or
 - (c) under the Urgent Rule Change Procedures specified under rule 35.
- 30.4 The Energy Commission may appoint any person with the relevant experience and expertise in the related matters as required to assist it in coming to a decision on whether or not to make a Rule Change.

31. RULE CHANGE PANEL

- 31.1 The Energy Commission shall convene a standing Rule Change Panel to assess and make recommendations on Rule Change Proposals.
- 31.2 The Rule Change Panel for the NEDA Rules shall be chaired by the Energy Commission and may consist of members appointed by the Energy Commission from any of the following NEDA Participants and organizations:
- (a) at least two but not more than three representatives from PPA/SLA Generators;
 - (b) one representative from Ex-PPA/SLA Generators on power sector gas supply;
 - (c) one representative from Price Takers;
 - (d) one representative from Large Merchant Generators;
 - (e) one representative from the Single Buyer;
 - (f) one representative from the Grid System Operator;
 - (g) one representative from Grid Owner;

- (h) one representative from Distributors;
 - (i) one representative from Energy Commission, excluding the chairman of the panel; and
 - (j) any other independent expert or experts as deemed necessary by the Energy Commission.
- 31.3 In order to be eligible to sit on the Rule Change Panel, a person shall have an understanding of the Electricity Industry and the operation of the Single Buyer market or the capacity to readily acquire such understanding.
- 31.4 The Rule Change Panel may request that the Energy Commission engage independent experts as required to assist the Rule Change Panel in performing its functions in hearing and making decisions on Rule Change Proposals.
- 31.5 The Energy Commission shall provide secretariat support to the Rule Change Panel.
- 31.6 Any costs incurred by the Rule Change Panel in assessing a Rule Change Proposal are to be borne by the Energy Commission.

32. SUBMISSION AND ASSESSMENT OF RULE CHANGE PROPOSAL

- 32.1 Any person may submit a Rule Change Proposal in writing to the Energy Commission, which shall be assessed by either the Energy Commission (in the case of minor or urgent amendments to the NEDA Rules) or a standing Rule Change Panel (for all other Rule Change Proposals).
- 32.2 Each Rule Change Proposal shall:
- (a) set out in sufficient detail the nature and purpose of the Rule Change Proposal;
 - (b) set out the basis upon which the Proposer considers that it would better facilitate the achievement of the objectives as specified in the NEDA Rules;
 - (c) propose detailed drafting suggestions for the relevant chapters and rules of the NEDA Rules which are to be amended or otherwise affected by the Rule Change Proposal; and
 - (d) state the name of the Proposer and the Proposer's Representative.
- 32.3 The Energy Commission shall by the end of 5 Working Days after receipt of a Rule Change Proposal, decide whether it has merit and should be considered for further assessment or should be rejected and publish its decision on the Single Buyer Website.
- 32.4 Pursuant to rule 32.3, if the Energy Commission decides that a Rule Change Proposal should be rejected, then the Energy Commission shall provide a written response to the Proposer outlining its reasons for rejecting the Rule Change Proposal.
- 32.5 Pursuant to rule 32.3, if the Energy Commission decides that the Rule Change Proposal has merit and should be considered for further assessment, then the Energy Commission shall:
- (a) take any additional steps required to convene a Rule Change Panel in accordance with rule 31 to hear and decide upon the Rule Change;

- (b) publish the Rule Change Proposal in its entirety on the Single Buyer Website; and
- (c) circulate the Rule Change Proposal to Participants and any other parties it considers relevant.

33. RECOMMENDATION OF RULE CHANGE

33.1 After consideration of the Rule Change Proposal, the Rule Change Panel shall, by the end of 20 Working Days, provide a Draft Rule Change Recommendation to the Energy Commission. The Draft Rule Change Recommendation shall contain:

- (a) details of the Rule Change Proposal;
- (b) a summary of any submissions received on the Rule Change Proposal;
- (c) a recommended change to the NEDA Rules, based on the Rule Change Proposal and reflecting any amendments that the Rule Change Panel considers necessary to better facilitate the achievement of the objectives of the Single Buyer Rules and/or the NEDA Rules;
- (d) a statement of reasons setting out how the Rule Change Panel considers that the Draft Rule Change Recommendation would better facilitate the achievement of the objectives of the Single Buyer Rules and/or the NEDA Rules; and
- (e) any other matters the Rule Change Panel considers relevant.

33.2 The Draft Rule Change Recommendation shall be published on the Single Buyer Website and the MPI and circulated to Participants and any other parties considered relevant by the Rule Change Panel and provide a deadline for submissions, which must be at least 15 Working Days from the circulation of the Draft Rule Change Recommendation.

33.3 After consideration of any submissions on the Draft Rule Change Recommendation, the Rule Change Panel shall, by the end of 15 Working Days, provide a Final Rule Change Recommendation to the Energy Commission. The Final Rule Change Recommendation shall contain:

- (a) details of the Rule Change Proposal;
- (b) a summary of any submissions received on the Draft Rule Change Recommendation;
- (c) a recommended change to the NEDA Rules, based on the Rule Change Proposal and reflecting any amendments that the Rule Change Panel considers necessary to better facilitate the achievement of the objectives as specified in Single Buyer Rules and /or NEDA Rules;
- (d) a statement of reasons setting out how the Rule Change Panel considers that the Final Rule Change Recommendation would better facilitate the achievement of the objectives as specified in Single Buyer Rules and/or the NEDA Rules;
- (e) proposed drafting to amend the NEDA Rules in accordance with the Rule Change Recommendation; and
- (f) any other matters the Rule Change Panel considers relevant.

The Final Rule Change Recommendation must be provided to the Energy Commission and published on the Single Buyer Website and the MPI.

34. FINAL RULE CHANGE DECISION

- 34.1 After receipt of the Rule Change Panel's Final Rule Change Recommendation, the Energy Commission shall, within 10 Working Days:
- (a) produce a Final Rule Change Decision; or
 - (b) refer the Final Rule Change Recommendation to the Government.
- 34.2 In the event that the Energy Commission decides to refer a Final Rule Change Recommendation to the Government, the Government may direct the Energy Commission to make a Final Rule Change Decision.
- 34.3 A Final Rule Change Decision by the Energy Commission under rule 34.1 or rule 34.2 shall be published on the Single Buyer Website and contain:
- (a) details of the Rule Change Proposal and Rule Change Recommendation;
 - (b) a summary of any submissions or advice from Government received on the Rule Change Recommendation;
 - (c) a decision by the Energy Commission, which either:
 - (i) rejects the Rule Change Recommendation; or
 - (ii) accepts the Rule Change Recommendation, either in its current form or with any revisions that it considers are necessary to better facilitate the achievement of the objectives as specified in the Single Buyer Rules and /or NEDA Rules;
 - (d) in the event that the Energy Commission decides to reject the Rule Change Recommendation, a statement of reasons setting out how the Energy Commission considers that the Rule Change Recommendation would not better facilitate the achievement of the objectives as specified in the Single Buyer Rules and/or NEDA Rules;
 - (e) in the event that the Energy Commission has decided to accept the Draft Rule Change;
 - (i) a statement of reasons setting out how the Energy Commission considers that the Rule Change Recommendation would better facilitate the achievement of the objectives as specified in the Single Buyer Rules and/or the NEDA Rules; and
 - (ii) a revised draft of the NEDA Rules, amended in accordance with its Final Rule Change Decision.

35. MINOR RULE CHANGE PROCEDURES

- 35.1 Where the Energy Commission is of the view that a Rule Change or Rule Change Proposal will not materially impact or disadvantage any NEDA Participant, it may commence Minor Rule Change Procedures to amend the NEDA Rules to address the issue identified.
- 35.2 Under Minor Rule Change Procedures, the Energy Commission may unilaterally amend the NEDA Rules without calling for submissions or referring the Rule Change to the Rule Change Panel or Government.

- 35.3 Any Rule Change via the Minor Rule Change Procedures must be published on the Single Buyer Website and the MPI, accompanied by:
- (a) a statement of reasons setting out the necessity for the Rule Change and how the Energy Commission considers that the Rule Change would address the issue identified; and
 - (b) a revised draft of the NEDA Rules.

36. URGENT RULE CHANGE PROCEDURES

- 36.1 In the event that the Energy Commission becomes aware of a material error in the NEDA Rules, or an event occurs which:
- (a) threatens security of supply;
 - (b) threatens the viability of the Electricity Industry or a NEDA Participant; or
 - (c) would otherwise materially jeopardise the achievement of the Energy Commission's objectives as set out in the Energy Supply Act 1990.
- 36.2 The Energy Commission may commence Urgent Rule Change Procedures to amend the NEDA Rules to address the issue identified.
- 36.3 Under Urgent Rule Change Procedures, the Energy Commission may unilaterally amend the NEDA Rules without calling for submissions or referring the Rule Change to the Rule Change Panel or Government.
- 36.4 Any Rule Change via the Urgent Rule Change Procedures must be published on the Single Buyer Website, accompanied by:
- (a) a statement of reasons setting out the necessity for the Rule Change and how the Energy Commission considers that the Rule Change would address the issue identified under rule 36.1; and
 - (b) a revised draft of the NEDA Rules.

PART XI
APPENDICES

APPENDIX A

TIMELINE OF DAY AHEAD DISPATCH SCHEDULE

Timeline of Day Ahead Dispatch (D-1 Day) Schedule

Time	Task
D-1	Generators with PPA/SLA submit Day Ahead Declaration.
1000hrs	Gate Closure for NEDA Participants to submit Bids for Trading Day. Grid System Operator submits Transmission and Generation Outage Plans. Single Buyer updates Day Ahead Load Forecast.
1030hrs	Nominated gas supplier submits Daily Update Gas Report.
1100hrs	Single Buyer updates dispatch model for all inputs.
1200hrs	Single Buyer prepares Day Ahead Dispatch Schedule and submits it to Grid System Operator for validation. Single Buyer publishes forecasted half-hourly SMP.
1400hrs	Participants who are Price Takers submit their Planned Generation Schedule to Single Buyer.
1500hrs	Grid System Operator provides feedback on Day Ahead Dispatch Schedule.
1700hrs	Single Buyer finalizes the Day Ahead Dispatch Schedule. Single Buyer sends the finalized Day Ahead Dispatch Schedule to Grid System Operator. Single Buyer makes available to Generators their Day Ahead Dispatch Schedule for each of its Generation Facility. Single Buyer publishes Day Ahead Load Forecast.

APPENDIX B

KEY INFORMATION PUBLISHED BY THE SINGLE BUYER

1. KEY INFORMATION

- 1.1 The following Key Information Items shall be published by the Single Buyer on the MPI:
- (a) at 12.00 hours one (1) Working Day before each Trading Day, the Forecast System Marginal Price based on the indicative Day Ahead Dispatch Schedule;
 - (b) at 17.00 hours one (1) Working Day before each Trading Day:
 - (i) the Day Ahead Load Forecast used for the Day Ahead Dispatch Schedule; and
 - (ii) the NEDA Participant-specific Day Ahead Dispatch Schedule;
 - (c) on the last Working Day of each Week:
 - (i) the Week Ahead Load Forecast for the following Week; and
 - (ii) one (1) Week in arrears, the Actual System Marginal Price;
 - (d) on the first Working Day of the last Week before the end of each Month, the Monthly Cap for Price/Heat Rate/VOR for the upcoming Month; and
 - (e) whenever required:
 - (i) any Generation, Grid System or Distribution System constraints; and
 - (ii) any suspension of NEDA,

APPENDIX C

SETTLEMENT FORMULA

Settlements for electricity dispatch under NEDA shall be calculated in accordance with the formula in this Appendix C.

All intermediate calculations under this Appendix C shall be made to five (5) decimal places without rounding and the final product shall be rounded to the second (2nd) decimal place and a figure of five (5) or more in the third (3rd) decimal place shall result in a rounding up of the second (2nd) decimal.

C1. PPA/SLA holders

In accordance with the formula provided in the PPA/SLA subject to the reduced Heat Rates and/or VOR as Bid.

C2. Ex- PPA/SLA holders

Energy Payment

ENERGY PAYMENT	$EP = FP + (VOR \times MO)$
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where:

- EP = the Energy Payment (in RM) for the Generating Facility in such Billing Period;
- FP = the fuel payment (in RM) for the metered output delivered from the Generating Facility in such Billing Period as determined in accordance with Attachment A of this Appendix C;
- MO = the Metered Output (in kWh) delivered from the Generating Facility in such Billing Period;
- VOR = the Variable Operating Rate (in RM/kWh) for that Billing Period;

C3. Large Merchant Generators

Energy Payment

ENERGY PAYMENT	$EP = PB \times MO$
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where:

- EP = the Energy Payment (in RM) for the Generating Facility in such Billing Period.
- PB = the applicable Price as Bid (in RM/kWh) as determined in accordance with Attachment B of this Appendix C; and
- MO = the Metered Output (in kWh) delivered from the Generating Facility in such Billing Period.

C4. Price Takers

Energy Payment

ENERGY PAYMENT	EP = SMP x MO
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where:

- EP = the Energy Payment (in RM) for the Generating Facility in such Billing Period;
- SMP = higher of the Actual System Marginal Price and Forecast System Marginal Price based on the Day Ahead Dispatch Schedule (in RM/kWh) in such Billing Period as determined in accordance with Attachment C of this Appendix C;
- MO = the Metered Output (in kWh) delivered from the Generating Facility in such Billing Period, capped at the Export Capacity.

ATTACHMENT A OF APPENDIX C

CALCULATION OF FUEL PAYMENT FOR EX-PPA/SLA HOLDERS

CA.1 General

- (a) NEDA Participant will experience variations in fuel consumption efficiency at various operating levels. Accordingly, to reflect the varying fuel consumption efficiencies NEDA Participant will experience at reduced operating levels caused by GSO Despatch in accordance with this Agreement, a fuel payment (**FP**) which reflects the effect of the reduced operating level on fuel consumption efficiency shall be calculated for each Billing Period.
- (b) The heat rate value to be used in the calculation of FP during any half (1/2) hour of operation is referred to as HR_i.

CA.2 Calculation Guidelines

For the purpose of determining the fuel payment for the Billing Period (i.e. FP), the principles outlined above are applied as follows:

(A) Fuel Payment for each day in a Billing Period

- (a) NEDA Participant shall provide TNB with a schedule, set out in a format similar to the following table, for the Generating Facility for each day of a Billing Period.

Index i	Applicable Time (Peak / Off Peak)	T (mins)	Metered Output (MO) (in kWh)	Operating Level (DL) (MW)	Fuel Price E _i (RM/GJ)	Applicable Heat Rate HR _i (kJ/kWh)	Fuel Payment FP (RM)
1	0:00 – 0:30						
2	0:30 – 1:00						
3	1:00 – 1:30						
4	1:30 – 2:00						
	↓						
48	23:30 – 24:00						

- (b) For the Generating Facility, the fuel payment for each day of a Billing Period is determined as follows:

$$FP(\text{daily}) = \frac{\sum_{i=1}^{48} (E_i \times HR_i \times MO_i)}{1,000,000}$$

- (c) The terms used in this CA.2(A)(b) shall have the meanings set out below for which the fuel payment is being determined:

MO_i = the Metered Output (in kWh) from the Generating Facility during the Half-Hour Period;

DL = the operating level of the Generating Facility (in MW) after giving effect to any Dispatch, where for each half hour period *i*;

$$DL = \frac{MO_i \times 60}{1000 \times T}$$

where T is the period (in minutes) not exceeding thirty (30) minutes from the start of such half hour period *i* during which the Generating Facility is delivering MO_i;

i = an index referring to each half hour period of each day of the Billing Period;

E_i = the fuel price for the half hour period *i* (in RM/GJ) in accordance to the Gas Framework Agreement;

FP(daily) = the fuel payment (in RM) for the Generating Facility applicable for a given day of the Billing Period;

HR_i = the heat rate for the Generating Facility applicable for the half hour period *i* (in kJ/kWh) and the offer submission determines the end value for the band range.

(B) Fuel Payment for a Billing Period

The fuel payment for a Billing Period (FP) shall be the aggregate of the fuel payment for each day in that Billing Period calculated in accordance with this CA.2(A).

ATTACHMENT B OF APPENDIX C

CALCULATION OF ENERGY PAYMENT FOR LARGE MERCHANT GENERATORS

CB.1 Calculation Guidelines

For the purpose of determining the Energy Payment for the Billing Period (i.e. EP), the principles outlined above are applied as follows:

Energy Payment for each day in a Billing Period

- (a) NEDA Participant shall provide TNB with a schedule, set out in a format similar to the following table, for the Generating Facility for each day of a Billing Period.

Index i	Period	Applicable Time (Peak / Off Peak)	Metered Output (MO) (in kWh)	Applicable Block	Applicable Load Level (MW)	Applicable Price as Bid, PB (RM/kWh)	Energy Payment EP (RM)
1	0:00 – 0:30						
2	0:30 – 1:00						
3	1:00 – 1:30						
4	1:30 – 2:00						
	↓						
48	23:30 – 24:00						

- (b) For the Generating Facility, the Energy Payment for each Trading Day of a Billing Period is determined as follows:

$$EP(\text{daily}) = \frac{\sum_{i=1}^{48} (PB_i \times MO_i)}{1,000,000}$$

MO_i = the Metered Output (in kWh) from the Generating Facility during the Half-Hour Period i;

i = an index referring to each Half-Hour Period of each Trading Day of the Billing Period;

PBi = the applicable Price as Bid for the Half-Hour Period i (in RM/kWh) as determined in applicable Price Quantity Pair;

Price Quantity Pair =

Price Quantity Pair	Date	Applicable Period	Applicable Time	Block	Load (MW)	Price as Bid (RM/kWh)
	1-Aug-16	Peak / Off Peak	0800-2159hrs (Peak) / 00:00 – 07:59 & 22:00 – 23:59 (Off Peak)	1	0 – 49.99	0.123
				2	50 – 99.99	0.124
				3	100 -149.99	0.125
				4	150 -199.99	0.126
				5	200 – 249.99	0.127
				6	250 – 299.99	0.128
				7	300 – 349.99	0.129
				8	350 – 399.99	0.130
				9	400 – 449.99	0.131
10				450 - 500	0.132	

ATTACHMENT C OF APPENDIX C

CALCULATION OF ENERGY PAYMENT FOR PRICE TAKERS

CC.1 Calculation Guidelines

For the purpose of determining the Energy Payment for the Billing Period (i.e. EP), the principles outlined above are applied as follows:

Energy Payment for each day in a Billing Period

- (a) NEDA Participant shall provide TNB with a schedule, set out in a format similar to the following table, for the Generating Facility for each day of a Billing Period.

Index i	Period	Metered Output (MO) (in kWh)	Forecast System Marginal Price (RM/kWh)	Actual System Marginal Price (RM/kWh)	Applicable SMP, SMPi (RM/kWh)	Energy Payment EP (RM)
1	0:00 – 0:30					
2	0:30 – 1:00					
3	1:00 – 1:30					
4	1:30 – 2:00					
	↓					
48	23:30 – 24:00					

- (b) For the Generating Facility, the Energy Payment for each Trading Day of a Billing Period is determined as follows:

$$EP(\text{daily}) = \frac{\sum_{i=1}^{48} (SMP_i \times MO_i)}{1,000,000}$$

where

MO_i = the Metered Output (in kWh) from the Generating Facility during the Half-Hour Period i;

- i = an index referring to each Half-Hour Period of each Trading Day of the Billing Period;
- SMP = higher of the Actual System Marginal Price and Forecast System Marginal Price based on the Day Ahead Dispatch Schedule.
- SMP_i = the applicable SMP for the Half-Hour Period i (in RM/kWh);

APPENDIX D

REGISTRATION PROCESS

1. THE REGISTRATION PROCESS

- 1.0 The Registration process shall be as follows:
 - 1.1 the Applicant shall obtain a copy of the Registration forms from the MPI homepage;
 - 1.2 the Applicant shall return the completed Registration forms (in hard copy and soft copy) to the postal and electronic addresses specified by the Single Buyer from time to time, together with the Registration Data;
 - 1.3 the Single Buyer:
 - (a) shall verify the Registration Data requiring verification by consulting with the Grid System Operator and other relevant parties within three (3) Months from the date of receipt of the Registration Data; and
 - (b) may choose to verify any other Registration Data provided by the Applicant to the extent it considers appropriate, (“**Verification**”);
 - 1.4 the Single Buyer may request that the Applicant provide any further information required by the Single Buyer in order to progress with the Verification and the Applicant shall provide such information within ten (10) Working Days from the date of receipt of such a request;
 - 1.5 following Verification, the Single Buyer shall make a recommendation to the Energy Commission to either:
 - (a) confirm the Registration Data of the Applicant (“**Verification Confirmation**”) and notify the Applicant; or
 - (b) propose that the Energy Commission reject the Registration of the Applicant, stating the reasons why such rejection is recommended (“**Verification Rejection**”);
 - 1.6 the Single Buyer shall notify the Applicant of the Verification Rejection and the Applicant may within twenty (20) Working Days following a Verification Rejection (or such longer time period as may be agreed by the Single Buyer) provide such further information to the Single Buyer in order to allow the Single Buyer to review its Verification recommendation. The Single Buyer shall review its Verification recommendation on the basis of such new information as soon as reasonably practicable and in any event within three (3) Months from the date of receipt of such information. The Single Buyer shall also review its Verification recommendation when directed to do so by the Energy Commission;
 - 1.7 on receipt of a Verification Confirmation, Applicants shall submit Licence Application to Energy Commission in a manner as specified by Energy Commission from time to time.
 - 1.8 on issuance of Verification Confirmation to the Applicants, the Single Buyer shall within twenty (20) Working Days send the relevant NEDA Agreement to the Applicant for execution;

- 1.9 the Applicant shall return the executed relevant NEDA Agreement to the Single Buyer with a copy to the Energy Commission as soon as reasonably practicable. In any event not later than three (3) Months from the date of receipt of the relevant NEDA Agreement by the Applicant and shall provide the Single Buyer with the date on which it will be ready to participate in NEDA within three (3) months from the date of execution of the relevant NEDA Agreement (or such longer or shorter period agreed by the Single Buyer) ("**Estimated Participation Date**");
 - 1.10 upon execution of NEDA Agreement, SB shall create and provide relevant information on NEDA Participant's accounts for the MPI, the settlement and any other requirements to participate in NEDA;
 - 1.11 Upon receiving the Generation Licence from Energy Commission, the Participant shall within 10 working days send a copy to Single Buyer for issuance of firm participation notice; and
 - 1.12 Upon receipt of a copy of Generation Licence from the Participant, the Single Buyer shall issue a firm participation notice confirming the date on which the NEDA Participant may commence Bidding under the NEDA from that date ("**Firm Participation Date**").
- 2.0 The Registration Data shall comprise of but not limited to the following:
- 2.1 confirmation from the Applicant that the relevant Generating Facility has met the pre-requisites as follows:
 - (a) Sufficient land rights for the ongoing operation of the Generation Facility over the site where the Generation Facility is situated;
 - (b) sufficient fuel arrangements in place at the Generation Facilities to enable participation in NEDA up to its full Export Capacity, including where an Ex-PPA/SLA Generator is not utilising Own Fuel that it is in receipt of Power Sector Gas;
 - (c) accurate metering installed and operational, and confirmed as adequate for Settlement purposes by the Single Buyer in accordance with the Metering Guidelines;
 - (d) an interconnection point with capacity for export onto the Grid System or Distribution Network for its full Export Capacity;
 - (e) for Grid System connected Generation Facilities, submitted an endorsement from the Grid Owner that it has successfully completed a power system study and received a commissioning test certificate from the Energy Commission;
 - (f) for Distribution Network connected Generation Facilities, submitted an endorsement from TNB Distribution that it has successfully completed a power system study;
 - (g) no material on-going disputes and is not in default under any material agreement required for the ongoing operation of the Generation Facility;
 - 2.2 the Applicant has the corporate authority to bind the relevant Generation Facility and to become a NEDA Participant.
 - 2.3 technical information included in the Registration form;
 - 2.4 contact details for communication, service and notification in respect of the Applicant;
 - 2.5 bank details for Settlement and other financial operations in respect of the Applicant; and

- 2.6 confirmation that the Applicant has the corporate authority to bind the relevant Generating Facility and to become a NEDA Participant.
- 3.0 Failure to submit each of the Registration Data in full to the satisfaction of the Single Buyer shall result in a Verification Rejection.
- 4.0 All Applicants shall bear their own cost in relation to Registration including but not limited to any upgrades to their systems or software requirements.

Application for Registration as NEDA Participant

1. All Applicants (existing and expired PPA/SLA Generators, Part-PPA/SLA Generators, Merchant Generators and Price Taker) who wish to participate in the **NEDA** in accordance with the proposed new bidding process under New Enhanced Dispatch Arrangement (NEDA) Rules shall complete the NEDA Registration Form and submit it to Single Buyer (SB) which is representing Suruhanjaya Tenaga (ST) in the **Registration Process** for the purpose of NEDA.
2. The completed application form shall be returned to the following address with a scanned copy emailed to ST and SB to the corresponding address:

Single Buyer
Level 9, Menara PNS, Tower 7, Avenue 7
No 8, Jalan Kerinchi
59200 Wilayah Persekutuan Kuala Lumpur

Email: neda-sb@tnb.com.my
Website: www.singlebuyer.com.my
Phone: (03) 2245 8000
Fax: (03) 2241 1854

3. A scanned copy of the completed registration form shall also be emailed to ST at the following address:

Suruhanjaya Tenaga
Email: neda@st.gov.my

4. Upon receiving a **Verification Confirmation** notice from SB, the data submitted during the **Registration Process** will be considered as **Registration Data**. If there is any deviation from the **Registration Data**, the Applicant is required to immediately submit amendments to the **Registration Data**. Where in the opinion of the ST or SB that the information is insufficient, ST or SB may request additional data from the Applicant.
5. General guideline for completing the form:
 1. Please ensure that **all** fields under “Submitted Data” column are clearly filled.
 2. If the item is **not relevant**, please fill in the “Submitted Data” column as “Not Applicable” or “N/A”.
 3. Failure to comply with no. 1 and 2, the submission is considered as **incomplete** and may not be considered for NEDA registration application.
 4. If there are any additional notes, please use the “Remarks” column. Otherwise, leave as blank.
 5. If in doubt, please refer to the relevant sections of the NEDA Rules, NEDA Registration Process Guideline, Single Buyer Rules (SBR), Malaysian Grid Code (MGC) and Malaysia Distribution Code (MDC) for definitions of terms and further information.

DISCLAIMER

1. It is the responsibility of the Applicant to submit accurate data in relation to its Generating Facility. The Applicant also has the responsibility of immediately notifying any changes to information submitted for Registration during the Registration Process or the Registration Data once it has become a NEDA Participant.
2. ST and SB shall not be held responsible for any consequences which arise from its actions on the basis of such information supplied by any Applicant.
3. ST and SB may disclose the information submitted to the specialists, experts or consultants it may engage in the course of verification process and the Applicant has no objections for such submission.
4. ST and SB may reasonably request additional data to represent correctly the technical parameters or other relevant information in relation to such Generating Facility.
5. ST and SB shall not be liable for any claims, demands, cost, actions, losses and damages suffered by any party (including the Applicant) whatsoever arising out of and in connection with NEDA including claims, demands, cost, actions, losses and damages which may arise as a result of the ST's and SB's reliance on or use of the information provided by the Applicant. The Applicant agrees to indemnify ST and SB from and against all claims, demands, actions and proceedings brought against the ST and SB.

Registration Form

(NEDA_RF 2017.1)

(This form for Registration as an NEDA Participant is issued by the Energy Commission and may be revised as and when necessary. The latest version of the form may be downloaded from the Energy Commission website or the Single Buyer website.)

1. APPLICANT DETAILS

Company / Business Name: _____

Company Registration Number: _____

Registered Business _____

Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

(Preferred Mailing Address, if different than above)

Other Address: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

2. SITE DETAILS

Site Name: _____

Site Description: _____

State/District/ Mukim: _____ Registered Land
Owner: _____

Lot Number: _____ Map: _____

Note: Map to be supplied by Applicant shall be in the format that complies with Grid Owner's Corporate Geospatial Information System (CGIS) (e.g. AutoCAD with Cassini Coordinates).

Please do not leave any item as an empty field. Fill in "N/A" if it is not applicable

PART 1: General Registration Data Requirement

PART 1.1: Category Data

Registration Data	Submitted Data	Remarks
Registration Category (please tick ONE only)		
Centrally Dispatched Generating Facility:		
PPA/SLA Generator	<input type="checkbox"/>	
Expired PPA/SLA Generator	<input type="checkbox"/>	
Large Merchant – Cogeneration Plant	<input type="checkbox"/>	
Large Merchant – Franchise Utility	<input type="checkbox"/>	
Large Merchant – Part PPA/SLA Generator	<input type="checkbox"/>	
Large Merchant – Other Generation Facility	<input type="checkbox"/>	
Non-Centrally Dispatched Generating Facility		
Price Taker – Cogeneration Plant	<input type="checkbox"/>	
Price Taker – Small Renewable Plant	<input type="checkbox"/>	
Price Taker – Small Franchise Utility	<input type="checkbox"/>	
Price Taker – Other Generation Facility	<input type="checkbox"/>	

PART 1.2: Bank Data (for payment by SB)

Registration Data	Submitted Data	Remarks
Bank Name		
Bank's Address		
Account Number		

PART 2: Detailed Registration Data Requirement

PART 2.1: PPA/SLA Generator Data

Registration Data	Submitted Data	Remarks
As per PPA/SLA		

PART 2.2: Expired PPA/SLA Generator Data

Registration Data	Submitted Data	Remarks
Facility name		
Unit number		
Licence Registration number		
Date of : (dd/mm/yyyy)		
Estimated Participation Date		
Retirement (if applicable)		
Generating Unit Type		
Steam coal	<input type="checkbox"/>	
Steam gas	<input type="checkbox"/>	
Open cycle gas turbine	<input type="checkbox"/>	
Combined cycle gas turbine	<input type="checkbox"/>	
Nuclear	<input type="checkbox"/>	
Others (please specify)	<input type="checkbox"/>	
Fuel		
Primary		
Alternate		
For combined cycle gas turbine, please state your plant's configuration		
1GT + 1ST	<input type="checkbox"/>	
2GT + 1ST	<input type="checkbox"/>	
3GT + 1ST	<input type="checkbox"/>	
Others (please specify)	<input type="checkbox"/>	
Technical Parameters tested by Independent Engineer as approved by ST		
Rated/Nameplate Facility capacity (main fuel)		
Max Generation Output* (MW)		
Min Generation Output* (MW)		
Rated/Nameplate Facility capacity (alternate fuel)		
Max Generation Output* (MW)		

Registration Data	Submitted Data	Remarks
Min Generation Output* (MW)		
Technical Heat Rate* (refer to Part 2.2.1)		
Tested Date (dd/mm/yyyy)		
Independent Engineer's Name/Company		
Ramp Rates of Generating Facility		
Maximum Ramp Up Rate* (MW/min)		
Maximum Ramp Down Rate * (MW/min)		
Minimum Up Time* (hours)		
Minimum Down Time* (hours)		
Default Bid Data		
Default Heat Rate	Refer to Part 2.2.2	
Default Variable Operating Rate	Refer to Part 2.2.2	
Start-up Cost (RM per start-up)		
Fuel Arrangement		
Gas Supply Agreement (GSA)		
Effective date (dd/mm/yyyy)		
End date (dd/mm/yyyy)		

*Parameter tested by Independent Engineer as approved by ST

PART 2.2.1: Technical Heat Rate (except for PPA/SLA Generators)

Band	Load (MW)	Heat Rate (kJ/kWh)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PART 2.2.2: Default Heat Rate and VOR (except for PPA/SLA Generators)

Bidding Period :		Off Peak Bidding Period
VOR (RM/kWh):		
Band	Load (MW)	Heat Rate (kJ/kWh)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Bidding Period :		Peak Bidding Period
VOR (RM/kWh):		
Band	Load (MW)	Heat Rate (kJ/kWh)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Note: To specify Load (MW) in two (2) decimal places. Please refer to Registration Form sample in the MPI.

PART 2.3: Large Merchant (“Cogeneration Plant” / “Franchise Utility”/ “Part-PPA/SLA Generator” / “ Other Generation Facility”) Data

Description of Data	Submitted Data	Remarks
Facility name		
Unit number		
Licensing (Type and Registration Number)		
GenerationLicence		
Other co-existing Licences (if any)		
Date of : (dd/mm/yyyy)		
Estimated Participation Date		
Rated/Nameplate Generation Facility capacity		
Max (MW)		
Min (MW)		
Excess capacity to be registered under NEDA (MW)		
Technical Parameters tested by Independent Engineer as approved by ST		
Ramp Rates of Generation Facility		
Maximum Ramp Up Rate* (MW/min)		
Maximum Ramp Down Rate * (MW/min)		
Minimum Up Time* (hours)		
Minimum Down Time* (hours)		
Default Bid Data		
Default Price Quantity Pair (refer to Part 2.3.1)		
Start-up Cost (RM per start-up)		
Fuel Arrangement		
Effective date (dd/mm/yyyy)		
End date (dd/mm/yyyy)		

*Parameter tested by Independent Engineer as approved by ST

PART 2.3.1: Default Price and Quantity Heat Rate (except for PPA/SLA Generators)

Bidding Period:		Off Peak Bidding Period
Band	Quantity (MW)	Price (RM/kWh)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Bidding Period:		Peak Bidding Period
Band	Quantity (MW)	Price (RM/kWh)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Note: To specify Load (MW) in two (2) decimal places. Please refer to Registration Form sample in the MPI.

**PART 2.4: Price Takers (“Cogeneration Plant” / “Small Franchise Utility” /
“Small Renewable Plant” / “ Other Generation Facility”) Data**

Description of Data	Submitted Data	Remarks
Facility name		
Date of : (dd/mm/yyyy)		
Estimated Participation Date		
Licensing (Type and Registration Number)		
Generation Licence		
Other co-existing Licences (if any)		
Export Capacity to be registered under NEDA(MW)		

PART 3: List of Documentation

All copies must be certified true copies.

No.	Item	If Yes, Please tick
1	A copy of Power System Study report	
2	A copy of generation Licence as registered with ST	
3	A copy of acceptance letter from TNB Metering	
4	A copy of Gas Supply Agreement (for Generation Facility under Power Sector Gas)	
5	Proof of approval from TNB & PETRONAS (for Generation Facility under Power Sector Gas)	
6	A copy of fuel supply agreement (for own fuel)	
7	A copy of test report by Independent Engineer (for technical parameters)	

PART 4: Declaration Form

1. I/We declare that I/we have read and understood the terms and conditions set out in the disclaimer.
2. I/We declare that all information provided in this application and in documents submitted is true and correct.

Name: _____ on behalf of Company: _____

Signature: _____ Date: _____

End of Document



**No. 12, Jalan Tun Hussein
Precinct 2**

62100 Putrajaya

Tel : +603 8870 8500

Fax : +603 8888 8637

Web : www.st.gov.my