

Single Buyer Rules

Version 2.0

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1 Introduction

1.1 Single Buyer Rules

- 1.1.1 The Single Buyer Rules govern the operation of the Single Buyer market and conduct of Participants in complying with the Single Buyer Rules.
- 1.1.2 The Single Buyer Rules shall apply in Peninsular Malaysia and shall be governed by the laws of Malaysia.

1.2 Standing of the Single Buyer Rules

- 1.2.1 The Single Buyer 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) regulations, codes, rules, guidelines or directions issued by the Minister or Energy Commission;
 - e) the Licences issued by the Energy Commission under the Electricity Supply Act 1990; and
 - f) the Generator Contracts.
- 1.2.2 In the event of any inconsistency or conflict between the Single Buyer Rules and the documents listed in clause 1.2.1, those documents listed in clause 1.2.1 are to take precedence over the Single Buyer Rules.

1.3 Limitation of liability

- 1.3.1 The Single Buyer shall not incur any liability for an act or omission in the performance, or purported performance, of a function of the Single Buyer under the Single Buyer Rules unless the act or omission is done or made in bad faith or through negligence.

1.4 Derogations for existing contracts or agreements

- 1.4.1 If any contract, agreement or arrangement exists at the date these Single Buyer Rules come 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 Single Buyer Rules in consultation with the Single Buyer and Grid System Operator.
- 1.4.2 If the technical conditions of the specific contract, agreement or arrangement are in line with the provisions of the Single Buyer Rules then the Single Buyer Rules shall prevail.
- 1.4.3 If the technical conditions of the specific contract, agreement or arrangement preclude compliance with certain provisions of the Single Buyer Rules then an

appropriate specific Derogation will be issued to the Participant, by the Energy Commission after consultation with the Single Buyer and Grid System Operator.

- 1.4.4 The provision of a specific technical derogation or exemption does not release the Derogated Party from compliance with all other provisions of the Single Buyer Rules and the provisions of any commercial agreement or from any commercial liability arising from such technical derogation or exemption.

1.5 Conventions

- 1.5.1 In the Single Buyer Rules, unless the contrary intention appears:

- a) a capitalised word or phrase listed in the terms and definitions in Chapter 2 has the meaning given in that Chapter;
- b) the singular includes the plural and the plural includes the singular;
- c) headings are for convenience only and do not affect the interpretation of the Single Buyer Rules;
- d) 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;
- e) a reference to a thing includes the whole and any part of it;
- f) a reference to a clause, chapter or appendix is a reference to a clause, chapter or appendix in the Single Buyer Rules;
- g) “function” includes a function, power, duty, responsibility and authority;
- h) 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.

1.6 Transitional arrangements

- 1.6.1 A Transition Period shall apply to the Single Buyer Rules to enable registration of Participants and enable Participants and the Energy Commission to prepare for compliance with the Single Buyer Rules.

- 1.6.2 The Transition Period shall commence upon approval of the Single Buyer Rules by the Energy Commission (the Transition Commencement Date) and end on the Commencement Date.

- 1.6.3 During the Transition Period, only the provisions of Chapter 3 requiring registration of Participants under the Single Buyer Rules by the Energy Commission shall apply.

- 1.6.4 The Commencement Date of the Single Buyer Rules shall be determined by the Energy Commission and shall be no more than four Months from the Transition Commencement Date, unless otherwise determined by the Energy Commission.

- 1.6.5 Upon the Commencement Date all of the provisions of the Single Buyer Rules shall come into force.

1.6.6 During the Transition Period the Energy Commission shall undertake the following actions:

- a) register Participants under the Single Buyer Rules in accordance with the requirements set out in Chapter 3;
- b) establish the Single Buyer Tariff arrangements by the Energy Commission, as specified in clause 14.2.2;
- c) establish the Rule Change Panel in accordance with the requirements set out in clause 18.3;
- d) make any amendments to the Malaysian Grid Code it considers necessary to avoid duplication between the Single Buyer Rules and Malaysian Grid Code; and
- e) any other actions it considers necessary to ensure it is prepared to comply with and administer the Single Buyer Rules.

2 Terms and definitions

Term	Definition
<i>Aggregate Revised Day Ahead Dispatch Schedule</i>	The forecast of total generation sent out to meet the Day Ahead Load Forecast by each Day Ahead Dispatch Interval.
<i>Aggregate Three Month Ahead Dispatch Schedule</i>	The forecast of total generation sent out to meet the Three Month Ahead Load Forecast by each Three Month Ahead Dispatch Interval.
<i>Aggregate Week Ahead Dispatch Schedules</i>	The forecast of total generation sent out to meet the Week Ahead Load Forecast by each Week Ahead Dispatch Interval.
<i>Apparatus</i>	Any electrical apparatus and includes the device or fitting in which a conductor is used, or of which it forms part of.
<i>Applicable Coal Price</i>	The coal price determined every three months by TNB (as defined in the Power Purchase Agreements) approved by the Energy Commission, to be used for coal based electricity generation in Peninsular Malaysia.
<i>Centrally Dispatched Generating Unit</i>	A Generating Unit connected to either the Transmission Network or the Distribution Network with a nameplate rating of not less than 30 MW and classified as a Centrally Dispatched Generating Unit by the Energy Commission.
<i>Charter</i>	A document, developed by each Single Buyer Working Group and approved by the Energy Commission, providing the detailed scope and objectives of that Single Buyer Working Group.
<i>Coal Supply Committee</i>	The Coal Supply Committee established by the Energy Commission under clause 13.4.1 of the Single Buyer Rules to (among other things) review and assess the adequacy and efficiency of coal supply for electricity generation in Peninsular Malaysia.

Term	Definition
<i>Cogeneration Plant</i>	Generating Units where the prime movers and/or driving turbines are driven by excess heat produced as a by-product from another process.
<i>Cogeneration Usage Plan</i>	The forecast of cogeneration output based on contractual obligations between Grid Owner and operators of Cogeneration Plant.
<i>Commencement Date</i>	The date upon which the entirety of the Single Buyer Rules come into operation, being four Months from the date upon which they are approved by the Energy Commission or any other date as determined by the Energy Commission.
<i>Customer</i>	A person to whom electricity is provided (whether or not he is the same person as the person who provides the electrical power).
<i>Customer Group</i>	A group, or representative of a group, of persons to whom electricity is provided by a Participant.
<i>Daily Availability Declaration</i>	A daily declaration made by each Generator to the Grid System Operator and Single Buyer in relation to the level of availability of his Generating Units for operation, as defined in the Malaysian Grid Code.
<i>Daily Dispatch Variance Report</i>	A daily report submitted to the Single Buyer by the Grid System Operator that compares the actual daily dispatch for each Generating Unit to the forecast daily dispatch based on the Revised Day Ahead Dispatch Schedule.
<i>Daily Heat Rate and Variable Operating Rate Bid</i>	A bid containing a set of heat rates and variable operating rates for a Generator with PPA/SLA that is valid for a specified day or days.
<i>Daily Load Variance Report</i>	A daily report submitted to the Single Buyer by the Grid System Operator that compares the actual daily load to the Revised Day Ahead Load Forecast.

Term	Definition
<i>Daily Operations Review Report</i>	A daily report submitted to the Single Buyer by the Grid System Operator that provides updates to key inputs for the Day Ahead Dispatch Schedule and is used by the Single Buyer to produce the Revised Day Ahead Dispatch Schedule.
<i>Daily Price Bid</i>	A bid containing a set of up to 10 price volume pairs representing the prices a Merchant Generator is prepared to sell energy to the market from one of its own generating units. The bid is valid for one or more specified days
<i>Daily Update Gas Report</i>	The update of daily quantity of gas, as submitted by the Nominated Gas Supplier, available for electricity generation in Peninsular Malaysia for the Day Ahead Dispatch Period.
<i>Day</i>	A calendar day lasting 24 hours.
<i>Day Ahead Dispatch Interval</i>	A 30 minute period ending on the hour or on the half hour.
<i>Day Ahead Dispatch Period</i>	The dispatch period for the Day Ahead Dispatch Schedule as defined under clause 11.3.
<i>Day Ahead Dispatch Schedule</i>	The finalised schedule for the dispatch of each Generating Unit by the Day Ahead Dispatch Interval for the Day Ahead Dispatch Period to meet the Day Ahead Load Forecast.
<i>Day Ahead Generation Outage Plan</i>	A plan prepared by the Grid System Operator that specifies the planned outages for each Generating Unit for the Day Ahead Dispatch Period.
<i>Day Ahead Load Forecast</i>	A day ahead forecast of electricity sent out by each Generating Unit connected to the Grid System to meet the day ahead electricity demand of Customers.
<i>Day Ahead Transmission Outage Plan</i>	A plan prepared by the Grid System Operator that specifies the planned transmission outages for the Day Ahead Dispatch Period.

Term	Definition
<i>Default Price Bid</i>	A bid containing a set of up to 10 price volume pairs representing the prices a Merchant Generator is prepared to sell energy to the market from one of its generating units. The bid can contain from 1 to 7 sets of price volume pairs representing default bids for Sunday/Bank Holiday to Saturday respectively. The default set of price volume pairs will be used whenever the Merchant Generator declares its generating unit is available to generate and where the Generator has not submitted a daily price bid for the generating unit.
<i>Demand Control Plan</i>	A plan developed by the Grid System Operator for demand side response by large Customers or Customer Groups based on the Demand Control procedures set out in Operating Code No. 4 of the Malaysian Grid Code.
<i>Derogated Party</i>	The party subject to a permanent or temporary derogation order issued by the Energy Commission.
<i>Derogation</i>	An order issued by the Energy Commission, after full consultation and agreement with the Single Buyer and Grid System Operator, permanently or temporarily for a strictly defined and specific period permitting the Single Buyer and/or a specific Participant non-compliance with specific provisions of the Single Buyer Rules. The temporary derogation being withdrawn by the Energy Commission after completion of the period and ascertaining of completion of remedy by the Single Buyer or the Participant as the case may be.
<i>Directly Connected Customer</i>	A Customer in Peninsular Malaysia receiving electricity direct from the Transmission Network and registered under clause 3.4 as a Directly Connected Customer in accordance with the registration process outlined in clause 3.11.
<i>Dispatch Schedules</i>	The Day Ahead Dispatch Schedule, the Week Ahead Dispatch Schedule and the Three Month Ahead Dispatch Schedule.
<i>Dispatch Scheduling Model</i>	A computerised model that is capable of calculating the least cost of Week Ahead Dispatch Schedule, Day Ahead Dispatch Schedule and Month Ahead Dispatch Schedule, owned and operated by the Single Buyer.

Term	Definition
<i>Dispatch Scheduling Model Update Date</i>	The Working Day on which the Single Buyer must update the Dispatch Scheduling Model.
<i>Dispatch Scheduling Working Group</i>	The Single Buyer Working Group established under clause 7.6 to review, among other things, the efficiency and effectiveness of the dispatch scheduling procedures performed by the Single Buyer and other Participants in facilitating the achievement of the Single Buyer objectives set out in clause 4.2.
<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 Customers or other Distributors.
<i>Distributor</i>	A person who is licensed under Section 9 of the Electricity Supply Act 1990 and is connected to the Grid System and distributes electricity for the purpose of enabling a supply to be given to any premises and registered under clause 3.7 as a Distributor in accordance with the registration process outlined in clause 3.11.
<i>Draft Day Ahead Dispatch Schedule</i>	A draft schedule for the dispatch for each Generating Unit by the Day Ahead Dispatch Interval for the Day Ahead Dispatch Period to meet the Day Ahead Load Forecast.
<i>Draft Rule Change</i>	A draft document setting out a proposed change to the Single Buyer Rules developed by the Energy Commission, which is based on a Rule Change Proposal and reflecting any amendments that the Energy Commission considers necessary to better facilitate the achievement of the objectives as specified in clause 4.2.
<i>Draft Rule Change Decision</i>	A draft decision by the Energy Commission setting out a proposed change to the Single Buyer Rules and prepared in accordance with clause 18.6.
<i>Draft Rule Change Recommendation</i>	A draft recommendation on a Rule Change Proposal provided to the Energy Commission by a Rule Change Panel under clause 18.6.

Term	Definition
<i>Electricity Industry</i>	All the parties associated with the generation, transmission, distribution and use of electricity and the institutions related to the governance thereof.
<i>Electricity Tariff</i>	The per unit electricity price charged by Distributors to Customers in Peninsular Malaysia.
<i>Energy Commission</i>	Suruhanjaya Tenaga or the Energy Commission established under the Energy Commission Act 2001.
<i>Export and Import Plan</i>	The plan prepared by the Single Buyer which outlines the export and import of electricity to other jurisdictions (including, but not limited to, Singapore and Thailand) or regions connected to the Transmission Network.
<i>External Interconnection</i>	Apparatus for the transmission of electricity to or from the Transmission Network or a Distribution Network into or out of an External System. For the avoidance of doubt, a single External Interconnection may comprise several circuits operating in parallel.
<i>External System</i>	In relation to an Externally Interconnected Party means the transmission or distribution system which it owns or operates which is located outside Peninsular Malaysia and any apparatus or plant which connects that system to the External Interconnection and which is owned or operated by such Externally Interconnected Party.
<i>Externally Interconnected Party</i>	A person who operates an External System which is connected to the Transmission Network or a Distribution Network.
<i>Final Rule Change Decision</i>	A final decision by the Energy Commission, prepared in accordance with clause 18.7, which either: (1) rejects a Draft Rule Change; or (2) accepts a Draft Rule Change, 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 clause 4.2.

Term	Definition
<i>Final Rule Change Recommendation</i>	A final recommendation on a Rule Change Proposal provided to the Energy Commission by a Rule Change Panel under clause 18.7.
<i>Five Year Ahead Dispatch Schedule Report</i>	A report prepared by the Single Buyer detailing the schedule for the dispatch of all Generating Units by the Five Year Ahead Dispatch Interval to meet the Five Year Ahead Load Forecast.
<i>Five Year Ahead Transmission Outage and Development Plan</i>	A plan prepared by the Grid System Operator which specifies the planned Transmission outages for five years ahead.
<i>Five Year Demand and Supply Forecast Report</i>	A report prepared by the Single Buyer that provides an assessment of the adequacy of long term projections of generation capacity to meet demand and any requirements for new capacity based on the Five Year Load Forecast Report and Five Year Ahead Dispatch Schedule Report.
<i>Five Year Generation Planning Report</i>	A report prepared by the Single Buyer as outlined in clause 15.2.6 that specifies the requirement for new generation capacity over a five year forecast period.
<i>Five Year Load Forecast</i>	A five year ahead forecast of electricity sent out by the Three Month Ahead Dispatch Interval for each Generating Unit connected to the Grid System to meet the corresponding five year ahead electricity demand of Customers.
<i>Five Year Load Forecast Report</i>	A report prepared by the Single Buyer detailing the Five Year Load Forecasts and assumptions used in preparing the load forecasts.
<i>Fuel Cost Adjustment</i>	Part of the Imbalance Cost Pass Through Mechanism, which is a six monthly backward-looking adjustment that ensures that the Single Buyer's actual revenue based on its Single Buyer Generation Tariff component equals its actual cost of procuring electricity based on Generator Contracts.

Term	Definition
<i>Fuel Price Adjustment</i>	Part of the Imbalance Cost Pass Through Mechanism, which is a six monthly forward-looking adjustment to the Single Buyer Generation Tariff to account for the expected impact of any known changes in gas and coal prices.
<i>Fuel Price Adjustment Formula</i>	A formula developed by the Energy Commission to implement the Fuel Price Adjustment.
<i>Fuel Price Report</i>	A report produced by the Single Buyer for every six month period of the Regulatory Period setting out any proposed amendment to the Single Buyer Tariff based on its expectations of changes in gas and coal prices.
<i>Gas Supply Committee</i>	A committee established by the Energy Commission to review and assess the adequacy of gas supply for electricity generation in Peninsular Malaysia.
<i>Generating Unit</i>	Any plant capable of producing electricity with a minimum nameplate rating of 30 MW and connected to the Grid System in Peninsular Malaysia, including a CCGT unit.
<i>Generating Unit Operating Data</i>	A complete set of generating characteristics required to prepare the Week Ahead Dispatch Schedule, Day Ahead Dispatch Schedule and Three Month Ahead Dispatch Schedule for each Generating Unit consistent with the terms and conditions of its relevant Generator Contract.
<i>Generator</i>	A person who is licensed under the Electricity Supply Act 1990 to generate electricity in Peninsular Malaysia and registered under clause 3.3 as a Generator in accordance with the registration process outlined in clause 3.11.
<i>Generator Contracts</i>	An agreement for the sale and purchase of electricity between the Grid Owner and a Generator, Externally Interconnected Party or Network Operator, including, but not limited to power purchase agreements and service level agreements.
<i>Generator Daily Dispatch Profile</i>	The forecast daily dispatch by the Day Ahead Dispatch Interval for each Generating Unit of a Generator.

Term	Definition
<i>Generator Dispatch Profile</i>	The dispatch by Dispatch Interval for each Generating Unit of a Generator.
<i>Generator Three Monthly Dispatch Profile</i>	The forecast three monthly dispatch by the Three Month Ahead Dispatch Interval for each Generating Unit of a Generator.
<i>Generator Weekly Dispatch Profile</i>	The forecast weekly dispatch by the Week Ahead Dispatch Interval for each Generating Unit of a Generator.
<i>Generator with PPA/SLA</i>	A Generator with a PPA or SLA.
<i>Grid System</i>	Transmission Network with directly connected Generating Units and Directly Connected Customers as defined in the Malaysian Grid Code.
<i>Grid System Operator</i>	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 clause 3.4 in accordance with the registration process outlined in clause 3.11.
<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 Code and Licence standards and registered as the Grid Owner under clause 3.6 in accordance with the registration process outlined in clause 3.11.
<i>Head of the Single Buyer</i>	A person nominated by TNB and approved by the Energy Commission to oversee the day-to-day operations of the Single Buyer under clause 7.2.
<i>Hydro Plant</i>	Generating Units where the prime movers and/or driving turbines are driven by water.

Term	Definition
<i>Hydro Plant Management Plan</i>	A forecast of hydro generation for storage-based schemes prepared by the Single Buyer based on hydro generation capacity and lake levels.
<i>Imbalance Cost Pass Through Mechanism</i>	The price control mechanism designed by the Energy Commission for making adjustments to the Single Buyer Generation Tariff component of the Single Buyer Tariff and comprising the Fuel Price Adjustment and Fuel Cost Adjustment.
<i>Independent Power Producer</i>	A Generator, other than TNB Generation, with a Generator Contract.
<i>Least Cost Dispatch Scheduling Methodology</i>	A methodology for developing the Dispatch Schedules such that the lowest cost marginal Generating Unit is forecast to be dispatched first to meet demand followed by the next lowest cost marginal Generating Unit 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>Long Term Demand and Supply Working Group</i>	The Single Buyer Working Group established under clause 7.6 to review, among other things, Five Year Load Forecast Report and Ten Year Load Forecast Report produced by the Single Buyer and Five Year Ahead Dispatch Schedule Report and Ten Year Ahead Generation Capacity Report produced by the Single Buyer.
<i>Long Term Demand and Supply Outlook</i>	The Five Year Demand and Supply Forecast Report and/or the Ten Demand and Supply Forecast Report prepared by the Single Buyer.
<i>LOLE</i>	Loss of Load Expectation.
<i>Malaysian Grid Code</i>	A document that sets out the principles governing the relationship between the Grid System Operator, Energy Commission, Grid Owner, Single Buyer and all users of the Grid System.

Term	Definition
<i>Merchant Generator</i>	A Generator with no PPA or SLA.
<i>Merchant Generator Trading Rules</i>	A set of rules for Merchant Generator trading with the market.
<i>Minister</i>	The Minister for the time being charged with the responsibility for matters relating to the supply of electricity.
<i>Month</i>	A calendar month.
<i>Monthly Billed Quantity</i>	Total monthly quantity of kWh billed by each Distributor to its Customers.
<i>National Gas Task Force</i>	The task force convened by the Single Buyer under clause 13.3.2 to manage and monitor the adequacy of gas supply for electricity generation.
<i>Network Operator</i>	A person with a system comprising Generating Units and/or systems consisting (wholly or mainly) or electric lines used for the distribution of electricity, directly connected to the Transmission System to which Customers and/or Generating Units (not forming part of the Grid System) are connected, acting in its capacity as an operator of the system, but shall not include a person acting in the capacity of an Externally Interconnected Party.
<i>Nominated Coal Supplier</i>	A person registered as a Nominated Coal Supplier under clause 3.8 in accordance with the registration process outlined in clause 3.11.
<i>Nominated Gas Supplier</i>	A person registered as a Nominated Gas Supplier under clause 3.9 in accordance with the registration process outlined in clause 3.11.
<i>Non Centrally Dispatched Generating Unit</i>	A Generating Unit connected to either the Transmission Network or the Distribution Network with a nameplate rating of less than 30 MW and classified as a Non Centrally Dispatched Generating Unit by the Energy Commission.

Term	Definition
<i>Non-Working Day</i>	Any day that is not a Working Day.
<i>Operating Code</i>	That Part of the Malaysian Grid Code identified as the Operational Code(s) or Operating Code(s).
<i>Operating Reserve</i>	The additional output from Generating Plant or the reduction in demand, which must be realisable in real time operation to respond in order to contribute to containing and correcting any System Frequency fall to an acceptable level in the event of a loss of generation or imports or mismatch between generation and demand.
<i>Participant</i>	An entity registered by the Energy Commission as a Participant under Chapter 3 with consequent obligations under the Single Buyer Rules.
<i>Power Sector Gas Allocation</i>	The daily quantity of gas allocated by the Government and the Nominated Gas Supplier for electricity generation in Peninsular Malaysia.
<i>Power Sector Gas Allocation Plan</i>	The plan that specifies the daily and annual quantities of gas to be made available by the Nominated Gas Supplier for gas based electricity generation.
<i>Power Sector Gas Price</i>	The Government determined price for gas specified in RM/mmBtu to be applied for gas based electricity generation in Peninsular Malaysia
<i>PPA</i>	A power purchase agreement between an Independent Power Producer and the Single Buyer (TNB) for the supply of electrical energy and ancillary services by the Independent Power Producer to the Single Buyer (TNB).
<i>Price as Bid</i>	The price at which a Merchant Generator offers to sell energy to the market from one of its own generating units.
<i>Probability of Exceedance (POE)</i>	Probability of exceeding a set forecast. In this context, the probability of exceeding a demand forecast.

Term	Definition
<i>Proposer</i>	Any person proposing an amendment to the Single Buyer Rules under clause 18.4.
<i>Proposer's Representative</i>	A person authorised to represent a Proposer in matters related to a Rule Change Proposal.
<i>Qualified Bulk Supply Customer</i>	A customer that meets the conditions as may be prescribed by ST to purchase electricity directly from the Single Buyer.
<i>Kuala Lumpur Regional Centre for Arbitration (KLRC)</i>	The Kuala Lumpur Regional Centre for Arbitration (KLRC) established under the auspices of the Asian-African Legal Consultative Organisation (AALCO).
<i>Regulatory Period</i>	A period set by the Energy Commission during which the Single Buyer, Grid Owner, Grid System Operator and Distributors are subject to a control mechanism developed and administered by the Energy Commission.

Term	Definition
Related Party	<p>As per the Financial Reporting Standard 124 set by the Malaysian Accounting Standards Board (MASB), a Related Party is a person or entity that is related to the entity that is preparing its financial statements (in the Financial Reporting Standard referred to as the 'reporting entity').</p> <p>(a) A person or a close member of that person's family is related to a reporting entity if that person:</p> <ul style="list-style-type: none"> (i) has control or joint control over the reporting entity; (ii) has significant influence over the reporting entity; or (iii) is a member of the key management personnel of the reporting entity or of a parent of the reporting entity. <p>(b) An entity is related to a reporting entity if any of the following conditions applies:</p> <ul style="list-style-type: none"> (i) The entity and the reporting entity are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others). (ii) One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member). (iii) Both entities are joint ventures of the same third party. (iv) One entity is a joint venture of a third entity and the other entity is an associate of the third entity. (v) The entity is a post-employment benefit plan for the benefit of employees of either the reporting entity or an entity related to the reporting entity. If the reporting entity is itself such a plan, the sponsoring employers are also related to the reporting entity. (vi) The entity is controlled or jointly controlled by a person identified in (a). (vii) A person identified in (a)(i) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity).
Renewable Plant	Generating Units that generate power from Renewable Resources, as defined in the Renewable Energy Act 2011.
Renewable Resources	The recurring and non-depleting indigenous resources or technology as set out in the Renewable Energy Act 2011.

Term	Definition
<i>Revised Day Ahead Dispatch Schedule</i>	An amended Day Ahead Dispatch Schedule developed and finalised by 9:00 am on the day of the commencement of the Day Ahead Dispatch Period by the Single Buyer based on the Daily Operations Review Report and Revised Day Ahead Load Forecast.
<i>Revised Day Ahead Load Forecast</i>	An updated Day Ahead Load Forecast developed by the Single Buyer by 8:30 am on the day of the commencement of the Day Ahead Dispatch Period.
<i>Rule Change</i>	The process to be followed by the Energy Commission in relation to amending the Single Buyer Rules, or any such amendment to the Single Buyer Rules, as set out in Chapter 18.
<i>Rule Change Panel</i>	A panel convened by the Energy Commission under clause 18.3 to provide recommendations on Rule Change Proposals.
<i>Rule Change Proposal</i>	A proposal for amending the Single Buyer Rules developed in accordance with clause 18.4.
<i>Settlement</i>	Those processes and procedures for the calculation of payments under relevant Generator Contracts and other agreements for the sale and/or purchase of electricity.
<i>Short Term Supply Adequacy Plan</i>	A plan developed by the Single Buyer for addressing short-term and medium-term supply constraints with respect to the development of the Dispatch Schedules.
<i>Single Buyer</i>	The person authorised by the Energy Commission to be responsible for the management of procurement of electricity and related services, which includes scheduling, procuring and settlement and registered under clause 3.10 as the Single Buyer in accordance with the registration process outlined in clause 3.11.
<i>Single Buyer Accounts</i>	Regulatory accounts produced by the Single Buyer of a form and type specified by the Energy Commission and as set out in clause 6.4.

Term	Definition
<i>Single Buyer Generation Tariff</i>	The Single Buyer Generation Tariff component of the Single Buyer Tariff calculated in accordance with clause 14.3, and comprising all costs to the Single Buyer in purchasing electricity.
<i>Single Buyer Operations Tariff</i>	The Single Buyer Operations Tariff component of the Single Buyer Tariff calculated in accordance with clause 14.4, and comprising all of the operational costs incurred by the Single Buyer in undertaking its roles and performing its functions not covered by the Single Buyer Generation Tariff.
<i>Single Buyer Oversight Panel</i>	The panel convened and chaired by the Energy Commission under clause 7.3 to oversee the compliance of the Single Buyer with the Single Buyer Rules.
<i>Single Buyer Tariff</i>	The tariff charged by the Single Buyer to Distributors calculated in accordance with Chapter 14 and comprising the Single Buyer Generation Tariff and Single Buyer Operations Tariff components.
<i>Single Buyer Rules</i>	A document that sets out the objectives, roles and functions of the Single Buyer and the roles of other Participants in the Single Buyer market and the Energy Commission.
<i>Single Buyer Website</i>	The website maintained jointly by the Single Buyer and the Energy Commission to publish various information concerning the operation of the Single Buyer market as set out in Chapter 19.
<i>Single Buyer Website Working Group</i>	The Single Buyer Working Group established under clause 7.6 to review, among other things, the format and accessibility of the information published on the Single Buyer Website and timelines for publication of such information.
<i>Single Buyer Working Groups</i>	Working groups established by the Single Buyer under clause 7.6 to improve transparency of the Single Buyer functions and improve the operation of the Single Buyer market by reviewing Single Buyer processes and outcomes and recommending changes to procedures and the Single Buyer Rules.

Term	Definition
SLA	A service level agreement between a TNB power station and the Single Buyer (TNB) for the supply of electrical energy and ancillary services by the power station to the Single Buyer (TNB).
Stand-by Fuel	Distillate, diesel, medium fuel oil, or other back-up fuel used for electricity generation.
Stand-by Fuel Monthly Price	The relevant Stand-by Fuel price declared by TNB and/or the Generators to be used for the purpose of scheduling Stand-by Fuel based electricity generation in Peninsular Malaysia.
Stand-by Fuel Usage Plan	The forecast generation output based on using Stand-by Fuel prepared by the Single Buyer consistent with the Month Ahead Load Dispatch Schedule.
System Constraint	Limit on the operation of the Transmission Network due to thermal rating, stability consideration, voltage consideration and other limits.
System Frequency	The number of alternating current cycles per second (expressed in Hertz) at which a Transmission Network is running.
System Marginal Cost	The highest variable cost of dispatching a Generating Unit to meet the: a) Week Ahead Load Forecast for every Week ahead Dispatch Interval; or b) the Day Ahead Load Forecast for every Day Ahead Dispatch Interval
System Marginal Price	System Marginal Price is the variable price of the most expensive generating unit scheduled to meet demand.
System Upgrade Plan	An investment plan to upgrade the Dispatch Scheduling Model.
Tenaga Nasional Berhad (TNB)	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.

Term	Definition
<i>Ten Year Ahead Generation Capacity Report</i>	A report prepared annually by the Single Buyer detailing the adequacy of generation capacity to meet the Ten Year Ahead Load Forecast.
<i>Ten Year Demand and Supply Forecast Report</i>	A report prepared by the Single Buyer that provides an assessment of the adequacy of long term projections of generation capacity to meet demand and any requirements for new capacity based on the Ten Year Load Forecast Report and Ten Year Ahead Generation Capacity Report.
<i>Ten Year Generation Planning Report</i>	A report prepared by the Single Buyer as outlined in clause 15.3.5 that specifies the requirement of new generation capacity over a ten year forecast period.
<i>Ten Year Load Forecast</i>	A ten year ahead forecast of electricity sent out by the Three Month Ahead Dispatch Interval for each Generating Unit connected to the Grid System to meet the corresponding ten year ahead electricity demand of Customers.
<i>Ten Year Load Forecast Report</i>	A report prepared by the Single Buyer detailing the Ten Year Load Forecasts and assumptions used in preparing the load forecasts.
<i>Terms of Reference</i>	A document developed by the Single Buyer setting out the proposed scope and objectives of a Single Buyer Working Group.
<i>Three Month Ahead 10% Probability of Exceedance (POE) Load Forecast</i>	A three month ahead forecast of electricity sent out by the Three Month Ahead Dispatch Interval for each Generating Unit connected to the Grid System based on a 10% probability of maximum electricity sent out exceeding the forecasts for any Three Month Ahead Dispatch Interval.
<i>Three Month Ahead Dispatch Interval</i>	A period of one hour.
<i>Three Month Ahead Dispatch Period</i>	A period of three calendar Months.

Term	Definition
<i>Three Month Ahead Dispatch Schedule</i>	A schedule for the dispatch of all Generating Units by the Three Month Ahead Dispatch Interval to meet the Three Month Ahead Load Forecast
<i>Three Month Ahead Generation Outage Plan</i>	A plan prepared by the Grid System Operator that specifies the planned outages for each Generating Unit for the Three Month Ahead Dispatch Period.
<i>Three Month Ahead High Case Dispatch Schedule</i>	A schedule for the dispatch of all Generating Units by the Three Month Ahead Dispatch Interval to meet the Three Month Ahead 10% POE Load Forecast
<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 Generating Unit connected to the Grid System in Peninsular Malaysia to meet the corresponding three month ahead electricity demand of Customers.
<i>Three Month Ahead Transmission Outages</i>	A plan prepared by the Grid System Operator which specifies the planned Transmission outages for three months ahead
<i>Three Month Ahead Transmission Outage Plan</i>	A plan prepared by the Grid System Operator which specifies the planned outages for each Generating Unit for three months ahead
<i>TNB Generation</i>	The generation division of TNB.
<i>Transition Commencement Date</i>	The date upon which the Single Buyer Rules are approved by the Energy Commission.
<i>Transition Period</i>	A period of four Months (or otherwise determined by the Energy Commission) between the Transition Commencement Date and the Commencement Date, during which only Chapter 3 of the Single Buyer Rules shall apply.

Term	Definition
<i>Transmission Network</i>	The system consisting (wholly or mainly) of high voltage electric lines (66kV and above) and used for the transmission of electricity from one power station to a sub-station or to another power station or between substations or to or from any external interconnection, and includes any plant and apparatus and meters owned or operated in connection with the transmission of electricity.
<i>UNCITRAL Arbitration Rules of 1976</i>	United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules adopted by UNCITRAL on 28 April 1976. The UNCITRAL Arbitration Rules provide a comprehensive set of procedural rules upon which parties may agree for the conduct of arbitral proceedings arising out of their commercial relationship and are widely used in ad hoc arbitrations as well as administered arbitrations. The Rules cover all aspects of the arbitral process, providing a model arbitration clause, setting out procedural rules regarding the appointment of arbitrators and the conduct of arbitral proceedings and establishing rules in relation to the form, effect and interpretation of the award.
<i>Urgent Coal Procedures</i>	The procedures undertaken by the Single Buyer under clause 13.5 in the event of a disruption to planned and expected coal supply.
<i>Urgent Gas Procedures</i>	The procedures undertaken by the Single Buyer under clause 13.3 in the event of a disruption to planned and expected gas supply.
<i>Urgent Rule Change Procedures</i>	The procedures undertaken by the Energy Commission under clause 18.10 to make a Rule Change unilaterally, where security of supply, the viability of the Electricity Industry or Participants, or the achievement of the Energy Commission's objectives under the Energy Supply Act 1990 are threatened.
<i>Week</i>	The 7 day period commencing 00:00 on Monday and ending at 24:00 on Sunday.

Term	Definition
<i>Week Ahead 10% Probability of Exceedance (POE) Load Forecast</i>	A week ahead forecast of electricity sent out by the Week Ahead Dispatch Interval for each Generating Unit connected to the Grid System based on a 10% probability of maximum electricity sent out exceeding the forecasts for any Three Month Ahead Dispatch Interval.
<i>Week Ahead Dispatch Interval</i>	A period of one hour.
<i>Week Ahead Dispatch Schedule</i>	A schedule for the dispatch for each Generating Unit by the Week Ahead Dispatch Interval to meet the Week Ahead Load Forecast
<i>Week Ahead Generation Outage Plan</i>	A plan prepared by the Grid System Operator which specifies the planned outages for each Generating Unit for the Week
<i>Week Ahead High Case Dispatch Schedule</i>	A schedule for the dispatch of all Generating Units by the Week Ahead Dispatch Interval to meet the Week Ahead 10% POE Load Forecast.
<i>Week Ahead Load Forecast</i>	A week ahead forecast of electricity sent out by each Generating Unit connected to the Grid System to meet the week ahead electricity demand of Customers.
<i>Week Ahead Transmission Outage Plan</i>	A plan prepared by the Grid System Operator which specifies the planned Transmission outages for the Week.
<i>Weekly Dispatch Scheduling Model Update Date</i>	The day upon which the Dispatch Scheduling Model is updated to produce the Week Ahead Dispatch Schedule, as specified in clause 10.3.
<i>Working Day</i>	Any week day (other than a Saturday or Sunday) on which banks are open for domestic business in the city of Kuala Lumpur.

Term	Definition
YTL	YTL Power Sdn. Bhd., a company incorporated in Malaysia under the Company Act 1965, having its registered office at Yeoh Tiong Lay Plaza, 55, Jalan Bukit Bintang, 55100 Kuala Lumpur, Malaysia.
YTL Generation Schedule	The generation output for each calendar quarter for the YTL Generator prepared and finalised by the Single Buyer before the start of a calendar quarter pursuant to the Generator Contract between the Grid Owner and YTL.

3 Single Buyer market Participants

3.1 Purpose

3.1.1 This Chapter sets out and describes the various categories of Participant in the Single Buyer market and the Registration procedures. All Participants have different rights and obligations under the Single Buyer Rules and must be registered by the Energy Commission.

3.2 Participants

3.2.1 The different categories of Participant are as follows:

- a) Generator with PPA/SLA;
- b) Merchant Generator;
- c) Directly Connected Customer;
- d) Qualified Bulk Supply Customer;
- e) Grid System Operator;
- f) Grid Owner;
- g) Distributor;
- h) Nominated Coal Supplier;
- i) Nominated Gas Supplier; and
- j) Single Buyer; and
- k) any other party approved by the Energy Commission.

3.3 Generator

3.3.1 A person engaged in the activity of owning, controlling or operating a Generating Unit that is connected to the Transmission Network or Distribution Network shall not be a Participant in the Single Buyer market unless that person is registered as a Generator.

3.3.2 As part of the registration process, every Generator shall classify each of its Generating Units as:

- a) a Centrally Dispatched Generating Unit; or
- b) a Non Centrally Dispatched Generating Unit.

3.3.3 A Generating Unit connected to either the Transmission Network or the Distribution Network with a nameplate rating of not less than 30 MW shall be classified as a Centrally Dispatched Generating Unit, unless the Energy Commission approves its classification as a Non Centrally Dispatched Generating Unit.

- 3.3.4 A Centrally Dispatched Generating Unit shall be scheduled for dispatch based on the Least Cost Dispatch Scheduling Methodology and in accordance with the provisions of the Single Buyer Rules.
- 3.3.5 Upon registration as a Centrally Dispatched Generating Unit, a Generator with PPA/SLA operating a Centrally Dispatched Generating Unit shall provide the Energy Commission with a Generator Contract.
- 3.3.6 Upon registration as a Centrally Dispatched Generating Unit, a Merchant Generator operating a Centrally Dispatched Generating Unit shall provide the Energy Commission with a Default Price Bid and a set of technical parameters that describe the capabilities of the generating unit.
- 3.3.7 A Generating Unit connected to either the Transmission Network or the Distribution Network with a nameplate rating of less than 30 MW shall be classified as a Non Centrally Dispatched Generating Unit, unless the Energy Commission approves its classification as a Centrally Dispatched Generating Unit.
- 3.3.8 A Non Centrally Dispatched Generating Unit need not be dispatched based on the Least Cost Dispatch Scheduling Methodology.

3.4 Directly Connected or Qualified Bulk Supply Customer

- 3.4.1 A person who is directly connected to the Transmission Network (and is not a network operator) shall not be a Participant in the Single Buyer market unless that person is registered as a Directly Connected Customer.
- 3.4.2 A person who is permitted by ST to purchase electricity directly from the Single Buyer shall not be a participant in the Single Buyer market unless that person is registered as a Qualified Bulk Supply Customer. A Directly Connected Customer can be a Qualified Bulk Supply Customer.

3.5 Grid System Operator

- 3.5.1 A person engaged in the activity of real time scheduling, dispatch and control of the Grid System shall not be a Participant in the Single Buyer market unless that person is registered as a Grid System Operator.

3.6 Grid Owner

- 3.6.1 A person engaged in the activity of owning, controlling or operating a Transmission Network shall not be a Participant in the Single Buyer market unless that person is registered as a Grid Owner.

3.7 Distributor

- 3.7.1 A person engaged in the activity of activity of owning, controlling or operating a Distribution Network shall not be a Participant in the Single Buyer market unless that person is registered as a Distributor.

3.8 Nominated Coal Supplier

3.8.1 A person engaged in the activity of supplying coal for electricity generation in Peninsular Malaysia where the annual quantity of coal procured is forecast to exceed one third of the total annual quantity of coal required by the coal Generators for electricity generation in Peninsular Malaysia shall not be a Participant in the Single Buyer market unless that person is registered as a Nominated Coal Supplier.

3.9 Nominated Gas Supplier

3.9.1 A person engaged in the activity of supplying gas for electricity generation in Peninsular Malaysia where the total annual volume of gas sales to the gas Generators is forecast to exceed one third of the total volume of gas required for electricity generation in Peninsular Malaysia shall not be a Participant in the Single Buyer market unless that person is registered as a Nominated Gas Supplier.

3.10 Single Buyer

3.10.1 A person authorised by the Energy Commission to be responsible for the management of procurement of electricity and related services, which includes scheduling, procuring and settlement shall not be a Participant in the Single Buyer market unless that person is registered as a Single Buyer.

3.11 Registration

3.11.1 All Participants that are registered shall comply with the provisions of the Single Buyer Rules that apply to the registered Participant from the Commencement Date.

3.11.2 Applications for registration shall be submitted to the Energy Commission in a form specified by the Energy Commission and must demonstrate the following:

- a) that the potential Participant is willing and able to comply with the relevant obligations of the Single Buyer Rules;
- b) that the potential Participant is not under external administration or under a similar form of administration under any laws applicable to it in any jurisdiction; and
- c) such other matters as the Energy Commission may consider necessary.

3.11.3 The Energy Commission shall within 15 Working Days after receiving an application (or reapplication) for registration either:

- a) approve the registration of the applicant if it is satisfied that the applicant is able to comply with the relevant provisions of the Single Buyer Rules and meets the requirements specified in clause 3.11.2; or
- b) not approve the application for registration and seek further clarification and information from the applicant.

3.11.4 The Energy Commission shall maintain a list of Participants on the Single Buyer Website, and list any newly approved Participants on the Single Buyer Website within three Working Days of approving the registration.

3.11.5 If the Energy Commission determines that an applicant does not meet the eligibility criteria to be registered as a Participant, it shall provide reasons for its determination and publish it on the Single Buyer Website.

3.12 Ceasing to be a Participant

3.12.1 A Participant shall notify the Energy Commission in writing via an application for de-registration if it wishes to cease being a Participant.

3.12.2 The Energy Commission shall within 15 Working Days after receiving an application (or reapplication) for de-registration either:

- a) approve the de-registration of the applicant if it is satisfied that the applicant should no longer be required to comply with the relevant provisions of the Single Buyer Rules; or
- b) not approve the application for de-registration and seek further clarification and information from the applicant.

3.12.3 The Energy Commission shall remove a successful applicant's details from the list of Participants on the Single Buyer Website within three Working Days of approving an application for de-registration.

4 Objectives of the Single Buyer

4.1 Purpose

4.1.1 This Chapter sets out the objectives that the Single Buyer shall seek to achieve in undertaking its roles and performing its functions under the Single Buyer Rules as defined hereinafter.

4.2 Objectives

4.2.1 The objectives of the Single Buyer are as follows:

- a) to minimise the cost of electricity procurement to meet demand, subject to:
 - 1) consistency with the terms of the agreements with Generators;
 - 2) generation and transmission network constraints; and
 - 3) any other requirements relevant to the Single Buyer as specified in the Malaysian Grid Code,
- b) to promote transparency in the procurement of electricity by ensuring that it undertakes its functions in a transparent manner, subject to any constraints imposed by the terms and conditions of generator contracts, Daily Heat Rate and Variable Operating Rate Bids and Daily Price Bids;
- c) to facilitate competition in the generation sector and promote confidence in the Electricity Industry by ensuring that it performs its functions in a fair and balanced manner and in compliance with the Single Buyer Rules; and
- d) to facilitate security of electricity supply by proactively reporting any issues it identifies that may adversely affect security of supply to the Energy Commission.

5 Roles and functions of the Single Buyer

5.1 Purpose

5.1.1 This Chapter sets out the roles of the Single Buyer and each of the functions performed by the Single Buyer in undertaking its roles. The detailed procedure in performing each of the functions is set out in the following Chapters of the Single Buyer Rules.

5.2 Roles of the Single Buyer

5.2.1 The roles of the Single Buyer are as follows:

- a) to procure electricity to meet demand (and related services to meet the Operating Reserve requirements) at least cost;
- b) to facilitate security of electricity supply;
- c) to monitor the adequacy of the supply of fuel to Generators;
- d) to promote transparency in the performance of its functions;
- e) to facilitate competition in the generation sector; and
- f) to promote confidence in the Electricity Industry.

5.3 Role in procuring electricity to meet demand

5.3.1 The Single Buyer shall purchase electricity from Generators on a least cost basis in accordance with the terms and conditions of the Generator Contracts, Daily Heat Rate and Variable Operating Rate Bids and Daily Price Bids and subsequently sell this electricity to Distributors and Qualified Bulk Supply Customers in accordance with the Single Buyer Tariff arrangements as provided for in the Energy Commission's regulatory framework. In procuring electricity the Single Buyer must take into consideration the generation and transmission network constraints and configuration and all relevant system security and safety parameters as specified in the Malaysian Grid Code.

5.3.2 The Single Buyer shall perform the following functions in relation to its role in procuring electricity to meet demand:

- a) produce the Three Month Ahead Dispatch Schedule;
- b) produce the Week Ahead Dispatch Schedule;
- c) produce the Day Ahead Dispatch Schedule;
- d) settle Generators' invoices consistent with the terms and conditions of Generator Contracts, Daily Heat Rate and Variable Operating Rate Bids and Daily Price Bids; and
- e) administer the Single Buyer Tariff consistent with the requirements of the regulatory framework for tariff setting administered by the Energy Commission.

5.4 Role in facilitating security of electricity supply

- 5.4.1 The Single Buyer shall facilitate security of electricity supply by maintaining oversight of demand and supply issues in the performance of its dispatch scheduling functions and in its functions in assessing long term supply and demand conditions. In the event that the Single Buyer becomes aware of any shortfall in generation capacity it shall notify the Energy Commission, prepare a generation planning report and work collaboratively with Participants to address any such shortfall.
- 5.4.2 The Single Buyer shall perform the following functions in relation to its role in facilitating security of electricity supply:
- a) identify any shortfall in the short term adequacy of supply in the preparation of the Three Month Ahead Dispatch Schedule and Week Ahead Dispatch Schedule and notify the Energy Commission as soon as it is aware of such a shortfall;
 - b) develop a Short Term Supply Adequacy Plan for addressing any short term supply constraints;
 - c) produce a Five Year Demand and Supply Forecast Report and Ten Demand and Supply Forecast Report; and
 - d) identify any projected shortfall in generation capacity, prepare a Five Year Generation Planning Report and a Ten Year Generation Planning Report (if required) to identify options for the timing and type of new generation capacity required and immediately notify the Energy Commission of any such shortfall.

5.5 Role in monitoring the adequacy of the supply of fuel

- 5.5.1 The Single Buyer shall monitor the adequacy of the supply of fuel to Generators and notify the Energy Commission of any issues identified, including monitoring the adequacy of gas, coal and hydro levels to meet the Week Ahead Dispatch Schedule and the Three Month Ahead Dispatch Schedule and responding to and monitoring any unplanned curtailment or disruption to the planned supply and delivery of forecast quantities of gas and coal and managing the impact of weather or riparian requirements on Hydro Plants.
- 5.5.2 The Single Buyer shall perform the following functions in relation to its role in monitoring the supply of fuel to Generators:
- a) participate in a Gas Supply Committee to monitor the adequacy of gas supply for electricity generation;
 - b) participate in a Coal Supply Committee to monitor the adequacy of coal supply for electricity generation and the efficiency and effectiveness of coal procurement by the Nominated Coal Supplier;
 - c) develop a plan for the use of Stand-by Fuel to make up for loss of gas based generation or loss of coal based generation; and
 - d) develop an annual Hydro Plant Management Plan to manage hydro generation capacity and lake levels for storage-based schemes and plan for the optimum utilisation of Hydro Plants.

5.6 Role in promoting transparency

- 5.6.1 The Single Buyer shall promote transparency by ensuring that it performs its functions in a transparent and consistent manner. The Single Buyer shall ensure that it publishes information with regard to the performance of its functions and ensure that such information is accurate, concise, understandable and readily accessible to Participants, stakeholders and the general public. The Single Buyer shall also perform its functions in a spirit of collaboration with Participants, ensuring that Participants are given the opportunity to participate in any Single Buyer Working Groups and consultations that the Single Buyer considers are necessary to assist it in performing its functions.
- 5.6.2 The Single Buyer shall perform the following functions in relation to its role in promoting transparency:
- a) develop and maintain the Single Buyer Website. The Single Buyer Website shall publish information with regard to the performance of the Single Buyer functions, including dispatch data, load forecasts, system marginal cost and other relevant information and data as requested by the Energy Commission subject to the confidentiality provisions in the Generator Contracts; and
 - b) establish Single Buyer Working Groups comprising appropriate representatives from Participants and other stakeholder groups. The Single Buyer Working Groups shall review processes and outcomes and recommend Rule Changes where appropriate.

5.7 Role in facilitating competition in the generation sector

- 5.7.1 The Single Buyer shall facilitate competition in the generation sector by performing its functions in relation to the tendering for new capacity in a fair and balanced manner. The Single Buyer shall also ensure that it performs its dispatch functions in a manner that is consistent with principles of least cost and is also consistent with the terms and conditions of Generator Contracts, Daily Heat Rate and Variable Operating Rate Bids and Daily Price Bids as required by the Single Buyer Rules.
- 5.7.2 The Single Buyer shall ensure that it negotiates the terms and conditions of Generator Contracts in a fair and balanced manner that does not unreasonably discriminate against any party and ensures fair and reasonable terms and conditions for participation in the generation sector for all parties.

5.8 Role in promoting confidence in the Electricity Industry

- 5.8.1 The Single Buyer shall promote confidence in the Electricity Industry by performing its functions in relation to the tendering for new capacity in a fair and balanced manner and in compliance with the Single Buyer Rules. The Single Buyer shall identify circumstances where interaction with other divisions and units of TNB may give rise to a conflict of interest, lessening of competition or competitive advantage and implement appropriate operational ring-fencing procedures.
- 5.8.2 The Single Buyer shall perform the following functions in relation to its role in promoting confidence in the Electricity Industry:

- a) ensure its compliance with the Single Buyer Rules, and notify the Energy Commission in the event that it becomes aware of any non-compliance with the Single Buyer Rules, either on the part of the Single Buyer or another Participant to the Single Buyer Rules; and
- b) monitor compliance with the Generator Contracts.

6 Ring-fencing

6.1 Purpose

- 6.1.1 This Chapter sets out the ring-fencing requirements to ensure that the Single Buyer is able to meet its obligations under the Generator Contracts and other agreements for the purchase of electricity from its own ring-fenced accounts and perform its functions in a fair and non-discriminatory manner, promoting competition in the generation sector and confidence in the Electricity Industry.
- 6.1.2 The ring-fencing requirements are also a key aspect of the Energy Commission's regulatory framework and are a fundamental requirement for the establishment of the Single Buyer Tariff arrangements set out in Chapter 14.

6.2 Non-discrimination

- 6.2.1 Subject to clause 6.2.2, in performing its functions under the Single Buyer Rules the Single Buyer shall ensure that it does not make decisions or act in a manner that unreasonably discriminates against any other Participant by:
- a) offering terms and conditions for a Generator Contract that are less favourable than those available to a Related Party; or
 - b) favouring a Related Party in developing the Dispatch Schedules.
- 6.2.2 Subject to clause 6.2.3, the Energy Commission shall decide upon whether behaviour of the Single Buyer is unreasonably discriminatory on a case by case basis. In doing so, the Energy Commission shall have regard to:
- a) the Malaysian Grid Code;
 - b) the Generator Contracts;
 - c) the Single Buyer objectives under clause 4.2; and
 - d) any other matters it considers relevant.
- 6.2.3 Any action required of the Single Buyer under the Malaysian Grid Code or Generator Contracts shall not be deemed to be discriminatory.

6.3 Ring-fencing of operations

- 6.3.1 So long as the Single Buyer is a unit, division, or subsidiary of TNB, then in performing its functions under the Single Buyer Rules, the Single Buyer shall identify circumstances where interaction with other divisions and units of TNB may give rise to a conflict of interest, lessening of competition or competitive advantage and implement appropriate operational ring-fencing procedures to address the potential conflict of interest, lessening of competition or competitive advantage. Such ring-fencing procedures may include, but are not limited to:

- a) limitations on the person or persons responsible for management of the Single Buyer participating in internal TNB meetings or discussions concerning tendering for new generation capacity by TNB Generation;
- b) establishing a work area that is separate from the work areas of other divisions and units within TNB that may obtain a competitive advantage from information held by the Single Buyer with access controls that prevent staff of either the Single Buyer or other divisions or units from entering into the work area of the other;
- c) access controls for the Single Buyer information technology systems so that other users of information technology systems cannot access information held by the Single Buyer that may give rise to a conflict of interest, lessening of competition or competitive advantage.

6.4 Ring-fencing of accounts

- 6.4.1 The Single Buyer shall establish and maintain a separate set of Single Buyer Accounts relating to the performance of its functions as a Single Buyer.
- 6.4.2 The Single Buyer shall prepare the Single Buyer Accounts, which must be signed off by the Head of the Single Buyer and submitted to TNB for approval before submission to the Energy Commission.
- 6.4.3 The Single Buyer Accounts shall be consistent with the requirements of the Energy Commission's regulatory framework and must, at a minimum, include a profit and loss statement and a statement of assets.
- 6.4.4 The profit and loss statement must comprise the following details:
 - a) revenue based on the Single Buyer Tariff, comprising the Single Buyer Generation Tariff and Single Buyer Operations Tariff;
 - b) payments to, and receipts from, Generators based on Generator Contracts and Settlements;
 - c) payments to, and receipts from, other jurisdictions in relation to imports and exports of electricity;
 - d) operating expenditure incurred by the Single Buyer in performing its functions;
 - e) allocation of corporate overheads; and
 - f) book depreciation.
- 6.4.5 The statement of assets must include all Single Buyer Assets, and be able to accurately account for the value, age and useful life of the assets required for the performance of the Single Buyer functions.
- 6.4.6 The statement of assets must be an automatically generated report from TNB financial systems.
- 6.4.7 The Single Buyer Accounts shall be subject to audit at least annually and submitted to the Energy Commission.

6.5 Cost allocation

- 6.5.1 TNB shall ensure that any costs that are shared between the Single Buyer and any other division or business unit within TNB are allocated between these parties in accordance with a cost allocation methodology that has been approved by the Energy Commission, or is otherwise consistent with any cost allocation guidelines developed by the Energy Commission.

6.6 Limits on sharing information

- 6.6.1 The Single Buyer shall ensure that to the extent that it has access to information about other Participants that may give cause to a conflict of interest, lessening of competition or competitive advantage to TNB in either its existing generation activities or when contracting for additional capacity, the Single Buyer shall not divulge this information to any other party, except to the extent required in the performance of its functions under the Single Buyer Rules.
- 6.6.2 The Single Buyer shall not disclose any information that is confidential to TNB or any other party, except to the extent required in the performance of its functions under the Single Buyer Rules.

6.7 Compliance with ring-fencing obligations

- 6.7.1 The Energy Commission may undertake any such actions that it considers necessary to monitor the compliance of the Single Buyer with the ring-fencing principles set out in this Chapter, including, but not limited to:
- a) requiring the Single Buyer to prepare a statement of compliance demonstrating how it is in compliance with the ring-fencing principles;
 - b) issuing guidelines which set out detailed ring-fencing requirements in addition to the principles contained in this Chapter;
 - c) requiring the Single Buyer to furnish it with any such information necessary to satisfy the Energy Commission that the Single Buyer is compliant with the ring-fencing principles.
- 6.7.2 In the event that the Single Buyer is uncertain about the potential for a conflict of interest, lessening of competition or competitive advantage, the Single Buyer shall consult with the Energy Commission to determine whether or not such potential exists.
- 6.7.3 Where the Single Buyer considers that it is unable to comply with the conditions set out in this Chapter, it shall consult with the Energy Commission to determine an appropriate course of action to address any non-compliance or minimise the potential impacts of any non-compliance.

7 Single Buyer governance

7.1 Purpose

7.1.1 This Chapter outlines the governance arrangements for the Single Buyer including independent oversight of the Single Buyer, requirements for the Single Buyer to comply with the Single Buyer Rules, the establishment of Single Buyer Working Groups to add transparency to the Single Buyer functions and the Single Buyer's role in monitoring compliance with the Generator Contracts.

7.2 Appointment of the Head of the Single Buyer

7.2.1 The appointment of the Head of the Single Buyer shall be undertaken in accordance with the requirements of the Electricity Supply Act 1990, the Licence conditions, and any guidelines or directions issued by the Minister or Energy Commission.

7.2.2 In the event that the position of the Head of the Single Buyer is left vacant due to the departure of the incumbent at short notice, or the processes for appointment of the Head of the Single Buyer have not been able to be completed for any reason, the Chief Executive Officer of TNB shall appoint a person to act in the position of the Head of the Single Buyer until the appointment process is completed.

7.2.3 TNB shall establish appropriate reporting arrangements for the Head of the Single Buyer which ensure that:

- a) the Single Buyer is empowered to perform its functions under the Single Buyer Rules in a manner that does not unduly discriminate against any other Participant as specified in clause 6.2; and
- b) any potential conflicts of interest are appropriately addressed.

7.2.4 The terms of employment for the Head of the Single Buyer and the staff of the Single Buyer shall be consistent with TNB's employment policy and appropriate Malaysian benchmarks.

7.2.5 The Head of the Single Buyer shall report directly to the Chief Executive Officer of TNB.

7.3 Single Buyer Oversight Panel

7.3.1 The Energy Commission shall establish and maintain a Single Buyer Oversight Panel to oversee the compliance of the Single Buyer with the Single Buyer Rules.

7.3.2 The Single Buyer Oversight Panel shall be chaired by the Energy Commission, and shall be comprised of suitable members as determined by the Energy Commission.

7.3.3 In selecting members of the Single Buyer Oversight Panel, the Energy Commission shall give due consideration to the requisite skills and qualifications of the members, and any conflicts of interest that might arise in performing the functions of the Single Buyer Oversight Panel.

- 7.3.4 The functions of the Single Buyer Oversight Panel shall include, but not be limited to:
- a) overseeing the compliance of the Single Buyer with the Single Buyer Rules;
 - b) providing advice and issuing guidance to the Single Buyer and Participants on achieving compliance with the Single Buyer Rules;
 - c) reviewing suggestions for amendments to the Single Buyer Rules as required by the Rule Change Panel or Energy Commission;
 - d) recommending changes to procedures and the Single Buyer Rules where it considers that the recommended change would better facilitate the objectives set out in clause 4.2; and
 - e) assisting the Energy Commission in selecting and appointing an external auditor to assess the compliance with under clause 7.4.3.
- 7.3.5 The Single Buyer shall brief the Single Buyer Oversight Panel from time to time, and as requested by the Single Buyer Oversight Panel, in relation to the operational actions taken and the implementation of the provision in the Single Buyer Rules.

7.4 Compliance with Rules

- 7.4.1 The Single Buyer shall ensure that it has appropriate policies, systems and procedures in place to ensure that it is capable of complying with the Single Buyer Rules.
- 7.4.2 In the event that the Single Buyer becomes aware that it is non-compliant with the Single Buyer Rules it shall immediately inform the Single Buyer Oversight Panel and Energy Commission and put in place procedures to address the non-compliance.
- 7.4.3 The Energy Commission shall appoint a suitably qualified auditor to assess the compliance of the Single Buyer with the requirements of the Single Buyer Rules:
- a) 12 months from the Commencement Date of the Single Buyer Rules; and
 - b) at least once every three years thereafter, or as specified by the Energy Commission.
- 7.4.4 The Single Buyer shall ensure that the information provided to the auditor is accurate and complete.
- 7.4.5 The Single Buyer shall place the audit report on the Single Buyer Website once it has been approved by the Energy Commission.
- 7.4.6 The cost of the audit shall be borne by the Single Buyer and treated as recoverable operating expenditure for the purposes of calculating the Single Buyer Operations Tariff.

7.5 Generator Contracts, Bids and Merchant Generator Trading Rules

- 7.5.1 The Single Buyer shall monitor compliance of parties with the Generator Contracts, accepted Daily Heat Rate and Variable Operating Rate Bids or Merchant Generator Trading Rules.
- 7.5.2 In the event that the Single Buyer becomes aware of any non-compliance with the Generator Contracts, accepted Daily Heat Rate and Variable Operating Rate Bids or Merchant Generator Trading Rules that it considers will have a material effect on its ability to achieve its objectives under clause 4.2 then it shall notify the Energy Commission.

7.6 Single Buyer Working Groups

- 7.6.1 The objectives of the Single Buyer Working Groups are to:
- a) review the Single Buyer processes and outcomes and provide recommendations to the Single Buyer, other Participants and the Energy Commission on changes to procedures that it considers would improve the efficiency of the discharge of responsibilities set out in the Single Buyer Rules; and
 - b) recommend changes to procedures and the Single Buyer Rules where it considers that the recommended change would better facilitate the objectives set out in clause 4.2.
 - 1) Rule Change proposals made by the Single Buyer Working Groups shall be subject to the Rule Change procedures set out in Chapter 18;
 - 2) recommendations on changes to procedures that do not require a Rule Change shall be submitted to the Energy Commission for approval. If the Energy Commission approves a recommendation, the Energy Commission and Single Buyer shall work collaboratively with any relevant Participants to implement the recommendation.
- 7.6.2 The Single Buyer shall establish the Single Buyer Working Groups as specified in clause 7.6.3 no later than three months after the Commencement Date.
- 7.6.3 The Single Buyer Working Groups shall be as follows:
- a) Dispatch Scheduling Working Group comprising (at a minimum) members from Generators and the Grid System Operator. In meeting its objectives under clause 7.6.1, the Dispatch Scheduling Working Group shall meet at least quarterly and shall review issues including, but not limited to:
 - 1) efficiency and effectiveness of the dispatch scheduling procedures performed by the Single Buyer and other Participants in facilitating the achievement of the Single Buyer objectives set out in clause 4.2;
 - 2) appropriateness of timelines in the dispatch scheduling procedures;

- 3) appropriateness of the form and content of Participants' submissions of inputs to the Single Buyer for the purpose of producing the Dispatch Schedules; and
 - 4) appropriateness of the form and content of information disseminated by the Single Buyer to other Participants.
- b) Long-Term Demand and Supply Working Group comprising (at a minimum) members from the Energy Commission, Generators, the Grid System Operator, the Grid Owner. In meeting its objectives under clause 7.6.1, the Long-Term Demand and Supply Working Group shall meet at least once every six months and shall review issues including, but not limited to, the development and content of:
- 1) the Five Year Load Forecast Report produced by the Single Buyer as set out in clause 15.2.3;
 - 2) the Ten Year Load Forecast Report produced by the Single Buyer as set out in clause 15.3.3;
 - 3) the Five Year Ahead Dispatch Schedule Report produced by the Single Buyer as set out in clause 15.2.5; and
 - 4) the Ten Year Ahead Generation Capacity Report produced by the Single Buyer as set out in clause 15.3.4
- c) Single Buyer Website Working Group comprising (at a minimum) members from the Energy Commission, Generators and the Grid System Operator. In meeting its objectives under clause 7.6.1, the Single Buyer Website Working Group shall meet at least quarterly and shall review issues including, but not limited to:
- 1) the information published on the Single Buyer Website, with particular consideration of whether additional information should be published;
 - 2) the format and accessibility of the information published on the Single Buyer Website; and
 - 3) appropriateness of timelines in the Single Buyer Rules for Participants and the Energy Commission to publish information on the Single Buyer Website.

7.6.4 The Single Buyer may establish additional Single Buyer Working Groups as a platform to discuss emerging issues.

7.6.5 The Energy Commission may direct the Single Buyer to establish additional Single Buyer Working Groups to discuss specific matters not covered by the existing Single Buyer Working Groups.

7.6.6 For each Single Buyer Working Group, establishment shall be as follows:

- a) the Single Buyer shall propose a Terms of Reference;

- b) the Single Buyer shall seek nominations from the relevant stakeholders specified in clause 7.6.3 and as deemed appropriate from key stakeholders including, but not necessarily limited to:
 - 1) the Energy Commission;
 - 2) relevant Government agencies and statutory bodies;
 - 3) Generators;
 - 4) the Grid System Operator;
 - 5) the Grid Owner;
 - 6) Distributors;
 - 7) the Nominated Coal Supplier;
 - 8) the Nominated Gas Supplier;
 - 9) industry bodies; and
 - 10) Customer Groups;
- c) upon receipt of nominations, the Single Buyer shall propose the membership of the Working Group, including a chair to the Energy Commission;
- d) the Energy Commission shall review the proposed Terms of Reference and the membership of the Working Group and finalise and approve them in consultation with the Single Buyer;
- e) within one Month of its establishment, each Working Group shall propose a draft Charter for approval by the Energy Commission, which shall include, but not necessarily be limited to, a process for developing and finalising recommendations of the Working Group;
- f) in the event that the Working Group requires a secretariat to meet its Terms of Reference and comply with its Charter, the Single Buyer shall provide a secretariat, with any costs incurred by the Single Buyer in doing so recovered via the Single Buyer Tariff.

8 Least Cost Dispatch Scheduling Methodology

8.1 Purpose

8.1.1 This Chapter defines the Least Cost Dispatch Scheduling Methodology which the Single Buyer shall follow to prepare the Day Ahead Dispatch Schedule, the Week Ahead Dispatch Schedule and the Three Month Ahead Dispatch Schedule (collectively referred to as Dispatch Schedules) and the requirements of the Dispatch Scheduling Model.

8.2 Least Cost Dispatch Scheduling Methodology

8.2.1 The Single Buyer shall develop the Dispatch Schedules based on a Least Cost Dispatch Scheduling Methodology such that the lowest marginal cost Generating Unit is forecast to be dispatched first to meet demand followed by the next lowest marginal cost Generating Unit until all demand is met. The marginal cost of generation shall comprise all payments that vary with the amount of electricity procured, that are made by the Single Buyer to the Generators, pursuant to Generator Contracts, Daily Heat Rate and Variable Operating Rate Bids or Daily Price Bids.

8.2.2 At all times the Single Buyer shall ensure that the Dispatch Schedules cater adequately for system security, Operating Reserve requirements, transmission constraints, generation constraints, fuel availability and any other factors which could influence the security and reliability of electricity supply as specified by the Malaysian Grid Code or the Grid System Operator.

8.2.3 The Single Buyer shall ensure that it has the required data and information to accurately calculate its marginal cost for the procurement of generation from each Generating Unit.

8.2.4 In preparing and finalising the Dispatch Schedules the Single Buyer shall ensure that it promotes transparency by publishing key results on the Single Buyer Website and discusses and seeks feedback on the dispatch process and methodology regularly at the meetings of the Dispatch Scheduling Working Group.

8.3 Dispatch Scheduling Model

8.3.1 The Single Buyer shall ensure that the Dispatch Scheduling Model used to produce and finalise the Dispatch Schedules minimises the cost of electricity procurement given all transmission and system constraints and the key input data. Specifically, the Single Buyer shall ensure that the Dispatch Scheduling Model is based on the Least Cost Dispatch Scheduling Methodology and is capable of adequately taking the following parameters into consideration in optimising the Dispatch Schedules:

- a) transmission losses and System Constraints;
- b) Operating Reserve requirements as set out in the Malaysian Grid Code;

- c) key input data for the Three Month Ahead Dispatch Schedule as specified in Chapter 9;
 - d) key input data for the Week Ahead Dispatch Schedule as specified in Chapter 10;
 - e) key input data for the Day Ahead Dispatch Schedule as specified in Chapter 11; and
 - f) any other system security measures as deemed appropriate by the Grid System Operator in compliance with the Malaysian Grid Code.
- 8.3.2 If the Dispatch Scheduling Model does not satisfy the conditions as specified in clause 8.3.1, then the Single Buyer shall prepare a System Upgrade Plan which must specify the timeframe and the cost required to upgrade the current Dispatch Scheduling Model such that it is compliant with the requirements as specified in clause 8.3.1.
- 8.3.3 The Single Buyer shall submit the System Upgrade Plan to the Energy Commission for approval. Once the System Upgrade Plan has been approved by the Energy Commission the Single Buyer shall implement the System Upgrade Plan as per the timeline specified in the System Upgrade Plan.
- 8.3.4 The Single Buyer shall review the Dispatch Scheduling Model in the event of any revision to the Least Cost Dispatch Scheduling Methodology or every 12 months, whichever is earlier, to ensure that the Dispatch Scheduling Model is compliant with the provisions of clause 8.3.1. In conducting the review the Single Buyer shall ensure that:
- a) the review is finalised no later than two months after expiration of the 12 month period;
 - b) the outcomes of the review are submitted to the Energy Commission and the Dispatch Scheduling Working Group within 15 days after the completion of the review; and
 - c) if the Dispatch Scheduling Model is non-compliant, a System Upgrade Plan to upgrade the model to ensure compliance is submitted to the Energy Commission.
- 8.3.5 The first review and any resultant System Upgrade Plan must be prepared no later than three months after the Commencement Date of the Single Buyer Rules.
- 8.3.6 If at any time the Single Buyer proposes to enhance or upgrade the Dispatch Scheduling Model then it shall seek prior approval from the Energy Commission and consult with the Dispatch Scheduling Working Group before implementing its proposal.

9 Three Month Ahead Dispatch Schedule

9.1 Purpose

- 9.1.1 This Chapter sets out the procedures and processes which the Single Buyer shall follow to prepare and finalise the Three Month Ahead Dispatch Schedule, including key principles, inputs and timing for developing the Three Month Ahead Dispatch Schedule.
- 9.1.2 The purpose of the Three Month Ahead Dispatch Schedule is to provide information to Generators to assist their fuel planning and purchase decisions.
- 9.1.3 This Chapter also provides for a Three Month Ahead High Case Dispatch Schedule to assist the Single Buyer in assessing supply capacity adequacy.

9.2 Key procedural requirements

- 9.2.1 The Single Buyer shall abide by the following procedural requirements in preparing the Three Month Ahead Dispatch Schedule:
 - a) the Single Buyer shall use the Least Cost Dispatch Scheduling Methodology to prepare and finalise the Three Month Ahead Dispatch schedule;
 - b) in preparing and finalising the Three Month Ahead Dispatch Schedule the Single Buyer shall ensure that Operating Reserve requirements, transmission constraints, generation constraints and fuel availability and any other factors that could affect the security and reliability of the system as specified by the Malaysian Grid Code or Grid System Operator are adequately taken into consideration and that the resulting dispatch schedule does not compromise the security and reliability of supply;
 - c) the Single Buyer shall specify the form and content of Participants' submissions of inputs to the Single Buyer; and
 - d) the Single Buyer shall perform its functions in a transparent manner.

9.3 Three Month Ahead Dispatch Period

- 9.3.1 The Three Month Ahead Dispatch Period is three calendar months.

9.4 Three Month Ahead Load Forecast

- 9.4.1 The Single Buyer shall prepare the Three Month Ahead Load Forecast and the Three Month Ahead 10% POE Load Forecast before 10:00 am on the third day of the Month before the commencement of the Three Month Ahead Dispatch Period.

9.5 Generation Unit Operating Data

- 9.5.1 The Single Buyer shall ensure that the Dispatch Scheduling Model is updated with the relevant Generating Unit Operating Data by 10:00 am on the sixth day of the Month preceding the commencement of the Three Month Ahead Dispatch Period.

9.6 Three Month Ahead Generation Outage Plan

- 9.6.1 The Grid System Operator shall submit the Three Month Ahead Generation Outage Plan to the Single Buyer by 10:00 am on the third day of the Month preceding the commencement of the Three Month Ahead Dispatch Period.

9.7 Three Month Ahead Transmission Outage Plan

- 9.7.1 The Grid System Operator shall submit the Three Month Ahead Transmission Outage Plan to the Single Buyer by 10:00 am on the third day of the Month preceding the commencement of the Three Month Ahead Dispatch Period.

9.8 Other Dispatch Scheduling Model inputs

- 9.8.1 The Single Buyer shall update the Dispatch Scheduling Model by 10:00 am on the sixth day of the Month preceding the commencement of the Three Month Ahead Dispatch Period for the following inputs applicable for the Three Month Ahead Dispatch period:
- a) the relevant three month ahead dispatch of YTL based on the YTL Generation Schedule;
 - b) the relevant three month ahead dispatch of Generating Units using Stand-by Fuel based on the Stand-by Fuel Usage Plan;
 - c) the relevant three month ahead dispatch of all Hydro Plant based on the Hydro Plant Management Plan;
 - d) the relevant three month ahead dispatch of all Cogeneration Plant based on the Cogeneration Usage Plan;
 - e) the relevant three month ahead electricity imported or exported to any jurisdiction or region (including, but not limited to, countries such as Singapore and Thailand) connected to the Transmission Network based on the Export and Import Plan;
 - f) the relevant expected three month ahead electricity generation of all Renewable Plant;
 - g) the daily quantities of gas available for use in electricity generation in Peninsular Malaysia based on the Power Sector Gas Allocation Plan;
 - h) the applicable gas price to be used for electricity generation in Peninsular Malaysia as per the Power Sector Gas Price;

- i) the applicable coal price to be used for electricity generation in Peninsular Malaysia as per the relevant Applicable Coal Price;
- j) the applicable Stand-by Fuel price to be used for electricity generation in Peninsular Malaysia as per the relevant Stand-by Fuel Monthly Price; and
- k) the Default Price Bids submitted by Merchant Generators.

9.9 Three Month Ahead Dispatch Schedule

9.9.1 The Single Buyer shall prepare and finalise the Three Month Ahead Dispatch Schedule by 5:00 pm on the seventh day of the Month preceding the commencement of the Three Month Ahead Dispatch Period.

9.9.2 The Single Buyer shall by 5:00 pm on the eighth day of the Month preceding the commencement of the Three Month Ahead Dispatch Period:

- a) send each Generator their respective Generator Three Monthly Dispatch Profile for the Three Month Ahead Dispatch Period;
- b) send each Generator, as applicable, their respective Stand-by Fuel consumption in tonnes; and
- c) update the Single Buyer Website with the Aggregate Three Month Ahead Dispatch Schedule.

9.10 Three Month Ahead High Case Dispatch Schedule

9.10.1 The Single Buyer shall use the Three Month Ahead 10% POE Load Forecast to prepare and finalise the Three Month Ahead High Case Dispatch Schedule by 5:00 pm on the seventh day of the Month preceding the commencement of the Three Month Ahead Dispatch Period.

9.10.2 In preparing and finalising the Three Month Ahead High Case Dispatch Schedule the Single Buyer shall ensure that all other inputs to the Dispatch Scheduling Model are exactly the same as those used to prepare the Three Month Ahead Dispatch Schedule for the same Three Month Ahead Dispatch Period.

9.10.3 The Three Month Ahead High Case Dispatch Schedule shall be used by the Single Buyer to undertake the short term supply adequacy assessment as set out in Chapter 12.

10 Week Ahead Dispatch Schedule

10.1 Purpose

- 10.1.1 This Chapter sets out the procedures and processes which the Single Buyer shall follow to prepare and finalise the Week Ahead Dispatch Schedule, including key principles, inputs and timing for developing the Week Ahead Dispatch Schedule.
- 10.1.2 The purpose of the Week Ahead Dispatch Schedule is to assist the Single Buyer in optimising weekly scheduling and fuel mix and providing information to Generators about forward scheduling requirements.
- 10.1.3 This Chapter also provides for a Week Ahead High Case Dispatch Schedule to assist the Single Buyer in assessing supply capacity adequacy.

10.2 Key procedural requirements

- 10.2.1 The Single Buyer shall abide by the following procedural requirements in preparing the Week Ahead Dispatch Schedule:
 - a) the Single Buyer shall use the Least Cost Dispatch Scheduling Methodology to prepare and finalise the Week Ahead Dispatch schedule;
 - b) in preparing and finalising the Week Ahead Dispatch Schedule the Single Buyer shall ensure that Operating Reserve requirements, transmission constraints, generation constraints, fuel availability and any other factors that could affect the security and reliability of the system as specified by the Malaysian Grid Code or Grid System Operator are adequately taken into consideration and that the resulting dispatch schedule does not compromise the security and reliability of supply;
 - c) the Single Buyer shall specify the form and content of Participants' submissions of inputs to the Single Buyer; and
 - d) the Single Buyer shall perform its functions in a transparent manner.

10.3 Weekly Dispatch Scheduling Model Update Date

- 10.3.1 The Weekly Dispatch Scheduling Model Update Date is every Wednesday.
- 10.3.2 If the Dispatch Scheduling Model Update Date falls on a Non-Working Day, then the Weekly Dispatch Scheduling Model Update Date is the earliest preceding Working Day, which can include up to three consecutive Working Days prior to Wednesday.
- 10.3.3 If there are more than three consecutive Working Days as Non-Working Days preceding the Weekly Dispatch Scheduling Model Update Date, then the Weekly Dispatch Scheduling Model Update Date is the Thursday preceding the Weekly Dispatch Scheduling Model Update.

10.4 Week Ahead Load Forecast

10.4.1 The Single Buyer shall prepare the Week Ahead Load Forecast and the Week Ahead 10% POE Load Forecast before 3:00 pm on the day of the Weekly Dispatch Scheduling Model Update Date.

10.5 Week Ahead Generation Outage Plan

10.5.1 The Grid System Operator shall submit the Week Ahead Generation Outage Plan to the Single Buyer before 10:00 am on the day after the Weekly Dispatch Scheduling Model Update Date.

10.6 Week Ahead Transmission Outage Plan

10.6.1 The Grid System Operator shall submit the Week Ahead Transmission Outage Plan to the Single Buyer before 10:00 am on the day after the Weekly Dispatch Scheduling Model Update Date.

10.7 Other Dispatch Scheduling Model inputs

10.7.1 The Single Buyer shall update the Dispatch Scheduling Model for the following inputs by 3:00 pm on the day of the Weekly Dispatch Scheduling Model Update Date:

- a) the relevant Generating Unit Operating Data;
- b) the relevant weekly dispatch of YTL based on the YTL Generation Schedule;
- c) the relevant weekly dispatch of Generating Units using Stand-by Fuel based on the Stand-by Fuel Usage Plan;
- d) the relevant weekly dispatch of all Hydro Plant based on the Hydro Plant Management Plan;
- e) the relevant weekly dispatch of all Cogeneration Plant based on the Cogeneration Usage Plan;
- f) the relevant weekly electricity imported or exported to any jurisdiction or region (including, but not limited to, countries such as Singapore and Thailand) connected to the Transmission Network based on the Export and Import Plan;
- g) the relevant expected week ahead electricity generation of all Renewable Plant;
- h) the daily quantities of gas available for use in electricity generation in Peninsular Malaysia based on the Power Sector Gas Allocation Plan;
- i) the applicable gas price to be used for electricity generation in Peninsular Malaysia as per the Power Sector Gas Price;

- j) the applicable coal price to be used for electricity generation in Peninsular Malaysia as per the relevant Applicable Coal Price;
- k) the applicable Stand-by Fuel price to be used for electricity generation in Peninsular Malaysia as per the relevant Stand-by Fuel Monthly Price
- l) the Default Price Bids submitted by each Merchant Generator;
- m) the Daily Price Bid for each Merchant Generator where a Daily Price Bid has been submitted; and
- n) the Daily Heat Rate and Variable Operating Rate Bid for each Generator with PPA/SLA where a Daily Heat Rate and Variable Operating Rate Bid has been submitted.

10.8 Week Ahead Dispatch Schedule

- 10.8.1 The Single Buyer shall prepare and finalise the Week Ahead Dispatch Schedule by 5:00 pm the day after the Weekly Ahead Dispatch Scheduling Model Update Date.
- 10.8.2 The Single Buyer shall send the finalised Week Ahead Dispatch Schedule to the Grid System Operator by 10:00 am the day after the finalisation on the Week Ahead Dispatch Schedule.
- 10.8.3 The Single Buyer shall send each Generator their respective Generator Weekly Dispatch Profile by 5:00 pm the day after the finalisation on the Week Ahead Dispatch Schedule.
- 10.8.4 The Single Buyer shall send to the Nominated Gas Supplier the weekly gas requirement based on the Week Ahead Dispatch Schedule by 5:00 pm the day after the finalisation of the Week Ahead Dispatch Schedule.
- 10.8.5 The Single Buyer shall update the Single Buyer Website by 5:00 pm the day after the finalisation of the Week Ahead Dispatch Schedule for:
 - a) the most recent Aggregate Week Ahead Dispatch Schedule; and
 - b) forecast System Marginal Cost for each Week Ahead Dispatch Interval for the period covered by the Week Ahead Dispatch Schedule and the corresponding daily average System Marginal Cost for each Day of the period covered by the Week Ahead Dispatch Schedule.

10.9 Week Ahead High Case Dispatch Schedule

- 10.9.1 The Single Buyer shall use the Week Ahead 10% POE Load Forecast to prepare and finalise the Week Ahead High Case Dispatch Schedule by 5:00 pm the day after the Weekly Ahead Dispatch Scheduling Model Update Date.
- 10.9.2 In preparing and finalising the Week Ahead High Case Dispatch Schedule the Single Buyer shall ensure that all other inputs to the Dispatch Scheduling Model are exactly the same as those used to prepare the Week Ahead Dispatch Schedule for the same Week Ahead Dispatch Period.

10.9.3 The Week Ahead High Case Dispatch Schedule shall be used by the Single Buyer to undertake the short term supply adequacy assessment as set out in Chapter 12.

11 Day Ahead Dispatch Schedule

11.1 Purpose

11.1.1 This Chapter sets out the procedures and processes which the Single Buyer shall follow to prepare and finalise the Day Ahead Dispatch Schedule, including key principles, inputs and timing for developing the Day Ahead Dispatch Schedule.

11.2 Key procedural requirements

11.2.1 The Single Buyer shall abide by the following procedural requirements in preparing the Day Ahead Dispatch Schedule:

- a) the Single Buyer shall use the Least Cost Dispatch Scheduling Methodology to prepare and finalise the Day Ahead Dispatch schedule;
- b) in preparing and finalising the Day Ahead Dispatch Schedule the Single Buyer shall ensure that Operating Reserve requirements, transmission constraints, generation constraints, fuel availability and any other factors that could affect the security and reliability of the system as specified by the Malaysian Grid Code or Grid System Operator are adequately taken into consideration and that the resulting dispatch schedule does not compromise the security and reliability of supply;
- c) the Single Buyer shall specify the form and content of Participants' submissions of inputs to the Single Buyer; and
- d) the Single Buyer shall perform its functions in a transparent manner.

11.3 Day Ahead Dispatch Period

11.3.1 The Day Ahead Dispatch Period for a Working Day is the next Working Day.

11.3.2 If the next day is a Non-Working Day, then the Day Ahead Dispatch Period is defined as the period between the current Working Day and the next Working Day restricted to a maximum of four consecutive days, which can include up to four consecutive Non-Working Days.

11.3.3 If there are more than four consecutive Non-Working Days, then the Single Buyer shall prepare a Day Ahead Dispatch for the fifth Day on the fourth consecutive Non-Working Day.

11.4 Day Ahead Load Forecast

11.4.1 The Single Buyer shall prepare the Day Ahead Load Forecast by 10:00 am on the day preceding the commencement of the Day Ahead Dispatch Period.

11.5 Daily Availability Declaration and Submission of Daily Bids by Generators

- 11.5.1 Each Generator shall submit its Daily Availability Declaration to the Single Buyer by 10:00 am on the day preceding the commencement of the Day Ahead Dispatch Period.
- 11.5.2 Each Generator with PPA/SLA wishing to submit a Daily Heat Rate and Variable Operating Rate Bid shall submit that bid to the Single Buyer by 10:00 am on the day preceding the commencement of the Day Ahead Dispatch Period.
- 11.5.3 Each Merchant Generator wishing to submit a Daily Price Bid shall submit that bid to the Single Buyer by 10:00 am on the day preceding the commencement of the Day Ahead Dispatch Period.
- 11.5.4 The Single Buyer shall ensure that the Dispatch Scheduling Model is updated by 10:30 am on the day preceding the commencement of the Day Ahead Dispatch Period with the relevant Generating Unit Operating Data for each Generator based on the Daily Availability Declarations, Daily Heat Rate and Variable Operating Rate Bids and the Merchant Generator Daily Price Bids.

11.6 Day Ahead Transmission Outage Plan

- 11.6.1 The Grid System Operator shall submit the Day Ahead Transmission Outage Plan to the Single Buyer by 10:00 am on the day preceding the commencement of the Day Ahead Dispatch Period.
- 11.6.2 The Single Buyer shall ensure that the Dispatch Scheduling Model is updated by 10:30 am on the day preceding the commencement of the Day Ahead Dispatch Period with the relevant Day Ahead Transmission Outage Plan.

11.7 Daily Update Gas Report

- 11.7.1 The Nominated Gas Supplier shall submit to the Single Buyer the Daily Update Gas Report by 10:30 am on the day preceding the commencement of the Day Ahead Dispatch Period indicating the daily quantities of gas available for electricity generation for the Day Ahead Dispatch Period
- 11.7.2 The Single Buyer shall update the Dispatch Scheduling Model by 11:00 am on the day preceding the commencement of the Day Ahead Dispatch Period for the daily quantities of gas available for use in electricity generation based on the Daily Update Gas Report received from the Nominated Gas Supplier.

11.8 Other Dispatch Scheduling Model inputs

- 11.8.1 The Single Buyer shall update the Dispatch Scheduling Model by 11:00 am on the day preceding the commencement of the Day Ahead Dispatch Period, the following inputs for the Day Ahead Dispatch period:
 - a) the relevant daily dispatch of YTL based on the YTL Generation Schedule;

- b) the relevant daily dispatch of Generating Units using Stand-by Fuel based on the Stand-by Fuel Usage Plan;
- c) the relevant daily dispatch of all Hydro Plant based on the Hydro Plant Management Plan;
- d) the relevant daily dispatch of all Cogeneration Plant based on the Cogeneration Usage Plan;
- e) the relevant daily electricity imported or exported to any jurisdiction or region (including, but not limited to, countries such as Singapore and Thailand) connected to the Transmission Network based on the Export and Import Plan;
- f) the relevant expected day ahead electricity generation of all Renewable Plant;
- g) the applicable daily gas price to be used for electricity generation in Peninsular Malaysia as per the Power Sector Gas Price;
- h) the applicable coal price to be used for electricity generation in Peninsular Malaysia as per the relevant Applicable Coal Price;
- i) the applicable daily Stand-by Fuel price to be used for electricity generation in Peninsular Malaysia as per the relevant Stand-by Fuel Monthly Price
- j) the Default Price Bids submitted by each Merchant Generator;
- k) the Daily Price Did for each Merchant Generator where a Daily Price Bid has been submitted; and
- l) the Daily Heat Rate and Variable Operating Rate Bid for each Generator with PPA/SLA where a Daily Heat Rate and Variable Operating Rate Bid has been submitted.

11.9 Day Ahead Dispatch Schedule

11.9.1 The Single Buyer shall prepare and finalise the Draft Day Ahead Dispatch Schedule by 12:00 pm on the day preceding the commencement of the Day Ahead Dispatch Period and submit to the Grid System Operator to conduct system reliability checks.

11.9.2 The Grid System Operator shall provide its feedback to the Single Buyer on the Draft Day Ahead Dispatch Schedule by 3:00 pm on the day preceding the commencement of the Day Ahead Dispatch Period.

11.9.3 If the Grid System Operator fails to provide its feedback by 3:00 pm on the Draft Day Ahead Dispatch Schedule, the Single Buyer shall immediately contact the Grid System Operator and request for immediate feedback. If no feedback is received from the Grid System Operator by 3:30 pm, then the Single Buyer shall proceed to finalise the Draft Day Ahead Dispatch Schedule and inform the Energy Commission.

11.9.4 The Single Buyer shall finalise the Day Ahead Dispatch Schedule by 5:00 pm on the day preceding the Day Ahead Dispatch Period and submit the Day Ahead Dispatch Schedule to the Grid System Operator.

11.9.5 The Single Buyer shall by 5:00 pm on the day preceding the commencement of the Day Ahead Dispatch Period send each Generator their respective Generator Daily Dispatch Profile for the Day Ahead Dispatch Schedule.

11.10 Revised Day Ahead Dispatch Schedule

11.10.1 The Grid System Operator shall submit to the Single Buyer the Daily Operations Review Report by 8:00 am on the day of the commencement of the Day Ahead Dispatch Period. The Daily Operations Review Report must take the following factors into consideration:

- a) the transmission and generation outages for the day prior to the commencement of the Day Ahead Dispatch period;
- b) the actual delivery of gas for the prior Day Ahead Dispatch Period;
- c) any variations received from the Nominated Gas Supplier on the ability to deliver gas as per the relevant Daily Update Gas Report; and
- d) any expected variations on Hydro Generation for the prior Day Ahead Dispatch Period.

11.10.2 The Single Buyer shall prepare the Revised Day Ahead Load Forecast by 8:30 am on the day of the commencement of the Day Ahead Dispatch Period.

11.10.3 The Single Buyer shall finalise and send the Revised Day Ahead Dispatch Schedule by 9:00 am on the day of the commencement of the Day Ahead Dispatch Period to

- a) the Grid System Operator; and
- b) for each Generator in respect of which the Day Ahead Dispatch Schedule has been revised, their respective Generator Daily Dispatch Profile for the relevant Day Ahead Dispatch Period.

11.10.4 The Single Buyer shall by 12:00 pm on the day of the commencement of the Day Ahead Dispatch Period:

- a) update the Single Buyer Website with the most recent Aggregate Revised Day Ahead Dispatch Schedule; and
- b) update the Single Buyer Website with the forecast System Marginal Cost for each Day Ahead Dispatch Interval of the Revised Day Ahead Dispatch Schedule and the corresponding forecast average System Marginal Cost.

11.11 Review of Revised Day Ahead Load Forecast

11.11.1 The Grid System Operator shall submit a Daily Load Variance Report to the Single Buyer which compares the actual daily load to the Revised Day Ahead

Load Forecast and must explain in detail any variances in excess of 2% between actual load and the Revised Day Ahead Load Forecast.

11.11.2 The Daily Load Variance Report must be submitted to the Single Buyer by 12:00 pm on the day which is two Working Days after the expiration of the Day Ahead Dispatch Period.

11.11.3 The Single Buyer shall place the Daily Load Variance Report on the Single Buyer Website within two hours of receipt of the report.

11.12 Review of Revised Day Ahead Dispatch Schedule

11.12.1 The Grid System Operator shall prepare and submit a Daily Dispatch Variance Report to the Single Buyer which compares the actual daily dispatch for each Generating Unit to the forecast daily dispatch based on the Revised Day Ahead Dispatch Schedule and must explain in detail any variances in excess of 5% between actual daily dispatch and forecast daily dispatch based on the Revised Day Ahead Dispatch Schedule.

11.12.2 The Daily Dispatch Variance Report must be submitted to the Single Buyer by 12:00 pm on the day which is three Working Days after the expiration of the Day Ahead Dispatch Period.

11.12.3 The Single Buyer shall place the Daily Dispatch Variance Report on the Single Buyer Website within two hours of receipt of the report.

11.13 Review of System Marginal Cost

11.13.1 The Single Buyer shall prepare a report which compares the forecast System Marginal Cost to the actual System Marginal Cost for each Day Ahead Dispatch Interval and must explain in detail any variances in excess of 5% between forecast and actual System Marginal Costs.

12 Supply capacity adequacy assessment

12.1 Purpose

12.1.1 This Chapter sets out the procedures and processes which the Single Buyer shall follow with respect to the preparation of Dispatch Schedules if there is a projected shortfall in generation capacity to meet the Three Month Ahead 10% POE Load Forecast and the Week Ahead 10% POE Load Forecast.

12.2 Short-term supply adequacy assessment

12.2.1 The Single Buyer shall immediately notify the Energy Commission and take appropriate actions in accordance with the Short Term Supply Adequacy Plan if:

- a) pursuant to clause 9.10 the Three Month Ahead High Case Dispatch Schedule results in a generation shortfall for any Three Month Ahead Dispatch Interval to meet the Three Month Ahead 10% POE Load Forecast; or
- b) pursuant to clause 10.9 the Week Ahead High Case Dispatch Schedule results in a generation shortfall for any Week Ahead Dispatch Interval to meet the Week Ahead 10% POE Load Forecast.

12.3 Short-Term Supply Adequacy Plan

12.3.1 The Single Buyer shall develop a Short-Term Supply Adequacy Plan for addressing any short-term and medium-term supply constraints with respect to the Single Buyer's development of the Dispatch Schedules.

12.3.2 The Short-Term Supply Adequacy Plan must be approved by the Energy Commission and outline the steps to be taken by the Single Buyer which should include the assessment of:

- a) rescheduling any planned transmission or generator maintenance in discussion with the Grid System Operator and the Generators; and
- b) reducing Customer demand based on the Demand Control Plan as defined hereinafter.

12.3.3 The Short-Term Supply Adequacy Plan must be published on the Single Buyer Website.

12.4 Demand Control Plan

12.4.1 The Grid System Operator shall develop a Demand Control Plan for demand side response by large Customers or Customer Groups. The Demand Control Plan must:

- a) be based on the Demand Control procedures set out in Operating Code No. 4 of the Malaysian Grid Code;
- b) identify entities registered with the Grid System Operator as having capacity to participate in demand side response actions;

- c) set out the procedures that the Grid System Operator shall follow in calling for participants in demand side response actions;
- d) set out the approach to determining any compensation available for participants in demand side response actions;
- e) be reviewed and updated as required at least once every six months;
- f) be approved by the Energy Commission; and
- g) be published on the Single Buyer Website.

13 Fuel management

13.1 Purpose

13.1.1 This Chapter sets out the procedures and processes which the Single Buyer shall follow to monitor the adequacy of gas and coal supply and hydro levels to meet the Week Ahead Dispatch Schedule, the Three Month Ahead Dispatch Schedule and respond to and monitor any unplanned curtailment or disruption to the planned supply and delivery of forecast quantities of gas and coal.

13.2 Gas Supply Committee

13.2.1 The Energy Commission shall establish a Gas Supply Committee to review and assess the adequacy of gas supply for electricity generation in Peninsular Malaysia.

13.2.2 The membership of the Gas Supply Committee shall consist of suitable representatives from the following organisations:

- a) Economic Planning Unit, Prime Minister's Department;
- b) Ministry of Energy, Green Technology and Water;
- c) Energy Commission;
- d) Nominated Gas Supplier;
- e) representatives from gas Generators;
- f) Grid Owner;
- g) Grid System Operator;
- h) Single Buyer.

13.2.3 The Energy Commission shall be the chair of the Gas Supply Committee and shall invite representatives from other organisations to attend the committee meetings as required.

13.2.4 Any conclusions, decisions or recommendations made by the Gas Supply Committee shall be endorsed by the Energy Commission before being finalised. The Energy Commission shall consult with the members of the Gas Supply Committee concerning any conclusion, decision or recommendation.

13.2.5 The Energy Commission shall provide secretariat support to the Gas Supply Committee.

13.2.6 The Gas Supply Committee shall meet at least once every six months to review the adequacy of gas supply based on the relevant Three Month Ahead Dispatch Schedule, the relevant Five Year Ahead Dispatch Schedule Report and the Power Sector Gas Allocation.

13.2.7 At each Gas Supply Committee meeting:

- a) the Single Buyer shall present the requirements for gas supply for electricity generation in Peninsular Malaysia for the next twelve months;

- b) the Nominated Gas Supplier shall provide an update on gas supply availability and reliability for the next six months and identify any risk to future gas supply;
- c) the Gas Supply Committee shall discuss the adequacy of long term gas supply to meet demand; and
- d) any other relevant matter shall be covered as decided by the Energy Commission.

13.2.8 If, pursuant to clause 13.2.7 based on the Nominated Gas Supplier's update the Gas Supply Committee concludes that the projected gas supply is at risk, then the Energy Commission shall commence the Urgent Gas Procedures.

13.2.9 If the Nominated Gas Supplier becomes aware of any issues which may adversely impact the supply and reliability of gas for electricity generation in Peninsular Malaysia then it shall immediately inform the Energy Commission who shall immediately convene a meeting of the Gas Supply Committee.

13.3 Urgent Gas Procedures

13.3.1 The objectives of the Urgent Gas Procedures are to mitigate and manage the impact of any disruption to planned and expected gas supply.

13.3.2 The Energy Commission shall undertake the followings actions as per the Urgent Gas Procedures which are listed below:

- a) convene meetings of the Gas Supply Committee as required to discuss the impact of the gas supply disruption and present mitigation strategies;
- b) convene the National Gas Task Force to monitor daily gas supply situations and impacts during gas supply disruptions;
- c) require a mitigation plan from the Nominated Gas Supplier to restore the required supply of gas and request the Nominated Gas Supplier to provide regular updates at the Gas Supply Committee meetings;
- d) require the Single Buyer to develop a plan to use Hydro Plants, coal based generation, Stand-by Fuel and electricity imports to make up for the loss of gas based generation, which includes liaising with Hydro Plant Generators, liquid fuel suppliers, coal based Generators, the Nominated Coal Supplier and external jurisdictions connected to the Transmission Network;
- e) require the Single Buyer to calculate the impact on the total cost of generation and the impact on Customer electricity prices;
- f) direct the Single Buyer to take any actions considered necessary to manage the disruption; and
- g) any other actions which might result in facilitating resolution or mitigating the impact of the gas supply disruption.

13.4 Coal Supply Committee

13.4.1 The Energy Commission shall establish a Coal Supply Committee to:

- a) monitor and to report on the supply of coal specifically for the electricity generation sector, ensuring sufficiency and at fair pricing;
- b) monitor and to report on the global coal supply and pricing trends as well as to develop an early warning system to ensure no interruption to coal-based electricity generation;
- c) identify issues, including environmental, affecting the use of coal for electricity generation in-line with the objectives of the National Energy Policy;
- d) monitor the coal procurement cost of the Nominated Coal Supplier through coal supply contracts, spot purchases and from other avenues, so as to reflect cost-efficient and effective procurement; and
- e) monitor the setting of the Applicable Coal Price that is set every calendar year quarter and declared to each coal Generator for the coal delivered for the purpose of electricity generation in Peninsular Malaysia.

13.4.2 The membership of the Coal Supply Committee shall consist of suitable representatives from the following organisations:

- a) Economic Planning Unit, Prime Minister's Department;
- b) Ministry of Energy, Green Technology and Water;
- c) Energy Commission;
- d) Nominated Coal Supplier;
- e) representatives from coal Generators;
- f) Grid Owner;
- g) Grid System Operator;
- h) Single Buyer.

13.4.3 The Energy Commission shall be the chair of the Coal Supply Committee and shall invite representatives from other organisations to attend the committee meetings as required.

13.4.4 Any conclusions, decisions or recommendations made by the Coal Supply Committee shall be endorsed by the Energy Commission before being finalised. The Energy Commission shall consult with the members of the Coal Supply Committee concerning any conclusion, decision or recommendation.

13.4.5 The Energy Commission shall provide secretariat support to the Coal Supply Committee.

13.4.6 The Coal Supply Committee shall meet at least once every three months but no later than 31 days prior to the commencement of each new calendar year quarter.

13.4.7 At each Coal Supply Committee meeting:

- a) the Single Buyer shall present the requirements for coal supply for electricity generation in Peninsular Malaysia for the next twelve months based on the relevant Three Month Ahead Dispatch Schedule and the relevant Five Year Ahead Dispatch Schedule Report;
- b) the Nominated Coal Supplier shall provide an update on coal supply availability and reliability for the next six months and identify any risk to future coal supply;
- c) the Coal Supply Committee shall discuss the adequacy of long term coal supply to meet demand;
- d) the Nominated Coal Supplier shall present an overview of its coal procurement activities and demonstrate the efficiency and effectiveness of its coal procurement policy and procedures;
- e) the Coal Supply Committee shall certify the coal procurement cost, Applicable Coal Price, and efficiency and effectiveness of procurement procedures presented by the Nominated Coal Supplier;
- f) the Coal Supply Committee shall discuss any issues and propose solutions concerning coal procurement costs and the coal price setting mechanism; and
- g) any other relevant matter shall be covered as decided by the Energy Commission.

13.4.8 If any conflict of interest is identified in relation to participation of any member in any discussions or actions under clause 13.4.7, then that member shall not be allowed to participate or undertake in the discussions or actions.

13.4.9 If, pursuant to clause 13.4.7, based on the Nominated Coal Supplier's update the Coal Supply Committee concludes that the projected coal supply is at risk, then the Energy Commission shall commence its Urgent Coal Procedures.

13.4.10 If the Nominated Coal Supplier becomes aware of any issues which may adversely impact the supply and reliability of coal for electricity generation in Peninsular Malaysia then it shall immediately inform the Energy Commission who shall immediately convene a meeting of the Coal Supply Committee.

13.5 Urgent Coal Procedures

13.5.1 The objectives of the Urgent Coal Procedures are to mitigate and manage the impact of any disruption to planned and expected coal supply.

13.5.2 The Energy Commission shall undertake the followings actions as per the Urgent Coal Procedures which are listed below:

- a) convene meetings of the Coal Supply Committee as required to discuss the impact of the coal supply disruption and present mitigation strategies;
- b) require a mitigation plan from the Nominated Coal Supplier to restore the required supply of coal and request the Nominated Coal Supplier to provide regular updates at the Coal Supply Committee meetings;

- c) require the Single Buyer to develop a plan to use Hydro Plants, gas based generation, Stand-by Fuel and electricity imports to make up for the loss of coal based generation, which includes liaising with Hydro Plant Generators, gas based Generators, the Nominated Gas Supplier and external jurisdictions connected to the Transmission Network;
- d) require the Single Buyer to calculate the impact on the total cost of generation and the impact to Customer electricity prices;
- e) direct the Single Buyer to take any actions considered necessary to manage the disruption; and
- f) any other actions which might result in facilitating resolution or mitigating the impact of the coal supply disruption.

13.6 Hydro generation

- 13.6.1 The Single Buyer shall prepare a Hydro Plant Management Plan to forecast hydro generation for storage-based schemes based on hydro generation capacity, lake levels and other relevant assumptions.
- 13.6.2 The Single Buyer shall update the Hydro Plant Management Plan as required and shall publish the most recent and up to date Hydro Plant Management Plan on the Single Buyer Website.
- 13.6.3 All Participants shall ensure that they provide the inputs, data and documents as requested by the Single Buyer to prepare and finalise the Hydro Plant Management Plan.

14 Single Buyer Tariff

14.1 Purpose

- 14.1.1 This Chapter sets out principles and mechanism for determining the Single Buyer Tariff. The provisions of this Chapter are designed to enable the Single Buyer to make payments to Generators in accordance with the Generator Contracts and other agreements for the sale and/or purchase of electricity from its own ring-fenced accounts. The Single Buyer shall also be enabled to cover its own operating costs in accordance with the ring-fencing arrangements set out in Chapter 6.
- 14.1.2 The revenue required to enable the Single Buyer to meet the obligations of the Generator Contracts and other agreements for the sale and/or purchase of electricity and to cover its own operating costs shall be collected from Distributors via the Single Buyer Tariff. The two components of the Single Buyer Tariff, the Single Buyer Generation Tariff and the Single Buyer Operations Tariff, operate to enable the Energy Commission to apply separate price control mechanisms to each tariff component. The arrangements provide for a pass-through of fuel and other generation specific costs, with more frequent adjustments to the Single Buyer Generation Tariff to account for the relatively greater level of volatility for fuel related costs.
- 14.1.3 Under the Energy Commission's regulatory framework, Distributors shall collect the revenue required to meet Single Buyer Tariff payments as part of the Electricity Tariff charged to Customers.

14.2 Single Buyer Tariff setting arrangements

- 14.2.1 The costs of the Single Buyer shall be recovered from Distributors via a Single Buyer Tariff.
- 14.2.2 The Energy Commission shall establish Single Buyer Tariff arrangements that enable the Single Buyer to recover its costs.
- 14.2.3 The Single Buyer Tariff shall be designed to recover all of the costs of the Single Buyer and shall be comprised of the following components:
- a) a Single Buyer Generation Tariff component calculated in accordance with clause 14.3, and comprising all costs to the Single Buyer in purchasing electricity including:
 - 1) energy payments, available capacity payments, fuel and any other payments from the Single Buyer to the Generators, or from the Generators to the Single Buyer, provided for in the Generator Contracts and other agreements for the sale and/or purchase of electricity; and
 - 2) costs of importing electricity from other jurisdictions.

- b) a Single Buyer Operations Tariff component calculated in accordance with clause 14.4, comprising all of the operational costs incurred by the Single Buyer in undertaking its roles and performing its functions, including:
 - 1) forecasts of efficient operating costs, excluding any costs incurred or revenues received as part of the Single Buyer Generation Tariff component;
 - 2) a return on the Single Buyer's regulatory asset base reflecting an efficient market based cost of capital;
 - 3) forecasts of efficient depreciation;
 - 4) forecast tax payments; and
 - 5) an allowance for efficiency carryover amounts.

14.3 Single Buyer Generation Tariff

14.3.1 The Single Buyer Generation Tariff component shall be set by the Energy Commission for the first Regulatory Period and each Regulatory Period thereafter.

14.3.2 In setting the Single Buyer Generation Tariff component the Energy Commission shall have regard to:

- a) any proposal by the Single Buyer concerning forecasts of the elements listed in clause 14.2.3(a), including, but not limited to:
 - 1) the current prices of gas and coal;
 - 2) expectations of the demand and supply for gas and coal over the regulatory period;
 - 3) expectations of electricity demand and supply;
 - 4) the terms and conditions of the Generator Contracts and other agreements for the sale and/or purchase of electricity,
- b) any other issues identified by the Energy Commission in its regulatory framework and considered necessary for undertaking its role in regulating the Electricity Industry.

14.3.3 The Energy Commission shall establish a cost pass through mechanism to enable the Single Buyer to recover its costs incurred in purchasing electricity as specified in clause 14.2.3(a).

14.3.4 The Energy Commission shall publish the cost pass through regulatory guidelines on the Single Buyer Website.

14.4 Single Buyer Operations Tariff

14.4.1 The Single Buyer Operations Tariff component shall be set by the Energy Commission for the first Regulatory Period and each Regulatory Period thereafter.

14.4.2 The Single Buyer Operations Tariff shall be based on the methodology consistent with the regulatory framework and guidelines established by the Energy Commission and will recover all operating costs of the Single Buyer (excluding those already recovered by the Single Buyer Generation Tariff component) including an estimate of working capital requirements.

14.5 Settlement

14.5.1 The Single Buyer shall settle payments to and receipts from Generators based on the terms and conditions of the respective Generator Contracts and other agreements for the sale and/or purchase of electricity.

14.5.2 The Single Buyer shall invoice Distributors every month, based on the Single Buyer Tariff and the Monthly Billed Quantities.

14.5.3 The Single Buyer may at its discretion arrange for an audit of the Monthly Billed Quantities.

15 Long-term supply and demand

15.1 Purpose

15.1.1 This Chapter sets out the procedures and processes that the Single Buyer shall follow to monitor and assess long-term supply and demand. In meeting its obligations under this Chapter the Single Buyer shall prepare and publish a Five Year Demand and Supply Forecast Report and a Ten Year Demand and Supply Forecast Report and prepare and submit to the Energy Commission a Five Year Generation Planning report and if required a Ten Year Generation Planning Report.

15.1.2 The Five Year Demand and Supply Forecast Report and Ten Year Demand and Supply Forecast Report are designed to ensure that the Energy Commission, key Government agencies, Participants, the Nominated Gas Supplier and potential investors are informed about the timing of future investments in new generation capacity and the quantities of gas and coal required for electricity generation in the long-term.

15.2 Five Year Demand and Supply Forecast Report

15.2.1 The Single Buyer shall prepare a Five Year Demand and Supply Forecast Report by the end of December every calendar year, which shall comprise:

- a) a Five Year Load Forecast Report prepared in accordance with clause 15.2.2 and clause 15.2.3; and
- b) a Five Year Ahead Dispatch Schedule Report prepared in accordance with clause 15.2.4 and clause 15.2.5.

15.2.2 The Single Buyer shall by the end of October of every calendar year prepare a Five Year Load Forecast Report. The Five Year Load Forecast Report shall comprise:

- a) Five Year Load Forecasts; and
- b) a clear description of all of the key assumptions used in preparing the load forecasts, such as:
 - 1) economic growth;
 - 2) population and dwelling growth;
 - 3) major industrial and commercial developments; and
 - 4) any other economic, social, Government policy or commercial factors which could impact electricity consumption growth in Peninsular Malaysia.

15.2.3 In preparing and finalising the Five Year Load Forecast Report, the Single Buyer shall ensure that it consults adequately with the Grid Owner and the Long-Term Demand and Supply Working Group.

15.2.4 The Single Buyer shall by the end of November of every calendar year prepare a Five Year Ahead Dispatch Schedule Report. In preparing the Five Year Ahead Dispatch Schedule Report, the Single Buyer shall use the Least Cost Dispatch

Scheduling Methodology and the Dispatch Scheduling Model as specified in Chapter 8, updated for the following key inputs, which the Single Buyer shall source from the relevant Participants as required:

- a) five years of Generating Unit Operating Data for each Generator based on the submissions received from the Generators and the Generator Contracts;
- b) the Five Year Ahead Transmission Outage and Development Plan developed by the Grid Owner and the Grid System Operator;
- c) the dispatch of YTL based on the YTL Generation Schedule;
- d) the dispatch of Generating Units using Stand-by Fuel;
- e) the dispatch of all Hydro Plant based on the Hydro Plant Management Plan;
- f) the dispatch of all Cogeneration Plant based on the Cogeneration Usage Plan;
- g) the electricity imported or exported to any jurisdiction or region (including, but not limited to, countries such as Singapore and Thailand) connected to the Transmission Network in Peninsular Malaysia based on the Export and Import Plan;
- h) the expected electricity generation of all Renewable Plant;
- i) the most recent applicable gas price to be used for electricity generation in Peninsular Malaysia as per the Power Sector Gas Price;
- j) gas quantities consistent with the Power Sector Gas Allocation;
- k) the most recent Applicable Coal Price; and
- l) the applicable Stand-by Fuel price.

15.2.5 In preparing and finalising the Five Year Ahead Dispatch Schedule Report the Single Buyer shall ensure that:

- a) all factors which could affect the security and reliability of supply (such as Operating Reserve requirements, transmission constraints, generation constraints, fuel availability and any other factors that could affect the security and reliability of the system as specified by the Malaysian Grid Code or Grid System Operator) are adequately taken into consideration; and
- b) it consults adequately with the Long Term Demand and Supply Working Group.

15.2.6 Based on the Five Year Load Forecast Report and Five Year Ahead Dispatch Schedule Report, the Single Buyer shall prepare and finalise a Five Year Demand and Supply Forecast Report and submit it to the Energy Commission by the end of December of every calendar year. In preparing the Five Year Demand and Supply Forecast Report the Single Buyer shall undertake an assessment of:

- a) the adequacy of long term projections of generation capacity to meet demand and any requirements for new capacity. If in any five year forecast period there is expected to be a shortfall in generation capacity to meet the Five Year Ahead Load Forecast, then the Single Buyer shall:

- 1) notify and discuss the issue with the Energy Commission;
 - 2) prepare and submit a Five Year Generation Planning Report to the Energy Commission by the end of December that shall specify the additional generation capacity required. In addition, the Five Year Generation Planning Report shall specify the type of new generation capacity required (base load, mid merit or peaking), preferred fuel arrangements for the new generation capacity, the preferred location and timing of new generation capacity, the augmentation required to the Transmission Network and any other factors which are considered relevant for investment in new generation capacity; and
 - 3) undertake any other actions as directed by the Energy Commission to facilitate security of supply;
- b) gas and coal requirements to meet the five year load forecast, in consultation with the Gas Supply Committee and Coal Supply Committee; and
 - c) any other issues concerning security of supply as directed by the Energy Commission.

15.2.7 By the end of January in each calendar year, the Energy Commission shall review and approve the Five Year Demand and Supply Forecast Report, subject to any amendments that it may request that the Single Buyer make to ensure consistency with the Single Buyer Rules.

15.2.8 Following approval of the Five Year Demand and Supply Forecast Report by the Energy Commission:

- a) the Energy Commission shall publish the Five Year Demand and Supply Forecast Report on its website; and
- b) the Single Buyer shall send each Generator its respective Generator Dispatch Profile for the relevant five year forecast period.

15.3 Ten Year Demand and Supply Forecast Report

15.3.1 The Single Buyer shall prepare a Ten Year Demand and Supply Forecast Report By the end of December every calendar year, which shall comprise:

- a) a Ten Year Load Forecast Report prepared in accordance with clause 15.3.2 and clause 15.3.3; and
- b) a Ten Year Ahead Generation Capacity Report prepared in accordance with clause 15.3.4.

15.3.2 The Single Buyer shall by the end of October of every calendar year prepare a Ten Year Load Forecast Report. The Ten Year Load Forecast Report should build on the Five Year Load Forecasts and comprise:

- a) the Ten Year Load Forecasts; and
- b) a clear description of all key assumptions used in preparing the load forecasts such as:

- 1) economic growth;
- 2) population and dwelling growth;
- 3) major industrial and commercial developments; and
- 4) all other economic, social, Government policy or commercial factors which could impact electricity consumption growth in Peninsular Malaysia.

15.3.3 In preparing and finalising the Ten Year Load Forecast Report, the Single Buyer shall ensure that it consults adequately with the Grid Owner and the Long-Term Demand and Supply Working Group.

15.3.4 The Single Buyer shall by the end of November of every calendar year prepare a Ten Year Ahead Generation Capacity Report. In preparing the Ten Year Ahead Generation Capacity Report, the Single Buyer shall:

- a) use the existing and available generation capacity of all Generators connected to the Transmission Network and Distribution Network;
- b) incorporate any new generation capacity based on committed generation investments;
- c) incorporate any new generation capacity based on generation investments that are planned but not yet committed;
- d) cater for Operating Reserve requirements;
- e) incorporate all other factors which could affect the security and reliability of supply such as transmission constraints, generation constraints, fuel availability and any other factors that could affect the security and reliability of the system as specified by the Malaysian Grid Code or Grid System Operator;
- f) ensure that there is sufficient consultation with the Long-Term Demand and Supply Working Group; and
- g) consider any other issues concerning security of supply as directed by the Energy Commission.

15.3.5 Based on the Ten Year Load Forecast Report and Ten Year Ahead Generation Capacity Report, the Single Buyer shall prepare and finalise the Ten Year Demand and Supply Forecast Report and submit it to the Energy Commission by the end of December of every calendar year.

15.3.6 In preparing the Ten Year Demand and Supply Forecast Report the Single Buyer shall undertake an assessment of the adequacy of long term projections of generation capacity to meet demand and any requirements for new capacity. If in any ten year forecast period there is expected to be a shortfall in generation capacity to meet the Ten Year Ahead Load Forecast, then the Single Buyer shall:

- a) notify and discuss the issue with the Energy Commission
- b) prepare and submit a Ten Year Generation Planning Report to the Energy Commission by the end of December that shall specify the additional generation capacity required, if not already specified in the Five Year

Generation Planning Report. In addition, the Ten Year Generation Planning Report shall specify the type of new generation capacity required (base load, mid merit or peaking), preferred fuel arrangements for the new generation capacity, the preferred location and timing of new generation capacity, the augmentation required to the Transmission Network and any other factors which are considered relevant for investment in new generation capacity; and

- c) undertake any other actions as directed by the Energy Commission to facilitate security of supply.

15.3.7 By the end of January in each calendar year, the Energy Commission shall review and approve the Ten Year Demand and Supply Forecast Report, subject to any amendments that it may request that the Single Buyer make to ensure consistency with the Single Buyer Rules.

15.3.8 Following approval of the Ten Year Demand and Supply Forecast Report by the Energy Commission, the Energy Commission shall publish the Ten Year Demand and Supply Report on its website.

16 Contracting for new capacity

16.1 Purpose

16.1.1 This Chapter sets out the roles and responsibilities of the Energy Commission, Participants, and the Government in contracting for new generation capacity, including initiating the process for tendering, developing requests for tender, assessing tenders, selecting a preferred tender and finalising contracts.

16.2 Role of the Energy Commission

16.2.1 The Energy Commission shall undertake the following functions in relation to contracting for new capacity:

- a) assess any shortfall in generation capacity identified by the Single Buyer to meet the Five Year Ahead Load Forecast as per the Five Year Generation Planning Report under clause 15.2.6, or a shortfall in generation capacity to meet the Ten Year Ahead Load Forecast as per the Ten Year Generation Planning report under clause 15.3.5;
- b) where it considers that new generation capacity is required to meet a projected shortfall, develop requests for tender for new generation capacity, and direct the Single Buyer to assist with developing draft Generator Contracts;
- c) assess tenders for new generation capacity;
- d) select preferred tenders for new generation capacity; and
- e) moderate between parties in the event of any disputes concerning the finalisation of contract terms.

16.2.2 The Energy Commission shall invite representatives from other organisations to assist it in undertaking the functions specified in clause 16.2.1 as required.

16.3 Initiation of process for contracting for new capacity

16.3.1 When notified by the Single Buyer of any shortfall in generation capacity to meet the Five Year Ahead Load forecast as per the Five Year Generation Planning Report under clause 15.2.6, or any shortfall in generation capacity to meet the Ten Year Ahead Load forecast as per the Ten Year Generation Planning Report under clause 15.3.5, the Energy Commission shall:

- a) consider the requirement for new generation capacity and either:
 - 1) decide that there is a need to tender for additional capacity, and commence the development a tender for new capacity required to meet any shortfall in generation capacity; or
 - 2) decide that there is not presently a need to tender for additional capacity;
- b) develop a plan to meet any shortfall in generation capacity pursuant to clause 16.3.1.

16.4 Development of tenders for new capacity

- 16.4.1 Pursuant to clause 16.3.1, following a decision that there is a need to tender for new capacity, the Energy Commission shall develop a draft request for tender for new generation capacity, setting out the following key parameters:
- a) the amount of generation capacity required to meet any forecast shortfall in generation capacity;
 - b) generation type, such as peaking or baseload;
 - c) fuel type considerations;
 - d) location;
 - e) requirements for ancillary services;
 - f) draft terms and conditions for the Generator Contract as provided by the Single Buyer; and
 - g) any other factors considered relevant by the Energy Commission.
- 16.4.2 After developing the draft request for tender under clause 16.4.1, the Energy Commission shall consult with and request input from any Participants or other parties that it considers appropriate to enable it to undertake its functions and meet its objectives.
- 16.4.3 Following the development of a draft request for tender under clause 16.4.1, the Energy Commission shall develop a final request for tender comprising the conditions of tendering and an exhaustive list of criteria governing the selection of tenders and awarding of the contract, which may include:
- a) the key parameters for the requirement for new generation as developed under clause 16.4.1;
 - b) requisite characteristics of the applicants, such as technical, economic and financial capabilities;
 - c) relevant occupational health and safety, environmental, and employment standards that the tenderers must comply with;
 - d) the key selection criteria by which the Energy Commission will shortlist and select a preferred tenderer;
 - e) procedures and timeframes for the tender process; and
 - f) any other factors considered relevant by the Energy Commission.
- 16.4.4 In developing the final request for tender under clause 16.4.3, the Energy Commission may consult with and request input from any Participants or other parties that it considers appropriate to enable it to undertake its functions and meet its objectives.
- 16.4.5 Requests for tender for new generation capacity and the tendering criteria under clause 16.4.3 shall be made publicly available on the Energy Commission's website.

16.5 Assessment of tenders for new capacity

16.5.1 The Energy Commission shall assess tenders in accordance with the procedures, timeframes and selection criteria developed under clause 16.4.3 and identify and recommend a preferred tenderer to the Government for endorsement.

16.6 Finalisation

16.6.1 After endorsement of a preferred tenderer by the Government under clause 16.5.1 the Single Buyer shall negotiate the final terms and conditions of the Generator Contract with the winning tenderer.

16.6.2 In negotiating the final terms and conditions of the Generator Contract with the winning tenderer, the Single Buyer shall have regard to its objectives under clause 4.2.

16.6.3 The final terms and conditions of the Generator Contract shall be reviewed by the Energy Commission prior to the parties to the Generator Contract entering the contract, to ensure that the terms and conditions of the Generator Contract are fair and reasonable, and do not unreasonably discriminate against any party as specified in clause 6.2.

16.6.4 In the event that a tenderer considers that the terms and conditions of any proposed Generator Contract are not fair and reasonable, it may notify the Energy Commission.

16.6.5 In the event of a notification under clause 16.6.4, the Energy Commission may attempt to mediate any disputes between the parties.

17 Dispute resolution

17.1 Purpose

- 17.1.1 This Chapter sets out the procedures for raising and resolving disputes concerning the compliance of Participants with the Single Buyer Rules. 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.
- 17.1.2 This Chapter sets out the processes for the Energy Commission to hear and determine disputes.
- 17.1.3 KLRC is to abide by the UNCITRAL Arbitration Rules of 1976 with certain modifications and adaptations as set forth in the rules of arbitration of KLRC in hearing and determining disputes.

17.2 Application of dispute resolution process

- 17.2.1 The dispute resolution process set out in this Chapter does not apply to disputes between Participants concerning the performance of obligations under the Generator Contracts, accepted Daily Heat Rate and Variable Operating Rate Bids or Daily Price Bids.
- 17.2.2 Subject to clause 17.2.1, the dispute resolution process set out in this Chapter relates to disputes that may arise between Participants concerning:
 - a) the application or interpretation of the Single Buyer Rules;
 - b) a Participant's view that the Single Buyer has performed its functions or otherwise acted in a manner that is inconsistent with its objectives under clause 4.2;
 - c) the Single Buyer's view that a Participant has acted in a manner that unreasonably prevents the Single Buyer from achieving its objectives under clause 4.2; or
 - d) a Participant's view that the Single Buyer has performed its functions or otherwise acted in manner that unreasonably discriminates against a Participant as specified in clause 6.2.
- 17.2.3 It is intended that the dispute resolution process set out in this Chapter or implemented in compliance with the Single Buyer 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.

17.3 Raising a dispute

17.3.1 Subject to clause 17.2.1 and clause 17.3.2, a dispute relating to any of the matters set out in clause 17.2.2 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 clause 17.2.2; 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.

17.3.2 Prior to raising a dispute with the Energy Commission under clause 17.3.1, a party to a dispute shall ensure that:

- a) it has raised the dispute with the other Participant or 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.

17.3.3 Subject to clause 17.3.4, where a dispute is raised with it under clause 17.3.1, 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.

17.3.4 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.

17.4 Disputes referred to KLRCA

17.4.1 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. The rules of arbitration under such auspices of KLRCA are the UNCITRAL Arbitration Rules of 1976 with certain modifications and adaptations as set forth in the rules of arbitration of KLRCA.

17.4.2 Any mediation or arbitration conducted in accordance with clause 17.4.1 shall be conducted in Kuala Lumpur, in English, by a single mediator or arbitrator in accordance with the laws of Malaysia.

17.5 Disputes heard and determined by the Energy Commission

17.5.1 In hearing and determining a dispute raised under clause 17.3.1 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.
- 17.5.2 A determination on a dispute may be made by the Energy Commission after consideration of the issues raised under clause 17.3.1, or any other matters considered relevant by the Energy Commission.
- 17.5.3 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.
- 17.5.4 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.
- 17.5.5 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.

18 Rule Change

18.1 Purpose

- 18.1.1 This Chapter sets out the Rule Change process to be followed in relation to submitting and deciding on Rule Change Proposals.
- 18.1.2 Any person may submit a Rule Change Proposal, which shall be assessed by either the Energy Commission (in the case of minor or urgent amendments to the Single Buyer Rules) or a standing Rule Change Panel (for all other Rule Change Proposals).

18.2 Role of the Energy Commission

- 18.2.1 The Energy Commission is responsible for the administration and maintenance of the Single Buyer Rules.
- 18.2.2 Subject to clause 18.2.3, the Energy Commission may amend the Single Buyer Rules via a Rule Change.
- 18.2.3 The Energy Commission may only make 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 of the Single Buyer as specified in clause 4.2; or
 - b) under the Minor Rule Change Procedures specified under clause 18.9; or
 - c) under the Urgent Rule Change Procedures specified under clause 18.10.
- 18.2.4 The Energy Commission may appoint experts as required to assist it in coming to a decision on whether or not to make a Rule Change.

18.3 Rule Change Panel

- 18.3.1 The Energy Commission shall convene a standing Rule Change Panel to assess and make recommendations on Rule Change Proposals.
- 18.3.2 The members of the Rule Change Panel shall be appointed by the Energy Commission and shall comprise an independent chair and additional members from the following organisations:
 - a) Generators (one representative from TNB Generation and two representatives from Independent Power Producers);
 - b) Grid Owner (one representative);
 - c) Customer Groups (one representative); and
 - d) any other independent expert or experts as deemed appropriate by the Energy Commission.
- 18.3.3 In order to be eligible to sit on the Rule Change Panel, a person shall have an understanding of the Electricity Industry or the capacity to readily acquire such an understanding.

- 18.3.4 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.
- 18.3.5 The Energy Commission shall provide secretariat support to the Rule Change Panel.
- 18.3.6 Any costs incurred by the Rule Change Panel in assessing a Rule Change Proposal are to be borne by the Energy Commission.

18.4 Submission of Rule Change Proposal

- 18.4.1 Any person can submit a Rule Change Proposal.
- 18.4.2 All Rule Change Proposals must be submitted in writing to the Energy Commission for review and assessment.
- 18.4.3 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 clause 4.2;
 - c) propose detailed drafting suggestions for the relevant chapters and clauses of the Single Buyer 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.

18.5 Initial assessment of a Rule Change Proposal

- 18.5.1 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.
- 18.5.2 Pursuant to clause 18.5.1, 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.
- 18.5.3 Pursuant to clause 18.5.1, 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 clause 18.3 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.

18.6 Draft Rule Change Recommendation

- 18.6.1 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.

18.6.2 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 Single Buyer 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 clause 4.2;
- 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 as specified in clause 4.2; and
- e) any other matters the Rule Change Panel considers relevant.

18.6.3 The Draft Rule Change Recommendation shall be published on the Single Buyer Website, 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.

18.7 Final Rule Change Recommendation

18.7.1 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.

18.7.2 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 Single Buyer 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 clause 4.2;
- 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 clause 4.2;
- e) proposed drafting to amend the Single Buyer Rules in accordance with the Rule Change Recommendation; and
- f) any other matters the Rule Change Panel considers relevant.

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

18.8 Final Rule Change Decision

18.8.1 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.
- 18.8.2 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.
- 18.8.3 A Final Rule Change Decision by the Energy Commission under clause 18.8.1 or 18.8.2 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:
 - 1) rejects the Rule Change Recommendation; or
 - 2) 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 clause 4.2;
 - 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 clause 4.2;
 - e) in the event that the Energy Commission has decided to accept the Draft Rule Change:
 - 1) 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 clause 4.2; and
 - 2) a revised draft of the Single Buyer Rules, amended in accordance with its Final Rule Change Decision.

18.9 Minor Rule Change Procedures

- 18.9.1 Where the Energy Commission is of the view that a Rule Change or Rule Change Proposal will not materially impact or disadvantage any Participant, it may commence Minor Rule Change Procedures to amend the Single Buyer Rules to address the issue identified.
- 18.9.2 Under Minor Rule Change Procedures, the Energy Commission may unilaterally amend the Single Buyer Rules without calling for submissions or referring the Rule Change to the Rule Change Panel or Government.
- 18.9.3 Any Rule Change via the Minor 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; and

- b) a revised draft of the Single Buyer Rules.

18.10 Urgent Rule Change Procedures

18.10.1 In the event that the Energy Commission becomes aware of a material error in the Single Buyer Rules, or an event occurs which:

- a) threatens security of supply;
- b) threatens the viability of the Electricity Industry or a Participant; or
- c) would otherwise materially jeopardise the achievement of the Energy Commission's objectives as set out in the Energy Supply Act 1990.

18.10.2 the Energy Commission may commence Urgent Rule Change Procedures to amend the Single Buyer Rules to address the issue identified.

18.10.3 Under Urgent Rule Change Procedures, the Energy Commission may unilaterally amend the Single Buyer Rules without calling for submissions or referring the Rule Change to the Rule Change Panel or Government.

18.10.4 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 clause 18.10.1; and
- b) a revised draft of the Single Buyer Rules.

19 Single Buyer Website and publications

19.1 Purpose

19.1.1 This Chapter sets out the requirements for the maintenance of a Single Buyer Website including the key reports, data sets and forecasts that shall be published on the Single Buyer Website.

19.2 Single Buyer Website

19.2.1 The Single Buyer shall develop a Single Buyer Website to promote transparency in performing its functions under the Single Buyer Rules.

19.2.2 The Single Buyer Website shall be owned, operated and maintained by the Single Buyer.

19.2.3 The Single Buyer shall ensure that the Single Buyer Website:

- a) is accessible by the general public on the World Wide Web and secure from cyber threat and/or attacks;
- b) presents data and information clearly;
- c) is updated regularly for new reports, market information and data; and
- d) provides a link to the websites of all market Participants and the Energy Commission.

19.3 Publications

19.3.1 The Single Buyer shall publish the following key reports, data sets and forecasts on the Single Buyer Website:

- a) the current version of the Single Buyer Rules, including all Rule Changes;
- b) Single Buyer Accounts;
- c) the organisational structure of the Single Buyer;
- d) the audit report assessing the compliance of the Single Buyer with the Single Buyer Rules;
- e) the Terms of Reference and membership of each Single Buyer Working Group;
- f) a schematic and description of the Dispatch Scheduling Model;
- g) the current and historical versions of the Aggregate Three Month Ahead Dispatch Schedules;
- h) the current and historical versions of the Aggregate Week Ahead Dispatch Schedules;
- i) for the current and historical Week Ahead Dispatch Intervals, the forecast System Marginal Cost and the corresponding daily average System Marginal Cost for each Day of the period covered by the Week Ahead Dispatch Schedule;

- j) the current and historical Aggregate Revised Day Ahead Dispatch Schedules;
- k) for the current and historical Day Ahead Dispatch Interval, the forecast System Marginal Cost for each Day Ahead Dispatch Interval of the Revised Day Ahead Dispatch Schedule and the corresponding forecast average System Marginal Cost;
- l) the current and historical versions of the Daily Variance Reports and Daily Dispatch Variance Reports;
- m) the Short Term Supply Adequacy Plan;
- n) the Demand Control Plan;
- o) the current version of the Power Sector Gas Allocation Plan;
- p) the current and historical Single Buyer Generation Tariff and Single Buyer Operations Tariff; and
- q) any other data, reports or information as required by a Rule Change or at the direction of the Energy Commission.

20 Merchant Generator Trading Rules

20.1 Purpose

20.1.1 This Chapter sets out the specific conditions relating to Merchant Generators that must be met by the Merchant Generator and by the Single Buyer as appropriate to meet the requirements of these Single Buyer Rules.

20.2 Entry Conditions

20.2.1 A Merchant Generator shall, prior to completion of its entry into the Single Buyer market:

- a) Obtain a generation license from ST
- b) Submit to the Single Buyer
 - i) a statement in a form approved by the Energy Commission that it will operate in accordance with the Single Buyer Rules
 - ii) a Default Price Bid: and,
- c) Submit to the Single Buyer and the GSO a statement of its generating unit technical capabilities.

20.3 Submission of bid data

20.3.1 A Merchant Generator may submit Daily Price Bids for specified day or dates to the Single Buyer prior to the time specified in clause 11.5.3.

20.3.2 Prior to the time specified in clause 11.5.1, the Merchant Generator shall submit its available generation declaration for each of its generating units for each half hour for use in the preparation of the day ahead and week ahead schedules.

20.4 Merchant Generator Payments

20.4.1 The Single Buyer shall pay the Merchant Generator in accordance with the provisions of clause 14.5 for energy it produces in compliance with dispatch instructions received from the GSO at the Price as Bid.

20.4.2 In the event that the Merchant Generator produces energy in excess of that dispatched by the GSO, no payment shall be made for such excess energy.

20.5 Merchant Generator Penalties

20.5.1 In the event that the Merchant Generator produces less energy than is specified in the dispatch instruction from the GSO, the Merchant Generator shall be charged the incremental cost of replacement generation that is dispatched to meet the resulting energy shortfall.

20.6 Compensation for generation constraint

20.6.1 In the event that a Merchant Generator is dispatched at a load that is lower than that forecast in the Day Ahead Dispatch Schedule and where the Merchant Generator is able to demonstrate that the change to the Generator's dispatch schedule results in material costs being borne by the Generator then it may make a compensation claim to the Single Buyer. Compensation claims shall be supported by appropriate evidence of the loss. Where a claim is deemed valid by the Single Buyer, the Single Buyer shall pay compensation to the Generator concerned to cover the direct loss concerned for the half hours for which the lower dispatch occurred

21 Appendices

21.1 Purpose

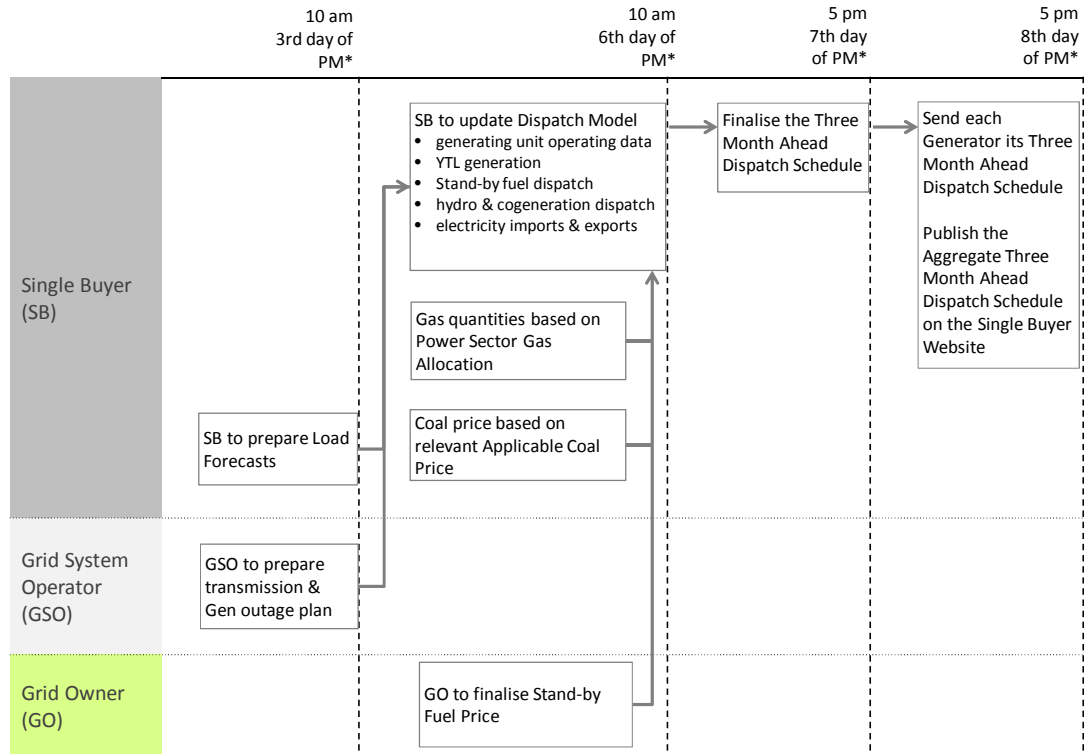
21.1.1 This Chapter presents the flow charts outlining the key steps in the preparation and finalisation of the Dispatch Schedules.

21.1.2 This Chapter is for illustration only and is not part of the Single Buyer Rules.

21.2 Flow chart of the Three Month Ahead Dispatch Schedule

21.2.1 The flow chart is presented below.

Three Month Ahead Dispatch Schedule



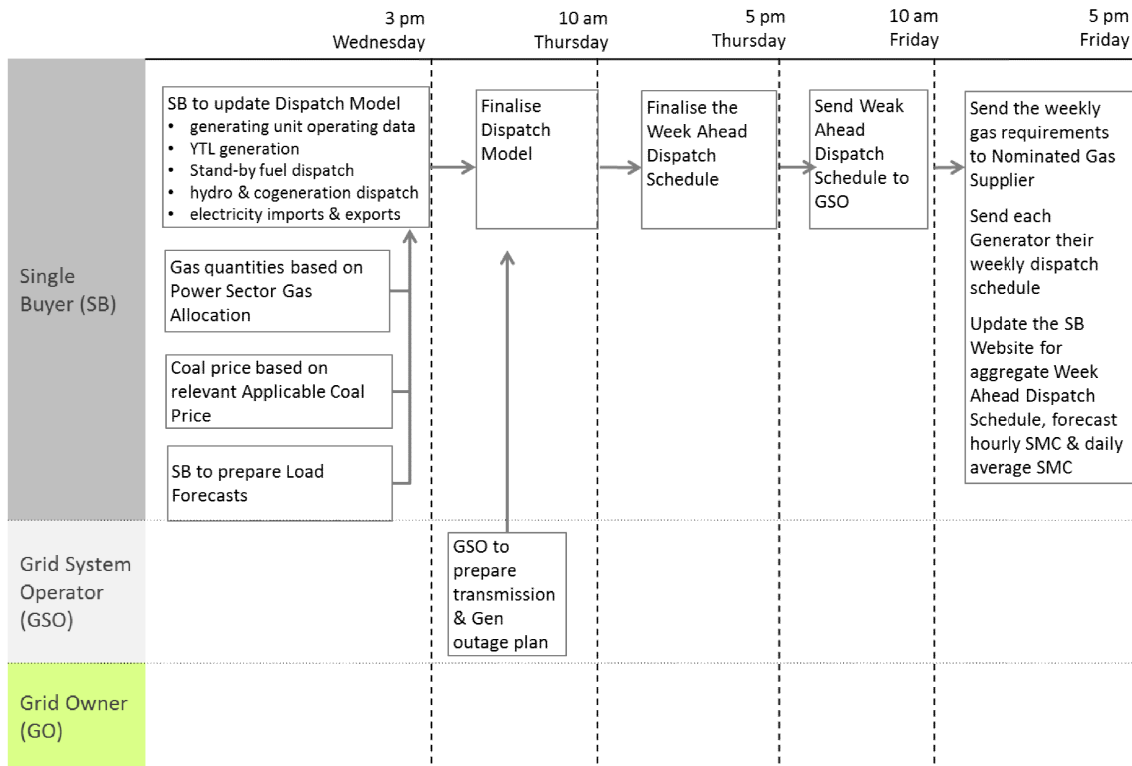
PM = Prior Month

21.3 Flow chart of the Week Ahead Dispatch Schedule

21.3.1 The flow chart is presented below.

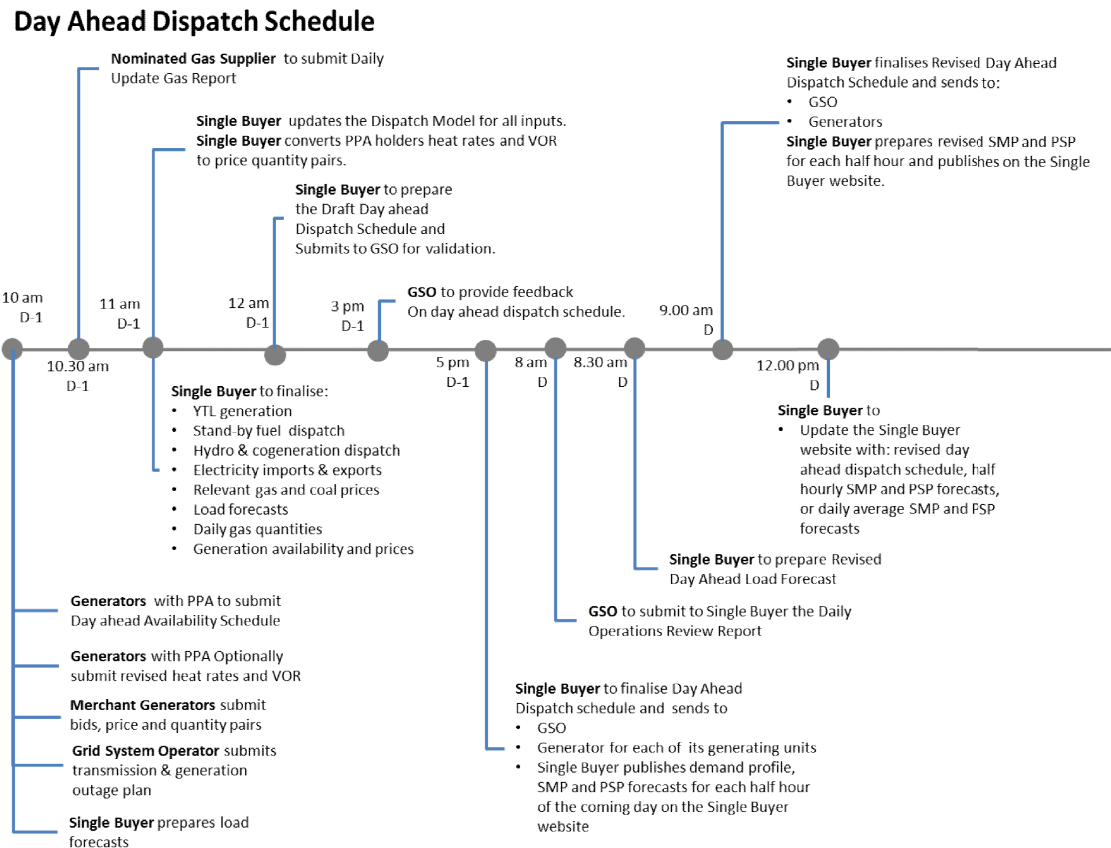
21.3.2 It is assumed in the flow chart that Wednesday is a Working Day.

Week Ahead Dispatch Schedule



21.4 Flow chart of the Day Ahead Dispatch Schedule

21.4.1 The flow chart is presented below.



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