

Guidelines

For Implementation Of Gas Framework Agreement (GFA) In The Power Sector

ELECTRICITY SUPPLY ACT 1990
[Act 447]

**GUIDELINES FOR IMPLEMENTATION OF GAS FRAMEWORK
AGREEMENT (GFA) IN THE POWER SECTOR**

GP/ST/No.10/2017

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

1.0 Citation and Commencement

- 1.1 These Guidelines may be cited as the Guidelines for Implementation of Gas Framework Agreement (GFA) in the Power Sector.
- 1.2 These Guidelines shall come into force and effect on the date of its registration.

2.0 Background and Objective

- 2.1 Petroleum Nasional Berhad (PETRONAS) has entered into Gas Sales Agreements (GSA) with the Power Producers under which PETRONAS shall sell and deliver and the respective Power Producers shall purchase and receive certain quantities of Gas to be used as fuel for the generation of electricity.
- 2.2 The GFA is an agreement between PETRONAS and Tenaga Nasional Berhad (TNB) in respect to the arrangement relating to the delivery and offtake of Gas by the Power Sector in Peninsular Malaysia, which is managed by Single Buyer and System Operator on behalf of TNB.

2.3 Single Buyer determines the quantity of electricity to be generated and dispatched from the Power Producers, and hence determines the quantity of Gas to be taken by the Power Producers to serve the grid.

2.4 These Guidelines were developed with the objective of establishing a framework to define the roles of Single Buyer, System Operator, TNB, PETRONAS and Power Producers in relation to nomination and allocation of Gas to the Power Sector and the applicable billing arrangement between TNB, PETRONAS and Power Producers.

3.0 Application of these Guidelines

3.1 These Guidelines shall apply to:

- (i) Single Buyer;
- (ii) System Operator;
- (iii) TNB;
- (iv) PETRONAS; and
- (v) Power Producers.

4.0 Interpretation

4.1 In these Guidelines, the terms used shall, unless otherwise defined in the Guidelines or the context otherwise requires, shall have the same meaning as in the Act, regulations or Codes made under the Act. In addition, the following words and expression shall have the meaning hereby assigned to them.

Term	Definition
Act	refers to the Electricity Supply Act 1990 [Act 447]
Annual Contract Quantity or ACQ	means the sum of AQPS for one (1) year which is to be furnished by Single Buyer;
Allocated Quantity to the Power Sector or AQPS	means a cumulative quantity of Gas that is allocated for delivery by PETRONAS to the

Term	Definition
	Power Sector on any given day, expressed in mmscfd;
Excess Gas	means the Gas quantity in any particular day taken by the Power Sector which is above the Maximum AQPS;
Gas	means any hydrocarbons or mixture of any hydrocarbons and other gases at the specifications prescribed in the respective Gas Sales Agreements;
Gas Billing Agreement	means the agreement entered between PETRONAS and TNB dated 1 March 2011 to put in place the billing arrangement;
Gas Framework Agreement	means the agreement between PETRONAS and TNB in respect of the arrangement relating to the delivery to and offtake of Gas by Power Sector in Peninsular Malaysia;
Gas Sales Agreement	means the Gas Sales Agreements as contained in SCHEDULE A of these Guidelines;
IPP	means the independent power producers in Peninsular Malaysia that have entered into Power Purchase Agreements with TNB;
Maximum AQPS	means the 105% of the AQPS for any given day;
Planned Generator Outage Schedule	means the planned outages of Power Producers for the next five calendar years which is to be submitted by Power Producers to System Operator by 1 May of each year;
Power Purchase Agreement	means the arrangement for procurement of electricity which falls under Section 9E of the Act

Term	Definition
	and that the Power Purchase Agreements are as contained in SCHEDULE B and SCHEDULE C of these Guidelines;
Power Producers	means, collectively, TNB and the IPP of which have entered into Gas Sales Agreement (GSA) with PETRONAS and Power Purchase Agreement (PPA) or Service Level Agreement (SLA) with TNB which are subjected to central dispatch by the System Operator;
Power Sector	means that sector of the energy industry in Peninsular Malaysia constituting and comprising the Power Producers;
Service Level Agreement	means the arrangement for procurement of electricity which falls under Section 9E of the Act and that the Service Level Agreements are as contained in SCHEDULE B of these Guidelines;
Shortfall Gas	means the Gas quantity which PETRONAS failed to cumulatively deliver to the Power Sector for any reason other than as a result of force majeure event and emergency situation except where the emergency situation is due to the gross negligence or wilful misconduct of PETRONAS, or inability of Power Sector to accept delivery;
Single Buyer	have the same meaning as defined in the Section 2 of the Act;
System Operator	have the same meaning as defined in the Section 2 of the Act;
Take-or-Pay Quantity	means 85% of net ACQ.

5.0 Key Principles of Gas Delivery and Offtake under Gas Framework Agreement

5.1 The key principles of Gas delivery and offtake under the GFA are as follows:

- (i) Single Buyer shall provide PETRONAS with the relevant quantity of Gas in order for PETRONAS to deliver Gas to the Power Sector;
- (ii) Gas daily offtake by the Power Sector shall be subjected to the gas pricing set by the Government as follows;

Threshold Quantity:

Current threshold quantity is 1000mmscfd and subject to revision by the Government.

Equal or Below Threshold Quantity:

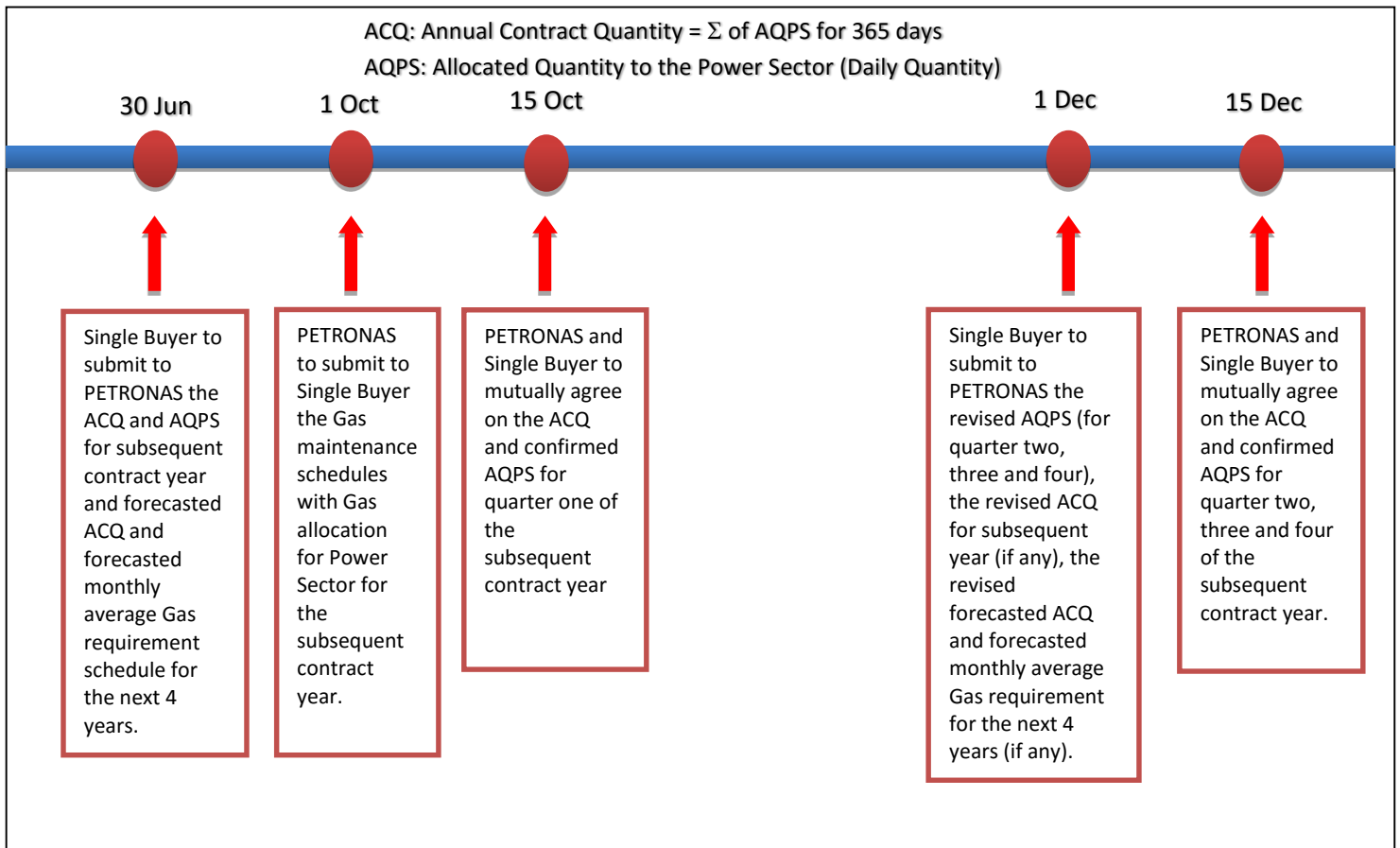
For the volume of Gas equal or below the threshold quantity, the Gas is priced at the regulated price set by the Government for the Power Sector in Peninsular Malaysia, expressed in RM/MMBtu.

Above Threshold Quantity:

For volume of Gas above the threshold quantity, the quarterly Gas price is based on the weighted average price of LNG exported from Bintulu with 15% discount to Power Sector plus the associated delivery costs, and subject to any revision by the Government;

- (iii) The terms in GFA shall prevail over the terms in GSA to the extent of inconsistency in relation to Gas allocation and nominations, Excess Gas, maintenance and operational shutdowns, curtailment, operational flow order, Shortfall, Take-or-Pay and Gas price;
- (iv) The annual forecast and confirmation of Gas requirement process involve the following submission of Gas requirements as illustrated in Figure 1:

Figure 1: Annual Forecast and Confirmation of Gas Requirement Process



- (v) A written nomination of Gas shall be submitted by Single Buyer to PETRONAS on or before 12.00 p.m. on each day in relation to quantities of Gas to be cumulatively delivered by PETRONAS to the Power Sector on the delivery day;
- (vi) Any deviation above or below a tolerance from the daily nominated Gas quantity to be taken by the Power Sector shall be defined as Excess Gas or Shortfall Gas respectively;
- (vii) For any Excess Gas quantity exceeding Power Sector's operational allowance, TNB shall pay or caused to be paid to PETRONAS the Excess Gas price and associated charges in respect of the Excess Gas quantity;
- (viii) In the event that PETRONAS fails to deliver the nominated volume, TNB shall be compensated for any Shortfall Gas quantity exceeding PETRONAS's operational allowance;

- (ix) A minimum Gas offtake by Power Sector in a year must be at least 85% of the net ACQ, defined as Take-or-Pay quantity;
- (x) PETRONAS may curtail the delivery of Gas to the Power Sector during a Gas supply deficiency resulting from an operational shutdown, a maintenance shutdown, an emergency situation or a force majeure event under the GFA;
- (xi) The billing arrangement under GFA for allocation of Gas to Power Sector shall be as described under paragraph 6.0 of this Guidelines.

6.0 Billing and Payment of Gas Delivered to the Power Sector

6.1 The billing arrangement shall include the following:

- (i) PETRONAS shall invoice each Power Producer as listed in SCHEDULE B as per their respective periodical invoice period as specified in the table in SCHEDULE B, as follows:

$$INV_{PPRP} = Q_{PPRP} \times \frac{RP}{CF}$$

Where

- | | |
|--------------|---|
| INV_{PPRP} | : The amount to be invoiced to each Power Producer listed in SCHEDULE B, expressed in Ringgit Malaysia. |
| Q_{PPRP} | : The quantity of Gas delivered by PETRONAS to each Power Producer that are listed in SCHEDULE B within the periodical invoice period as specified in the table in SCHEDULE B, expressed in GJ. |
| RP | : The regulated price of Gas set by the Government for the Power Sector in Peninsular Malaysia, expressed in RM/MMBtu. |

CF : 1.05506, being the conversion factor from MMBtu to GJ.

- (ii) PETRONAS shall invoice each IPP as listed in SCHEDULE C as per their respective periodical invoice period as specified in the table in SCHEDULE C, as follows:

$$INV_{IPP} = Q_{IPP} \times \frac{IPPP}{CF}$$

Where

INV_{IPP} = The amount to be invoiced to each IPP listed in SCHEDULE C, expressed in Ringgit Malaysia.

Q_{IPP} = The quantity of Gas delivered by PETRONAS to each IPP that are listed in SCHEDULE C within the periodical invoice period as specified in the table in SCHEDULE C, expressed in GJ.

$IPPP$ = RM6.40/MMBtu, or such other price of Gas set by the Government to be billed by PETRONAS to the IPPs listed in SCHEDULE C, expressed in RM/MMBtu.

CF = 1.05506, being the conversion factor from MMBtu to GJ.

- (iii) TNB shall pay to PETRONAS the Gas differential payment, which shall be calculated as follows:

$$GDP = GDP_A + GDP_B$$

Where

GDP = The Gas differential payment, expressed in Ringgit Malaysia.

GDP_A = The amount to be calculated in the following manner:

$$GDP_A = Q_A \times \left(\frac{RP}{CF} - \frac{IPPP}{CF} \right)$$

Where

Q_A = The quantity of Gas delivered by PETRONAS to each IPP as listed in SCHEDULE C in such periodical invoice period, expressed in GJ.

RP = The regulated price of Gas set by the Government for the Power Sector in Peninsular Malaysia, expressed in RM/MMBtu.

IPPP = RM6.40/MMBtu, or such other price of Gas set by the Government to be billed by PETRONAS to the IPPs as listed in SCHEDULE C, expressed in RM/MMBtu.

CF = 1.05506, being the conversion factor from MMBtu to GJ.

GDP_B = The amount to be calculated in the following manner:

$$GDP_B = Q_B \times \left(CP - \frac{RP}{CF} \right)$$

Where

Q_B = The quantity of Gas cumulatively delivered by PETRONAS to the Power Sector within Single Buyer's periodical invoice period as specified in SCHEDULE B and SCHEDULE C which exceeds the threshold quantity set to the Power Sector, expressed in GJ.

CP = The applicable contract price of Gas for such periodical invoice period, expressed in RM/GJ.

RP = The regulated price of Gas set by the Government for the Power Sector in Peninsular Malaysia, expressed in RM/MMBtu.

CF = 1.05506, being the conversion factor from MMBtu to GJ.

- (iv) In the event the billing arrangement as per paragraph 6.1 (ii) is discontinued on the direction of the Government, for so long as there is a regulated price of Gas set by the Government for the Power Sector in Peninsular Malaysia, then GDP_A as stipulated in paragraph 6.1 (iii) shall not apply and the value of "IPPP" in paragraph 6.1 (ii) shall be equal to the value of such regulated price of Gas.
- (v) If there is no regulated price of Gas set by the Government for the Power Sector in Peninsular Malaysia, paragraph 6.1 shall not apply and each Power Producer shall be invoiced in accordance with the relevant GSAs.

7.0 Obligation of the Power Producers

- 7.1 For the purpose of the Single Buyer to effectively nominate the ACQ of Gas for submission to PETRONAS under paragraph 5.1, Power Producers shall submit to the System Operator the required information on Planned Generator Outage Schedule for the purpose of forecasting and confirming the Gas requirements.
- 7.2 Power Producers shall declare to Single Buyer and PETRONAS its daily planned Gas consumption other than for the purpose of serving the grid on a weekly basis, of which this daily planned Gas consumption shall not be considered under the Power Sector Gas volume. The Gas not considered under Power Sector Gas volume is Gas used for the following purposes;
- (i) Internal testing (including internal Gas usage by the Power Producers prior to dispatch instruction by System Operator);
 - (ii) Auxiliary usage; and
 - (iii) Any generation of electricity to serve other customers.
- 7.3 Subject to paragraph 7.2, Power Producers will pay or cause to be paid the volume of Gas and as invoiced by PETRONAS.

8.0 Obligation to Provide Information

- 8.1 In managing the Gas utilisation to the Power Sector in terms of nomination, scheduling, and billing management, the Single Buyer and the System Operator shall, upon request, provide such information to the Commission under these Guidelines.
- 8.2 PETRONAS being the supplier of Gas to the Power Sector shall provide relevant data or access to available monitoring system on Gas consumption volume on hourly basis by Power Producers to Single Buyer and/or the System Operator.
- 8.3 PETRONAS shall provide TNB with a copy of the relevant invoice, debit note and credit note sent to the Power Producers.

8.4 The Power Producers shall provide any relevant information related to Gas utilisation, upon request by the Commission, PETRONAS, TNB, Single Buyer and/or the System Operator.

9.0 Notice by Commission

9.1 The Commission may issue written notices from time to time in relation to the implementation of these Guidelines.

10.0 Amendment and Variation

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

Dated: 24 Mar 2017



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

SCHEDULE A - GAS SALES AGREEMENTS FOR THE POWER PRODUCERS

NO.	POWER PRODUCER	GAS SALES AGREEMENT	EXPIRY DATE OF GAS SALES AGREEMENT
1.	Tenaga Nasional Berhad (200866-W)	Agreement For Sale And Purchase Of Dry Gas Between Petroliam Nasional Berhad and Tenaga Nasional Berhad dated 1 August 2016	31 July 2026
2.	Kuala Langat Power Plant Sdn. Bhd. <i>(formerly known as Genting Sanyen Power Sdn. Bhd.)</i> (206361-W)	Gas Sales Agreement Between Petroliam Nasional Berhad and Genting Sanyen Power Sdn. Bhd. dated 28 February 2013	22 February 2026
3.	Powertek Bhd. (209010-D)	Gas Sales Agreement Between Petroliam Nasional Berhad and Powertek Sdn. Bhd. dated 26 February 2016	1 January 2020
4.	Port Dickson Power Bhd. (263941-V)	Gas Sales Agreement Between Petroliam Nasional Berhad and and Port Dickson Power Sdn. Bhd. dated 22 February 2016	1 March 2019
5.	Segari Energy Ventures Sdn. Bhd. (248091-X)	Gas Sales Agreement Between Petroliam Nasional Berhad and Segari Energy Ventures Sdn. Bhd. dated 17 July 1993	30 June 2027
6.	Pahlawan Power Sdn. Bhd. (467847-U)	Agreement For Sale And Purchase Of Dry Gas Between Petroliam Nasional Berhad and Pahlawan Power Sdn. Bhd. dated 30 July 1999	1 August 2020
7.	GB3 Sdn. Bhd. (523034-M)	Agreement For Sale And Purchase Of Dry Gas Between Petroliam Nasional Berhad and GB3 Sdn. Bhd. dated 6 September 2001	30 December 2022
8.	Panglima Power Sdn. Bhd. (529391-K)	Agreement For Sale And Purchase Of Dry Gas Between Petroliam Nasional Berhad and Panglima Power Sdn. Bhd. dated 11 January 2002	27 February 2023

NO.	POWER PRODUCER	GAS SALES AGREEMENT	EXPIRY DATE OF GAS SALES AGREEMENT
9.	Prai Power Sdn. Bhd. (506784-H)	Agreement For Sale And Purchase Of Dry Gas Between Petroliam Nasional Berhad and Prai Power Sdn. Bhd. dated 9 April 2002	29 February 2024
10.	Teknologi Tenaga Perlis Consortium Sdn. Bhd. (393788-H)	Agreement For Sale And Purchase Of Dry Gas Between Petroliam Nasional Berhad and Teknologi Tenaga Perlis Consortium Sdn. Bhd. dated 24 Jun 2002	30 September 2024
11.	TNB Pasir Gudang Energy Sdn. Bhd. (1023136-V)	Gas Sales Agreement Between Petroliam Nasional Berhad and TNB Pasir Gudang Energy Sdn. Bhd. Dated 28 February 2013	31 August 2022
12.	TNB Prai Sdn. Bhd. (1023136-V)	Gas Sales Agreement Between Petroliam Nasional Berhad and TNB Prai Sdn. Bhd. Dated 28 February 2013	31 December 2036
13.	Pengerang Power Sdn. Bhd. (1089490-K)	Gas Sales Agreement Between Petroliam Nasional Berhad and Pengerang Power Sdn. Bhd. dated 1 July 2016	1 January 2044
14.	Kapar Energy Ventures Sdn. Bhd. (518564-T)	Gas Sales Agreement Between Petroliam Nasional Berhad and Kapar Energy Ventures Sdn. Bhd.	1 January 2029

PETRONAS and TNB shall from time to time vary the Agreement in writing to acknowledge the addition or omission of Power Producers in the above table.

END OF SCHEDULE

SCHEDULE B – POWER PURCHASE AND SERVICE LEVEL AGREEMENTS FOR THE POWER PRODUCERS

NO.	POWER PRODUCER	POWER PURCHASE AGREEMENT /SERVICE LEVEL AGREEMENT TITLE	EXPIRY DATE OF POWER PURCHASE AGREEMENT/ SERVICE LEVEL AGREEMENT	PERIODICAL INVOICE PERIOD AS SPECIFIED IN RESPECTIVE GAS SALES AGREEMENTS
1.	Sultan Iskandar Power Station	Service Level Agreement For Power Purchase From The Sultan Iskandar Power Station Generating Facility In Pasir Gudang, Johor ("PGPS") Between Transmission Division And Generation Division ("GD") Dated 21 August 2007	31 August 2017	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
2.	Sultan Ismail Power Station	Service Level Agreement For Power Purchase From The Sultan Ismail Power Station Generating Facility In Paka, Terengganu Between Transmission Division And Generation Division dated 21 August 2007	31 August 2017	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
3.	Connaught Bridge Power Station	Service Level Agreement For Power Purchase From The Connaught Bridge Power Station Generating Facilities in Klang, Selangor Between Transmission Division And Generation Division dated 21 August 2007	GF1: 31 December 2018 GF2: 31 March 2016	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday

NO.	POWER PRODUCER	POWER PURCHASE AGREEMENT /SERVICE LEVEL AGREEMENT TITLE	EXPIRY DATE OF POWER PURCHASE AGREEMENT/ SERVICE LEVEL AGREEMENT	PERIODICAL INVOICE PERIOD AS SPECIFIED IN RESPECTIVE GAS SALES AGREEMENTS
4.	Putrajaya Power Station	Service Level Agreement For Power Purchase From The Putrajaya Power Station Generating Facility in Serdang, Selangor Between Transmission Division And Generation Division dated 21 August 2007	31 August 2025	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
5.	Gelugor and Teluk Ewa Power Station	Service Level Agreement For Power Purchase From The Gelugor and Teluk Ewa Power Station Generating Facilities in Gelugor, Pulau Pinang and Langkawi, Kedah Between Transmission Division And Generation Division dated 21 August 2007	31 August 2024	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
6.	Tuanku Jaafar Power Station	Service Level Agreement For Power Purchase From The Tuanku Jaafar Power Station Generating Facility in Port Dickson, Negeri Sembilan Between Transmission Division And Generation Division dated 21 August 2007	31 August 2028	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
7.	Tuanku Jaafar Power Station (Phase II)	Service Level Agreement For Power Purchase From The Tuanku Jaafar Power Station (Phase II) Generating Facility in	23 January 2030	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the

NO.	POWER PRODUCER	POWER PURCHASE AGREEMENT /SERVICE LEVEL AGREEMENT TITLE	EXPIRY DATE OF POWER PURCHASE AGREEMENT/ SERVICE LEVEL AGREEMENT	PERIODICAL INVOICE PERIOD AS SPECIFIED IN RESPECTIVE GAS SALES AGREEMENTS
		Port Dickson, Negeri Sembilan Between Planning Division And Generation Division dated 10 December 2008		following Sunday
8.	Kuala Langat Power Plant Sdn Bhd. <i>(formerly known as Genting Sanyen Power Sdn. Bhd.)</i> (206361-W)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and Genting Sanyen Power Sdn. Bhd. (206361-W) dated 25 February 2013	22 February 2026	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
9.	Port Dickson Power Bhd. (263941-V)	Power Purchase Agreement Between Tenaga Nasional Berhad and Port Dickson Power Sdn. Bhd. (263941-V) dated 10 December 1993	28 February 2019	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
10.	Powertek Sdn. Bhd. (209010-D)	Power Purchase Agreement Between Tenaga Nasional Berhad and Powertek Sdn. Bhd. (209010-D) dated 10 December 1993	31 December 2019	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
11.	Kapar Energy Ventures Sdn. Bhd (518564-T)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and Kapar Energy Ventures Sdn. Bhd. (518564-T) dated 31 July 2000	8 July 2029	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday

NO.	POWER PRODUCER	POWER PURCHASE AGREEMENT /SERVICE LEVEL AGREEMENT TITLE	EXPIRY DATE OF POWER PURCHASE AGREEMENT/ SERVICE LEVEL AGREEMENT	PERIODICAL INVOICE PERIOD AS SPECIFIED IN RESPECTIVE GAS SALES AGREEMENTS
12.	TNB Prai Sdn. Bhd. (500784-D)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and TNB Prai Sdn. Bhd. (500784-D) dated 30 November 2012	19 February 2037	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
13.	TNB Connaught Bridge Sdn. Bhd. (1048698-D)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and TNB Connaught Bridge Sdn. Bhd. (1048698-D) dated 29 April 2015	26 February 2037	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
14.	TNB Pasir Gudang Energy Sdn. Bhd. (1023136-V)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and TNB Pasir Gudang Energy Sdn. Bhd. (1023136-V) dated 25 February 2013	31 August 2022	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
15.	Pengerang Power Sdn. Bhd. (1089490-K)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and Pengerang Power Sdn. Bhd. (1089490-K) dated 5 May 2016	31 May 2038	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday

PETRONAS and TNB shall from time to time vary the Agreement in writing to acknowledge the addition or omission of Power Producer in the above table.

END OF SCHEDULE

SCHEDULE C – POWER PURCHASE AGREEMENTS FOR THE IPPS

NO.	IPP	POWER PURCHASE AGREEMENT	EXPIRY DATE OF POWER PURCHASE AGREEMENT	PERIODICAL INVOICE PERIOD AS SPECIFIED IN RESPECTIVE GAS SALES AGREEMENTS
1.	Segari Energy Ventures Sdn. Bhd. (248091-X)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and Segari Energy Ventures Sdn. Bhd. (248091-X) dated 25 February 2013	30 June 2027	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
2.	Panglima Power Sdn. Bhd. (529391-K)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and Panglima Power Sdn. Bhd. (529391-K) dated 16 July 2001	27 February 2023	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday
3.	Pahlawan Power Sdn. Bhd. (467847-U)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and TNB Pahlawan Power Sdn. Bhd. (467847-U) dated 2 February 1999	5 August 2020	Six (6) a.m. Malaysian time on Tuesday and ending at six (6) a.m. Malaysian time on the following Tuesday
4.	Prai Power Sdn. Bhd. (506784-H)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and SKS Ventures Sdn. Bhd. (285030-X) dated 2 August 2000	19 June 2024	Six (6) a.m. Malaysian time on Monday and ending at six (6) a.m. Malaysian time on the following Monday
5.	Teknologi Tenaga Perlis Consortium Sdn. Bhd. (393788H)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and Teknologi Tenaga Perlis Consortium Sdn. Bhd. (393788H) dated 26 May 1998	12 March 2023	Six (6) a.m. Malaysian time on Sunday and ending at six (6) a.m. Malaysian time on the following Sunday

NO.	IPP	POWER PURCHASE AGREEMENT	EXPIRY DATE OF POWER PURCHASE AGREEMENT	PERIODICAL INVOICE PERIOD AS SPECIFIED IN RESPECTIVE GAS SALES AGREEMENTS
6.	GB3 Sdn. Bhd. (523034-M)	Power Purchase Agreement Between Tenaga Nasional Berhad (200866-W) and GB3 Sdn. Bhd. (523034-M) dated 28 June 2001	30 December 2022	Six (6) a.m. Malaysian time on Monday and ending at six (6) a.m. Malaysian time on the following Monday

PETRONAS and TNB shall from time to time vary the Agreement in writing to acknowledge the addition or omission of IPPs in the above table.

END OF SCHEDULE



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