



TNB FUEL SERVICES SDN. BHD.

(a wholly owned subsidiary of Tenaga Nasional Berhad)

PRE-QUALIFICATION OF COAL BLEND / COAL BRAND FOR TNB FUEL SERVICES SDN. BHD. MALAYSIA

TNBF NO. PQ 01/24

PRE-QUALIFICATION DOCUMENT

DOCUMENT SALES FROM : 25 March 2024 – 30 November 2024

LAST DAY OF SUBMISSION : 31 December 2024

For any further information/clarification,
please contact:

Coal Specification & Technical Consultation

Naufal Qeis Nah Wan (+6016 689 8395)

Document Sales & Submission

Mastura Musa (+6019 359 4595)

Norjannah Musa (+6019 809 1989)

**TNB FUEL SERVICES SDN. BHD.
LEVEL 3, TOWER 1, UOA BUSINESS PARK,
NO. 1, JALAN PENGATURCARA U1/51A,
KAWASAN PERINDUSTRIAN TEMASYA, 40150
SHAH ALAM, SELANGOR, MALAYSIA
Tel: +603 2240 9172**

**Document Price:
RM5,500.00 or
USD1,300.00 net (including bank charges)**

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SECTION 1.0 - Instructions to Applicant

1.1 Objective The objective of this document is to prequalify the Coal Blend / Coal Brand for supply to TNB Fuel Services Sdn. Bhd. (“TNBF”). The document contains the information and instructions to the Applicant on the Pre-Qualification Exercise.

1.2 Background Information Tenaga Nasional Berhad (“TNB”) is a public listed utility with its main business in the generation, transmission, and distribution of electrical energy throughout Peninsular Malaysia.

TNB Fuel Services Sdn. Bhd. (“TNBF”) is a wholly owned subsidiary of TNB. TNBF’s core business activity is to undertake supply and delivery of fuel including but not limited to coal for all TNB’s subsidiaries and other coal-fired Independent Power Producers (“IPPs”) in Malaysia that have entered Power Purchase Agreement (“PPA”) with TNB.

1.3 Invitation to Participate The following parties:

- i. coal mine owners;
- ii. coal producers;
- iii. international traders;
- iv. marketing arm; or
- v. agents / promoters

hereinafter called the “Applicant(s)”, are invited to participate in the Pre-Qualification Exercise.

Pre-Qualification Exercise is not a tender exercise. There shall be no award of contracts to this Pre-Qualification Exercise.

1.3.1 Successful Prequalified Applicants/ Contracting Party The successful prequalified Applicants/Contracting Party may be invited to participate in either of TNBF’s future spot and/or long term coal tenders for the Coal Blend / Coal Brand submitted in this Pre-Qualification Exercise.

All Applicants shall be notified in writing, upon evaluation of data submitted, whether they are prequalified (or otherwise) to supply to TNBF. The successful prequalified Applicants will have a validity period of three (3)2 years.

1.3.2 Contracting Parties and Coal Quality Data If the prequalified Applicant/Contracting Party is successful in any of the TNBF’s coal tender exercises, TNBF will have the contract with mine owner, mine producer or international trader only. The Applicant/Contracting Party may be awarded contract(s) based on the Coal Quality Data submitted in the Pre-Qualification Exercise. The submitted Coal Quality Data by the Applicant/Contracting Party during this Pre-Qualification Tender Exercise shall be valid for the duration of the awarded contract(s).

TNBF reserves the right to withdraw any tender submission that it is found to be non-compliant to Pre-qualified coal quality specifications.

1.4 Entitlement of Submission for Coal Blend / Coal Brand	<p>The Applicant can propose only one Coal Blend / Coal Brand for each Pre-Qualification submission (the “Submission”). Applicant may submit multiple Submissions, provided that all Submissions must use original documents purchased.</p> <p>The Coal Blend / Coal Brand name must be clearly stated in Schedule A.</p>
1.5 Basis of Supply	<p>TNBF will purchase coal on a FOB INCOTERMS 2020 basis and will arrange all coal transportation to the coal-fired IPPs from the supplier’s Load Port. However, TNBF also reserves its right to purchase coal on CFR or DAP INCOTERMS 2020 basis subject to its requirements.</p>
1.6 Submission of Proposal	<p>The Submission must be submitted using the original documents with all the Schedules duly filled and signed (where applicable).</p>
1.6.1 Data Submission	<p>The Submission for this Pre-Qualification Exercise shall include all documents, information and data necessary to complete the requirements of the document in all respects. In particular, the Submission shall be accompanied by the following:</p> <ul style="list-style-type: none"> i. Schedule A Coal Quality Data ii. Schedule B Applicant’s Details iii. Schedule C Mine Profile iv. Schedule D Loading Port Details v. Schedule E Additional Information (for International Traders Only) vi. Schedule F Checklist <p>Failure to submit all the necessary documents, information and data may render the submission to be incomplete and therefore may be rejected.</p>
1.6.2 Language of Submission	<p>All correspondences and documents in connection with this Submission and Agreement shall be in the English Language.</p>
1.6.3 Submission Deadline	<p>All Submissions shall be submitted online via https://tnbfebid.com/ before or by <u>31st December 2024</u></p> <p>TNBF reserves the right not to evaluate the submission (NULL and VOID) if the document received is incomplete in part or in full.</p>
1.6.4 Submission Validity	<p>The Submission must be valid for at least 3 years from the submission date to enable the successful Applicant/Contracting Party to participate in any of TNBF’s coal tender exercise for that duration.</p>

1.6.5 Rejection of Post-Deadline Submission	Any Submission proposal received after the above closing date will NOT be evaluated and deem rejected for the current prequalification exercise period. Applicant(s) may resubmit their applications in the next prequalification exercise period.
1.6.6 Cost of Submission	TNBF shall not be responsible for, nor pay for, any expense or loss, which may be incurred by the Applicant in completing and submitting the Submission.
1.6.7 Submission Evaluation	Evaluation of Submissions shall be based on but not limited to the following: <ul style="list-style-type: none"> i. Compliance with boiler design specification; ii. Evaluation of the coal performance through desktop modelling and/or any other method of evaluating the coal performance in the boiler; and iii. Compliance with Submission instructions and requirements as required in Schedule A – F.
1.7 Clarification Meetings	TNBF may require relevant Applicants to attend the clarification meetings during the evaluation stage of this Pre-Qualification Exercise.
1.8 Due- Diligence	TNBF may send a due-diligence team to carry out a due-diligence exercise on the Applicant's coal mine and supply chain. Applicant is required to assist the arrangement of due diligence exercise and ensure the mine is accessible by the appointed due diligence team.
1.9 Notification of Successful Pre-Qualified Coal Supplier	The successful pre-qualified Coal Supplier shall be notified officially by TNBF. This Document Submission shall not be treated as successful notification whatsoever, unless officially notified by TNBF.
1.10 TNBF's Rights	TNBF is not obliged to inform any reasons for the rejection of any Submission or whether the Applicant is successfully prequalified or otherwise. TNBF also reserves its right to alter / change or modify any of the contents in this document as and when required.
1.11 No Misleading Information	All written information supplied by the Applicant in the Submission document are true, complete and accurate in all material respects at the date it was given and is not misleading in any respect.
1.13 Sanction Clause	<p>a. The Applicants/Contracting Party shall ensure that on a continuing basis and at all times that they, their agents, sub-contractors, financial institutions and any other related entities dealing directly or indirectly with TNBF are not subject to Sanctions or a Listed Party.</p> <p>b. For the purpose of this clause:</p>

“**Sanctions**” shall mean economic or financial sanctions or trade embargoes or trade restrictions or similar or equivalent restrictive measures imposed, administered, enacted or enforced from time to time by the UN, US, EU, UK or other applicable sanctions authority.

“**Listed Party**” shall mean any party listed on the US OFAC Foreign Asset Control List, or similar EU or UK lists of sanctioned or restricted parties.

- c. The Applicants/Contracting Party ensure that to the best of their knowledge:
- i. The cargo has not been purchased from any sanctioned entities and Listed Party; and
 - ii. None of the shippers, receivers or cargo interests are a sanctioned entity and Listed Party.

In view of this, the Applicants shall also be required to sign and submit the TNBF Integrity Pact & TNBF Sanction Declaration Form (part of the documents required under Schedule F – Checklist).

**1.14
Confidentiality
and Personal
Data
Protection**

The Applicant shall treat this document and everything within it as private and confidential. The Applicant shall not publish or release information or drawings relating to this document except with prior written consent of TNBF.

TNBF and the Applicant agree to comply at all times with provisions and obligations contained in all applicable laws and regulations in Malaysia, including but not limited to the Personal Data Protection Act 2010.

For the purpose of information and notification, TNB’s Personal Data Protection Policy can be accessed at <https://www.tnb.com.my/pdpa>

**1.15
Further
Information**

TNBF may require the Applicant to furnish other information or documents, which TNBF considers necessary in the evaluation and selection exercise.

Further information and clarification on the documents may be obtained on application in writing or telefax to:

MANAGING DIRECTOR
LEVEL 3, TOWER 1, UOA BUSINESS PARK,
NO. 1, JALAN PENGATURCARA U1/51A,
KAWASAN PERINDUSTRIAN TEMASYA,
40150 SHAH ALAM, SELANGOR,
MALAYSIA

[END OF SECTION 1.0]

SECTION 2.0 – General Specification and Requirement

2.1 General Specification of IPP(s)	<p>This section specifies the general specification of IPP(s).</p> <p>The following are the coal-fired IPPs in Malaysia that have entered into Power Purchase Agreement (“PPA”) with TNB:</p>
2.1.1 Kapar Energy Ventures Sdn. Bhd.	<p>Kapar Energy Ventures is a coal-fired IPP situated in the district of Klang, Selangor. It is partly owned by TNB but operated as a full-fledged IPP. The IPP has a capacity of 1600MW of coal-fired generation capacity consisting of two units of 300MW each and two units of 500MW each. The IPP utilises bituminous coals only.</p>
Coal Receiving Facility	<p>The IPP’s coal receiving facility is designed to unload vessels of up to Panamax sizes, where the site has access to deep water maximum of 13.1 m draft during high tide. The facility is not suitable for barge discharging.</p>
2.1.2 TNB Janamanjung Sdn. Bhd. (Manjung 1,2 and 3)	<p>TNB Janamanjung is a coal-fired IPP in the district of Manjung, Perak and a wholly owned subsidiary of TNB. The IPP has a total capacity of 2,100 MW, consisting of three coal-fired units of 700MW each. The IPP utilises sub-bituminous coals. It is also capable of burning bituminous coals in the event of emergency.</p>
Coal Receiving Facility	<p>The IPP’s coal receiving facility is designed to unload vessels of up to Capesize, where the site has access to deep water of 18 m draft. The facility is not suitable for barge discharging.</p>
2.1.3 Tanjung Bin Power Sdn. Bhd.	<p>Tanjung Bin Power is a coal-fired IPP situated near the southern tip of Peninsular Malaysia, in the district of Mukim Serkat, Pontian, Johor. The IPP has a capacity of 2,100 MW, consisting of three coal-fired Units of 700 MW each. The IPP is capable of burning sub-bituminous and bituminous coal blend.</p>
Coal Receiving Facility	<p>The IPP’s coal receiving facility is designed to unload vessels of up to Capesize, where the site has access to deep water of 16.5 m draft. The facility is not suitable for barge discharging.</p>
2.1.4 Jimah Energy Ventures Sdn. Bhd.	<p>Jimah Energy Ventures is a coal-fired IPP situated in the state of Negeri Sembilan. The IPP has a total capacity of 1,400 MW, consisting of two coal-fired units of 700 MW each. The IPP is capable of burning sub-bituminous and bituminous coal blend.</p>
Coal Receiving Facility	<p>The IPP’s coal receiving facility is designed to unload vessels of up to Capesize, where the site has access to deep water of 18 m draft. The facility is not suitable for barge discharging.</p>

**2.1.5
TNB
Janamanjung
Sdn. Bhd.
(Manjung 4)** Manjung 4 is operated by TNB Janamanjung Sdn. Bhd. (TNBJ) is a coal-fired IPP in the district of Manjung, Perak and a wholly owned subsidiary of TNB. The IPP consists of a single coal-fired unit of 1,000MW. The IPP utilises **sub-bituminous coals**. It is also capable of burning **bituminous coals** in the event of emergency.

Coal Receiving Facility The IPP's coal receiving facility is designed to unload vessels of up to **Capesize**, where the site has access to deep water of 18 m draft. The facility is not suitable for barge discharging.

**2.1.6
Tanjung Bin
Energy Sdn.
Bhd.** Tanjung Bin Energy is a coal-fired IPP situated near the southern tip of Peninsular Malaysia, in the district of Mukim Serkat, Pontian, Johor. The IPP consists of a single coal-fired unit of 1,000 MW. The IPP utilises **sub-bituminous coals**. It is also capable of burning **bituminous coals** in the event of emergency.

Coal Receiving Facility The IPP's coal receiving facility is designed to unload vessels of up to **Capesize**, where the site has access to deep water of 16.5m draft. The facility is not suitable for barge discharging.

**2.1.7
TNB Manjung
Five Sdn. Bhd.** Manjung Five is operated by TNB Janamanjung Sdn. Bhd. ("TNBJ") is a coal-fired IPP in the district of Manjung, Perak and a wholly owned subsidiary of TNB. The IPP consists of a single coal-fired unit of 1,000 MW. The IPP utilises **sub-bituminous coals**. It is also capable of burning **bituminous coals** in the event of emergency.

Coal Receiving Facility The IPP's coal receiving facility is designed to unload vessels of up to **Capesize**, where the site has access to deep water of 18 m draft. The facility is not suitable for barge discharging.

**2.1.8
Jimah East
Power Sdn.
Bhd.** Jimah East Power Plant is a coal-fired IPP situated in the state of Negeri Sembilan. The IPP has a total capacity of 2,000 MW, consisting of two coal-fired units of 1000 MW each. The IPP is capable of burning **sub-bituminous coal blend (low and medium calorific value) or straight burn coal**.

Coal Receiving Facility The IPP's coal receiving facility is designed to unload vessels of up to **Capesize**, where the site has access to deep water of 18 m draft. The facility is not suitable for barge discharging.

2.2 General Requirement of Coal Quality	This section specifies the general requirement of coal quality.
2.2.1 Suitability at IPP(s)	<p>The Coal Blend / Coal Brand offered must be suitable for use at the IPP(s), which have been designed to burn sub-bituminous and/or bituminous coal with quality range as specified in Annex 1.0.</p> <p>The Coal Blend / Coal Brand offered shall be rejected if the coal quality specification falls outside any of the Coal Quality limits of each IPP.</p>
2.2.2 Stations/IPP(s) Acceptance Base on Fouling and Slagging Index	<p>All coals submitted will be subjected to further evaluation to assess the coal suitability at the coal-fired stations/IPPs including but not limited to, on its slagging fouling propensity and combustion analysis. The coal will be rated from 1-star to 5-star by the stations/IPPs where 5-star is the most prefer coal and 1-star the least prefer.</p> <p>This categorization concludes the station's preference and acceptance on the coal brand. Only coal brand/blend with 3-star and above will be accepted.</p>
2.2.3 Adherence to Coal Quality Limits	Coal Quality limits shall be strictly adhered to when submitting the coal specification in Schedule A .
2.2.4 Furnishing the Coal Quality Data in Full	<p>The Applicant is encouraged to offer a Coal Blend / Coal Brand that meets the boiler design limits of as many coal-fired IPPs, if not all.</p> <p>When completing Schedule A, Applicant's attention is drawn to the specific requirements that all coal quality data must be furnished in full, and that the column for "Typical", "Min" and "Max" value shall only contain one value for each property and shall not be entered as a range of values. If a range of values is entered, the Submission shall be disqualified.</p>

2.3 Qualification of Applicant	<p>This section specifies the qualification for Applicant in participating in the Pre-Qualification Exercise.</p> <p>Applicants, who are International Traders, please refer to Item 2.4.</p>
2.3.1 Mine Owners or Mine Producers	<p>TNBF's preference is Applicants who are Mine Owners or Mine Producers themselves.</p> <p>*For Indonesian Applicants, preference is given to Coal Contract of Works/<i>Perjanjian Karya Pengusahaan Pertambangan Batubara</i> and Large to Medium Scale IUP Producers. Preference is given to Coal Producer / Mine Owner that are members with the Indonesian Coal Mining Association ("ICMA") / <i>Asosiasi Pertambangan Batubara Indonesia</i> ("APBI").</p>
2.3.2 Other than Mine Owners or Mine Producers	<p>The Applicant shall provide an undertaking letter by Mine Owner or Coal Producer. The applicant may provide evidence of the control over the mine and its coal defining the relationship with the Applicant, agreements, contracts, details of company structure, ownership details, audited annual reports, company brochures and other information deemed relevant as specified in Schedule F (a).</p>
2.3.3 Contracting Parties	<p>Upon successful tender submission, the contract will be issued to the contracting Party only, not to the Applicant, unless the Applicant is Mine Owner, Producer or International Trader.</p>
2.3.4 Rights Granted by Authorities	<p>The Applicant may submit a letter on its company letterhead affirming that rights granted by the relevant Country Authority to produce, blend, trade, sell and export coal from mine(s) as specified in Schedule F (b).</p> <p>TNBF may require Applicant to submit other documents/evidences to further demonstrate such exercise of control i.e. Copies of the relevant permits, licenses or leases based on the Government regulatory requirement i.e. Mining Permit, Blending Permit, Trading Permit and Export Permit.</p> <p>* For Indonesian Applicants, please provide the relevant:</p> <ol style="list-style-type: none"> 1. Mining Permit Details based on the Relevant Government Authority (Coal Contract of Works/<i>Perjanjian Karya Pengusahaan Pertambangan Batubara</i>; <i>Izin Usaha Pertambangan Operasi Produksi</i> and etc.) 2. Blending Permit Details based on Relevant Government Authority (<i>Izin Usaha Pertambangan Operasi Produksi Khusus untuk Pengolahan dan Pemurnian, Persetujuan Izin Blending, Persetujuan Pencampuran Batubara PT... Dengan PT ...</i>, etc.) 3. Export Permit (<i>Eksportir Terdaftar</i>) for the approved mine concession to export
2.3.5 Applicants Nomination	<p>The mine that has been prequalified may be allowed to nominate the same or a different Applicant to represent the mine in TNBF's tenders. The prequalified specifications of the Coal Blend / Coal Brand from the prequalified mine has to be maintained.</p>

**2.3.6
Experience
and Track
Record**

The Applicant may submit proof that the company has experience and track record in supplying coal to reputable Power Utilities in the region i.e. Japan, Taiwan and Korea. Please refer to **Schedule B Item 11**.

The Applicant may submit copies of 3 latest shipment Bill of Ladings for vessel / barge, its 3 respective Certificate of Sampling and Analysis, its 3 respective Certificate of Origin (COO) for the Coal Blend / Coal Brand proposed and for Indonesian shipments, its respective *Laporan Surveyor Ekspor and Eksporir Terdaftar for export cargo*. Please refer to **Schedule B Item 13**.

For coal originating from Indonesia, where coal has been loaded by barges, please also attach the latest breakdown of the 3 shipments mentioned earlier. The Applicants may submit the relevant 7 to 9 barges documentation and coal sources for complete full load of each Mother Vessel shipments. Please refer to **Schedule B Item 14**.

**2.3.7
Sufficient Coal
Reserves**

The Applicant may need to confirm that it has sufficient coal reserves to satisfy the obligations of the Submission and that it undertakes to deliver only coal from such mine(s).

Please furnish the coal mine concession/geological survey on the coal resources, reserves, quality etc. based on International Standards report i.e. Joint Ore Reserves Committee Code (JORC Code), South African Code for the Reporting of Mineral Resources and Mineral Reserves (SAMREC), Standard National Indonesia (SNI) or equivalent.

**2.4
Qualification
of
International
Traders**

This section specifies the requirement for Applicants (International Traders) in participating in the Pre-Qualification Exercise.

**2.4.1
Definition of
International
Trader**

International Trader is defined as an exclusively duly authorized international sales company of the proposed mine who has the exclusive right to sell the coal produced from the proposed mine to the international market.

The accumulated traded coal quantity required is not less than **300,000mt per annum for the last three (3) years**.

For Malaysian International Trader - The accumulated traded quantity required is not less than **150,000mt** in any one year in the last three (3) years of dry commodities i.e. iron ore, coal, grain, bauxite and alumina, phosphate rock etc.

**2.4.2
Required
Documents**

The International Traders may submit all the documents required i.e. **Schedule A – D** together with additional information in **Schedule E**.

**2.4.3
Track Records**

The Trader may submit in **Schedule E** the track records of at least 1 year of coal shipments listing the Vessel Name, Coal Blend / Coal Brand, Customer Name, Country, Quantity, Bill of Lading Date, copies of Bill of Ladings, copies of Certificate of Sampling and Analysis and the relevant *Eksporir Terdaftar for export cargo* (for coal originating from Indonesia) in **Schedule E Item (1)**.

The Trader name should be stated in the Bill of Ladings as Shipper.

**2.4.4
Supply to
Power Utilities**

The Trader may prove that it has supplied the offered Coal Blend / Coal Brand to reputable Power Utilities.

**2.4.5
Back-to-back
Supply
Agreement**

The Trader must submit proof of a back-to-back Supply Agreement with Mine Owner/s or Coal Producer/s for the proposed Coal Blend / Coal Brand specified in **Schedule A**. This proof must be submitted in **Schedule E Item (4)**.

The Mine Owner/s or Coal Producer/s must be an international reputable supplier with established track record in sea-borne trade with reputable utilities. The **Schedule C** of the submission shall be completed with the particulars of the Mine Owner/s or Coal Producer/s which produces the Coal Blend / Coal Brand as submitted in **Schedule A**.

* Indonesian Traders shall provide the respective:

1. Blending Permit Details based on Relevant Government Authority (*Izin Usaha Pertambangan Operasi Produksi Khusus untuk Pengolahan dan Pemurnian, Persetujuan Izin Blending, Persetujuan Pencampuran Batubara PT... Dengan PT ... and etc.*)
 2. Trading Permit Details based on Relevant Government Authority (*Izin Usaha Pertambangan Operasi Produksi Khusus Pengangkutan dan Penjualan*) for the approved mine concession to trade.
 3. Export Permit (*Eksportir Terdaftar*) for the approved mine concession to export.
-

**2.5
General
Requirement
on Proposed
Coal Mine**

This section specifies the requirement of proposed coal mines.

**2.5.1
Operation and
Permit**

The proposed mine **MUST** be in operation.

The proposed mine must hold a valid mining permit issued by competent governmental authority.

**2.5.2
Minimum
Production
and Projected
Production
Required**

Coals produced as per below may be considered:

- i. a minimum actual production of **1.0 Mtpa** in previous year: and
 - ii. a minimum projected production of **1.0 Mtpa** for the upcoming year and throughout the validation period.
-

**2.5.3
Source and
Proportion of
Blending**

For coal that does not originate from a single mine, Applicants shall indicate clearly the source, coal quality data and proportion of blending that makes up the offered Coal Blend / Coal Brand in **Schedule C Item 2**.

TNBF reserves the right to reject blended coal that it considers unsuitable for burning at the coal-fired IPPs.

**2.5.4
Coal
Washing**

The Applicant shall indicate clearly whether the Coal Blend / Coal Brand offered is **washed, unwashed or partly washed** in **Schedule C Item 4** and shall provide detailed description of the washing processes and equipment in **Schedule F (e)**.

**2.5.5
Copies of
Certificate of
Analysis and
Related
Information**

The Applicants may submit the following documents for the Coal Blend / Coal Brand offered:

- i. Copies of “as loaded” Certificate of Sampling and Analysis, from reputable international independent surveyors, carried out on approximately 3 latest previous shipments Handymax, Panamax or Capesize of the Coal Blend / Coal Brand offered in **Schedule B Item 13**.
 - ii. Applicants may submit upon official TNBF request any bench scale or pilot scale or full scale combustion test reports on the Coal Blend / Coal Brand offered to enable TNBF to fully evaluate the suitability of the offered coal.
-

**2.5.6
Loading Port
Details**

The Applicant shall be required to fill up **Schedule D** on details of the loading port for the Coal Blend / Coal Brand submitted in **Schedule A**. If there are more than one loading port available please copy **Schedule D** and fill in the details of each port separately.

Information on the available inspection firms operating at the loading port shall also be furnished. Detailed information on the sampling and analysis facilities (automatic or manual) at loading port shall be included in **Schedule F (h)**.

**2.5.7
Export Record
Details**

The Applicant shall provide information on Coal Blend / Coal Brand offered as required in **Schedule F** to enable TNBF to establish the consistency of coal quality, long term reliability and experience of the Coal Producer or Owner in coal export.

- i. Export record of the proposed coal over the last one year giving such details as:
 - Names of buyers
 - Quantities supplied
 - ii. Independent Mine Due Diligence Report, if any, done by the request of Lenders or other coal buyers
-

**2.5.8
Independent
Expert**

TNBF shall review the documents as submitted and if deemed necessary and required, shall appoint an independent expert to conduct due diligence exercise on the mine and the complete supply chain from the mine to the loading port.

**2.6
Quality
Assurance
and Control**

This section specifies the obligation of Applicants in ensuring that the Coal Blend / Coal Brand as offered is as per the quality claimed in the **Schedule A**.

**2.6.1
Coal Sample**

The Applicant is required to provide a Coal sample of the offered Coal Blend / Coal Brand for testing at the appointed laboratory by TNBF for the purpose of **further technical assessment** of the offered Coal Blend / Coal Brand for use in the coal-fired IPPs.

It is Applicant's responsibility to ensure that the Coal sample represents specification as declared/submitted in schedule A. Nevertheless, the specification declared and submitted in schedule A will prevail and be referred as main reference. The Coal sample requirements are as follows: -

- i. Upon online submission of PQ document in the system, applicant shall arrange **5kg coal sample** to be sent to nominated laboratory specify in item (iv).
- ii. The Coal sample shall consist of unprepared coal sample consisting of 50mm, 3mm, 2mm and 0.5mm sizing.
- iii. The Coal sample shall be packed in cans or boxes with thick and hard plastic bag (highly sealed, less hygroscopic, and rustproof material) in order to avoid contamination and drying of the sample.
- iv. Applicant shall courier the coal sample to the following laboratory: -

TNB Labs Sdn Bhd (979289-M)

No. 1, Lorong Ayer Itam,
Kawasan Institusi Penyelidikan,
43000 Kajang, Selangor Darul Ehsan, Malaysia
Attn: Miza Farzana bt Amir Mahmod
Tel: 603-8922 5000

- v. Applicant shall notify TNBF once the Sample is sent to the laboratory for notification purposes.
- vi. Applicant shall provide TNBF with the airway bill number ("AWB") or tracking number for tracking purposes. In the AWB shall clearly state the applicant name, PQ exercise and coal brand.
- vii. Cost of courier and all related expenses inclusive of SST and other applicable tax shall be borne by applicant.

**2.6.2
Coal Handling
and
Combustion
Expert /
Specialist**

The successful prequalified Applicants/Contracting Party, if awarded contract(s) in future tender exercises, on its own cost and expense, shall be required to deploy a coal handling expert/specialist and combustion expert/specialist who shall assist the coal-fired IPPs to jointly monitor, evaluate and report on the coal handling and combustion performance at the coal-fired IPPs.

He shall advise the coal-fired IPPs on the inherent characteristics of the coal(s), that shall include but not limited to, such as tendency towards self-heating and spontaneous combustion, slumping, storage, abrasive index, ash fusion temperatures, ash resistivity and emission characteristics.

He shall also advise the coal-fired IPPs on handling and storage of the coal(s), and related matters such as stacking, compacting and managing coal spontaneous combustion in the storage yard.

**2.6.3
Handling Coal
Rejects**

The successful prequalified Applicants/Contracting Party, if awarded contract(s) in future tender exercises, may be required, to bear the costs and expenses incurred in handling of the coal and rejected coal.

These shall include the costs and expenses to mitigate and manage spontaneous combustion, coal fires etc. during storage in the stockyard and disposal of such scrap products and wastes.

[END OF SECTION 2.0]

Annex 1.0

Table 1.0: Coal Quality Limits for Kapar Energy Ventures Sdn. Bhd.

No.	Specification	Basis	Unit		Limit Value	
					(GF2)	(GF3)
1	Gross Calorific Value	As Received	Kcal/kg	Min	5,800	
2	Total Moisture	As Received	%	Max	18.5	
3	Ash Contents	As Received	%	Max	18	
4	Total Sulfur	As Received	%	Max	1	
5	Volatile Matter	As Received	%	Min	24	
6	HGI		-	Min	45	40
7	AFT (IDT)	Reducing Atmosphere	°C	Min	1200	1240
8	Sizing	As Received	<3 mm	Max	30%	
			>50 mm	Max	5%	

Table 2.0: Coal Quality Limits for TNB Janamanjung Sdn. Bhd. (Manjung 1,2 and 3)

No.	Specification	Basis	Unit		Limit Value
1	Gross Calorific Value	As Received	Kcal/kg	Min	4800
2	Total Moisture	As Received	%	Max	30
3	Ash Contents	As Received	%	Max	15
4	Total Sulfur	As Received	%	Max	1.1
5	Volatile Matter	As Received	%	Min	22.5
6	HGI		-	Min	40
7	AFT (IDT)	Reducing Atmosphere	°C	Min	1000
8	Sizing	As Received	<3 mm	Max	30%
			>50 mm	Max	3%

Table 3.0: Coal Quality Limits for Tanjung Bin Power Sdn. Bhd.

No.	Specification	Basis	Unit		Limit Value	
					Bit	Sub-Bit
1	Gross Calorific Value	As Received	Kcal/kg	Min	5900	5000
2	Total Moisture	As Received	%	Max	18	26
3	Ash Contents	As Received	%	Max	15	5
4	Total Sulfur	As Received	%	Max	1	1
5	Fuel Ratio	As Received	-	Max	2.56	1.36
6	HGI		-	Min	37	40
7	Sizing	As Received	>50 mm	Max	5%	5%
			<2 mm	Max	40%	40%

Table 4.0: Coal Quality Limits for Jimah Energy Ventures Sdn. Bhd.

No.	Specification	Basis	Unit		Limit Value	
					Bit	Sub-Bit
1	Gross Calorific Value	As Received	Kcal/kg	Min	5800	4800
2	Total Moisture	As Received	%	Max	18	30
3	Ash Contents	As Received	%	Max	18	9
4	Total Sulfur	As Received	%	Max	1	1
5	Fuel Ratio	As Received	-	Max	2.6	1.5
6	HGI		-	Min	37	40
7	Sizing	As Received	<2 mm	Max	40%	40%
			>50 mm	Max	5%	5%

Note: Fuel Ratio = Fixed Carbon / Volatile Matter

Table 5.0: Coal Quality Limits for TNB Janamanjung Sdn. Bhd. (Manjung 4)

No.	Specification	Basis	Unit	Limit Value	
1	Gross Calorific Value	As Received	Kcal/kg	Min	4800
2	Total Moisture	As Received	%	Max	30
3	Ash Contents	As Received	%	Max	15
4	Total Sulfur	As Received	%	Max	1
5	Volatile Matter	As Received	%	Min	22
6	HGI		-	Min	40
7	AFT (IDT)	Reducing Atmosphere	°C	Min	1000
8	Sizing	As Received	<2 mm	Max	40%
			>50 mm	Max	5%

Table 6.0: Coal Quality Limits for Tanjung Bin Energy Sdn. Bhd.

No.	Specification	Basis	Unit	Limit Value	
1	Gross Calorific Value	As Received	Kcal/kg	Min	4800
2	Total Moisture	As Received	%	Max	30
3	Ash Contents	As Received	%	Max	15
4	Total Sulfur	As Received	%	Max	1
5	Volatile Matter	As Received	%	Min	22
6	HGI		-	Min	40
7	AFT (IDT)	Reducing Atmosphere	°C	Min	1000
8	Sizing	As Received	<2 mm	Max	40%
			>50 mm	Max	5%

Table 7.0: Coal Quality Limits for TNB Manjung Five Sdn. Bhd.

No.	Specification	Basis	Unit	Limit Value	
1	Gross Calorific Value	As Received	Kcal/kg	Min	4800
2	Total Moisture	As Received	%	Max	30
3	Ash Contents	As Received	%	Max	15
4	Total Sulfur	As Received	%	Max	1
5	Volatile Matter	As Received	%	Min	22
6	HGI		-	Min	40
7	AFT (IDT)	Reducing Atmosphere	°C	Min	1000
8	Sizing	As Received	<2 mm	Max	40%
			>50 mm	Max	10%

Table 8.0: Coal Quality Limits for Jimah East Power Sdn. Bhd.

No.	Specification	Basis	Unit	Limit Value		
					(Straight Burn)	(Medium CV)
1	Gross Calorific Value	As Received	Kcal/kg	Min	4375	4800
2	Total Moisture	As Received	%	Max	38	30
3	Ash Contents	As Received	%	Max	25	25
4	Total Sulfur	As Received	%	Max	1.5	2
5	Volatile Matter	As Received	%	Min	22	22
6	HGI		-	Min	38	38
7	AFT (IDT)	Reducing Atmosphere	°C	Min	1000	1000
8	Sizing	As Received	<3 mm	Max	40%	40%
			>50 mm	Max	10%	10%