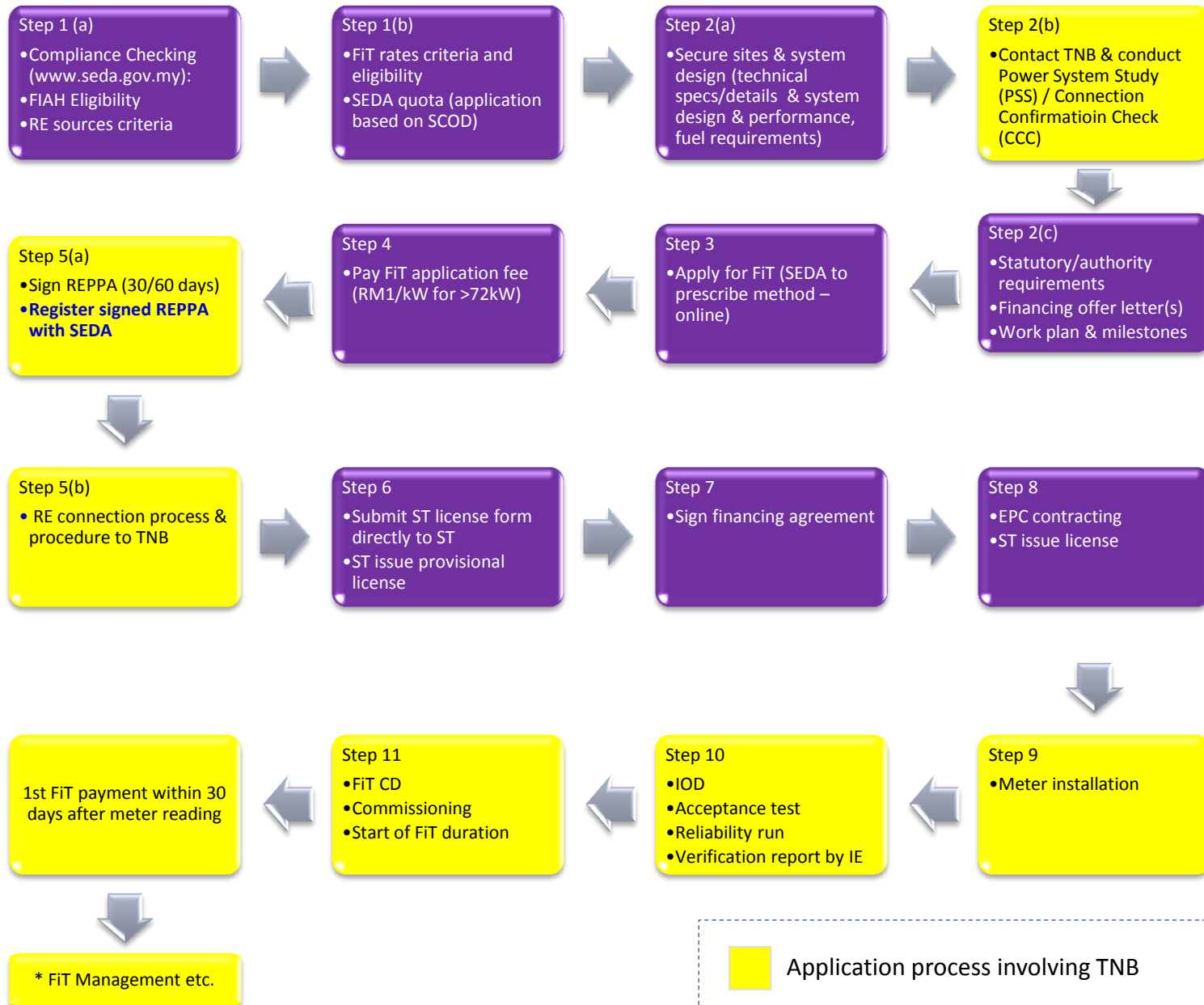



TNB APPLICATION PROCESS & REQUIREMENT FOR FIT

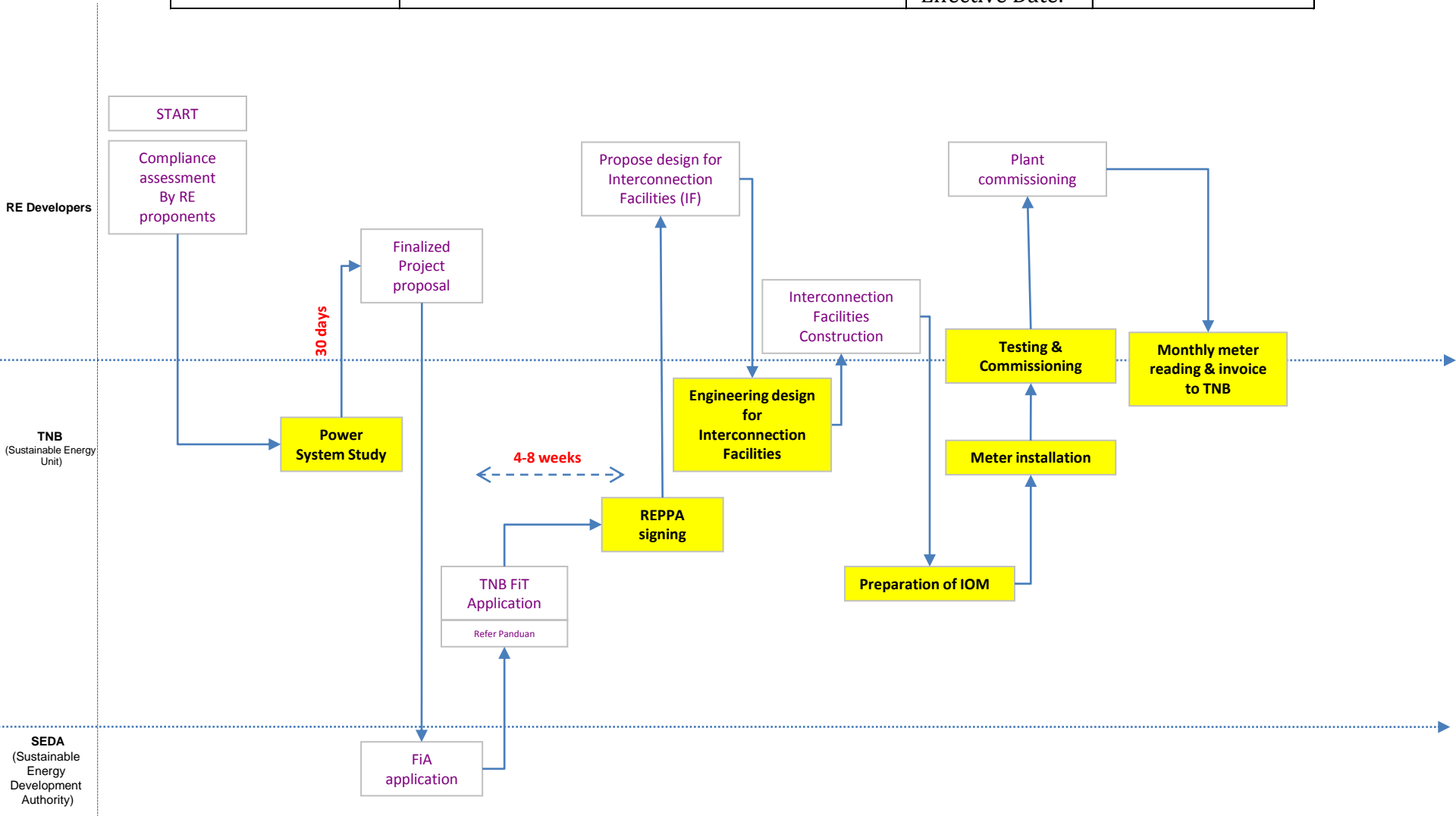
Sansubari CheMud
Senior Manager (Renewable Energy & Green Technology)
Tenaga Nasional Berhad,
sansubari@tnb.com.my



FiT Application Process Involving TNB



	Document type: Customer Service	Manual/ Procedure/ Support Document: Process Map		Document no. RE&GT
	PROCESS FOR FEED-IN TARIFF APPLICATION		Page:	
			Revision:	
			Effective Date:	



Objective of Power System Study (PSS) for Capacity >180kW

PSS is an analysis performed on a TNB system to assess the system performance and to ensure the following:

1. *Technical performance* in terms of system *reliability*, *safety* and *operational efficiency* is not adversely affected. The assessment cover technical impact of following
 - Load flow analysis
 - Voltage profile
 - System adequacy
 - System losses
 - Fault level
 - Protection requirement
2. To facilitate the *interface design* and interconnection facilities between TNB and RE plant

The study is pre-requisite for Feed-in Tariff application set by SEDA Malaysia.

PSS Completion Period and Cost (T&O Rules)

Net export capacity or rated kWp, as the case may be, of renewable energy installation	Period of completion provided under sub-rule 4(2)]	Power system study costs (in Ringgit Malaysia)
Above 180 kW or 180kWp, and up to and including 1MW or 1,000kWp (as the case may be)	30 days *	20,000.00 #
Above 1MW or 1,000kWp, and up to and including 10MW or 10,000kWp (as the case may be)	30 days *	40,000.00 #
Above 10MW or 10,000kWp, and up to and including 30MW or 30,000kWp (as the case may be)	42 days *	60,000.00 #

An additional period of 10 days shall be granted to the distribution licensee if an insulation co-ordination study is deemed necessary and carried out by the distribution licensee as part of the power system study.

Additional costs of:

1. twenty thousand ringgit shall be paid to the distribution licensee if an insulation co-ordination study is deemed necessary and carried out by the distribution licensee as part of the power system study; and
2. ten thousand ringgit shall be paid to the distribution licensee for PV installations where a dynamic study to determine voltage fluctuations is necessary, where the solar radiation data is provided by the feed-in approval holder

PSS Application Form

Two set of PSS Form (EG1 Form)

- PSS for Solar
- PSS for non solar

Please email to RE@tnb.com.my
for PSS Form (EG1 Form) and Guidelines

PSS will be commenced once TNB received
official request plus EG1 Form and
assessment fee made to TNB

More info on PSS visit www.seda.gov.my
(click Download > Guidelines > Power System Study)

The image shows two overlapping PSS Application Form (EG1 Form) documents. The top document is titled "APPLICATION FORM FOR INTERCONNECTION OF RENEWABLE ENERGY (SOLAR PLANT / WIND-PPV) TO TNB GRID NETWORK STUDY" and contains sections for developer information, plant/facility details, and installation information. The bottom document is titled "PART 2: FOR GENERATOR - SYNCH" and contains sections for generator details and installation information.

SECTION A: RE DEVELOPER GENERAL INFORMATION

1. Company / Individual : _____

2. Postal Address : _____

3. Telephone : _____

4. Person In-charge : _____ Fax : _____

SECTION B: RE PLANT/FACILITY & CONSULTANT GENERAL INFORMATION

1. Installation address : _____

2. Location Coordinate : _____

3. Type of Plant : ☐ Biogas ☐ Biomass ☐ Hydro ☐ Other : _____

4. Net Export Capacity : _____ MW / MW

5. Electrical consultant (or contractor) : _____

SECTION C: DETAIL INSTALLATION INFORMATION

PART 1: GENERAL INFORMATION

a) Generator type : ☐ Synchronous ☐ Induction ☐ Other : _____

b) Rotor Construction : _____

c) Rating : _____ MVA @ _____ p.f.

d) Rated Terminal Voltage : _____ kV

e) Frequency : _____ Hz

f) Rated Speed : _____ rpm

g) Minimum p.f. Leading : _____

h) Minimum p.f. Leading : _____

i) Type of Prime Mover : _____

j) Type of Terminal Voltage Control : _____

k) Generator Sub-Transient Reactance : _____ p.u.

l) Generator Transient Reactance : _____ p.u.

m) Type of excitation System Controls : _____

n) Type of Governor Controls : _____

o) Leakage Reactance : _____ p.u.

p) Inertia Constant : _____ MW.ku/MVA

PART 2: FOR GENERATOR - SYNCH

a) Direct Axis Sub-Transient Reactance

b) Direct Axis Transient Reactance

c) Direct Axis Synchronous Reactance

d) Quadrature - Axis Sub-Transient Reactance

e) Quadrature - Axis Transient Reactance

f) Quadrature - Axis Synchronous Reactance

g) Direct Axis Sub-Transient Open Circuit

h) Direct Axis Transient Open Circuit

i) Quadrature Axis Sub-Transient Reactance

j) Quadrature Axis Transient Reactance

k) Zero Sequence Reactance

l) Negative Sequence Reactance

Note: Reactance Provided

PART 3: GENERATOR TO

a) Rated Capacity

b) Tap range

c) Tap Step

d) Method of Control

PART 4: TO

a) Machine

b) Machine

c) Machine


Connection Confirmation Check (Capacity between 72kW to 180kW)

Connection Confirmation Check (CCC) is an assessment to determine the optimal technically feasible method for a proposed connection of *a low to medium voltage* RE (solar) installation to a utility connection point.

The CCC assessment is pre-requisite for Feed-in Tariff application set by SEDA Malaysia

Please email to RE@tnb.com.my
for CCC Form and Guidelines

The CCC process will be commenced once TNB received official request plus technical drawing and assessment fee of RM 1,000 made to TNB

 PERMOHONAN SEMAKAN PENGESAHAN SAMBUNGAN (CONNECTION CONFIRMATION CHECK)		BORANG CCC/CS
No. Ru: _____		
BAHAGIAN 1: MAKLUMAT AM PEMOHON		
Nama (Individu/Syarikat) : _____ Alamat Pemohon : _____ Alamat pemasangan RE : _____		No. KP / Daftar Syarikat : _____ <input type="checkbox"/> Permohonan baru (KWp: _____) <input type="checkbox"/> Permohonan tambahan (KWp sedia ada: _____) <input type="checkbox"/> (KWp tambahan: _____) <input type="checkbox"/> Bangunan sedia ada (Salu jangka: _____) <input type="checkbox"/> Bangunan baru dibina (MD dipohon: _____)
Status bangunan: <input type="checkbox"/> Milik sendiri <input type="checkbox"/> Sewa <input type="checkbox"/> Lain-lain, nyatakan: _____		Kategori Premis: <input type="checkbox"/> Domestik <input type="checkbox"/> Komersil <input type="checkbox"/> Industri
BAHAGIAN 2: MAKLUMAT AM PEMASANG PENDAWAJAN ELEKTRIK DAN SISTEM PV		
Jurupendong Elektrik : _____ Nama Jurupendong : _____ Email : _____		No. Daftar Syarikat : _____ Telefon : _____ Pejabat : _____ Bimbit : _____
Pemasang PV bertauliah : _____ Nama pemasang : _____ Email : _____		No. Daftar Syarikat : _____ Telefon : _____ Pejabat : _____ Bimbit : _____
BAHAGIAN 3: CADANGAN SAMBUNGAN (INTERCONNECTION PROPOSAL)		
Cadangan sambungan sistem PV ke sistem rangkaian grid TNB: <input type="checkbox"/> Sambung secara langsung (direct) <input type="checkbox"/> Sambung tak langsung (indirect)		
Cadangan tempat sambungan (connection point) - tamatan kabel dari PV meter: <input type="checkbox"/> Cut-out / Junction box TNB <input type="checkbox"/> Papan Salu Utama (MSB) Pemangku <input type="checkbox"/> Sesalur kaki lina / sesalur servis TNB <input type="checkbox"/> Sub DB Pemangku <input type="checkbox"/> Feeder pillar / Papan Agihan (LVDB) TNB <input type="checkbox"/> Lain-lain, nyatakan: _____		
Perangkaan PV <input type="checkbox"/> Meter PV bersebelahan meter TNB sedia ada <input type="checkbox"/> Salu alutubuh arus (CT): _____ /SA <input type="checkbox"/> Meter PV di tempat lain, nyatakan: (i) Lokasi: _____ (ii) Jarak Jangka PV & Jangka TNB: _____		
BAHAGIAN 4: DOKUMEN-DOKUMEN SOKONGAN DIPERLUKAN & DISERTAKAN		
<input type="checkbox"/> Borang Aneksure 4.1.2 (SEDA) <input type="checkbox"/> Pelan tapak (layout) dan single line schematic Diagram (diperakakan oleh Jurutera Perunding Elektrik) <input type="checkbox"/> Rekabentuk sistem PV (diperakakan oleh Pemasang bertauliah SPQ) <input type="checkbox"/> Panel Solar dan Inverter data sheet <input type="checkbox"/> Sewailah sila elektrik (premis di mana solar PV akan dibangunkan) <input type="checkbox"/> Sewailah result tangan bayaran fee 'Confirmation Connection Check' atas nama Tenaga Nasional Berhad (Kod penerimaan bayaran: C800051/19040) No RTT: _____		
Saya yang bertandatangan di bawah mengikut segala maklumat dan keterangan yang diberikan adalah benar, Name: _____ Cop/No. Pendaftaran BEM: Tarikh: _____ Tandatangan: _____		

Document to be Submitted for CCC


Documents and technical drawing must include (but not limited to):

- CCC application form
- Annexure 4.1.2 (SEDA)
- Single line diagram
 - Solar system scheme/drawing & capacity
 - Overall (electrical) single line diagram
 - Proposed Interconnect scheme
 - Single line diagram of existing electrical supply to the building
- Site layout plan
- Solar Panel Datasheet
- Inverter Datasheet
- Premises Electricity Bill (For PV application only)

What's in CCC Form?

BAHAGIAN 1: MAKLUMAT AM PEMOHON

Nama (Individu/Syarikat) :	No.KP / Daftar Syarikat :
Alamat Pemohon :	<input type="checkbox"/> Permohonan baru (kWp: _____)
Alamat pemasangan RE :	<input type="checkbox"/> Permohonan tambahan (kWp sedia ada: _____) (kWp tambahan: _____)
Status bangunan:	<input type="checkbox"/> Bangunan sedia ada (Saiz jangka: _____)
<input type="checkbox"/> Milik sendiri	<input type="checkbox"/> Bangunan baru dibina (MD dipohon: _____)
<input type="checkbox"/> Sewa	Kategori Premis:
<input type="checkbox"/> Lain-lain, nyatakan: _____	<input type="checkbox"/> Domestik
	<input type="checkbox"/> Komersil
	<input type="checkbox"/> Industri

	PERMOHONAN SEMAKAN PENGESAHAN SAMBUNGAN (CONNECTION CONFIRMATION CHECK)	BORANG CCCPV
No. Bp: _____		
BAHAGIAN 1: MAKLUMAT AM PEMOHON		
Nama (Individu/Syarikat) : _____		No. KP / Daftar Syarikat : _____
Alamat Pemohon : _____		<input type="checkbox"/> Permohonan baru (kWp: _____)
Alamat pemasangan RE : _____		<input type="checkbox"/> Permohonan tambahan (kWp sedia ada: _____) (kWp tambahan: _____)
Status bangunan:		<input type="checkbox"/> Bangunan sedia ada (Saiz jangka: _____)
<input type="checkbox"/> Milik sendiri		<input type="checkbox"/> Bangunan baru dibina (MD dipohon: _____)
<input type="checkbox"/> Sewa		Kategori Premis:
<input type="checkbox"/> Lain-lain, nyatakan: _____		<input type="checkbox"/> Domestik
		<input type="checkbox"/> Komersil
		<input type="checkbox"/> Industri
BAHAGIAN 2: MAKLUMAT AM PEMASANG PENDAWAIAAN ELEKTRIK DAN SISTEM PV		
Juruperunding Elektrik : _____		No. Daftar Syarikat: _____
Nama Juruperunding : _____		Telefon: _____ Pejabat: _____
Email: _____		Bimbit: _____
Pemasang PV bertauliah : _____		No. Daftar Syarikat: _____
Nama pemasang : _____		Telefon: _____ Pejabat: _____
Email: _____		Bimbit: _____
BAHAGIAN 3: CADANGAN SAMBUNGAN INTERCONNECTION PROPOSAL		
Cadangan sambungan sistem PV ke sistem rangkaian grid TNB:		
<input type="checkbox"/> Sambung secara langsung (direct) <input type="checkbox"/> Sambung tak langsung (indirect)		
Cadangan tempat sambungan (connection point) - tamatan kabel dari PV meter:		
<input type="checkbox"/> Cut-out / Junction box TNB <input type="checkbox"/> Papan Sola Utama (MSB) Pengguna		
<input type="checkbox"/> Setelar kali lima / setelar servis TNB <input type="checkbox"/> Sub DB Pengguna		
<input type="checkbox"/> Feeder pillar / Papan Aqhan (LVDB) TNB <input type="checkbox"/> Lain-lain, nyatakan: _____		
Perangkaan PV		
<input type="checkbox"/> Meter PV bersebelahan meter TNB sedia ada <input type="checkbox"/> Saiz alatubah arus (CT): _____ /SA		
<input type="checkbox"/> Meter PV di tempat lain, nyatakan: _____		
(i) Lokasi: _____		
(ii) Saiz Jangka PV & Jangka TNB: _____		
BAHAGIAN 4: DOKUMEN-DOKUMEN SOKONGAN DIPERLUKAN & DISERTAKAN		
<input type="checkbox"/> Borang Annexure 4.1.2 (SDA)		
<input type="checkbox"/> Pelan tapak (layout) dan single line schematic Diagram (diperakukan oleh Jurutera Perunding Elektrik)		
<input type="checkbox"/> Nota/bentuk sistem PV (diperakukan oleh Pemasang bertauliah SPQ)		
<input type="checkbox"/> Panel Solar dan Inverter data sheet		
<input type="checkbox"/> Senarai bil elektrik (premis di mana solar PV akan dibangunkan)		
<input type="checkbox"/> Senarai rekod bertenaga bayaran fee 'Confirmation Connection Check' atas nama Tenaga Nasional Berhad (Kod penitikan bayaran: C000051/23040)		
No. KIT: _____		
Saya yang bertandatangan di bawah mengikut segala maklumat dan keterangan yang diberikan adalah benar,		
Nama: _____		Cop/No. Pendaftaran BEM: _____
Tarikh: _____		
Tandatangan: _____		

BAHAGIAN 2: MAKLUMAT AM PEMASANG PENDAWAIAAN ELEKTRIK DAN SISTEM PV

Juruperunding Elektrik :	No. Daftar Syarikat: _____
Nama Juruperunding :	Telefon: _____ Pejabat: _____
Email: _____	Bimbit: _____
Pemasang PV bertauliah :	No. Daftar Syarikat: _____
Nama pemasang :	Telefon: _____ Pejabat: _____
Email: _____	Bimbit: _____

What's in CCC Form?

BAHAGIAN 3: CADANGAN SAMBUNGAN (INTERCONNECTION PROPOSAL)

Cadangan sambungan sistem PV ke sistem rangkaian grid TNB:

☐ Sambung secara langsung (direct) ☐ Sambung tak langsung (indirect)

Cadangan tempat sambungan (connection point) - tamatan kabel dari PV meter

☐ Cut-out / junction box TNB ☐ Papan Suis Utama (MSB) Pengguna
☐ Sesalur kaki lima / sesalur servis TNB ☐ Sub DB Pengguna
☐ Feeder pillar / Papan Agihan (LVDB) TNB ☐ Lain-lain, nyatakan: _____

Perjangkaan PV

☐ Meter PV bersebelahan meter TNB sedia ada ☐ Saiz alatubah arus (CT): _____ /5A
☐ Meter PV di tempat lain, nyatakan:
i) Lokasi: _____
ii) Jarak Jangka PV & Jangka TNB: _____

BAHAGIAN 4: DOKUMEN-DOKUMEN SOKONGAN DIPERLUKAN & DISERTAKAN

☐ Borang Annexure 4.1.2 (SEDA)
☐ Pelan tapak (layout) dan single line schematic Diagram (diperakukan oleh Jurutera Perunding Elektrik)
☐ Rekabentuk sistem PV (diperakukan oleh Pemasang bertauliah ISPO)
☐ Panel Solar dan inverter data sheet
☐ Sesalinan bil elektrik (premis di mana solar PV akan dibangunkan)
☐ Sesalinan resit tangan bayaran fee 'Confirmation Connection Check' atas nama Tenaga Nasional Berhad (Kod penerimaan bayaran: C600051/19040) No RTT: _____

TENAGA NASIONAL BERHAD		PERMOHONAN SEMAKAN PENGESAHAN SAMBUNGAN (CONNECTION CONFIRMATION CHECK)		BORANG CCCPV	
No. Ruj: _____					
BAHAGIAN 1: MAKLUMAT PEMOHON					
Nama (Individu/Syarikat): _____		No. KP / Daftar Syarikat: _____			
Alamat Pemohon: _____		<input type="checkbox"/> Permohonan baru (KWp: _____)		<input type="checkbox"/> Permohonan tambahan (KWp sedia ada: _____)	
Alamat pemasangan RE: _____		<input type="checkbox"/> Bangunan sedia ada (Saiz jangka: _____)		<input type="checkbox"/> Bangunan baru dibina (MJD dipohon: _____)	
Status bangunan: <input type="checkbox"/> Miskin <input type="checkbox"/> Sewa <input type="checkbox"/> Lain-lain, nyatakan: _____		Kategori Premis: <input type="checkbox"/> Domestik <input type="checkbox"/> Komersial <input type="checkbox"/> Industri			
BAHAGIAN 2: MAKLUMAT AM PEMASANG PENDAWAAN ELEKTRIK DAN SISTEM PV					
Jurupunding Elektrik: _____		No. Daftar Syarikat: _____			
Nama Jurupunding: _____		Telefon: _____		Pejabat: _____	
Email: _____		Bibit: _____			
Pemasang PV bertauliah: _____		No. Daftar Syarikat: _____			
Nama pemasang: _____		Telefon: _____		Pejabat: _____	
Email: _____		Bibit: _____			
BAHAGIAN 3: CADANGAN SAMBUNGAN (INTERCONNECTION PROPOSAL)					
Cadangan sambungan sistem PV ke sistem rangkaian grid TNB: <input type="checkbox"/> Sambung secara langsung (direct) <input type="checkbox"/> Sambung tak langsung (indirect)					
Cadangan tempat sambungan (connection point) - tamatan kabel dari PV meter <input type="checkbox"/> Cut-out / Junction box TNB <input type="checkbox"/> Papan Suis Utama (MSB) Pengguna <input type="checkbox"/> Sesalur kaki lima / sesalur servis TNB <input type="checkbox"/> Sub DB Pengguna <input type="checkbox"/> Feeder pillar / Papan Agihan (LVDB) TNB <input type="checkbox"/> Lain-lain, nyatakan: _____					
Perjangkaan PV <input type="checkbox"/> Meter PV bersebelahan meter TNB sedia ada <input type="checkbox"/> Saiz alatubah arus (CT): _____ /5A <input type="checkbox"/> Meter PV di tempat lain, nyatakan: i) Lokasi: _____ ii) Jarak jangka PV & jangka TNB: _____					
BAHAGIAN 4: DOKUMEN-DOKUMEN SOKONGAN DIPERLUKAN & DISERTAKAN <input type="checkbox"/> Borang Annexure 4.1.2 (SEDA) <input type="checkbox"/> Pelan tapak (layout) dan single line schematic Diagram (diperakukan oleh Jurutera Perunding Elektrik) <input type="checkbox"/> Rekabentuk sistem PV (diperakukan oleh Pemasang bertauliah ISPO) <input type="checkbox"/> Panel Solar dan inverter data sheet <input type="checkbox"/> Sesalinan bil elektrik (premis di mana solar PV akan dibangunkan) <input type="checkbox"/> Sesalinan resit tangan bayaran fee 'Confirmation Connection Check' atas nama Tenaga Nasional Berhad (Kod penerimaan bayaran: C600051/19040) No RTT: _____ Izue yang bertandatangan di bawah mengikut segala maklumat dan keterangan yang diberikan adalah benar, Nama: _____ Cap/No. Pendaftaran BEM: _____ Tafel: _____ Tandatangan: _____					

Renewable Energy Power Purchase Agreement (REPPA)

- To get REPPA signed, firstly you need to download the standard REPPA Document from SEDA's website: www.seda.gov.my (click Download > Forms > Standardized REPPAs)
- The REPPA document should be downloaded from SEDA's website. Re-written REPPA document is not acceptable.
- Fill in the entire data required in the REPPA document. Left the DL's data portion blank (to be filled in by TNB).


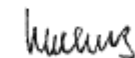
Checklist for REPPA

- Three (3) copies of standardized REPPA printed on conqueror paper (80gm Laid Brilliant White or 100gm A4 paper).
- All information written in capital with black ink. Every pages must be initialed accept for signing page.
- A copy of PSS or CCC report
- The appendices for the document (note: place separator between appendices)
 - Appendix A – Renewable Energy Installation
 - Appendix B – Interconnection facilities
 - Appendix C – Communication facilities
 - Appendix D – Consequences of Termination
 - Appendix E – Feed-in Approval Certificate

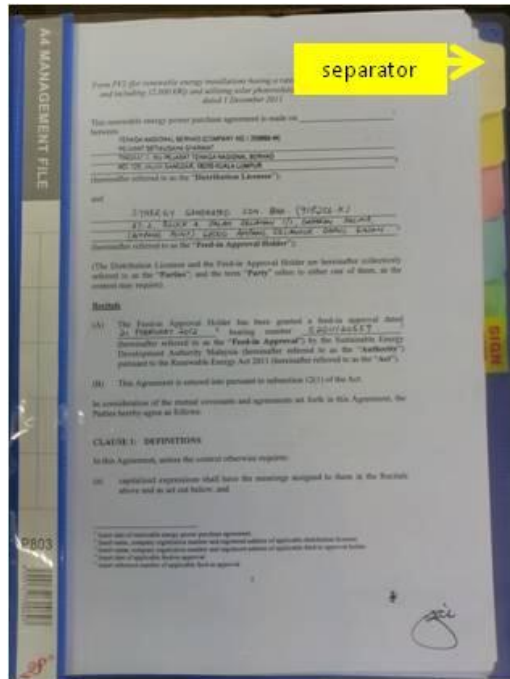
Note: Appendix A, B, C and D only applicable for installation with capacity more than 72kW.

- FiAH has to submit certified copy of SEDA FiT and 'Form Q' (Perakuan Pendaftaran Sebagai Kontraktor Elektrik)

Sample Form Q (Perakuan Pendaftaran Sebagai Kontraktor Elektrik)

 Suruhanjaya Tenaga ST(TKL)KE/383615W	BORANG Q (peraturan 75) AKTA BEKALAN ELEKTRIK 1990 PERAKUAN PENDAFTARAN SEBAGAI KONTRAKTOR ELEKTRIK	SALINAN PENERIMA ST (K) 16-PH 2/94 No : 1720																
<p>Mengikut peraturan 75 Peraturan-Peraturan Elektrik 1994, Perakuan ini dikeluarkan kepada</p> <p>TCL ELECTRICAL ENGINEERING SDN. BHD. (nama syarikat)</p> <p>dan memberi kuasa kepada pemegang untuk menjalankan perniagaan kerja elektrik sebagai Kontraktor Elektrik di:</p> <p>24A, JALAN BUNGA TANJUNG 8A TAMAN MUDA 56100 KUALA LUMPUR WILAYAH PERSEKUTUAN KUALA LUMPUR</p> <p>(alamat perniagaan dan dwangien)</p> <p>di bawah kelas:</p> <table border="1" style="margin: auto; text-align: center;"><tr><td style="width: 25%;">A</td><td style="width: 25%;">B</td><td style="width: 25%;">C</td><td style="width: 25%;">D</td></tr></table> <p>selama tempoh 5 tahun** dari tarikh dikeluarkan / diperbaharui* yang ditunjukkan di bawah:</p> <table border="0" style="width: 100%;"><tr><td style="width: 30%;">Tarikh "dikeluarkan" / diperbaharui* :</td><td style="width: 30%;"><u>05/06/2010</u></td><td style="width: 40%;"></td></tr><tr><td>Tarikh Habis Tempoh :</td><td><u>04/06/2015</u></td><td></td></tr><tr><td>Pendaftaran No. :</td><td><u>(TKL)KE/383615W/2010</u></td><td></td></tr><tr><td>F/RM :</td><td><u>750</u></td><td></td></tr></table> <div style="text-align: right; margin-top: 20px;"> Ir. MUSTAPA B. ABU BAKAR Ketua Kawasan Suruhanjaya Tenaga Kawasan Selangor & WP (KL & Putrajaya) Suruhanjaya Tenaga</div>			A	B	C	D	Tarikh "dikeluarkan" / diperbaharui* :	<u>05/06/2010</u>		Tarikh Habis Tempoh :	<u>04/06/2015</u>		Pendaftaran No. :	<u>(TKL)KE/383615W/2010</u>		F/RM :	<u>750</u>	
A	B	C	D															
Tarikh "dikeluarkan" / diperbaharui* :	<u>05/06/2010</u>																	
Tarikh Habis Tempoh :	<u>04/06/2015</u>																	
Pendaftaran No. :	<u>(TKL)KE/383615W/2010</u>																	
F/RM :	<u>750</u>																	
<p>* Potong mana-mana yang tidak berkenaan.</p> <p>** Tidak kurang daripada satu tahun dan tidak lebih daripada lima tahun</p>																		

Renewable Energy Power Purchase Agreement (REPPA)

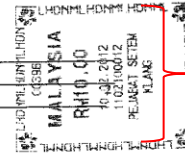


REPPA with management File and separator

Form PVI (for renewable energy installations having a rated kWp $\leq 1,000$ kWp and utilising solar photovoltaic as its renewable resource) dated 1 December 2011
31 JAN 2012

This renewable energy power purchase agreement is made on _____
between

TENAGA NASIONAL BERHAD (COMPANY NO : 200866-W)
NO. 129, JALAN BANGSAR
59200 KUALA LUMPUR
(hereinafter referred to as the "Distribution Licensee");



This part to be filled in by TNB

and

~~RENEWABLE ENERGY DEVELOPMENT AUTHORITY MALAYSIA~~
~~RENEWABLE ENERGY DEVELOPMENT AUTHORITY MALAYSIA~~
(hereinafter referred to as the "Feed-In Approval Holder");

This part to be filled in by FiAH

(The Distribution Licensee and the Feed-In Approval Holder are hereinafter collectively referred to as the "Parties"; and the term "Party" refers to either one of them, as the context may require).

Recitals

(A) The Feed-In Approval Holder has been granted a feed-in approval dated 08 DECEMBER 2011 bearing number A00000026 (hereinafter referred to as the "Feed-In Approval") by the Sustainable Energy Development Authority Malaysia (hereinafter referred to as the "Authority") pursuant to the Renewable Energy Act 2011 (hereinafter referred to as the "Act").

Insert FiAH Application No.
Eg: S201120521

(B) This Agreement is entered into pursuant to subsection 12(1) of the Act.

In consideration of the mutual covenants and agreements set forth in this Agreement, the Parties hereby agree as follows:

CLAUSE 1: DEFINITIONS

In this Agreement, unless the context otherwise requires:

(a) capitalised expressions shall have the meanings ascribed to them in the Recitals above and as set out below; and

¹ Insert date of renewable energy power purchase agreement.

² Insert name, company registration number and registered address of applicable distribution licensee.

³ Insert name and residential address, or in the case of a company, name, company registration number and registered address of applicable feed-in approval holder.

⁴ Insert date of applicable feed-in approval.

⁵ Insert reference number of applicable feed-in approval.


Y TP

Initial every page

Checklist for REPPA: TNB's Vendor Registration

- In order TNB to make payment for every unit RE generated and export to TNB's grid, the FiAH has to register as TNB's vendor.
- Fill up the form. Attach a copy of Identification Card (IC) OR company registration certificate.
- Attach the Bank statement (for individual).
- For a company application, attaches Form 24, 49 and 9 and bank statement.

Please email to RE@tnb.com.my
for TNB 's Vendor Registration Form

 TENAGA NASIONAL BERHAD		VENDOR MASTER DATA MAINTENANCE FORM	
		Vendor Number <input type="text"/>	
<small>To be filled by Central Data Maintenance Team after creation of vendor master record</small>			
Vendor Data to be completed by requestor (TNB Department/Subsidiary)			
GENERAL DATA			
<input checked="" type="checkbox"/> Vendor Name			
Vendor Name		<input type="text"/>	
<small>(Maximum 105 characters)</small>		<input type="text"/>	
		<input type="text"/>	
Search Term			
Business Registration No		<input type="text"/>	
<small>For business, please provide business registration number</small>			
NRIC No (New)		<input type="text"/>	
<small>For individual please provide your new or old IC(Please exclude the the dash)</small>			
		* NRIC No (Old) <input type="text"/>	
<input checked="" type="checkbox"/> Vendor Address			
Unit and/or Floor No		<input type="text"/>	
<small>(applicable for apartment/building only)</small>			
Building Name		<input type="text"/>	
<small>(applicable for apartment/building only)</small>			
House Number		<input type="text"/>	
Street 1		<input type="text"/>	
Street Name		<input type="text"/>	
*Street 2		<input type="text"/>	
Garden/Section		<input type="text"/>	
*Street 3		<input type="text"/>	
Area/Township		<input type="text"/>	
Postal Code		City	<input type="text"/>
		Town	<input type="text"/>
Country		State <input type="text"/>	
* PO Box		<input type="text"/>	
		* PO Box City <input type="text"/>	
<input checked="" type="checkbox"/> Communication Information			
Telephone Number 1		<input type="text"/>	
<small>area code+number</small>		<small>Extension</small> <input type="text"/>	
Fax Number		<input type="text"/>	
<small>area code+number</small>		<input type="text"/>	
E-mail		<input type="text"/>	
<input checked="" type="checkbox"/> Bank details			
*Bank Country		State <input type="text"/>	
*Bank Name		<input type="text"/>	
*Bank account number		<input type="text"/>	
<small>[All data fields in this section are mandatory except for the one with *]</small>			

Timeline for REPPA Signing

- Upon received the written notice from FiAH that an application for Feed-in Approval has been approved, TNB shall enter into a renewable energy power purchase agreement.
- Period to enter into renewable energy power purchase agreement:
 - RE installation having a rated kWp of up to and including 1,000 kWp and utilizing solar photovoltaic as its renewable resource, within thirty (30) days from the date of receipt of the written notice;
 - RE installation other than above mentioned, within sixty (60) days from the date of receipt of written notice from FiAH.
- Operating period for REPPA submission

Day	Collection Hour
Monday to Wednesday	8.00 am-12.00 pm

Meter Procurement Process

Forward your request for meter procurement to:

Renewable Energy & Green Technology Unit
Level 16, Wisma TNB
46200 Petaling Jaya, Selangor
Fax: 03-7960 0348
Email: RE@tnb.com.my or Sansubari@tnb.com.my

Include the following detail in your request:

- A copy of REPPA
- A copy of Feed-in tariff Approval Holder Certificate
- *Borang Maklumat Awal Perjangkaan Besar* for LV(LPC) & MVHV
- A copy of single line diagram for LV(LPC) & MVHV system

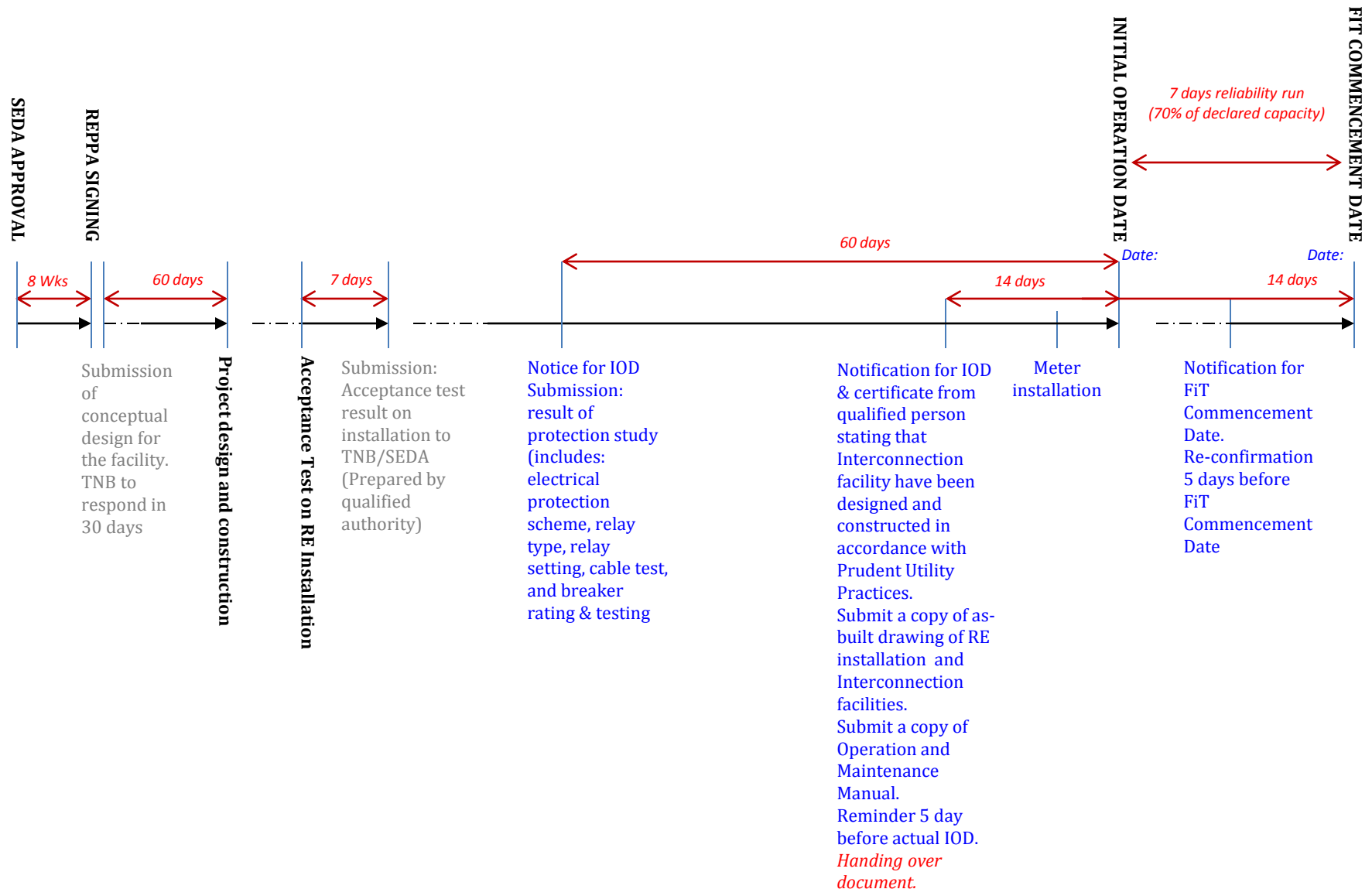
Price List for Meter and Current Transformer

Category of RE Installation	Meter with RMR facility (RM)	Installation Cost (RM)	Total (RM)
Single / Three Phase Direct Meter	950.00	RM 4,300.0 (to be absorbed by TNB)	950.00
Three Phase Current Transformer Operated Meter LV	1,400.00	4,300.00	5,700.00
Three Phase Current Transformer Operated Meter LV for 2 meter system (with main & check)	2,800.00	4,300.00	7,100.00
LV Current Transformer	Based on ratio ranging from RM60-RM145 /piece	(to be absorbed by TNB)	Based on ratio ranging from RM60-RM145 /piece
Three Phase Medium / High Voltage Meter	1,400.00	4,300.00	5,700.00
Three Phase Medium / High Voltage Meter for 2 meter system (with main & check)	2,800.00	4,300.00	7,100.00

Bil	Current Transformer Size	Current Transformer cost per unit (inclusive testing)
1	150/5	RM145
2	200/5	RM120
3	300/5	RM100
4	400/5	RM100
5	500/5	RM75
6	600/5	RM125
7	800/5	RM120
8	1000/5	RM110
9	1200/5	RM115
10	1600/5	RM60
11	2000/5	RM90

Note: the cost is inclusive of Remote Meter Reading (RMR) facility and installation.

Testing and Commissioning (for major plant)

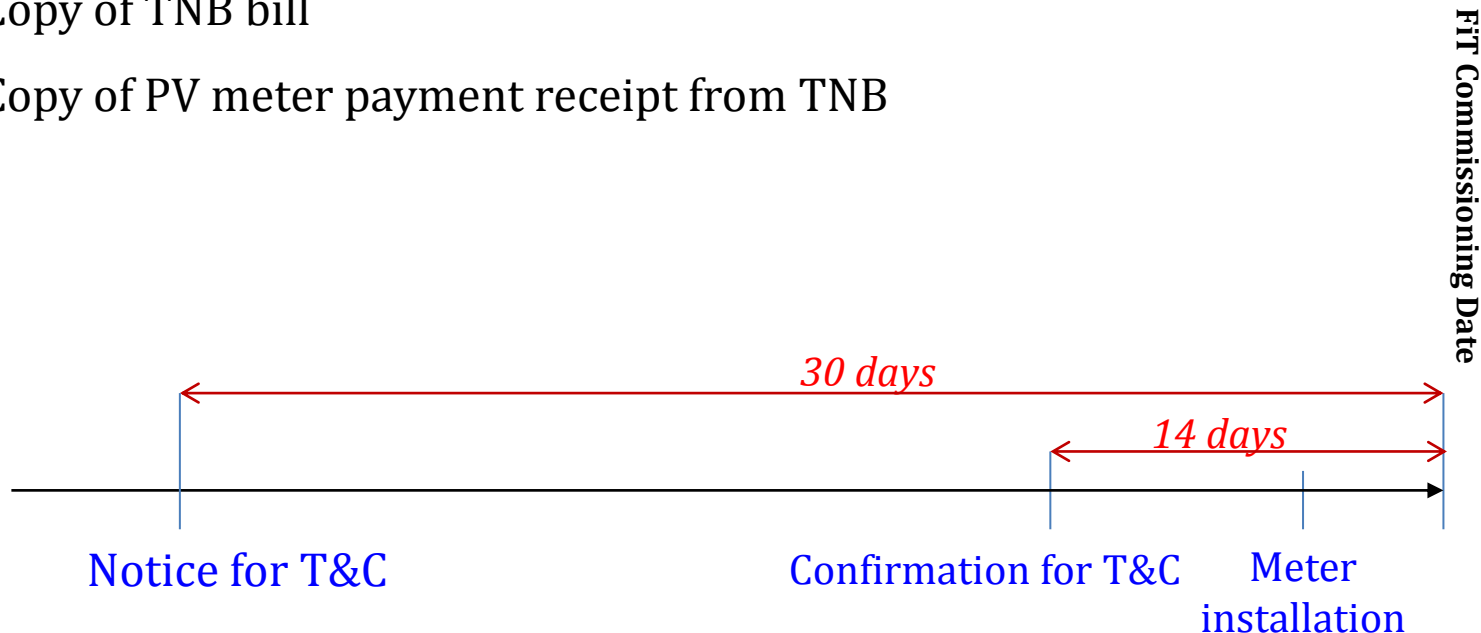


Checklist for Commissioning/IOD (for major plant)

- Notification letter for IOD (specify the date)
- Certificate from qualified person stating that Interconnection facility have been designed and constructed in accordance with Prudent Utility Practices.
- Submit a copy of as-built drawing of RE installation and Interconnection facilities.
- Submit a copy of Interconnection Operation and Maintenance Manual (IOM).
- Submission of acceptance test result on installation to TNB/SEDA (Prepared by qualified authority)
- Submission of result of protection study (includes: electrical protection scheme, relay type, relay setting, cable test, and breaker rating & testing.
- Metering
- Handing over document
- Reliability run
- Notification for FiT Commencement Date.

Checklist for Testing and Commissioning (for small PV installation)

- 1) Notice for T&C (30 days before T&C)
- 2) Notice for confirmation for T&C (14 days)
- 3) Confirmation of REPPA registered to SEDA
- 4) Endorsed single line diagram by ISPQ & electrical contractor
- 5) Photo of PV meter board (meter shall installed by TNB and PV meter board is put side by side to existing TNB meter)
- 6) Copy of TNB bill
- 7) Copy of PV meter payment receipt from TNB



Consent to Assignment

Consent to assignment to Financier is acceptable.

Forward your request to TNB:

*Renewable Energy Unit
Level 16, Wisma TNB
46200 Petaling Jaya, Selangor
Fax: 03-7960 0348
Email: Sansubari@tnb.com.my*

Information required:

1. Reason for consent to assignment
2. Bank account number
3. Name of Financier Institution

FORM OF NOTICE OF ASSIGNMENT TO THE EMPLOYER/SPONSOR
(To be issued under the letterhead of the Customer)

To:
[The Employer/Sponsor]
(Address)

Date:

Dear Sirs,

Re: Assignment by [the Customer] of the proceeds derived to be derived and/or received to be received pursuant to [the Project]
(collectively the "Assigned Proceeds")

We, [the Customer] hereby give you notice that by a Deed of Assignment dated [**] entered into between ourselves of the one part and MALAYSIA DEBT VENTURES BERHAD (578113-A), a company incorporated in Malaysia and having its registered address at Level 5, Menara Bank Pembangunan, 1016, Jalan Sultan Ismail, 50250 Kuala Lumpur ("MDV") of the other part, we have assigned absolutely, irrevocably and unconditionally to MDV all our rights, title and interest in and to the Assigned Proceeds (as defined above).

2. You are accordingly irrevocably instructed by us to pay and remit all receivables, moneys and claims comprised in the Assigned Proceeds payable by you under or in relation to the Project directly to:-

Bank :
Address :
Account Name :
Account Number :

Instead of to us,

3. we shall remain liable to perform all our obligations under the Project Documents and MDV shall not assume any obligation to perform the obligations imposed on us thereunder;

4. This Notice shall be strictly complied with by yourselves and shall not be revoked unless you shall have received an express notice of revocation from MDV.

Please acknowledge receipt of this notice of assignment and where applicable, endorse your consent to the above assignment by signing and dating the attached duplicate copies at the appropriate acknowledgment portion and return the same to us forthwith.

The Common Seal of [the Customer])
is hereunto affixed)
in the presence of:)

Director _____
c.c. MDV

Director / Secretary _____

FORM OF ACKNOWLEDGEMENT BY THE EMPLOYER/SPONSOR
(To be issued under the letterhead of the Employer/Sponsor)

To:-
MALAYSIA DEBT VENTURES BERHAD (578113-A),
Level 5, Menara Bank Pembangunan,
1016, Jalan Sultan Ismail,
50250 Kuala Lumpur.
("MDV")

Dear Sirs,

Re: Assignment by [the Customer] (the "Customer") of the proceeds derived to be derived and/or received to be received pursuant to [the Project]
(collectively the "Assigned Proceeds")

We, [the Employer/Sponsor], hereby expressly consent to the Assignment by the Customer in favour of MDV of the Assigned Proceeds.

2. We further expressly agree to pay and remit all receivables, moneys and claims comprised in the Assigned Proceeds payable by us under or in relation to the Project directly to:-

Bank :
Address :
Account Name :
Account Number :

Instead of to the Customer,

3. We further confirm that we shall comply and abide by the said Notice, and agree that this instruction shall only be revoked by our receipt of an express notice of revocation from MDV.

The Common Seal of [the Employer/Sponsor] is)
hereunto affixed in the presence of:-)

Director _____
c.c. the Customer

Director / Secretary _____

Payment Slip to FIAH

Payment to FIAH will be made online banking

NO AKAUN PENGGUNA. 0310 00737020 01	NO. VENDOR vendor1	TEMPOH BAKI KONTRAK 21 tahun	NO. INBOIS 27071792	TARIF 560
TEST SOLAR RE 6204C JLN KLEBANG KECIL K/5 LIMBONGAN, KLEBANG KECIL 75200 MELAKA MELAKA			***** SLIP PEMBAYARAN TENAGA BOLEH SAHARU *****	
SEJARAH				
INBOIS TERAKHIR BYRN. TERAKHIR	TARIKH 27/10/2011	JUMLAH 153.95 0.00	KOD N	TARIKH KEMASKINI 27/10/2011
UNIT BACAAN 00001824				
BACAAN				
<u>NO. JANGKA</u> M test322	<u>BACAAN DAHULU</u> 89.00	<u>BACAAN SEMASA</u> 179.00	<u>PENJANAAN</u> 90.00	<u>UNIT</u> kwh
JUMLAH PENJANAAN				
KETERANGAN	<u>PENJANAAN</u>	<u>KADAR</u>	<u>JUMLAH</u>	
Penjanaan DC	90.00	0.190	16.20-	
Penjanaan DF	90.00	1.350	139.30-	
JUMLAH INBOIS BULAN SEMASA:			155.70	
TARIKH BACAAN KOD: N	DAHULU : 27/10/2011 SEMASA : 28/10/2011 BIL HARI : 1 HARI	JUMLAH KECIL		
NO TEL ADUAN	: 13434	JUMLAH INBOIS : 155.70		
NO TEL PERTANYAAN AM	: 1300885454	PELARASAN ANGGARAN : 0.00-		
PEJABAT	: 06-2828544	JUMLAH INBOIS : 155.70		
		TUNGGAKAN : 153.97		
		PENGGENAPAN : 0.02-		
		JUMLAH DIBAYAR : 309.65		
NO AKAUN PENGGUNA 0310 00737020 01	NO INBOIS 27071792	TARIKH INBOIS 28/10/2011	JUMLAH DIBAYAR 309.65	
TEST SOLAR RE 6204C JLN KLEBANG KECIL K/5 LIMBONGAN, KLEBANG KECIL 75200 MELAKA MELAKA				

Thank You



**TENAGA
NASIONAL BERHAD**

Penggerak Kemajuan Negara