

WBSIEDCL PROCEDURES-C (2025)

- IN TERMS OF
WEST BENGAL ELECTRICITY
REGULATORY COMMISSION
(GRID INTERACTIVE ROOFTOP
SOLAR PHOTOVOLTAIC SYSTEM
FOR PROSUMERS) REGULATIONS,
2025(Published on 31.07.2025)



ARRANGEMENT FOR GRID INTERACTIVE ROOFTOP SOLAR PHOTOVOLTAIC SYSTEM

- Net Metering
- Net Billing
- Gross Metering

Eligibility & Solar Installation Capacity of GIRSPV System

	Net Metering	Net Billing	Gross Metering
Contract Demand	At least 1 KW	At least 1 KW	At least 1 KW
Solar Installation Capacity	1 KW to 500 KW or up to contract demand which ever is lower	1 KW & maximum up to contract demand	1 KW & maximum up to contract demand

✓For Government -funded projects or schemes higher capacity of the GIRSPV System(kWp) is permitted compared to the prosumer's Contract demand or sanctioned Load(kW) as per the provisions of the scheme, subject to technical feasibility and payment of any required distribution system upgradation cost.

VOLTAGE LEVEL OF CONNECTIVITY OF GIRSPV SYSTEM

AC Voltage level of Solar Injection

For Sanctioned Load/Contract demand upto 170 kW (200 kVA): 230/240 V (single-phase) or 400/415 V (three-phase) same as the prosumer supply voltage

For Sanctioned Load/Contract demand above 170 kW (200 kVA): 11 kV and above same as the prosumer supply voltage

HT prosumer may install and connect its GIRSPV System at its LT bus bar but the meter under Net-metering and Net-billing arrangement shall be installed on the HT side of the Prosumer's transformer.

SALIENT STIPULATIONS

- Consumer shall have the right to set up GIRSPV System either independently or through a service provider such as Renewable Energy Service Company (“RESCO”) or Utility Led Aggregation (“ULA”), on a first-come-first-serve basis.
- GIRSPV System may also be installed on other parts of prosumer’s premises.
- The total installed capacity of GIRSPV System shall not exceed “Contract demand” or “Sanctioned load”.

Application Fees

- For HV & EHV Rs 5000/-
- For L & MV Rs 1000/-

**Govt. funded projects or schemes exempted
from application fees**

List of Documents

- Application form '**Form -S1**'
- Agreement in '**Form-S2**' (For Net-metering), '**Form-S3**' (For Net-billing), '**Form-S4**' (For Gross-metering) as the case may be,
- Format of Self certified installation certificate in '**Form-S5**',
- Certificate of Fitness from the OEM suppliers tested in NABL accredited test centres submitted along with '**Form-S5**',
- Clearance from Office of the Chief Electrical Inspector, Govt. of West Bengal or self certification in '**Form-S6**'. (for supply voltage below notified voltage(11 kV))

INSPECTION

Check Points

Whether there is any constraint in distribution network (feeder/ DTR) capacity

Whether alteration of service is required

Cumulative capacity of GIRSPV system allowed to be interconnected with the distribution network (feeder/DTR) shall not exceed 100% of the feeder and/or distribution transformer capacity as applicable

Quotation Includes...

Cost of Net Meter and modem (if applicable)

Cost of Generation Meter and modem (01 no. for Net-metering/Net-billing and 2 nos. for Gross-metering arrangement) (as applicable)

Cost of Alteration of service if applicable

- **For Sanctioned Load/Contract demand up to 170 kW (200 kVA):**
Charges will be as per procedure 8.0 of WBSEDCL PROCEDURES-A(2010).
- **For Sanctioned Load/Contract demand above 170 kW (200 kVA):**
On actual basis based on inspection.

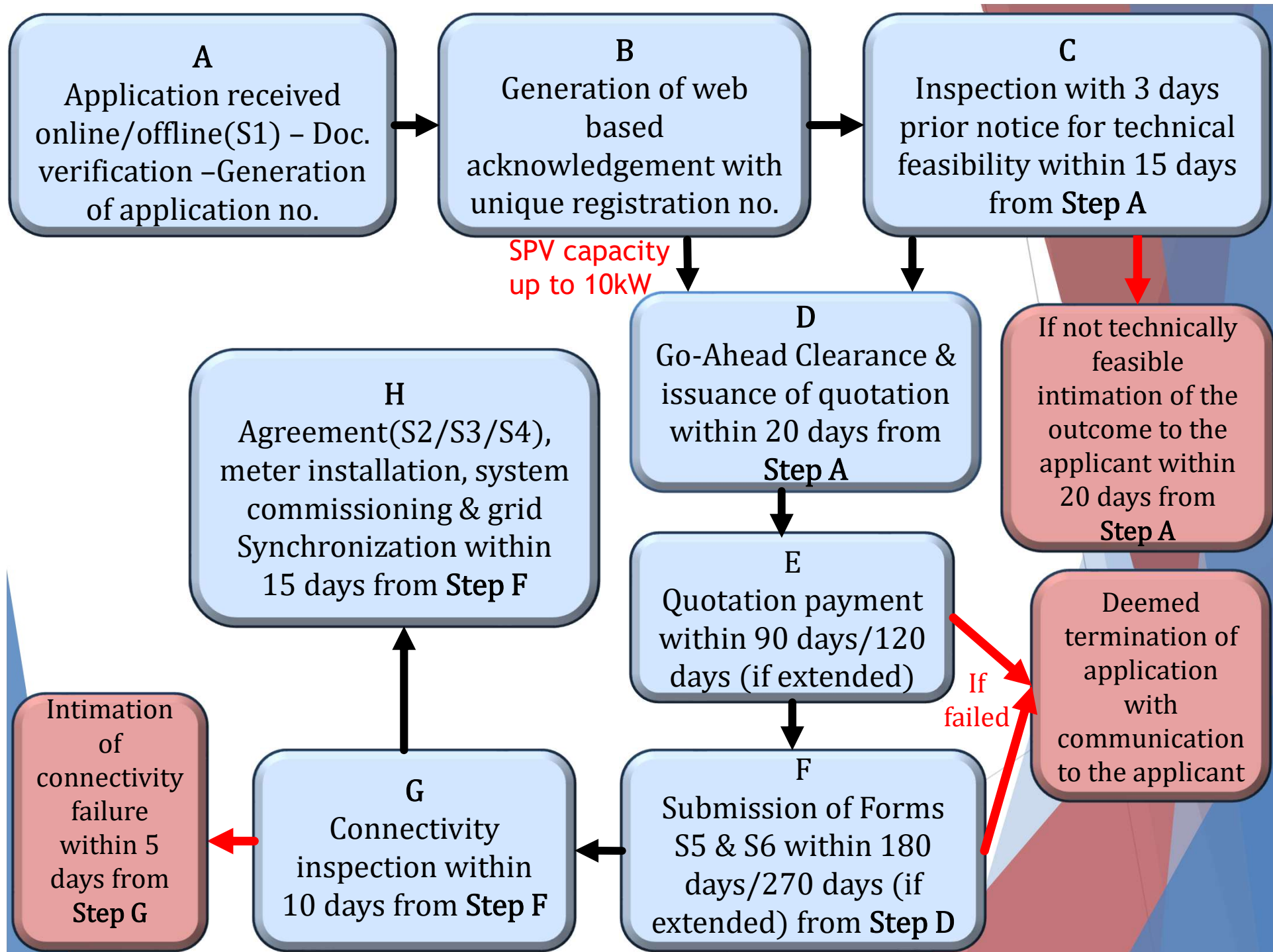
Cost of enhancement of Sanctioned Load as per existing procedure of WBSEDCL if applicable.

RESPONSIBILITY

	Prosumer's	WBSEDCL
Safe installation, operation, maintenance and rectification of any defect of the GIRSPV System	Up to the point of net-meter for Net-metering/ Net-billing	Beyond the point of net-meter including net-meter for Net-metering/ Net-billing
	Up to the point of Generation meter for Gross-metering	From Generation meter upto the point of interconnection
Anti-islanding arrangement of inverter	√	-
Automatic synchronization device in built with grid-tied inverter	√	-
Filtering out harmonics and other distortions before injecting the energy into the system by the inverter	√	-
Testing, installation and maintenance of the metering equipment	-	√
Passing of financial incentives under applicable Central and State Government schemes.	-	√



Process Flow from Application to Synchronization with Timelines



Energy Accounting & Settlement



Net Metering

- Offsetting of electricity consumption in consumer mode with the Surplus solar energy injected into the grid
- At the beginning of each financial year, accumulated Surplus solar energy shall be reset to Zero
- Illustration :

Amount to be billed to a Net Metering prosumer

$$N_{\text{met}} = \{(E_{\text{imp}} - E_{\text{exp}}) - E_{\text{bf}}\} \times T$$

Where,

N_{met} = Amount to be billed to a Net Metering prosumer,

E_{imp} = Energy imported (in kWh) from the grid during the billing period,

E_{exp} = Energy exported (in kWh) to the grid during the billing period,

E_{bf} = Excess of energy exported (in kWh) over energy imported (in kWh) from the grid in the previous billing cycle,

T = Applicable tariff of the consumer (in Rs. / kWh) including MVCA, if any

In case,

$E_{\text{imp}} < (E_{\text{exp}} + E_{\text{bf}})$, then $N_{\text{met}} = 0$ & the energy (in kWh) $(E_{\text{exp}} + E_{\text{bf}} - E_{\text{imp}})$ shall be carried forward to the next billing cycle.

Net Billing

- The monetary value of Surplus solar energy injected into the grid based on the feed-in tariff will be adjusted with the monetary value of imported energy in consumer mode at the consumer tariff.
- At the beginning of each financial year net amount receivable by the prosumer shall be reset to Zero.
- Illustration :

Amount to be billed to a Net Billing prosumer

$$N_{bill} = \{(B_{imp} - B_{exp}) - B_{bf}\}$$

Where,

N_{bill} = Amount to be billed to a Net Billing prosumer

B_{imp} = Energy imported (in kWh) from the grid during the billing period * applicable retail tariff (in Rs./ kWh) including MVCA, if any

B_{exp} = Energy exported (in kWh) to the grid during the billing period * feed-in tariff (in Rs. / kWh)

B_{bf} = Billing credit (in Rs.) brought forward from the previous billing period.

In case,

$B_{imp} < (B_{exp} + B_{bf})$, then $N_{bill} = 0$ &

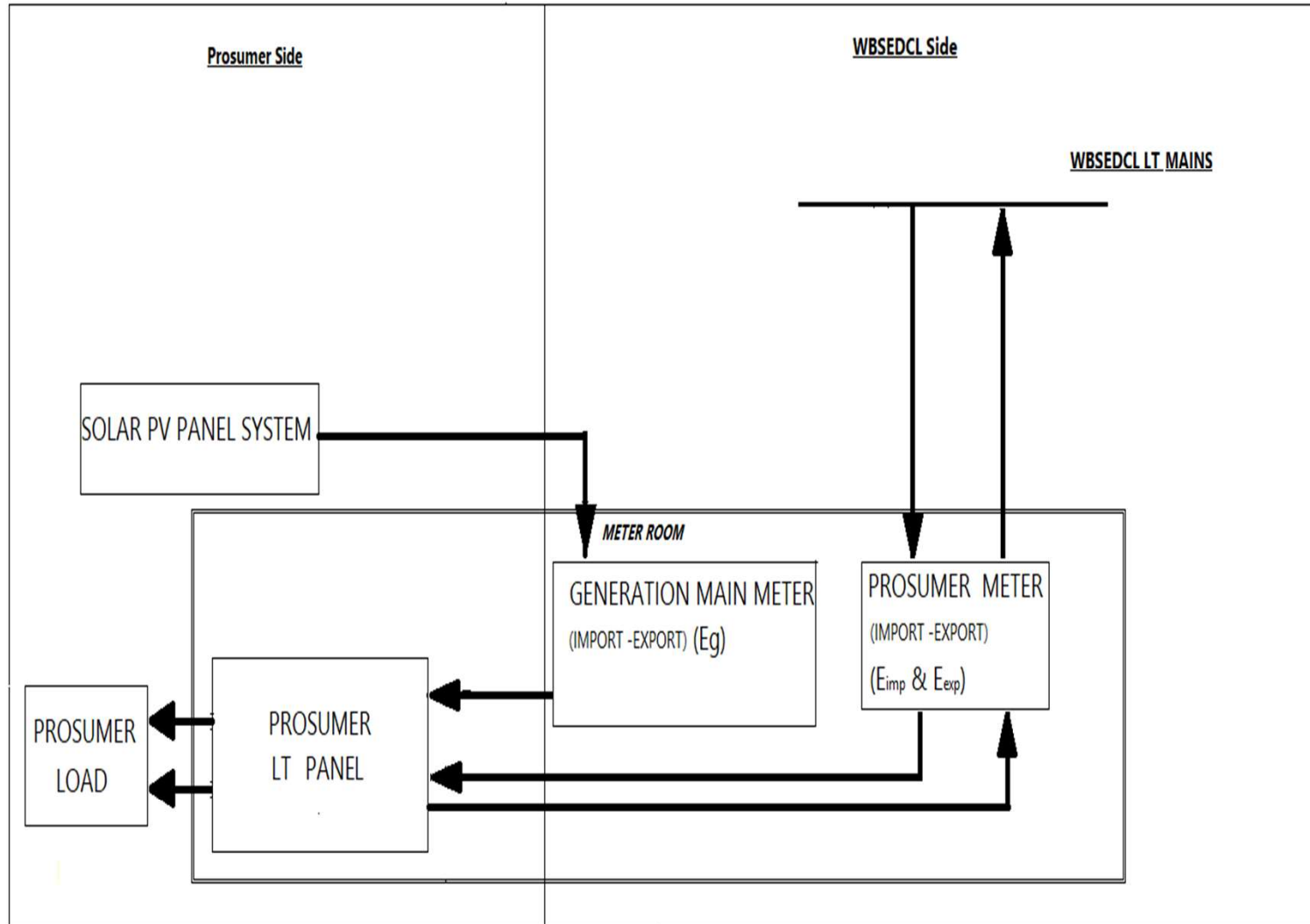
the billing credit (in Rs.) of $(B_{exp} + B_{bf} - B_{imp})$ shall be carried forward to the next billing cycle

Connection Diagrams for Net-metering & Net-billing Arrangement

Sanctioned Load/Contract demand up to 170 kW (200 kVA)	Sanctioned Load/Contract demand above 170 kW (200 kVA)	
	connectivity at same voltage level as supply voltage	connectivity at any lower voltage level than supply voltage
<u>Diagram-A</u>	<u>Diagram-B</u>	<u>Diagram-C</u>

DIAGRAM-A

CONNECTION DIAGRAM FOR NET METERING AND NET BILLING ARRANGEMENT HAVING SANCTIONED LOAD/CONTRACTUAL DEMAND UPTO 200KVA/170 KW

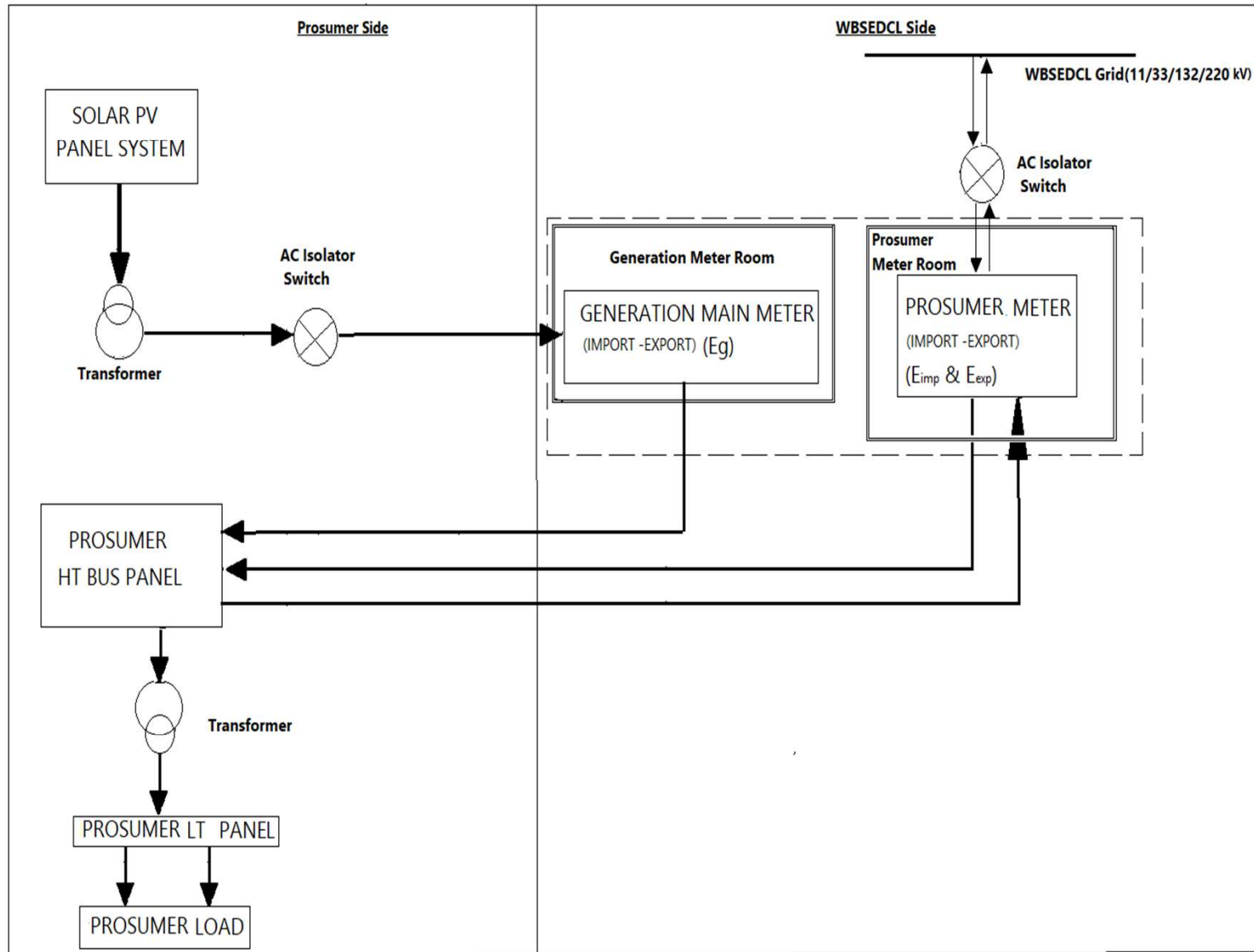


*For net metering arrangement, billing will be done as per Schedule-1 of WBSEDCL PROCEEDURES-C(2025).

*For net billing arrangement, billing will be done as per Schedule-2 of WBSEDCL PROCEEDURES-C(2025).



DIAGRAM-B
CONNECTION DIAGRAM FOR NET METERING AND NET BILLING ARRANGEMENT HAVING SANCTIONED
LOAD/CONTRACTUAL DEMAND ABOVE 200KVA/170KW
(Solar Injection at same voltage level at which prosumer has been given supply)



*For net metering arrangement, billing will be done as per Schedule-1 of WBSEDCL PROCEDURES-C(2025).

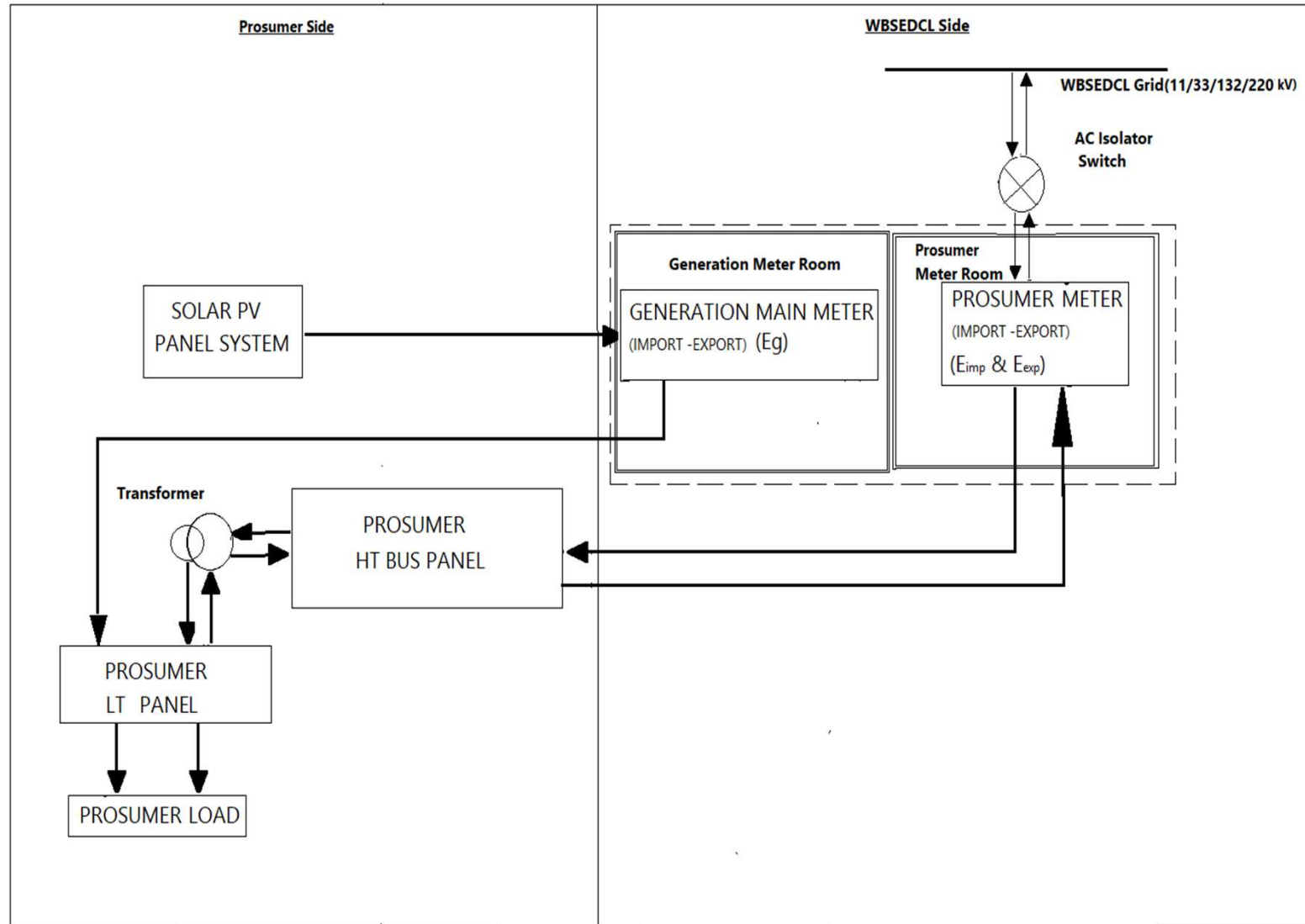
*For net billing arrangement, billing will be done as per Schedule-2 of WBSEDCL PROCEDURES-C(2025).



DIAGRAM-C

**CONNECTION DIAGRAM FOR NET METERING AND NET BILLING ARRANGEMENT HAVING SANCTIONED
LOAD/CONTRACTUAL DEMAND ABOVE 200KVA/170KW**

(Solar injection at any other lower voltage at which the prosumer has been given supply)



*For net metering arrangement, billing will be done as per Schedule-1 of WBSEDCL PROCEEDURES-C(2025).

*For net billing arrangement, billing will be done as per Schedule-2 of WBSEDCL PROCEEDURES-C(2025).



Contractual Load Upto 200 kVA With Consumer Metering at HV for Net-Metering/Net Billing

Connection Diagram	Consumer Tariff	Loss Factor
Diagram-B/C	HV	1
Diagram-B/C	LV & MV	0.971

Gross Metering

- Monetary value of Solar energy generated by the prosumer at the feed-in tariff will be adjusted with the monetary value of energy consumed in consumer mode at the consumer tariff.
- At the end of each financial year net amount receivable by the prosumer shall be paid by the distribution licensee.

- *Illustration :*

Amount to be billed to a Gross Metering prosumer

$$N_{\text{gross}} = \{(B_{\text{con}} - B_{\text{gen}}) - B_{\text{bf}}\}$$

Where,

N_{gross} = Amount to be billed to a Gross Metering prosumer

B_{con} = Energy consumed (in kWh) by a consumer during the billing period * applicable retail tariff (in Rs. / kWh) including MVCA, if any

B_{gen} = Energy generated (in kWh) by the GIRSPV System of prosumer during the billing period * feed-in tariff (in Rs. / kWh)

B_{bf} = Billing credit (in Rs.) brought forward from the previous billing period.

In case,

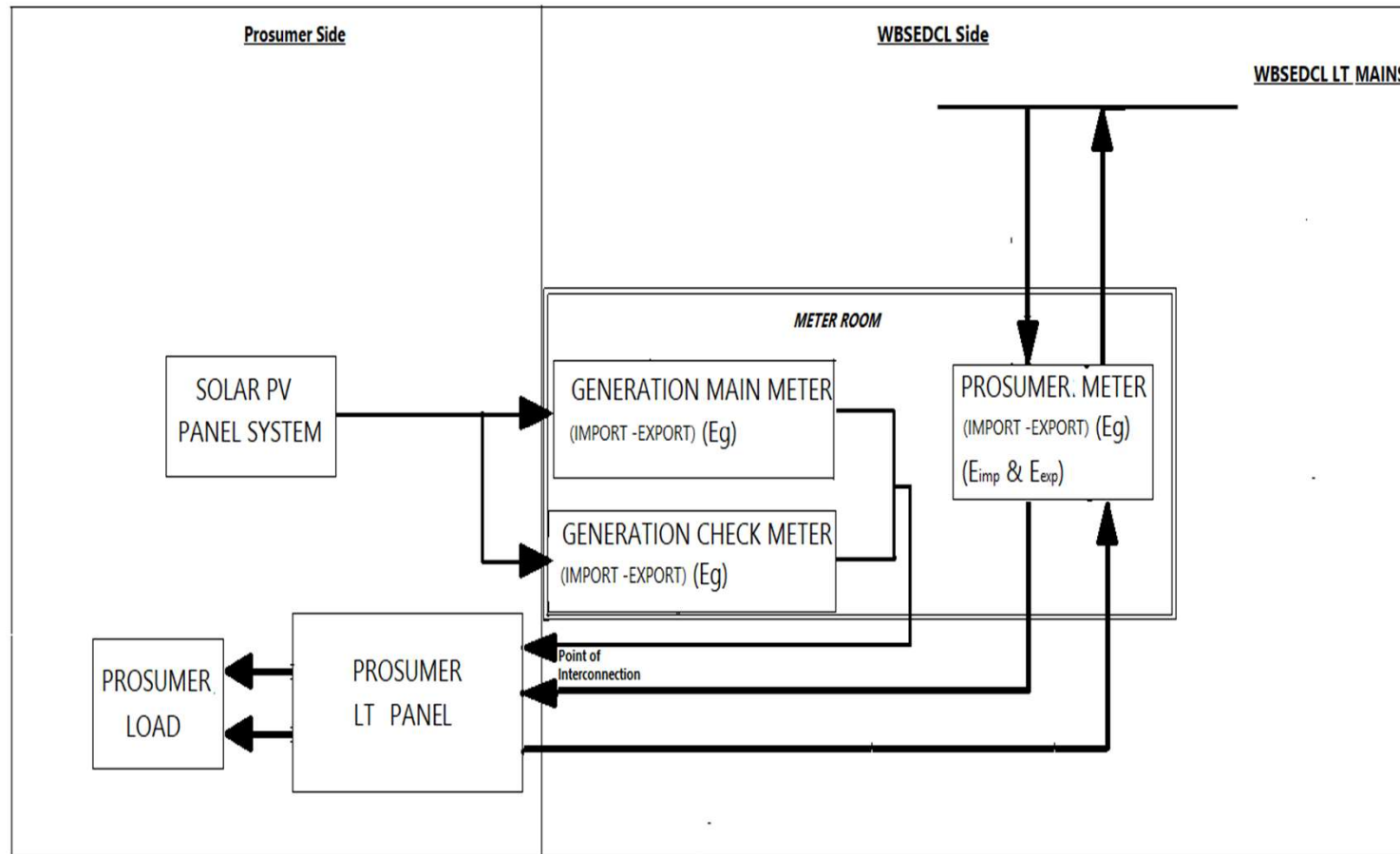
$B_{\text{con}} < (B_{\text{gen}} + B_{\text{bf}})$, then $N_{\text{gross}} = 0$

& the billing credit (in Rs) of $(B_{\text{gen}} + B_{\text{bf}} - B_{\text{con}})$ shall be carried forward to the next billing cycle.

Connection Diagrams for Gross-metering Arrangement

Sanctioned Load/Contract demand up to 170 kW (200 kVA)	Sanctioned Load/Contract demand above 170 kW (200 kVA)	
	connectivity at same voltage level as supply voltage	connectivity at any lower voltage level than supply voltage
<u>Diagram- D</u>	<u>Diagram- E</u>	<u>Diagram-F</u>

DIAGRAM-D
CONNECTION DIAGRAM FOR GROSS METRING ARRANGEMENT HAVING SANCTIONED
LOAD/CONTRACT DEMAND UPTO 200KVA/170KW



*For Gross metering arrangement the billing will be done as per Schedule-3 of WBSEDCL PROCEDURES-C(2025) where

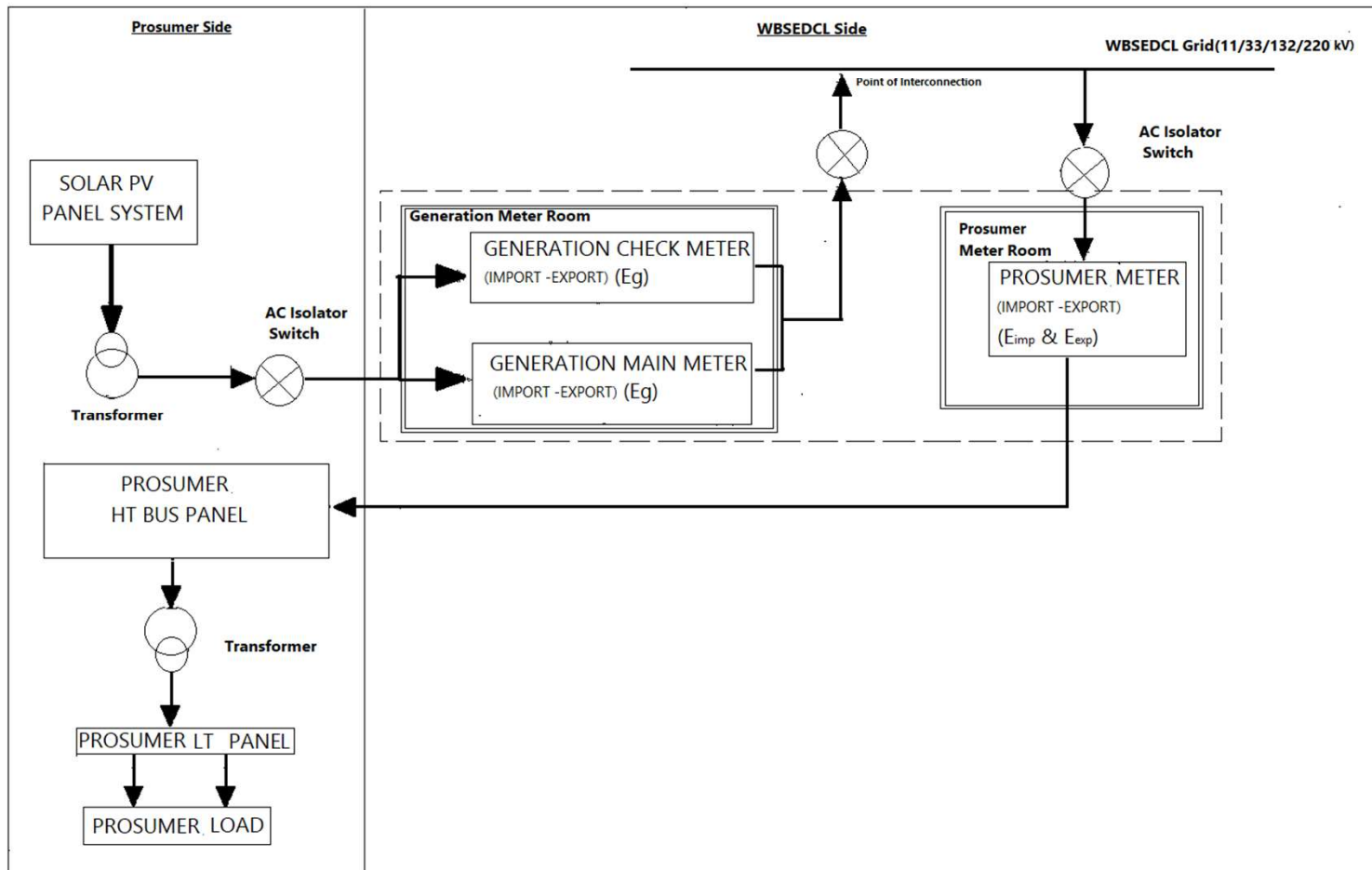
Energy generated by a Prosumer by SPV during billing period = E_g

Energy consumed by a Prosumer during billing period = $E_g + E_{imp} - E_{exp}$



DIAGRAM-E
CONNECTION DIAGRAM FOR GROSS METERING ARRANGEMENT HAVING SANCTIONED
LOAD/CONTRACT DEMAND ABOVE 200KVA/170KW

(Solar Injection at same voltage level at which prosumer has been given supply)



*For Gross metering arrangement the billing will be done as per Schedule-3 of WBSEDCL PROCEEDURES-C(2025) where

Energy generated by a Prosumer by SPV during billing period = E_g

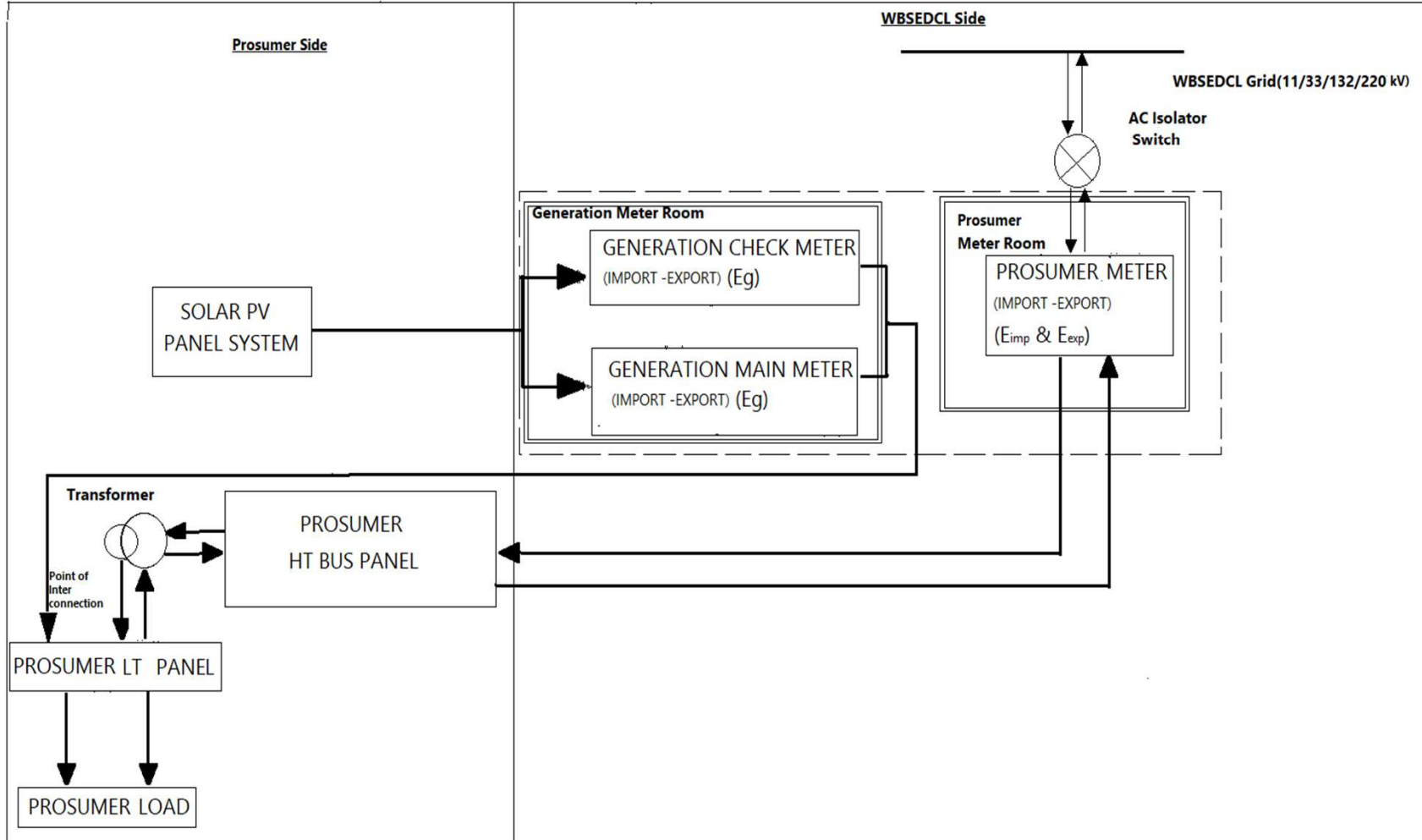
Energy consumed by a Prosumer during billing period = E_{imp}



DIAGRAM-F

**CONNECTION DIAGRAM FOR GROSS METERING ARRANGEMENT HAVING SANCTIONED
LOAD/CONTRACT DEMAND ABOVE 200KVA/170KW**

(Solar injection at any other lower voltage at which the prosumer has been given supply)



*For Gross metering arrangement the billing will be done as per Schedule-3 of WBSEDCL PROCEDURES-C(2025)
where

Energy generated by a Prosumer by SPV during billing period = $E_g / (1.03)^n$

Energy consumed by a Prosumer during billing period = $(E_g / (1.03)^n + E_{imp} - E_{exp})$

and n = Number of Voltage Transformation in between Prosumer supply point of WBSEDCL and solar generation injection point.



Contractual Load Upto 200 kVA With Consumer Metering at HV for Gross-Metering

Consumer Tariff	Connection Diagram	Solar Injection	Transformation
HV	Diagram-E	HV	NA
LV & MV	Diagram-E	HV	NA
HV	Diagram-F	LV & MV	n = 1,2,3...
LV & MV	Diagram-F	LV & MV	n = 0

Feed-in Tariff for 2025-26 as per Order of WBERC

EHV

3.73 Rs/kWh

HV

3.89 Rs/kWh

L&MV

4.37 Rs/kWh

Periodicity of Testing

- Prosumers shall have to furnish certificate of fitness from authorized agencies of WBSEDCL, whose details will be available on the website of WBSEDCL with the following periodicity:
 - ✓ Every two years for PV output above 170 KW (200 KVA)
 - ✓ Every three years for PV output upto 170 KW (200 KVA)
- If the solar installation remains out of operation for more than six (06) months, consumers shall have to furnish certificate of fitness afresh from the authorized agencies of WBSEDCL along with clearance from Office of the Chief Electrical Inspector, Govt. of West Bengal or self certification (Form S6). (for supply voltage below notified voltage(11kV))

Replacement of Defective Meter

Meter supplied by Prosumer

WBSEDCL shall rectify or replace the meter & cost born by prosumer

WBSEDCL shall install a temporary meter at its own cost till replaced or rectified

Meter supplied by WBSEDCL

Defective within 7 years -
WBSEDCL will replace the meter at its own cost

Defective beyond 7 years -
WBSEDCL will replace the meter & cost born by prosumer (through energy bill)

GIRSPV capacity/supply voltage alteration

- Considered as fresh for eligibility in case of capacity alteration under Net-metering/ Net-billing/ Gross-metering as per procedures-C(2025)
- Consideration of Feed-in tariff
 - ✓ **Feed-in tariff of initial agreement will be continued with same terms and conditions**
 - ✓ **Switchover from Net-metering to Net-billing/ Gross-metering-** The feed-in tariff for that financial year of the switch over will be applicable
 - ✓ **Change of supply voltage under Net-billing/ Gross-metering arrangement-** The feed-in tariff for the said voltage level in that financial year of initial agreement will be applicable.

DISCONNECTION / DISCONTINUATION OF GIRSPV SYSTEM

- Right of WBSEDCL to disconnect the GIRSPV system without any notice
 - ✓ In 'the event of threat/damage' from GIRSPV system to its distribution system to prevent any accident or damage .
 - ✓ In the presence of harmonics beyond the limits.
- Discontinuance of Net-billing/Net-metering/Gross-metering arrangement
 - ✓ On disconnection of prosumer mode of supply due to any reason till reconnection.
 - ✓ If the prosumer ceases to be a consumer or abandons GIRSPV System prematurely with proper communication to WBSEDCL.
- In an emergent or outage situation, if WBSEDCL cannot access the disconnecting devices of the GIRSPV System, WBSEDCL may disconnect the power supply to the premises.

TERMINATION OF AGREEMENT

- Agreement under Net-metering/ Net-billing/Gross-metering will be terminated-
 - ✓ On termination of Prosumer mode of supply,
 - ✓ If the prosumer fails to pay dues in a timely manner or indulges in any malpractices by giving 30 days' notice .
 - ✓ As and when the consumer status ceases to exist.
 - ✓ Prematurely by Prosumer giving 90 (ninety) days' notice
 - ✓ If prosumer fails to generate Solar Generation within one year from the date agreement or discontinue the solar generation for more than one year for any reason(s).
- In case of violation of grid discipline, agreement under Gross-metering facility will be terminated.
- In case prosumers under Gross-metering system resorts to unlawful drawal of solar power directly from solar panel before capturing of entire solar generation, then Gross-metering facility will be withdrawn immediately for violation of agreement and agreement under Gross-metering facility will be terminated.

SWITCHOVER FROM ONE CATEGORY TO ANOTHER

- Prosumer shall be permitted to apply for switchover from one category to another only once in financial year

<i>Net-metering arrangement to Net-billing/Gross-metering arrangement</i>	<i>Net-billing arrangement to Net-metering/ Gross-metering arrangement</i>	<i>Gross-metering arrangement to Net-metering/ Net-billing arrangement</i>
The unsettled unit will be considered as billing credit (B_{bf}), based on applicable feed-in tariff, of the prosumer for the next billing period	The unsettled amount shall be refunded through energy bill(s) after switchover	The unsettled amount shall be refunded through energy bill(s) after switchover

- Feed-in tariff once agreed by the prosumers in any previous agreement will be valid for the entire useful life of the GIRSPV system irrespective of number of switching over from one category to another.

TREATMENT OF EXISTING PROSUMER CONNECTED UNDER PREVIOUS REGULATIONS

<i>Connected as per procedure- C(2021) of WBSEDCL</i>	<i>Considered under procedure- C(2025) of WBSEDCL</i>
Net Metering	Will continue as Net Metering
Net Billing	Will be considered as Gross-Metering. Generic tariff of existing prosumers under Net-billing arrangement will be considered as feed-in tariff

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Thank You