

## G-1 QUALITY ASSURANCE

### 1.0 General

The contractor shall ensure that the works, BOIs and services under the scope of the contract whether manufactured or performed within contractor's works or at his subcontractor's premises or at the NTPC's site or at any other place of work are in accordance with the NTPC technical specification, applicable standards / codes, approved drawings / data sheets / quality plans and BOQ. All the works, BOIs and services shall be carried out as per the best prevalent engineering practices and to the directions of the Engineer.

The contractor shall submit manufacturing and field quality plan indicating the practice and procedure along with relevant supporting documents for NTPC approval immediately on award of contract.

### 2.0 Lists of Items requiring Quality Plan and Sub-Supplier Approval is as follows:

- a) SPV Module
- b) Array Junction Box
- c) PCU /PCS
- d) LT Switchgear
- e) Cabling, Earthing, Lightning Protection.
- f) Control Cables
- g) LT Power Cables
- h) HT (33kV) Cables
- i) HT Switchgear
- j) SCADA and Accessories
- k) DC System
  - a. Battery
  - b. Battery Charger
  - c. DC Health Monitoring System
- l) Transformer
- m) Switchyard
- n) Energy Meter
- o) BESS

Bidder shall provide above material from the NTPC approved vendors only. A tentative list of reputed make is annexed at Appendix 1.

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## Appendix 1

### LIST OF REPUTED MANUFACTURERS / MAKE

Item	Description	Suggested Make
1.	Mono crsytalline Solar Photovoltaic (SPV) Modules	BHEL/Waree/Vikarm Solar/ Lanco Solar/ Tata Power Solar/Indosolar /Panasonic
2.	Power Conditioning Unit /PCS	Delta/ ABB/ Seimens/ Schneider/EPS/GE
3.	String Combiner Box(AJB)	Trinity Touch/Hensel/ AEG/Statcon
4.	AC Cables	Havells/polyCab/paramount/Capital/ equivalent approved make
5.	LT switchgear	GE/C&S Electric/Scheineder/ABB
6.	SCADA - with OWS, control and instrumentation accessories	Siemens/ABB/Honeywell/Rockwell Automation
7.	Net Metering System	SEMS/Elster/L&T
8.	Battery System	NGK Japan, Panasonic, NEC USA, Laclanche, Tesl, AMCO or equivalent approved make

## H. LIST OF TENDER DRAWING

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**LIST OF TENDER DRAWING**

SNo	DRAWING NO.	TITLE
1.0	NETRA-GC-PROPOSED AREA-TD-001	Proposed Area for SPV+BESS
2.0	NETRA-GC-SLD-TD-002	Single Line Diagram of Existing Electrical Network

## I. LIST OF MANDATORY SPARES

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## LIST OF MANDATORY SPARES

S No	ITEM	QUANTITY	UoM
1	Solar PV Modules	10%	No
2	Combiner Box	10%	No
3	DC Cables	10%	Meter
4	LT AC Cables	10%	Meter
5	Battery Modules	2	No

1. In case the main population of any item is 1 or less, the spare quantity shall be 1 number.
2. Wherever the quantity is given only in percentage, the spare quantity shall be distributed into various ranges/size/rating/type (as the case may be) in the same proportion of the main population. For the quantities coming less than 1, shall be treated as 1 only



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**DRAWING FOR TENDER PURPOSE ONLY**

DRG NO :	NETRA-GC-PROPOSED AREA-TD-001
TITLE :	PROPOSE AREA FOR SPV AND BESS

33 KV, 6000KVA Incoming from SEB

Proposed Incoming from SPV with BESS

33kV, 1000A, VCB

33kV, 1000A, VCB

33kV Sec A

33KV Sec B

33kV, 630A, 1000MVA VCB

2MVA DG SET

2MVA DG SET

2MVA DG

2MVA, 33/0.433  
KV, DyN11,  $\pm 15\%$

Future

Future

3200A, FP, EDO (ACB)

415V Sec A

415V Sec B

415V Sec C

7 Steps, 300 KVA Capacitor

Proposed  
Incoming  
from  
400kW, MSW  
Plant

415V PH-1 BUS

1200kVA DRUPS\*

1MVA, 11/0.433  
KV, DyN1

11KV,1980KVA Incoming from SEB

150 kW different Solar Sources

110kW, Micro Grid Bus

200 kVA DG SET

110 kW Solar

\*This will be connected to Second phase

ONLY FOR TENDER PURPOSE

DRG NO : NETRA-GC-SLD-TD-002

TITLE : SINGLE LINE DIAGRAM OF  
EXISTING ELECTRICAL NETWORK