

## 5.5. MNRE technical standards

### Technical Parameter of photovoltaic solar module and various other components for use in grid connected solar power plants

All components of the PV plant shall be in accordance with technical specifications given in relevant IS/IEC Standards. The design and commissioning also shall be as per latest IEC/IS standards. The following are some of the technical measures required to ensure quality of the major components used in grid connected solar power Projects.

#### 1. PV Module Qualification

The PV modules used in the grid connected solar power Projects must qualify to the latest edition of any of the following IEC PV module qualification test or equivalent BIS standards.

Crystalline Silicon Solar Cell Modules IEC 61215

Thin Film Modules IEC 61646

Concentrator PV modules IEC 62108

In addition, PV modules must qualify to IEC 61730 for safety qualification testing @1000 V DC or higher. For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701.

#### 2. Power Conditioners/ Inverters

The Power Conditioners/Inverters of the SPV power plants must conform to the latest edition of IEC/ equivalent BIS Standards as specified below:

<b>Efficiency Measurements</b>	IEC 61683
<b>Environmental Testing</b>	IEC 60068-2/ IEC 62093
<b>Electromagnetic Compatibility (EMC)</b>	IEC 61000-6-2, IEC 61000-6-4
<b>Electrical Safety</b>	IEC 62103/ 62109-1&2
<b>Protection against Islanding of Grid</b>	IEEE1547/IEC 62116/ UL1741 or equivalent EN/BIS Standards
<b>LVRT Compliance</b>	As per the latest CERC Guidelines/ Order/ Regulations
<b>Grid Connectivity</b>	Relevant CERC Regulations (including LVRT Compliance) and Grid Code as amended and revised from time to time.
<b>Rated capacity</b>	Nominal/Rated output power of the inverter (if different power ratings are mentioned at different temperatures, then power rating at 500 C shall be considered) in kW will be considered as inverter rated capacity.

#### 3. Cables and connectors:

All cables and connectors for used for installation of solar field must be of solar grade which can withstand harsh environment conditions for 25 years and voltages as per latest IEC standards. (Note: IEC Standard for DC cables for PV systems is under development. It is recommended that in the interim, the Cables of 600-1800 Volts DC for outdoor installations should comply with the EN50618/ TUV 2pfg 1169/08/07 or equivalent IS for service life expectancy of 25 years)

#### 4. Other Sub-systems/Components

Other subsystems/components used in the SPV power plants (Cables, Connectors, Junction Boxes, Surge Protection Devices, etc.) must also conform to the relevant international/national Standards for Electrical Safety besides that for Quality required for ensuring Expected Service Life and Weather Resistance

## 5. Authorized Test Centres

The PV modules / Power Conditioners deployed in the power plants must have valid test certificates for their qualification as per above specified IEC/ BIS Standards by one of the NABL Accredited Test Centres in India. In case of module types/ equipment for which such Test facilities may not exist in India at present, test certificates from reputed ILAC Member body accredited Labs abroad will be acceptable.

## 6. Warranty

- PV modules used in grid connected solar power plants must be warranted for peak output wattage, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.
- The modules shall be warranted for at least 10 years for failures due to material defects and workmanship.
- The mechanical structures, electrical works and overall workmanship of the grid solar power plants must be warranted for a minimum of 5 years.
- The Inverters/PCUs installed in the solar power plant must have a warranty for 5 years.

## 7. Identification and Traceability

Each PV module used in any solar power Project must use a RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions):

- i. Name of the manufacturer of PV Module
- ii. Name of the Manufacturer of Solar cells
- iii. Month and year of the manufacture (separately for solar cells and module)
- iv. Country of origin (separately for solar cells and module)
- v. I-V curve for the module at Standard Test Condition (1000 W/m<sup>2</sup>, AM 1.5, 250C)
- vi. Wattage, I<sub>m</sub>, V<sub>m</sub> and FF for the module
- vii. Unique Serial No. and Model No. of the module
- viii. Date and year of obtaining IEC PV module qualification certificate
- ix. Name of the test lab issuing IEC certificate
- x. Other relevant information on traceability of solar cells and module as per ISO 9000

Site owners would be required to maintain accessibility to the list of Module IDs along with the above parametric data for each module.

## 8. Performance Monitoring

As part of the performance monitoring, the following shall be carried out:

- a. The SPG shall maintain the list of Module IDs along with performance characteristic data for each module. This data shall be submitted to MNRE.
- b. The SPGs must install necessary equipment to continuously measure solar radiation on module plane, ambient temperature, wind speed and other weather parameters and simultaneously measure the generation of DC power as well as AC power generated from the plant. They will be required to submit this data to MNRE online and/or through a report on regular basis every month for the entire duration of PPA.
- c. The SPGs shall provide access to MNRE or their authorized representatives for installing any additional monitoring equipment to facilitate on-line transfer of data.
- d. All data shall be made available as mentioned above for the entire duration of the PPA.
- e. The plant SCADA should be Open Platform Communications (OPC) compliant with standard DNP3 and modbus control interfaces over TCP/ IP having the provision to add protocol converters to implement custom

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and secure communications protocol standard for providing real time online data (including but not limited to irradiance, plant generation (instantaneous/daily/monthly/yearly), daily peak generation, temperature, wind speed etc.) to MNRE

f. Fibre Optic Ethernet Ring network (Managed type Ethernet switches in each Control Room) should be provided between MCR & Inverter Control Rooms.

g. Web-based monitoring should be available, which should not be machine dependent. The web-based monitoring should provide the same screens as available in the plant. Also, it should be possible to download reports from a remote web-client in PDF or Excel format

**9. Safe Disposal of Solar PV Modules:**

The SPG will ensure that all Solar PV modules from their plant after their 'end of life' (when they become defective/ non-operational/ non-repairable) are disposed in accordance with the "e-waste (Management and Handling) Rules, 2011" notified by the Government and as revised and amended from time to time.

## 5.6. Consortium/ JV Agreement

### Consortium/ JV Agreement

(To be submitted on a non-judicial stamp paper of appropriate value as per The Indian Stamp Act, 1899 relevant to the place of execution. The stamp paper shall be purchased in the name of the Lead Member only.)

Signature and stamp of the notary of the place of execution [insert place] dated [DD MMM YYYY]

Date: [DD MMM YYYY]

RFP No.: [insert RFP No.] dated [DD MMM YYYY]

Ref. No. [insert LoA no. for intimation on being a Successful Bidder] dated [DD MMM YYYY]

This [Consortium/ JV] Agreement is entered into on this [DD] day of [MMM] month, year [YYYY]

Amongst

[Name of the Lead Member] incorporated under The Companies Act, [1956/ 2013] having its registered office at [address of the registered office] (hereinafter referred to as the "First Party" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

[Name of the Other Member 1] incorporated under The Companies Act, [1956/ 2013] having its registered office at [address of the registered office] (hereinafter referred to as the "Second Party" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

[Name of the Other Member 2] incorporated under The Companies Act, [1956/ 2013] having its registered office at [address of the registered office] (hereinafter referred to as the "Third Party" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

...

The above-mentioned First Party, Second Party and Third Party ... are collectively referred to as the "Parties" and each is individually referred to as a "Party"

WHEREAS,

The Parties are interested in jointly developing the Project as members of the Consortium/ JV and in accordance with the terms and conditions of the Bidding Documents.

It is a necessary condition under the RFP that the members of the Consortium shall enter into a Consortium/ JV Agreement and furnish a copy thereof as per ITB Clause 1.6.2.

NOW IT IS HEREBY AGREED as follows:

#### 1. Definitions and Interpretations

In this Consortium/ JV Agreement, the capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the Bidding Documents.

#### 2. Consortium/ JV

The Parties do hereby irrevocably constitute a consortium/ JV ("Consortium/ JV") for the purposes of jointly developing the Project.

The Parties hereby submitted their Bids only through this Consortium/ JV and not individually and/ or through any other consortium constituted for this Project, either directly or indirectly or through any of their Group Business Entity.

**3. Covenants**

The Parties hereby undertake that the Bidder being selected as the Successful Bidder shall form a new SPV by the members of the Consortium/ JV mandatorily for developing the Project under The Companies Act, 2013. The Successful Bidder shall submit the registration certificate of the SPV within a maximum time period of sixty (60) Days from the date of LoA. Further, the Bidder shall submit the PAN and GST certificate of the SPV within a maximum time period of sixty (60) Days from the date of LoA.

**4. Role of the Parties**

The Parties hereby undertake to perform the roles and responsibilities as described in the Bidding Documents. The First Party shall be the Lead member of the Consortium/ JV and shall have the power of attorney from all the Other Members for conducting all business for and on behalf of the Consortium/ JV for developing the Project;

**5. Joint and Several Liability**

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the Bidding Document.

**6. Shareholding in the SPV**

The Parties agree that the proportion of shareholding among the Parties in the SPV shall be as follows:

Name of the Parties	Role of the Parties	% of subscribed and paid up equity share capital of the Consortium/ JV
[Insert the name of the Lead Member]	Lead Member	
[Insert the name of the Other Member 1]	Other Member 1	
[Insert the name of the Other Member 2]	Other Member 2	
...	...	...

The Parties undertake that the members in the Consortium/ JV shall hold the above % of subscribed and paid up equity share capital of the Consortium/ JV at all times until first one (1) year of operation from COD.

**7. Representation of the Parties**

Each Party represents to the other Parties as of the date of this Consortium/ JV Agreement that:

- a) Such Party is duly organized, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Consortium/ JV Agreement;
- b) The execution, delivery and performance by such Party of this Consortium/ JV Agreement has been authorized by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents including the power of attorney and board resolution in favour of the person executing this Consortium/ JV Agreement for the delegation of power and authority to execute this Consortium/ JV Agreement on behalf of the Consortium Member is annexed to this Agreement, and will not, to the best of its knowledge:
  - i. require any consent or approval not already obtained;

- ii. violate any Applicable Law presently in effect and having applicability to it;
- iii. violate the memorandum and articles of association, by-laws or other applicable organizational documents thereof;
- iv. violate any clearance, permit, concession, grant, license or other governmental authorization, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or
- v. create or impose any liens, mortgages, pledges, claims, security interests, charges or Encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Consortium/ JV Agreement;

c) This Consortium/ JV Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and

**8. Termination**

This Consortium/ JV Agreement shall be effective from the date hereof and shall continue in full force and effect until first one (1) year of operation from COD.

**9. Miscellaneous**

This Consortium/ JV Agreement shall be governed by laws of India.

The Parties acknowledge and accept that this Consortium/ JV Agreement shall not be amended by the Parties without the prior written consent of OREDA or GRIDCO.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED BY THE AUTHORIZED SIGNATORY OF THE RESPECTIVE PARTIES

For and on behalf of Lead Member by:	For and on behalf of Other Member 1 by:	For and on behalf of Other Member 2 by:
Name:	Name:	Name:
Designation:	Designation:	Designation:
Company:	Company:	Company:

In the presence of witnesses:

Name: Designation: Company:	Name: Designation: Company:
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**Notes:**

1. The mode of the execution of the Consortium/ JV Agreement shall be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
2. This shall be supported by the power of attorneys along with the board resolutions issued by the respective Companies in favour of the respective authorized signatories to execute this Consortium/ JV Agreement.

## 5.7. List of the 33/11 kV Discom substations

The list of the 33/11 kV Discom substations with declared capacity is given below:

Sl. No	Name of the DISCOM	Name of the District	Name of the Division	Name of 33/11 kV Substation	Notified injection capacity (In MW)
1	TPWODL	BARGARH	BWED, BARGARH	BARAPALI	23.00
2	TPWODL	SUNDARGARH	RED,Rourkela	Power House 33/11KV S/S	21.00
3	TPWODL	SAMBALPUR	SED	AINTHPALI	18.00
4	TPWODL	BARGARH	BED, BARGARH	BHATLI	18.00
5	TPWODL	BARGARH	BWED, BARGARH	PADAMPUR	18.00
6	TPWODL	SAMBALPUR	SEED	PUTIBANDH	17.00
7	TPWODL	JHARSUGUDA	JHARSUGUDA DIVISION	SARASMAL	17.00
8	TPWODL	BARGARH	BWED, BARGARH	PAIKMAL	17.00
9	TPWODL	SUNDARGARH	RED,Rourkela	Bisra	16.00
10	TPWODL	BARGARH	BED, BARGARH	TURUNGA	15.00
11	TPWODL	BARGARH	BED, BARGARH	ATTABIRA	15.00
12	TPWODL	SUNDARGARH	RED,Rourkela	CHHEND	15.00
13	TPWODL	SUNDARGARH	SUNDARGARH	SANKARA	15.00
14	TPSODL	RAYAGADA	RED	Seriguda (CAPEX)	14.00
15	TPSODL	RAYAGADA	RED	Lokaguda (Odssp)	14.00
16	TPWODL	BARGARH	BWED, BARGARH	SOHELA	14.00
17	TPWODL	SUNDARGARH	RED,Rourkela	REC	14.00
18	TPWODL	BARGARH	BWED, BARGARH	BIJEPUR	13.00
19	TPWODL	BARGARH	BED, BARGARH	PADHANPALI (33/11) S/S	12.00
20	TPWODL	BARGARH	BED, BARGARH	THUAPALI	12.00
21	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Rajgangpur	12.00
22	TPSODL	RAYAGADA	RED	Pitamahal	11.00
23	TPWODL	BARGARH	BWED, BARGARH	GAISLET	11.00
24	TPWODL	BARGARH	BWED, BARGARH	GHENSS (ODSSP)	11.00
25	TPWODL	SUNDARGARH	RSED,Rourkela	Civil Township	11.00
26	TPWODL	SUNDARGARH	RSED,Rourkela	Bonaigarh	11.00
27	TPWODL	SUNDARGARH	RSED,Rourkela	Rajamunda	11.00
28	TPWODL	SUNDARGARH	RED,RAJGANGPUR	IDC	11.00
29	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Vedbyas	11.00
30	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Birmitrapur	11.00
31	TPWODL	BARGARH	BED, BARGARH	DIVISION (OLD S/S)	10.00
32	TPWODL	BARGARH	BWED, BARGARH	JHARBANDH	10.00
33	TPWODL	BARGARH	BWED, BARGARH	MELCHHAMUNDA	10.00
34	TPWODL	BARGARH	BWED, BARGARH	SARANDAPALI (ODSSP)	10.00
35	TPWODL	BARGARH	BWED, BARGARH	BALITIKRA (ODSSP)	10.00
36	TPWODL	SUNDARGARH	RED,Rourkela	KOELNAGAR	10.00
37	TPWODL	SUNDARGARH	RSED,Rourkela	PHD,PANPOSH	10.00
38	TPWODL	SUNDARGARH	SUNDARGARH	Lefripara	10.00
39	TPSODL	GANJAM	GNED, Chatrapur	Baulagam	9.00

Sl. No	Name of the DISCOM	Name of the District	Name of the Division	Name of 33/11 kV Substation	Notified injection capacity (In MW)
40	TPSODL	GANJAM	HED	Hinjili	9.00
41	TPSODL	RAYAGADA	RED	Jhimidipeta (Odssp)	9.00
42	TPSODL	RAYAGADA	RED	Chandrapur	9.00
43	TPWODL	BARGARH	BED, BARGARH	RAYSABHA ODSSP	9.00
44	TPWODL	BARGARH	BWED, BARGARH	DASMILE (ODSSP)	9.00
45	TPWODL	SUNDARGARH	RSED,Rourkela	JALDA	9.00
46	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Kutra	9.00
47	TPWODL	SUNDARGARH	SUNDARGARH	SUBDEGA	9.00
48	TPWODL	SUNDARGARH	SUNDARGARH	Garjanbahal	9.00
49	TPSODL	KORAPUT	JED	Kotapad	8.00
50	TPSODL	GAJAPATI	PKED	PARALAKHEMUNDI(OLD)	8.00
51	TPSODL	GANJAM	HED	K. KARADAKANA	8.00
52	TPSODL	GANJAM	HED	S. AMBAGAON	8.00
53	TPSODL	GANJAM	BNED	Gobindapur	8.00
54	TPWODL	SUBARNAPUR	SED, SONEPUR	BINKA 1X8MVA+1X5MVA+1X3.15 MVA	8.00
55	TPWODL	BOLANGIR	BED, BOLANGIR	LALTIKRA 1X8MVA+3X3.15MVA	8.00
56	TPWODL	KALAHANDI	KEED	BHANGABARI	8.00
57	TPWODL	JHARSUGUDA	BNED,Brajrajnagar	BELPAHAD	8.00
58	TPWODL	BARGARH	BED, BARGARH	UDAYAPALI (ODSSP)	8.00
59	TPWODL	BARGARH	BED, BARGARH	KHEDAPALI (ODSSP)	8.00
60	TPWODL	BARGARH	BED, BARGARH	TORA (ODSSP)	8.00
61	TPWODL	BARGARH	BED, BARGARH	KHUTLIPALI	8.00
62	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Otto India	8.00
63	TPWODL	SUNDARGARH	SUNDARGARH	COLLEGE 33/ 11 KV S/S	8.00
64	TPWODL	SUNDARGARH	SUNDARGARH	Sargipali	8.00
65	TPSODL	GANJAM	GNED, Chatrapur	Chatrapur	7.00
66	TPSODL	GANJAM	GSED	DIGAPAHANDI	7.00
67	TPSODL	RAYAGADA	RED	Sikarpai	7.00
68	TPSODL	BOUDH	BOED	Rambhikata	7.00
69	TPWODL	SUBARNAPUR	SED, SONEPUR	BMPUR 1X5MVA+2X3.15MVA	7.00
70	TPWODL	BOLANGIR	BED, BOLANGIR	IND ESTATE 2X8MVA	7.00
71	TPWODL	KALAHANDI	KEED	KESINGA	7.00
72	TPWODL	BOLANGIR	BED, BOLANGIR	TUSURA 2X5MVA +1X3.15MVA	7.00
73	TPWODL	BOLANGIR	TED, TITILAGARH	PATNAGARH 1X8MVA+1X5MVA	7.00
74	TPWODL	SAMBALPUR	SED	BURLA	7.00
75	TPWODL	BOLANGIR	TED, TITILAGARH	TITLAGARH 1X8MVA+1X5MVA	7.00
76	TPWODL	BOLANGIR	BED, BOLANGIR	CHHATAMAKHNA 1X5MVA+1X3.15MVA	7.00
77	TPWODL	BARGARH	BED, BARGARH	BHUKTA	7.00
78	TPWODL	BARGARH	BED, BARGARH	DUNGRI	7.00



Sl. No	Name of the DISCOM	Name of the District	Name of the Division	Name of 33/11 kV Substation	Notified injection capacity (In MW)
79	TPWODL	BARGARH	BED, BARGARH	DIVISION NEW (ODSSP)	7.00
80	TPWODL	BARGARH	BED, BARGARH	GODBHAGA	7.00
81	TPWODL	SUNDARGARH	RED,Rourkela	Gopabandhupali 33/11KV S/S	7.00
82	TPWODL	SUNDARGARH	RED,Rourkela	BASANTI	7.00
83	TPWODL	SUNDARGARH	RSED,Rourkela	Industrial Estate	7.00
84	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Kuarnmunda	7.00
85	TPWODL	SUNDARGARH	RED,RAJGANGPUR	Bargaon	7.00
86	TPWODL	SUNDARGARH	SUNDARGARH	SUNDARGARH SADAR 33/11 KV S/S	7.00
87	TPSODL	GAJAPATI	PKED	SOBARA	6.00
88	TPSODL	GANJAM	HED	PUDINGI	6.00
89	TPSODL	GANJAM	GNED, Chatrapur	Ramchandrapur	6.00
90	TPSODL	GANJAM	PSED	POLOSORA	6.00
91	TPSODL	GANJAM	GSED	Jarada	6.00
92	TPSODL	KORAPUT	JED	Old Control Room	6.00
93	TPSODL	KORAPUT	KED	Podagada (ODSSP)	6.00
94	TPSODL	GANJAM	BED-I	Medical	6.00
95	TPSODL	BOUDH	BOED	BAGHIAPADA	6.00
96	TPWODL	BOLANGIR	TED, TITILAGARH	KANTABANJI 1X8MVA+1X5MVA	6.00
97	TPWODL	SAMBALPUR	SED	HIRAKUD	6.00
98	TPWODL	JHARSUGUDA	JHARSUGUDA DIVISION	SARBAHAL	6.00
99	TPWODL	JHARSUGUDA	JHARSUGUDA DIVISION	LOIKERA	6.00
100	TPWODL	SUBARNAPUR	SED, SONEPUR	SONEPUR 1X8MVA+1X5MVA+1X3.15 MVA	6.00
101	TPWODL	KALAHANDI	KEED	AMATH(TUNDLA)	6.00
102	TPWODL	JHARSUGUDA	JHARSUGUDA DIVISION	PURNA	6.00
103	TPWODL	BOLANGIR	TED, TITILAGARH	BELGAON 1X5MVA+1X3.15MVA	6.00
104	TPWODL	KALAHANDI	KWED	BEHERA	6.00
105	TPWODL	BARGARH	BED, BARGARH	AMBABANA ODSSP	6.00
106	TPWODL	BARGARH	BED, BARGARH	KANDOPALA ODSSP	6.00
107	TPWODL	BARGARH	BED, BARGARH	BHEDEN	6.00
108	TPWODL	SUNDARGARH	RSED,Rourkela	Koira	6.00
109	TPWODL	SUNDARGARH	RED,RAJGANGPUR	NUAGAON	6.00
110	TPWODL	SUNDARGARH	RED,RAJGANGPUR	HATIBARI	6.00
111	TPSODL	GANJAM	AED-II	KS NAGAR	5.00
112	TPSODL	GANJAM	BED-I	Narendrapur	5.00
113	TPSODL	GANJAM	BED-III	Mantridi/Golanthara	5.00
114	TPSODL	GANJAM	GSED	Surangi	5.00
115	TPSODL	NABARANGAPUR	NED	Adhikari Guda	5.00
116	TPSODL	KORAPUT	JED	Dangaguda	5.00
117	TPSODL	KORAPUT	JED	Challanguda	5.00

Sl. No	Name of the DISCOM	Name of the District	Name of the Division	Name of 33/11 kV Substation	Notified injection capacity (In MW)
118	TPSODL	RAYAGADA	RED	Ambadola (odssp)	5.00
119	TPSODL	KORAPUT	JED	Dasmantpur (ODSSP)	5.00
120	TPSODL	GANJAM	PSED	Sumandala(tap from Beguniapada PSS 17KM)	5.00
121	TPSODL	GANJAM	PSED	KODALA	5.00
122	TPSODL	GANJAM	PSED	Chirikipada (ODSSP)4.2KM TAP FRM POLOSORA PSS	5.00
123	TPSODL	NABARANGAPUR	NED	Medena	5.00
124	TPSODL	GANJAM	BNED	KBPUR	5.00
125	TPSODL	RAYAGADA	RED	Kasipur	5.00
126	TPWODL	SAMBALPUR	SED	CHERUAPARA	5.00
127	TPWODL	KALAHANDI	KEED	ATTANGGUDA	5.00
128	TPWODL	KALAHANDI	KWED	MAHICALA	5.00
129	TPWODL	KALAHANDI	KWED	KALAMPUR	5.00
130	TPWODL	JHARSUGUDA	BNED,Brajrajnagar	BRJARAJNAGAR	5.00
131	TPWODL	KALAHANDI	KWED	JUNAGARH	5.00
132	TPWODL	BOLANGIR	BED, BOLANGIR	BEHERAPALI 2X5MVA	5.00
133	TPWODL	SUBARNAPUR	SED, SONEPUR	KHARI 1X5MVA+1X3.15MVA	5.00
134	TPWODL	SAMBALPUR	SED	GOSALA	5.00
135	TPWODL	JHARSUGUDA	JHARSUGUDA DIVISION	KUCHINDA	5.00
136	TPWODL	BOLANGIR	BED, BOLANGIR	AGALPUR 1X5MVA+1X3.15MVA	5.00
137	TPWODL	BOLANGIR	BED, BOLANGIR	CHUDAPALI 2X3.15MVA	5.00
138	TPWODL	BARGARH	BWED, BARGARH	ANGUL (DABHA) ODSSP	5.00
139	TPWODL	KALAHANDI	KWED	BADAKUTURU	5.00
140	TPWODL	SUNDARGARH	RSED,Rourkela	Lathikata	5.00
141	TPWODL	SUNDARGARH	RSED,Rourkela	Mahuldia	5.00
142	TPWODL	SUNDARGARH	RSED,Rourkela	Tensa	5.00
143	TPNODL	BALASORE	BTED,Basta	LANGALESWAR	4.00
144	TPNODL	BALASORE	BTED,Basta	BALIAPAL	4.00
145	TPSODL	GANJAM	GSED	Patrapur	4.00
146	TPSODL	GANJAM	AED-II	BUGUDA	4.00
147	TPSODL	GANJAM	GSED	PUDAMARI	4.00
148	TPSODL	GANJAM	BNED	JNPRASAD	4.00
149	TPSODL	GANJAM	GSED	Sidheswar	4.00
150	TPSODL	NABARANGAPUR	NED	Beheda (Odssp)	4.00
151	TPSODL	GANJAM	PSED	BEGUNIAPADA	4.00
152	TPSODL	GANJAM	AED-I	Khariguma(tap from khariguma0.3KM)	4.00
153	TPSODL	KANDHAMALA	PED	KARADA	4.00
154	TPSODL	KANDHAMALA	PED	SARANGAGADA	4.00
155	TPSODL	KANDHAMALA	PED	DAHAPADAR/GUNJUGUD A	4.00
156	TPSODL	RAYAGADA	GED	GUNUPUR	4.00
157	TPCODL	PURI	NED, Nimapara	Nimapara	4.00

Sl. No	Name of the DISCOM	Name of the District	Name of the Division	Name of 33/11 kV Substation	Notified injection capacity (In MW)
158	TPCODL	PURI	NED, Nimapara	Pipili	4.00
159	TPCODL	CUTTACK	AED, Atthagarh	Atthagarh	4.00
160	TPCODL	CUTTACK	CED, Cuttack	Balichandrapur	4.00
161	TPWODL	KALAHANDI	KWED	LADUGAON	4.00
162	TPWODL	KALAHANDI	KEED	KUSADUNGURI	4.00
163	TPWODL	SAMBALPUR	SED	BURLA MEDICAL	4.00
164	TPWODL	SUBARNAPUR	SED, SONEPUR	ULUNDA 1X1.6MVA+1X5MVA	4.00
165	TPWODL	BOLANGIR	TED, TITILAGARH	KHAPRAKHOL 1X5MVA+1X3.15MVA	4.00
166	TPWODL	BOLANGIR	TED, TITILAGARH	BELPADA 1X5MVA+1X3.15MVA+1X1.6MVA	4.00
167	TPWODL	KALAHANDI	KEED	RUPRA ROAD	4.00
168	TPWODL	KALAHANDI	KEED	MOHANGIRI (BANJAMUNDA)	4.00
169	TPWODL	JHARSUGUDA	BNED, Brajrajnagar	DHULUNDA	4.00
170	TPWODL	BOLANGIR	BED, BOLANGIR	DEOGAON 1X3.15MVA+1X5MVA	4.00
171	TPWODL	KALAHANDI	KWED	DHARAMGARH	4.00
172	TPWODL	BOLANGIR	BED, BOLANGIR	LOISINGHA 1X5MVA+2X3.15MVA	4.00
173	TPWODL	BOLANGIR	BED, BOLANGIR	Power House(ODSSP) 2X8MVA	4.00
174	TPWODL	SAMBALPUR	SEED	SASON	4.00
175	TPWODL	BOLANGIR	BED, BOLANGIR	Salebhata(ODSSP) 2X5MVA	4.00
176	TPWODL	SUBARNAPUR	SED, SONEPUR	PANDKITAL 2X3.15MVA	4.00
177	TPWODL	SUBARNAPUR	SED, SONEPUR	TARVA 1X5MVA+1X3.15MVA	4.00
178	TPWODL	SAMBALPUR	SEED	RAIRAKHOL	4.00
179	TPWODL	SUNDARGARH	SUNDARGARH	Karamdih	4.00
180	TPWODL	SUNDARGARH	SUNDARGARH	KINJIRKELA	4.00
181	TPNODL	BALASORE	SED, Soro	Bishnupur	3.00
182	TPNODL	JAJPUR	JRED, Jajpur Road	Ragadi	3.00
183	TPNODL	JAJPUR	JRED, Jajpur Road	Marthapur	3.00
184	TPNODL	MAYURBHANJ	BPED, Baripada	SAPANICHUA (ODSSP)	3.00
185	TPNODL	MAYURBHANJ	BPED, Baripada	BHALIASOLE (ODSSP)	3.00
186	TPNODL	MAYURBHANJ	BPED, Baripada	SARAGACHIDA (ODSSP)	3.00
187	TPNODL	MAYURBHANJ	BPED, Baripada	RANDASAH (ODSSP)	3.00
188	TPNODL	MAYURBHANJ	BPED, Baripada	MERDA(ANLA) ODSSP	3.00
189	TPNODL	MAYURBHANJ	UED, Udala	SARAT	3.00
190	TPNODL	MAYURBHANJ	UED, Udala	AMBADALI (ODSSP)	3.00
191	TPNODL	MAYURBHANJ	RED, Rairangpur	GORUMAHISANI	3.00
192	TPNODL	BHADRAK	BNED, Bhadrak	Basudevapur	3.00
193	TPSODL	NABARANGAPUR	NED	Sanamasigaon (ODSSP)(NOW NBPUR-II)	3.00
194	TPSODL	NABARANGAPUR	NED	Dongerbheja/ Nandahandi (RGGVY)	3.00
195	TPSODL	GANJAM	BED-II	Ambagada	3.00