

	PURCHASE SPECIFICATION EARTHING SYSTEM	PS-439-1203
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PURCHASE SPECIFICATION

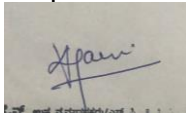
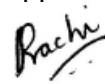
FOR

SUPPLY OF

EARTHING SYSTEM FOR

75 MW SPV POWER PLANT AT

GUJRAT SOLAR PARK, CHARANKA

Revision details : R01 dtd 26.05.18- Changes are highlighted R02 dtd 4.06.18- Changes are highlighted in red	Prepared  Varun Jain	Approved  Prachi Rao V	Date 12 -05-2018
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1.0 Introduction

Bharat Heavy Electricals Limited (BHEL), Electronics Division, Bangalore is setting up 75 MW-AC Grid-connected SPV Power Plant for GIPCL at the Gujrat Solar Park, Charanka, Gujrat.

This technical specification provides BHEL requirements for supply of plant earthing system for the solar photovoltaic project.

2.0 Scope of supply

Sl. No	Item Description	Qty
A	Supply of plant earthing system	
a	Supply of GI Chemical Earth Electrode with earth enhancing compound as per clause A 1.0	60 Set
b	Supply of SS Chemical Earth Electrode with earth enhancing compound as per clause A 2.0	200 Set
c	Supply of copper bonded MS Chemical Earth Electrode with earth enhancing compound as per clause A 3.0	80 Set 340 Set
B	Warranty Vendor shall provide warranty for 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier.	-

3.0 Documents to be submitted along with offer

1. BHEL specification duly signed and sealed by vendor on each page
2. GA/GTP of each type chemical earthing electrodes offered
3. Type test certificates for chemical earth electrodes
4. Installation manual for chemical earth electrodes

A) Supply of plant earthing system

The vendor shall supply **and install** following types of chemical earth electrodes as per relevant Indian standards. The top terminals of all the electrodes shall have provision for connection to GI/ Cu strips using bolts and nuts. The size of holes shall be decided during detailed engg. after placement of PO.

1. Supply of GI Chemical Earth Electrode with earth enhancing compound
2. Supply of SS Chemical Earth Electrode with earth enhancing compound
3. Supply of copper bonded MS rod Chemical Earth Electrode with earth enhancing compound

1.0 GI Chemical Earthing Electrode with earth enhancing compound

The GI chemical electrode shall be supplied with suitable earth enhancing compound. The chemical electrode shall be of non-corrosive, highly galvanized pipe with 3m length. The electrode shall be filled with highly conductive & non corrosive mixture so that inner strip or pipe will never corrode and provide lowest possible resistance. The minimum diameter of the outer pipe shall be 40 mm.

Earth enhancement material shall be type tested from NABL accredited lab. Earth enhancement material shall be superior conductive material so that it improves earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.).

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The quantity of earth enhancing compound required per earth electrode shall be indicated. In general, minimum 50Kg earth enhancing compound shall be supplied for each electrodes or as per OEM recommendation.

2.0 SS Chemical Earthing Electrode with earth enhancing compound

The SS rod chemical electrode shall be supplied with suitable earth enhancing compound. The chemical electrode shall be of non-corrosive min 17 mm dia rod with 3m length.

Earth enhancement material shall be type tested from NABL accredited lab. Earth enhancement material shall be superior conductive material so that it improves earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.).

The quantity of earth enhancing material required per earth electrode shall be indicated. In general, minimum 50Kg earth enhancing compound shall be supplied for each electrodes or as per OEM recommendation.

3.0 Copper bonded MS rod Chemical Earthing Electrode with earth enhancing compound

The copper bonded MS rod chemical electrode shall be supplied with suitable earth enhancing compound. The chemical electrode shall be of non-corrosive min 17 mm dia rod with 3m length. Minimum copper coating shall be 250 microns.

Earth enhancement material shall be type tested from NABL accredited lab. Earth enhancement material shall be superior conductive material so that it improves earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.).

The quantity of earth enhancing material required per earth electrode shall be indicated. In general, minimum 50Kg earth enhancing compound shall be supplied for each electrodes or as per OEM recommendation.

B) Documents to be submitted within 7 days after receipt of purchase order

1. Technical particulars of each type of chemical earth electrode
2. Installation manual for each type of chemical earth electrodes

C) Documents to be submitted along with consignment

1. Earth electrode installation manual
2. Manufacturer test report for earth electrodes