Project
Engineering
Management

Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)

Ref No.: PE/PG/ORP/E-6198/2019/CORRIGENDA/04

Date: 06/06/2019

CORRIGENDA - 04

PROJECT: 5X200 MW OBRA B (UNIT 12 & 13) RESTORATION JOB

PACKAGE: STATION LIGHTING SYSTEM

Ref No: PE/PG/ORP/E-6198/2019, dated 10/05/2019

EXTENDED DUE DATE
10 June-2019
BY 02.00 PM

With reference to above mentioned tender, please find the attached annexure – I to replies of pre bid queries for subject package.

Manish Kumar
06/06/19

With Regards,
For & on behalf of BHEL

Please reply to:
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Power Project Engineering Institute Building
HRD & ESI Complex Plot No. 25, Sector -16 A,
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1	**Project:**	**5x200 MW OBRA B (UNIT 12 &13) : RESTORATION JOB**		
2	**Enquiry No:**	**PE/PG/ORP/E-6198/2019, Dated**		
3	**Package:**	**Station Lighting Package**		
4	**Subject:**	**Annexure - I to corrignedum 04 (Replies of Pre Bid queries)**		

SI.NO.	CLAUSE NO	DESCRIPTION	BIIDER QUERIES	BHEL REPLY
K.	Clause no 16.0, Page 10 of 20 : EARTHING	Lighting fixtures, receptacles, conduits, junction boxes & switch boxes: 16 SWG GI wire.	We suggest to use 1.5 sq mm CU wire for earthing of lighting fixtures, junction boxes, receptacles, conduits etc. as one of the reason of the failure of the LED fixtures may be the failure of earth continuity.	Follow specification.
L.	Clause no 20.0, Page 12 of 20: Switch Board	Switch boxes shall be made of 1.6 mm thick MS sheet with 3mm thick decorative,Perspex cover. Switch shall be not dip galvanised.	Modular type switchboards may be suggested in place of switchbox with 1.6mm thick MS sheet and 3mm thick parpex cover. For concealed type, the switchboard shell be elctroplated type and for surface type the same shall be PVC type.	Follow specification.
M.	Clause no 25.1, Page 13 of 20	Inspection and testing	The Inspection & supply of lighting fixtures shall be on COC basis. The test certificates shall be submitted to BHEL for their review and confirmation before the dispatch of the materials.	Follow specification.
N.	Clause no 30.0, Page 14 of 20	Bidder after award of contract shall prepare and submit the area drawings as per various sections of this specification within one weeks of the input given by the purchaser. The total engineering along with freezing of BOM shall be completed in line with specification requirement.	Thr drawings shall be prepared & submitted for approval within 3 weeks from the date of inputs provided by BHEL. The inputs shall be provided as staggered basis.	Follow specification.
Q.	Clause no 31.0, Page 14 of 20	Structural steel requirement shall be informed by the bidder at contract stage and drawing approval for the same shall be subject to BHEL approval without any commercial implication	The quantity of the structural steel has already mentioned in the BOQ & the same shall be supplied as required.	Noted. However, components/ break-up of structural steel (i.e. channel, angles etc.) shall be informed by the bidder during detailed engineering.
2 (A)	ANNEXURE -A , Page 16 of 20	a. DC Lighting- FC 07 (LED) / FC33(LED)/ FC34(LED) with CFL fixtures,1x 18 W	Please refer the point 1 (A).b	Follow specification.
		b. Decorative type fixtures to be provided for false ceiling areas.	The type of fixtures has been decided by BHEL & accordingly the same shall be supplied.	Noted.
3 (A)	Clause no 6.26, Page 20 of 20	DOCUMENTS SUBMISSION SCHEDULE FOR STATION LIGHTING PACKAGE		
		1. Basic design documents	Basic design documents shall be submitted within 4 weeks from the date of Kick Of Meeting (KOM).	Follow specification.
		2. Data sheets, manufacturing quality plan, field quality plan	These documents shall be submitted within 4 weeks from the date of Kick Of Meeting (KOM).	Follow specification.
		3. Resubmission of BHEL customer commented document	15 days from the date of receipt of comments.	Follow specification.
		4. Type Test Report.	Within 15 days after conduction of type test.	Follow specification.
4 (A)	**STATION LIGHTING SYSTEM (List of Sub vendor) Annexure D**			
a.	GALVANISING		Avaids Technovators Pvt Ltd, Alwar may be added for the Galvanising work. The galvanisation plant of Avaids has already been approved by BHEL (PEM).	Noted.
b.	LIGHTING DISTRIBUTION BOARDS	Avoids Technovators Pvt Ltd	The name shall be corrected to Avaids Technovators Pvt Ltd in place of Avoids Technovators Pvt Ltd	Noted.
c.	PHILIPS Lighting	Philips	The name of Philips may be corrected / read as Philips/Signify, as the company name is changed to Signify.	Noted. The same shall be taken care at detailed engineering stage.
5 (A)	DATA SHEET -A			
a.	Clause no 4.1 Sheet 1 of 14	Type of false ceiling for recessed fluorescent luminaire	The fixtures shall be LED type in place of Fluorescent type.	Noted. The grid type false ceiling shall be applicable for LED lighting fixture also.
b.	Clause no 4.2 to 4.5 Sheet 2 of 14		The data is not applicable as the fixtures are of LED type	Noted. However, DOP & other relevant technical particulars to be followed as for LED fixtures accordingly.
c.	Clause no 7.0 Sheet 5 of 14	1. Decorative receptacles	The surface treatment of the box shall be elctroplated type	Follow specification.
		2. Switch box	Switch box shall be elctroplated for concealed type & PVC type for surface mounted.	Follow specification.
d.	Clause no 21.0 Conduit (Rigid) Sheet 13 of 14	Conduits	Conduit thickness shall be as per IS-9537 & the same shall be supplied accordingly.	Follow specification.
6(A)	Standard Quality Plan (PE-QP-999-558-E001)		LED luminiaries shall be inspected & supplied on COC basis. The test certificates shall be submitted for BHEL review prior to dispatch of the material.	Follow specification.
7 (A)	**Section-II PS-SS-999-558-E001 Standard Technical Specification**	Technical Specification for Lighting System (Supply)	We understand the technical specification for lighting fixtures is for conventional fixtures and as such the same is not applicable for LED fixtures.	**"Technical Specification for Lighting System (Supply)"**, Please note that the same is standard specification applicable for both conventional as well LED lighting. There are certain clauses i.e. 6.0 (page 62 of 64) that are applicable to LED lighting also. In view of the same, bidder to consider "Technical Specification for Lighting System (Supply)" as applicable for LED lighting also.
8(A)	**Clause no 3.19.1 & 3.19.2 Specification no. PS-SS-999-558-E003 Volume -II B Section -II, Page 11 of 13**	Contractor shall be carefully plan cutting schedule of each cable drum, conduit,lighting wires, GI wires such that wastage's are minimised and any resultant short length can be used where appropriate route length are available. The following wastage's allowances are permissible for various materials.	The cutting & wastage allowance of conduits & wires may be considered as 5 %.	Follow Specification.
		Power cables, and control cables, Cutting & wastage's allowances shall be computed on the length actually measured, used & accepted . Break up of above 3% wastage allowances are given below:		
		a. 1% unaccountable wastage		

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SI.NO.	CLAUSE NO	DESCRIPTION	BIIDER QUERIES	BHEL REPLY
1	**SPECIFICATION NO -PE-TS-446-558-E001, VOLUME -II, SECTION -I**			
A.	Clause no 6.2, Lighting Fixtures, Page : 4 of 20	a. Fixtures shall be suitable for 20 mm conduit entry and 16 SWG GI earth wire connection	In general, the LED type light fixtures like wellglass ,flood lighting fixtures, bay lighting fixtures etc are available with cable gland provision for cable termination & as such the conduit entry with 20 mm is not required. Therefore, the provision of conduit entry with 20 mm dia is not required for all type of the fixtures. Also the lighting fixtures has the termination facilities to terminate 2.5 sq mm wire for phase , neutral & earth and as such termination of 16 swg GI wire may not be suitable . One of the reason of the failure of LED fixtures are the breaking of continuity the earthing wires & hence it is recommended to use 1.5sqmm wire in place of 16 swg GI wire.	Follow Specification.
		b. CFL lamps shall be used for DC lighting	Availability of the conventional fixtures with CFL lamp is very remote and may not be arranged during execution of the of the contract. Most of the manufacturers has already stopped the manufacturing of conventional type fixtures & the CFL lamps as well and as such kindly provide the alternate arrangement for the lighting fixtures for DC lighting.	Bidders to note that items as mentioned at sl. No. 3.6, 3.7, 3.8 & 3.9 are DC fixtures/ lamps envisaged for DC emergency lighting application. Further, Bidder to note that the input power for these fixtures shall be 220V DC. Accordingly, Bidder to quote for these DC fixtures. Remaining particulars shall be finalized during detail engineering stage.
B.	Clause no 6.3, Page : 4 of 20	Lighting system will be designed to ensure adequate uniform visual performance, safety v& reliability and will be free from excessive glare and flicker from discharge lamp.	No discharge lamp shall be used as the fixtures are of LED type.	Noted. However, Lighting system will be designed to ensure adequate uniform visual performance, safety & reliability and will be free from excessive glare and flicker.
C.	Clause no 6.5, Page : 4 of 20	LED medium bay fixtures will be installed in areas with sufficient minimum headroom of 4 meter	The selection of the fixtures shall be decided in line with the LUX requirement & the type of fixtures to be installed/ used.	Noted.
D.	Clause no 8.0, Page 6 of 20	a. In areas where DC Emergency supply is not available, ELUs are envisaged for safe personal movement and for access to important control points. ELUs shall contain maintenance free Ni-Cd battery with 3 hours backup and 2x6W lamp. The fixtures shall be switched 'ON' automatically in case of failure of AC supply	The ELU shall be provided with LED lamps. The delivery of the fixtures shall be at the time of handing over /commission of the package, as the life of battery may be at risk due to the non availability of facilities of charging / discharging of the fixtures at the initial stage of the project.	Follow specification. Supply shall be as per delivery schedule.
E.	Clause no 8.0, Page 7 of 20	b. Fixtures shall be suitable for 20mm conduit entry and 2.5 mm2 wire connection. Fixtures shall be fully wired up to respective terminal blocks , suitable for loop in and loop out connection of PVC wires of following sizes:	Please refer point no 1(A)	Please refer reply at point no 1(A)
		1. Lighting fixtures :2.5mm2 copper		
		2. Flood Light Fixtures :2x2.5mmm2 copper		
F.	Clause no 9.0, Page 7 of 20 Emergency lighting unit	Emergency lighting unit shall be provided through self- contained DC emergency fixtures with three (3) hours back-up duration, each shall be provided Ni-Cd battery, battery Charger & 2x6 W fluorescent lamps.	Please refer point no 1 (D)	Please refer reply at point no 1 (D)
G.	Clause no 11.0, Page 8 of 20 Emergency EXIT lamps:	Emergency exit lamps backed up by battery shall be provided at strategic locations of the building for safe exit of personnel. These exit lamps will be remain ON all the time and normally received power supply from ACELP	The fixtures shall be LED type.	Bidder to quote as per specification.
H.	Clause no 13.3, Page 9 of 20	A total of 10 nos. Pedestal fans (for both units) shall also be provided to meet client operational requirement.	The pedestal fans shall be supplied during handing over / commissioning of the package.	A total of 5 nos. Pedestal fans as per BOQ cum price schedule shall be supplied. The same shall be supplied as per delivery schedule.
I.	Clause no 15.0(i), Page 9 of 20	Wiring installation will be done by multi-stranded,PVC insulated, unsheathed, copper,colour coded wires laid in GI conduits of 20mm dia size (minimum) conforming to IS- 9537. The thickness of conduits up to & including 25mm dia will be 1.6 mm and conduits above 25mm will be 2.0mm. Colour of the PVC insulation of wires shall be Red, Yellow, Blue, black for R,Y, and B phases & neutral respectively and white & grey for DC positive & DC negative circuits respectively.	The thickness of the conduit shall be as per the IS-9537 and shall be supplied accordingly.	Follow specification.
J.	Clause no 15.0, Page 10 of 20	Size od wires from JBs/ switches to Fixtures : 2.5 sq mm (CU)	Since the low powered LED fixtures are to be used and as such the size of wire from the JB/switchboards to lighting fixtures of 1.5 sqmm may be considered.	Follow specification.

Manish