

Ref: BHE/PW/PUR/NTPRT-STR ERE PKG-A/2117/Pkg-B/2118/Corr-01

Date: 28/06/2019

To

ALL BIDDERS,

Sub: Corrigendum-01: Issue of Clarifications

Job: Package-A: Erection, Alignment, Bolting/Welding, Roofing & Cladding Work of Power House Building (including control room of Unit#01) (Power House Unit#01 {Grid-1 to Grid13a} + Power House Unit#03 {Grid-28a to Grid-39}), Pipe/cable rack along C row for Unit#01 & Unit#03, Misc. structural work in T/ O yard area of Unit#01 & Unit#03, FGD System structural work (including ball mill, gypsum dewatering, oxidation pump house), Structural works of Misc. BOP Building, Ammonia storage shed and Handling of Materials at BHEL / Client's Stores / Storage yard and transportation to site at 3X800 MW PVUNL PATRATU, Jharkhand.

AND

Package-B: Erection, Alignment, Bolting/Welding, Roofing & Cladding Work of Power house building (Grid 13a to Grid-28a) including CCR (i.e. common control room of Unit#02 & Unit#03), Pipe/cable rack along C row for Unit#02, Misc. structural work in T/ O yard area of Unit-2, BOP Pipe Rack & Cable Rack, Compressor Building, Service Building etc and Handling of Materials at BHEL / Client's Stores / Storage yard and transportation to site at 3X800 MW PVUNL PATRATU, Jharkhand.

S. No.	Package	E- TENDER SPECIFICATION NUMBER
01	Package-A	BHE/PW/PUR/NTPRT-STR ERE PKG-A/2117
02	Package-B	BHE/PW/PUR/NTPRT-STR ERE PKG-B/2118

Bidders to kindly take note of the following:

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AA) ISSUE OF CLARIFICATIONS:

Sl. No.	Reference clause of Tender doc	Existing provision	Bidder's query	BHEL's Clarification
1.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter-XVII of Vol-IA TCC (BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS)- Package-A ST No 2309 Page No : 114 of 130	Extra over above ST NO. A2301 for finishing the grating units/bolts/inserts with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces instead of painting with two coats of red oxide zinc-chromate primer all complete.	The mentioned Item No A2301 is not available in the BOQ. Also the same A2301 is mentioned in the description of A2302. Please clarify	In ST NO 2309 and ST No 2302, THE Referred ST No 'A2301' shall be read as 'F2301'. Item No ST No 2309 will be operated , if required, during detailed engineering.

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2.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter-XVII of Vol-IA TCC (BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS)- Package-A ST No 2312 Page No : 115 of 130	Providing and fixing in positing of high strength structural bolts (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	The given quantity of 276400 Kgs seems to be High. Please confirm.	quantities mentioned in BOQ are approximate quantities and liable to vary, hence tender conditions shall prevail.
3.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter – III: Facilities in the scope of Contractor/BHEL Clause 3.10.1 Page 57/130	The construction power (415V) will be provided at a single point for construction purpose only on chargeable basis at the applicable rate of PVUNL prevailing during the execution period . Further distribution is to be arranged by the bidder at his cost. Construction power shall be provided from the nearest Substation / tapping point.	Please provide the current prevailing charges of PVUNL for Construction Power.	Construction power charges shall be charged as per prevailing charges during the execution period.
4.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter – III: Facilities in the scope of Contractor/BHEL Clause 3.10.1 Page 58/130	Water (Raw water) required for construction purposes will be provided at one single point within the plant area on chargeable basis. The required water meter for measuring the consumption shall be provided and installed by the contractor. The required pumps & accessories, pipes for drawing water from the	Please provide the current prevailing charges for the construction water.	Construction water charges shall be charged as per prevailing charges during the execution period.

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		points and further distribution will be arranged by the contractor at their cost.		
5.	General		Please Provide the approved Vendor List for all the supply items applicable to bidder.	Approved vender list for supply of Cladding sheets and welding electrodes are attached and other supply items vender list shall be provided prior to start of work.
6.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter-XVII of Vol-IA TCC (BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS)- Package-A ST No 2301 Page No : 114 of 130	Erection of structural steel [of mild steel/High strength steel rolled section / built up section / combination of both conforming to IS:2062, pipe sections] true to line, level, plumb & dimension, rectification if any, including collection of factory fabricated parts from BHEL store and assembly, installation of erection/connection bolts and application of final finish paint coat(Payment for final coat of payment shall be made separately as per Item No. C2304) as per approved drawing, specification and approval of engineer in charge. HSFG bolts/washer/nut will be supplied free of cost by BHEL to the bidder. Erection bolts shall be arranged by the bidder and is not payable. the work shall be satisfactorily completed with required tightening of HSFG bolts along with DTI (DIRECT TENSION INDICATOR)	In ST No F2301, structures are bolted type & final connection is to be done by using HSFG bolts which will be supplied by BHEL as free issue. However line item says DTI washers has to be supplied by bidder/contractor and unit rate is inclusive of said washer cost.- our query- DTI washer's are set/ part of HSFG bolts itself hence same is to be included in BHEL supply itself.	ST No F2301 shall be read as follows: Erection of structural steel [of mild steel/High strength steel rolled section / built up section / combination of both conforming to IS:2062, pipe sections] true to line, level, plumb & dimension, rectification if any, including collection of factory fabricated parts from BHEL store and assembly, installation of erection/connection bolts and application of final finish paint coat(Payment for final coat of payment shall be made separately as per Item No. A2304) as per approved drawing, specification and approval of engineer in charge. HSFG bolts/washer/nut will be paid separately under item No 2312. Erection bolts shall be arranged by the bidder and is not payable. The work shall be satisfactorily completed with required

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		washers to be supplied by the bidder(Cost of DTI washer is included in this item and not payable). The prefabricated structure shall be supplied in variable length to the maximum length of 10 meters -12 meters and all erection work on ground or at any elevation is included in this item. Payment shall be made for weight of structure, HSFG nuts, bolts & splice plate but not for erection bolts & nuts, DTI washers, gusset plates, stiffeners etc.		tightening of HSFG bolts along with DTI (DIRECT TENSION INDICATOR) washers to be supplied by the bidder (Cost of DTI washer is included in this item and not payable separately). The prefabricated structure shall be supplied in variable length to the maximum length of 10 meters -12 meters and all erection work on ground or at any elevation is included in this item. Payment shall be made for weight of permanent structure, HSFG nuts, bolts & splice plate, DTI washers, gusset plates, stiffeners but not for erection bolts & nuts.
7.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter-XVII of Vol-IA TCC (BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS)- Package-A ST No 2301 Page No : 114 of 130	Erection of structural steel [of mild steel/High strength steel rolled section / built up section / combination of both conforming to IS:2062, pipe sections] true to line, level, plumb & dimension, rectification if any, including collection of factory fabricated parts from BHEL store and assembly, installation of erection/connection bolts and application of final finish paint coat(Payment for final coat of payment shall be made separately as per Item No. C2304) as per approved drawing, specification and approval of engineer in charge. HSFG bolts/washer/nut will be supplied free of cost by BHEL to the bidder. Erection bolts shall be	In ST No F2301 it is mentioned that payment will not be made for DTI Washers, Gusset plates, Stiffeners etc.. :- Our Query:- DTI washers are integral part of HSFG bolt hence it has to be measured along with HSFG bolts, similarly Gusset plates, Stiffeners are integral part of Columns, beams, bracing etc. hence weight of same has to be considered for	

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		arranged by the bidder and is not payable. the work shall be satisfactorily completed with required tightening of HSFG bolts along with DTI (DIRECT TENSION INDICATOR) washers to be supplied by the bidder(Cost of DTI washer is included in this item and not payable). The prefabricated structure shall be supplied in variable length to the maximum length of 10 meters -12 meters and all erection work on ground or at any elevation is included in this item. Payment shall be made for weight of structure, HSFG nuts, bolts & splice plate but not for erection bolts & nuts, DTI washers, gusset plates, stiffeners etc.	measurement & payment purpose too.	
8.	Technical Conditions of Contract –Volume I A (Part I: Contract Specific Details) Chapter-XVII of Vol-IA TCC (BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS)- Package-A ST No 2304 Page No : 114 of 130	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 100 micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all	In ST No F2301 it is mentioned that " Payment for final coat of paint will be paid separately as per Item No. C 2304." However, Item no. C 2304 is missing in the entire Calculation Sheet.	In ST No F2301, Item No C 2304 shall be read as ST No A2304. Final paintings not in the scope of bidders, said item (ST No A2304) will be operated only as and when required.

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		complete as per specification for all structures .		

BB) Extension of Due Date of offer Submission: The last date for submission of Tender has been re-scheduled to **08/07/2019, 15.00 hrs.**

Technical Bid shall be opened on **08/07/2019 at 16.00 hrs.**

CC) ISSUE OF Integrity Pact Signed by BHEL:

In ANNEXURE-3 of NIT of the subject tender format of Integrity Pact was given which stands deleted.

However, the signed copy by BHEL of the integrity pact is issued herewith. The same shall be applicable for the subject tender.

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All other Terms and conditions of the Tender Specification shall remain unaltered unless expressly amended by BHEL in writing. Bidders are requested to submit as a part of their offer, a copy of this corrigendum duly Digitally countersigned by the authorized signatory as a token of Bidder's unqualified acceptance of this corrigendum.

BIDDERS MAY PLEASE NOTE THAT SUBJECT TENDER IS E-TENDER AND THE OFFER IS TO BE SUBMITTED ONLY IN E-PROCUREMENT PORTAL → www.bhel.abcprocure.com

BIDDERS WHO HAVE ALREADY SUBMITTED THEIR OFFERS PRIOR TO ISSUANCE OF THIS CORRIGENDUM IN E-TENDER PORTAL ARE REQUIRED TO RE-SUBMIT THEIR OFFER AFTER TAKING COGNIZANCE OF THIS CORRIGENDUM.

Thanking you,

Yours faithfully,

AGM (Purchase)

Enclosure: Integrity pact Signed by BHEL

INTEGRITY PACT

Between

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House" Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context of meaning hereof shall include its successors or assigns of the ONE PART

And

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for

_____. The Principal values full compliance with all relevant laws of the land, rules and regulations and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1 the Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2 The bidder(s)/ Contractors(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 Foreign Bidders (s)/ Contractor(s) shall disclose the name and address of agents and representative in India and India Bidder(s)/Contractor(s) to disclose their foreign principals or associates. The Bidders (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 – Disqualification from tender process and execution from future contracts

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors" framed by the Principal.

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on his subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-Contractors

- 6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors.
- 6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section -7 Criminal Charges against violating Bidders/ Contractors/ Sub-contractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Sub-contractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section – 8 Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractors(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sib-contractor(s) with confidentiality in line with Non-disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meeting could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 IEM should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organization.
- 8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code/Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.12 The word 'Monitor' would include both singular and plural.

Section 9 – Pact Duration

- 9.1 This Pact shall be operative from the date IP is signed by both the parties till the final completion of contract for successful bidder and for all other bidder 6 months after the contract has been awarded. Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- 9.2 If any claim is made/ lodged during currency of IP, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 – Other Provisions

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.



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- 10.3 If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those Bidders/ Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On Behalf of the Principal

For & On Behalf of the Bidder/ Contractor

(Office Seal)

(Office Seal).

Place -----

Date-----

Witness: _____

Witness: _____

(Name & Address) _____

(Name & Address) _____

एनटीपीसी NTPC		NTPC LIMITED		DOC.NO.	0000-999-QOG-W-001
		CORPORATE QUALITY ASSURANCE & INSPECTION		REV.NO.	11
				DATE:	14/07/2017
		RATIONALISED LIST OF WELDING CONSUMABLES FOR SITE USE		PAGE	1 of 18
S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS

[1] SMAW ELECTRODES FOR STRUCTURES

1(A) E6013					
1	E6013	AARYA-13	Aarya Electrodes (P) Ltd.	Agra	Rutile electrode for welding non-pressure parts of mild and low carbon steels
2	E6013	SUNWELD	Abirami Electrodes	Coimbatore	
3	E6013	METALBOND	Ador Weiding Ltd.	Pune	
4	E6013	ACCURATE ARC E6013	Accurate Weldarc Pvt Ltd	Raipur	
5	E6013	ALPHA 6013	Alpha Arc (P) Ltd	Ghaziabad	
6	E6013	WELDER - G	Alpha Flux &Eletrodes	Trichy District	
7	E6013	SUNGOLD	Asokaa Alloys	Coimbatore	
8	E6013	AWT E6013	Atharve Welding Technologies (I)	Solapur	
9	E6013	B&H ULTRA	B&H Electrodes (P) Ltd	Mohali	
10	E6013	MONARC-S	Bagherwal Electrodes (P) Ltd.	Indore	
11	E6013	SONY ARC E6013	Balaji Electrodes	Coimbatore.	
12	E6013	A-ONE E6013	Bright Weld Technologies	Coimbatore.	
13	E6013	SHIVA-S	Calcutta Electrodes (P) Ltd.	Raipur	
14	E6013	CLASSIC 6013 PLUS.	Classic Electrodes (India) Ltd.	Kolkata	
15	E6013	ATLAS-13	Cosmos Electrodes (P) Ltd	Indore	
16	E6013	Standard	D&H India Ltd.	Indore	
17	E6013	Norma	D&H Secheron Electrodes (P) Ltd	Indore	
18	E6013	ELMARK 11	Elmarc Electrodes (P) Ltd.	Chennai	



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				DATE:	14/07/2017
		RATIONALISED LIST OF WELDING CONSUMABLES FOR SITE USE		PAGE	2 of 18
S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
1(A)	E6013				
19	E6013	ESAB Ferrospeed Plus	ESAB India Ltd	Chennai	Rutile electrode for welding non-pressure parts of mild and low carbon steels
20	E6013	NUMBER ONE	Eureka Systems And Electrodes (P) Ltd	Coimbatore	
21	E6013	ELECTRA-6	Fusion Engg. Products Private Ltd.	Gamaria	
22	E6013	GEECON PINK	Gee Limited	Kalyan (W)	
23	E6013	Regular-S	Honavar Electrode Pvt Ltd	Mumbai	
24	E6013	IDEAL 40	Ideal Electrodes	Coimbalore.	
25	E6013	CROWN 13S	K.M.Crown Welding Consumables (P)	Dewas	
26	E6013	KELARC 6013	Kollipara Electrodes (P) Ltd.	Krishna Dist.	
27	E6013	MAGNARC 63	Magnarc Electrodes (P) Ltd.	Visakhapatnam	
28	E6013	MAILARC 13R	Mailam India Limited	Pondicherry	
29	E6013	MANGALAM E 6013	Malu Electrodes (P) Ltd.	Nagpur	
30	E6013	MANTEK GP-13.	MantekElectrods Private Ltd	Trichy	
31	E6013	MARUTHI 6013X-	Maruthi Electrodes (P) Ltd.	Bangalore	
32	E6013	Maruti-44	Maruti Weld Private Ltd.	New Delhi	
33	E6013	MEGA E6013	Mega Weld Technologies	Coimbatore	
34	E6013	MICRO-6013	Micro Weld (India)	Ludhiana	
35	E6013	MIGLANI ARK-X	Miglani Engineers	Haridwar.	



एनटीपीसी NTPC		NTPC LIMITED		DOC.NO.	0000-999-QOG-W-001
		CORPORATE QUALITY ASSURANCE & INSPECTION		REV.NO.	11
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		RATIONALISED LIST OF WELDING CONSUMABLES FOR SITE USE		PAGE	3 of 18
S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
1(A)	E6013				
36	E6013	STEELON STANDARD	Modi Arc Electrodes Co	Ghaziabad	Rutile electrode for welding non-pressure parts of mild and low carbon steels
37	E6013	GM 20	ModiHitech India Ltd.	New Delhi	
38	E6013	MEDAL ARC	Nivetha Electrodes	Tiruchirapally	
39	E6013	EKNOWELD	Nucor Weld(India)(P) Ltd.	Bangalore	
40	E6013	GALA WELD	Orange Electrodes Industries	Asangaon	
41	E6013	SUN ARC X - 19	Orion Wire Manufacturing Co.	Bharuch	
42	E6013	ANAND-13	P.R.Industries	Kota	
43	E6013	RATNA 6013X	Raajratna Electrodes Ltd	Ahmedabad	
44	E6013	RAJCORD-13S	Raj Kesari Electrodes	Udaipur	
45	E6013	RASI E6013	Rasi Electrodes Ltd.	Chennai	
46	E6013	ROYAL S	Royal Arc Electrodes (P) Ltd	Thane	
47	E6013	JACKSON 5	Royal Welding Wires (P) Ltd.	Kanchipuram	
48	E6013	BALAJI	Rukhmani Electrodes (P) Ltd.	Kolkata	
49	E6013	KAYNOZ 7S	Seth Electrodes (P) Ltd.	Khurai	
50	E6013	ESL' ARC-62	Shieldarc Equipments (P) Ltd	Kolkata	
51	E6013	VATSARC 19 PLUS.	Solarc Weld Rods	Chennai	
52	E6013	SUDO 6013	Spectra Super Alloys Ltd	Jamshedpur	
53	E6013	SUNSHINE E6013	Sri Renga Electrodes (P) Ltd	Trichy	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
1(A)	E6013				
54	E6013	SUNDEEP S	Sundeeep Electrodes (P) Ltd.	Hapur	Rutile electrode for welding non-pressure parts of mild and low carbon steels
55	E6013	OVERCORD S	Superon Schweissttechnik (I) Ltd	Haryana	
56	E6013	BEST ARC MS11-	V.N.C.Electrodees	Karur	
57	E6013	PRIMEARC-13	Valency Compounds Services Pvt Ltd	Ahmednagar	
58	E6013	PRIMA-6013S	Varun Electrodes (P) Ltd.	Panipat	
59	E6013	SPEEDARC E6013	Voltarc Electrode (P) Ltd	Tirupathi	
60	E6013	WA-6013-S	Weld Alloy Products Ltd.	G Noida	
61	E6013	WELDALL	Weldall Electrodes (India)	Nagpur	
62	E6013	NOVAX - 13	Weldcom Electrodes (P) Ltd.	Surat	
63	E6013	MAXIMA-6013X	Weldcraft Private Ltd.	Bangalore	
64	E6013	WELDFAST SUPER	Weldwell Electrodes	Nagpur	

LOW HYDROGEN SMAW ELECTRODES FOR STRUCTURES					
1(B)	E7018				
1	E7018	SUPABASE 7018	Ador Welding Ltd	Pune	Basic coated low hydrogen electrodes for welding of thick sections in structural steels
2	E7018	ALPHA 7018	Alpha Arc Pvt Ltd	Ghaziabad	
3	E7018	SUPER WELD 7018	Alpha Flux & Electrodes	Trichy District	
4	E7018	ANAND THERME	Anand Arc Ltd	Chennai	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS	
1(B)	E7018					
5	E7018	MONOTHERME	Bagherwal Electrodes (P) Ltd.	Indore	Basic coated low hydrogen electrodes for welding of thick sections in structural steels	
6	E7018	SHIVATHERME-18	Calcutta Electrodes (P) Ltd.	Raipur		
7	E7018	CLASSIC LH-7018	Classic Electrodes (India) Ltd.	Kolkata		
8	E7018	SUPRA MAX-18	Cosmos Electrodes Pvt Ltd	Indore		
9	E7018	SUPRATHERME	D&H Secheron Electrodes Pvt Ltd	Indore		
10	E7018	SUPER LH	D&H India Limited	Indore		
11	E7018	ESAB-36H	ESAB India Ltd	Chennai		
12	E7018	EUTHERME LH	Eureka Systems And Electrodes P.Ltd	Coimbatore		
13	E7018	BASICOTE 6	Fusion Engg Products Private Ltd	Gamaria		
14	E7018	GRICON GREEN	GEE Limited	Kalyan (W)		
15	E7018	ULTIMATE-18----	Honavar Electrodes Pvt Ltd	Mumbai		
16	E7018	KELARC-7018	Kollipara Electrodes Pvt Ltd	Krishna Dist.		
17	E7018	CROWN-18	K.M. Crown Welding Consumables Pvt	Dewas		
18	E7018	MAGNAARCH LH	Magnarc Electrodes (P) Ltd.	Visakhapatnam		
19	E7018	MAGNA-8	Magna Engineering	Vijaywada		
20	E7018	MAIL ARC 18	Mailam India Limited	Pondicherry		
21	E7018	MANGALAM E 7018	Malu Electrodes (P) Ltd.	Nagpur		
22	E7018	MANTEK LH 18	Mantek Electrods Private Ltd	Trichy		



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
1(B)	E7018				
23	E7018	MARUTHI 7018	Maruthi Electrodes (P) Ltd	Bangalore	Basic coated low hydrogen electrodes for welding of thick sections in structural steels
24	E7018	ULTRA - 7018	Maruti Weld Private Limited	New Delhi	
25	E7018	MODI 7018	Modi Arc Electrodes Co.	Ghaziabad	
26	E7018	GM18	Modi Hitech India Ltd	New Delhi	
27	E7018	SUPERIAL LH E7018	Murli Electrode (P) Ltd	Nagpur	
28	E7018	EKNOWELD	Nucor Weld(India) Ltd	Bangalore	
29	E7018	RATNA 7018	Raajratna Electrodes Ltd	Ahmedabad	
30	E7018	SUPERLET - 18	Raj Kesari Electrodes Pvt Ltd	Udaipur	
31	E7018	RASI 7018LH	Rasi Electrodes Ltd	Chennai	
32	E7018	ROYAL THERM	Royal Arc Electrodes Ltd	Thane	
33	E7018	JACKSON 18H	Royal Welding Wires Pvt Ltd	Kanchipuram	
34	E7018	REPL 7018	Rukhmani Electrodes (P) Ltd.	Kolkata	
35	E7018	SAITRON LH-7018	Saitron Engineers Pvt Ltd	Nagpur	
36	E7018	SUPRADYNE	Solarc Weld Rods	Chennai	
37	E7018	SUDO 7018	Spectra Super Alloys Ltd	Jamshedpur	
38	E7018	SUNSHINE - 18	Sri Renga Electrodes (P) Ltd	Trichy	
39	E7018	SUNDEEP 7018	Sundeep Electrodes Pvt Ltd	Hapur	
40	E7018	SUPERCITO OERLICON	Superon Schweisstechnik India Ltd	Haryana	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS	
1(B)	E7018					
41	E7018	ISWP SPARK 7018	The Indian Steel & Wire Products Ltd	Jharkand	Basic coated low hydrogen electrode for welding of thick sections in structural steels	
42	E7018	SEVEN ARCS-18	Thirumala Electrodes Co	Trichy		
43	E7018	PRIMA7018	Varun Electrodes Pvt Ltd	Panipat		
44	E7018	BESTARC-LH-18	V.N.C.Electrodees	Karur		
45	E7018	VJ-7018	Vijey Electrodes And Wires (P) Ltd.	Chennai		
46	E7018	SPEEDARC-7018	Voltarc Electrodes (P) Ltd	Tirupathi		
47	E7018	WA 7018	Weld Alloy Products Ltd	G Noida		
48	E7018	MAXIDURE-7018	Weldcraft Private Ltd.	Bangalore		
49	E7018	EXCEL - 18---	Weld Excel India Ltd	Ludhiana		
50	E7018	WELDFAST LH 18	Weldfast Electrodes Pvt Ltd	Nagpur		

[2] LOW HYDROGEN SMAW ELECTRODES FOR PRESSURE PARTS						
2(A) E7018						
1	E7018	AARYA-7018	Aarya Electrodes Pvt Ltd	Agra	Basic coated low hydrogen electrodes for welding of thick sections in structural steels and pressure parts	
2	E7018	SUPABASE 7018	Ador Welding Limited	Pune		
3	E7018	ANAND THERME	Anand Arc Ltd.	Chennai		
4	E7018	B&H-7018	B&H Electrodes Pvt Ltd	Mohali		
5	E7018	SUPRA MAX-18	Cosmos Electrodes (P) Ltd	Indore		



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
2(A)	E7018				
6	E7018	SUPER LH	D&H India Ltd.	Indore	Basic coated low hydrogen electrodes for welding of thick sections in structural steels and pressure parts
7	E7018	SUPRATHERME	D&H Secheron Electrodes (P) Ltd.	Indore	
8	E7018	ESAB-36H	ESAB India Ltd	Chennai	
9	E7018	BASICOTE 6	Fusion Engg. Products Private Ltd.	Gamaria	
10	E7018	GRICON GREEN	Gee Limited	Kalyan (W)	
11	E7018	ULTIMATE - 18.	Honavar Electrodes Pvt Ltd.	Mumbai	
12	E7018	CROWN-18	K.M.Crown Welding Consumables (P)	Dewas	
13	E7018	KELARC-7018	Kollipara Electrodes (P) Ltd.	Krishna Dist.	
14	E7018	MAIL ARC 18	Mailam India Limited	Pondicherry	
15	E7018	MANTEK LH 18	MantekElectrods Private Ltd	Trichy	
16	E7018	MARUTHI 7018	Maruthi Electrodes (P) Ltd.	Bangalore	
17	E7018	ULTRA - 7018	Maruti Weld Private Ltd.	New Delhi	
18	E7018	MODI 7018	Modi Arc Electrodes Co.	Ghaziabad	
19	E7018	GM 18	ModiHitech India Ltd.	New Delhi	
20	E7018	EKNOWELD	Nucor Weld(India)(P) Ltd.	Bangalore	
21	E7018	SUPERLET - 18.	Raj Kesari Electrodes	Udaipur	
22	E7018	RASI 7018LH	Rasi Electrodes Ltd.	Chennai	
23	E7018	ROYAL THERME	Royal Arc Electrodes (P) Ltd	Thane	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
2(A)	E7018				
24	E7018	JACKSON 18H	Royal Welding Wires (P) Ltd.	Kanchipuram	Basic coated low hydrogen electrodes for welding of thick sections in structural steels and pressure parts
25	E7018	SAITRON LH-7018	Saitron Engineers Pvt Ltd	Nagpur	
26	E7018	SUNSHINE - 18	Sri Renga Electrodes (P) Ltd	Trichy	
27	E7018	SUNDEEP 7018	Sundeep Electrodes (P) Ltd	Hapur	
28	E7018	SUPERCITO OERLICON E	Superon Schweisstechnik (I) Ltd	Haryana	
29	E7018	SEVEN ARCS-18	Thirumala Electrodes Co.	Trichy	
30	E7018	PRIMA7018	Varun Electrodes (P) Ltd.	Panipat	
31	E7018	VJ-7018	Vijey Electrodes and Wires Pvt	Chennai	
32	E7018	SPPEDARC E-7018	Vollarc Electrodes (P) Ltd	Tirupathi	
33	E7018	WELDALLH 7018	Weldall Electrodes(India)	Nagpur	
34	E7018	WA 7018	Weld Alloy Products Ltd.	G Noida	
35	E7018	EXCEL-18	Weld Excel India Ltd.	Ludhiana	
36	E7018	WELDFAST LH-18	Weldfast Electrodes Pvt Ltd	Nagpur	

2(B)		E7018-1			
1	E7018-1	TENALLOY-Z-PLUS	Ador Welding Limited	Pune	Low hydrogen iron powder electrode recommended for welding pr parts of carbon steels
2	E7018-1	SUPER-LH(SPL)	D&H India Ltd	Indore	
3	E7018-1	Supra ThermeSpl.	D&H Secheron Electrodes (P) Ltd.	Indore	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS	
2(B)	E7018-1					
4	E7018-1	GRICON GREEN SPL	Gee Limited	Kalyan (W)	Low hydrogen iron powder electrode recommended for welding pr parts of carbon steels	
5	E7018-1	Ultimate-18 SPL	Honavar Electrodes Pvt Ltd.	Mumbai		
6	E7018-1	MAILARC-18PLUS	Mailam India Limited	Pondicherry		
7	E7018-1	MODI 7018 SPL	Modi Arc Electrodes Co.	Ghaziabad		
8	E7018-1	ROYAL THERME SPL	Royal Arc Electrodes Limited	Thane		
9	E7018-1	VJ 7018-1	Vijey Electrodes And Wires (P)	Chennai		

[3]	ALLOY STEEL SMAW ELECTRODE				
3(A)	E7018-A1				
1	E7018-A1	Molytherme	D&H Secheron Electrodes (P) Ltd	Indore	Low hydrogen iron powder electrode recommended for welding pr parts of carbon steels
2	E7018-A1	MODI-7018-A1	Modi Arc Electrodes Co.	Ghaziabad	
3	E7018-A1	ULTIMATE 18A1	Honavar Electrodes Pvt Ltd.	Mumbai	
4	E7018-A1	RAJWELD-18A1	Raj Kesari Electrodes	Udaipur	
3(B)	E8018-B2				
1	E8018-B2	Cromotherme - 1	D&H Secheron Electrodes (P) Ltd	Indore	Low hydrogen electrode used for welding pr parts of 1Cr 1/2 Mo
2	E8018-B2	GRIDUCT3	Gee Limited	Kalyan (W)	
3	E8018-B2	ULTIMATE-80-B2	Honavar Electrodes Pvt Ltd.	Mumbai	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
3(B)	E8018-B2				
4	E8018-B2	MAILARC 1CR	Mailam India Limited	Pondicherry	Low hydrogen electrode used for welding pr parts of 1Cr 1/2 Mo
5	E8018-B2	MANTEK CROMO 1	MantekElectrods Private Ltd	Trichy	
6	E8018-B2	ULTRA-CR-1	Maruti Weld Private Ltd.	New Delhi	
7	E8018-B2	MODI-8018-B2	Modi Arc Electrodes Co.	Ghaziabad	
8	E8018-B2	GM 80-B2	ModiHitech India Ltd.	New Delhi	
9	E8018-B2	RAJWELD-8018B2	Raj Kesari Electrodes	Udaipur	
10	E8018-B2	VJ-8018-B2	Vijey Electrodes And Wires (P)	Chennai	

3(C)	E9018-B3				
1	E9018-B3	SUPER - CR - 2	D&H India Ltd.	Indore	Low hydrogen 2 1/4Cr 1 Mo electrode used for welding pressure parts of similar material composition and 1/2 Cr 1/2 Mo 1/4 V steels
2	E9018-B3	Cromotherme - 2	D&H Secheron Electrodes (P) Ltd	Indore	
3	E9018-B3	GRIDUCT - 4	Gee Limited	Kalyan (W)	
4	E9018-B3	ULTIMATE-90B3	Honavar Electrodes Pvt Ltd.	Mumbai	
5	E9018-B3	MAILARC 2CR	Mailam India Limited	Pondicherry	
6	E9018-B3	ULTRA - CR-2	Maruti Weld Private Ltd.	New Delhi	
7	E9018-B3	MODI-9018B3	Modi Arc Electrodes Co.	Ghaziabad	
8	E9018-B3	GM 90 B3	ModiHitech India Ltd.	New Delhi	
9	E9018-B3	VJ-9018-B3	Vijey Electrodes And Wires (P)	Chennai	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
3(D)	E9015-B9				
1	E9015-B9	CROMO E91	Air-Liquide Welding France	France	Electrodes for T91 / P91 / F91 tubes, pipes & forgings as per ASME
2	E9015-B9	CM-95B9	Kanematsu Trading Corporation (Kobelco)	Japan	
3	E9015-B9	CHROMET 9MV-N	Metrode Products Ltd.	UK	
4	E9015-B9	THERMANIT MTS - 3	VoestalpineBohler Welding	Germany	

[4]	ALLOY STEEL FILLER RODS FOR GTAW (TIG WELDING)				
4(A)	ER80S-D2				
1	ER80S-D2	MnMo	Metrode Products Ltd.	UK	Used for weldig tubes for carbon & 1/2 Mo steels in pressure parts
2	ER80S-D2		Nippon Steel & Sumikin Bussan	Japan	
3	ER80S-D2	Union 1 Mo Mn	VoestalpineBohler Welding	Germany	

4(B)	ER80S-B2				
1	ER80S-B2	TIGFIL 80S -B2	Ador Welding Ltd.	Pune	Used for welding of pressure parts of similar materials
2	ER80S-B2	F CR MO 1	D&H Secheron Electrodes (P) Ltd.	Indore	
3	ER80S-B2	OK TIGROD 13.16	ESAB India Ltd	Chennai	
4	ER80S-B2	GM 80S-B2	I A Barnes & Co Ltd	UK	
5	ER80S-B2	INETIG B2	Industria Nazionale Elettrodi S.P.A	Italy	



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4(B)	ER80S-B2					
6	ER80S-B2	TG-S80B2	Kanematsu Trading Corporation (Kobelco)	Japan	Used for welding of pressure parts of similar materials	
7	ER80S-B2	GETIG 80S B2	GEE Limited	Kalyan (W)		
8	ER80S-B2	MARUTHI TB2	Maruthi Electrodes (P) Ltd.	Bangalore		
9	ER80S-B2	METRODE ER80S-B2	Metrode Products Ltd.	UK		
4(C)	ER90S-B3					
1	ER90S-B3	TIGFIL 90S - B	Ador Welding Ltd.	Pune	Used for welding pressure parts of 2 1/4Cr 1 Mo and 1/2 Cr 1/2 Mo 1/4 V steels	
2	ER90S-B3	FCRMO-2	D&H Sechron Electrodes Pvt Ltd	Indore		
3	ER90S-B3	GM90S-B3	I A Barnes & Co Ltd	UK		
4	ER90S-B3	INETIG B3	Industria Nazionale Elettrodi S.P.A	Italy		
5	ER90S-B3	TG-S90B3	Kanematsu Trading Corporation (Kobelco)	Japan		
6	ER90S-B3	MARUTHI TB3	Maruthi Electrodes (P) Ltd.	Bangalore		
7	ER90S-B3	METRODE ER90S-B3	Metrode Products Ltd.	UK		
8	ER90S-B3	UNION ER 90 S-B3	VoestalpineBohler Welding	Germany		



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4(D)	ER90S-B9				
1	ER90S-B9	CARBOROD CrMo91	Air-Liquide Welding France	France	TIG welding rods for T91 / P91 / tubes and pipes as per ASME
2	ER90S-B9	TG-S90B9	Kanematsu Trading Corporation (Kobelco)	Japan	
3	ER90S-B9	9CRMV-N TIG	Metrode Products Ltd.	UK	
4	ER90S-B9	THERMANIT MTS 3	VoestalpineBohler Welding	Germany	

[5]	STAINLESS STEEL SMAW ELECTRODES				
5(A)	E308-16				
1	E308-16	Rutox A	D&H Secheron Electrodes (P) Ltd	Indore	Stainless steel electrodes used for welding 304 and 308 materials
2	E308-16	OK 61.50	ESAB India Ltd	Chennai	
3	E308-16	MAILEX-A	Mailam India Limited	Pondicherry	
4	E308-16	SS-308	Modi Arc Electrode Co.	Ghaziabad	
5	E308-16	ROYAL-1A	Royal Arc Electrodes Limited	Thane	

5(B)	E308L-16				
1	E308L-16	Rutox-B	D&H Secheron Electrodes (P) Ltd	Indore	Stainless steel electrodes used for welding SS-409M to SS-409M
2	E308L-16	OK 61.30	ESAB India Ltd	Chennai	



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5(C)	E309-16				
1	E309-16	Cronitherme 25/12	D&H Secheron Electrodes (P) Ltd	Indore	25/12 stainless steel electrodes for welding stainless steel and ferritic steel combination and SS butter layers
2	E309-16	OK 67.67	ESAB India Ltd	Chennai	
3	E309-16	SILVERSHINE - 309	Honavar Electrodes Pvt Ltd	Mumbai	
4	E309-16	MAILEX-25/12	Mailam India Limited	Pondicherry	
5	E309-16	SS-309	Modi Arc Electrodes Co.	Ghaziabad	
6	E309-16	ROYAL-D2	Royal Arc Electrodes Limited	Thane	
5(D)	E309L-16				
1	E309L-16	D&H-309-L	D&H Secheron Electrodes (P) Ltd	Indore	SS electrode used for welding SS-409M and mild steel
2	E309L-16	OK 67.60	ESAB India Ltd	Chennai	
5(E)	E310-16				
1	E310-16	D&H 310-16	D&H Secheron Electrodes (P) Ltd	Indore	25/10 SS electrode for welding SS and ferritic steel combination
2	E310-16	OK 67.13	ESAB India Ltd	Chennai	
5(F)	E316-16				
1	E316-16	Rutox Mo	D&H Secheron Electrodes (P) Ltd	Indore	18/8 2% Mo type stainless steel electrode
3	E316-16	OK 63.50	ESAB India Ltd	Chennai	
	E316-16	ROYAL - 2A	Royal Arc Electrodes Limited	Thane	



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5(G)	E316L-16				
1	E316L-16	RUTOX-D	D&H Secheron Electrodes Pvt Ltd	Indore	
2	E316L-16	OK 63.30	ESAB India Ltd	Chennai	

5(H)	E347-16				
1	E347-16	Rutox A (ST)	D&H Secheron Electrodes (P) Ltd	Indore	18/8 stabilised stainless steel electrode for welding 308, 321 and 347 stainless steel materials
2	E347-16	OK 61.80	ESAB India Ltd	Chennai	
3	E347-16	GRINOX 47	GEE Limited	Kalyan (W)	
4	E347-16	SILVERSHINE- 347 -16	Honavar Electrodes Pvt Ltd	Mumbai	
5	E347-16	MAILEX-ANB	Maitam India Limited	Pondicherry	
6	E347-16	SUPERALLOY 1A(S)	Maruti Weld Private Limited	New Delhi	
7	E347-16	SS-347	Modi Arc Electrodes Co.	Ghaziabad	
8	E347-16	GM 347	Modi Hitech India Ltd	New Delhi	
9	E347-16	ROYAL-1B	Roya Arc Electrodes Limited	Thane	

5(I)	ENiCrFe3				
1	ENiCrFe3	D&H 1212 NS	D&H Secheron Electrodes (P) Ltd	Indore	Inconel-182 electrodes for dissimilar welding and buttering
2	ENiCrFe3	GEMET 821N	GEE Limited	Kalyan (W)	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
5(I)	ENICrFe3				
3	ENICrFe3	CRYOMATE -3NS	Honavar Electrodes Pvt Ltd	Mumbai	Inconel-182 electrodes for dissimilar welding and buttering
4	ENICrFe3	INCONEL 182	Special Metals Welding Products	UK	
5	ENICrFe3	THERMANIT NICRO 182	VoestalpineBohler Welding	Germany	

[6]	STAINLESS STEEL FILLER RODS FOR GTAW (TIG WELDING)				
6(A)	ER308				
1	ER308	ER 308	D&H Secheron Electrodes (P) Ltd	Indore	Used for SS 304 & SS 308 materials

6(B)	ER347				
1	ER347	GETIG 347	GEE Limited	Kalyan (W)	Used for SS 304 and SS 308 materials
2	ER347	TG-S347	Kanematsu Trading Corporation (Kobelco)	Japan	
3	ER347	347S96	Metrode Products Ltd.	UK	
4	ER347	THERMANIT H347	VoestalpineBohler Welding	Germany	



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S NO	TYPE	BRAND NAME	MANUFACTURER	LOCATION	REMARKS
6(C) Super 304H					
1	Super 304H	TG-SUPER 304 H	Kanematsu Trading Corporation (Kobelco)	Japan	For TIG welding of super 304H
2	Super 304H	YT-304H	Nippon Steel & Sumikin Bussan	Japan	
3	Super 304H	THERMANIT 304 H CU	VoestalpineBohler Welding	Germany	

6(D) ERNiCr3					
1	ERNiCr3	TIG-521	Ador Fontech Limited	Bangalore	Inconel 82 TIG rods for pressure parts SS to alloy steel
2	ERNiCr3	TG-S70NCB	Kanematsu Trading Corporation (Kobelco)	Japan	
3	ERNiCr3	MARUTHY TNiCr3	Maruthi Electrodes (P) Ltd.	Bangalore	
4	ERNiCr3	20.70.NB	Metrode Products Ltd.	UK	
5	ERNiCr3	THERMANIT NiCrO 82	VoestalpineBohler Welding	Germany	

NOTES

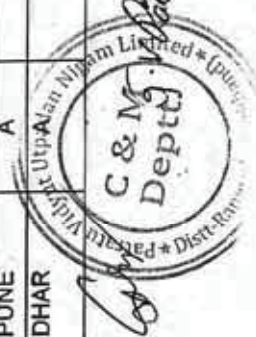
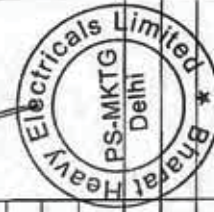
1. In case of main plant equipment like boiler pressure parts and TG, special welding consumables, if any shall be used as per OEM recommendations.

2. If semi-automatic or automatic welding processes are used, welding consumables shall be used as per OEM recommendations.



ANNEXURE-1

SR. NO.	ITEM	LIST OF ITEMS REQUIRING QUALITY PLAN AND SUB-SUPPLIER APPROVAL			APPROVAL STATUS / CATEGORY	REMARKS
		QAP / INSP. CAT	QAP NO.	PROPOSED SUB SUPPLIER		
PROJECT: PATRATU STPP-I (3X800 MW)		SUB SYSTEM: CIVIL WORKS			NTPC DOC NO	
PACKAGE: EPC					REV. NO.	0
MAIN SUPPLIER: BHEL					DATE	05.04.2017
CONTRACT NO.: CS-9585-001-2						
1.	CEMENT	III	-	BIS APPROVED SOURCES HAVING VALID BIS LICENCE	-	
2.	CONSTRUCTION CHEMICALS - ADMIXTURES, PLASTISIZERS, RETARDERS WATER PROOFING COMPOUNDS GROUTS	III	-	SIKA INDIA LTD	-	N
				CICO TECHONOLOGIES LTD	-	N
				FOSROC CHEMICALS (I) PVT LTD	-	N
				BASF	-	N
3.	FALSE CEILING - GLASS REINFORCED GYPSUM SYSTEM, MINERAL FIBRE BOARD SYSTEM, PREPAINTED COIL COATED STEEL SYSTEM	III	-	SAINT GOBAIN	NEW DELHI	N
				HUNTER DOUGLOUS	MUMBAI	N
				TIGER STEEL	PUNE/MUMBAI	N
				INTERARCH	NOIDA	N
				LLOYD INSULATION	-	N
				MG INDUSTRIES	FARIDABAD	N
				ARM STRONG	NEW DELHI	N
				BERGER	-	N
4.	PAINT AND PAINTING SYSTEM	III	-	SHALIMAR PAINTS	-	N
				JENSON AND NICHOLSON	-	N
				KANSAI NEROLAC	-	N
				AKZO NOBEL	-	N
				ASIAN PAINTS	-	N
				UNION STEEL	KOREA	A
				DONGBU STEEL	KOREA	A
5.	COLOUR COATED SHEET (FOR COIL)	I	-	BHUSHAN STEEL AND STRIPS LTD.	RAIGAD	A
				ESSAR STEEL LTD	PUNE	A
				NATIONAL STEEL AND AGRO	DHAR	A



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