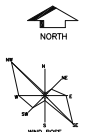


37
RAW WATER RESERVOIR(71 HECTARES)
 0.4TMC/6 MONTHS STORAGE FOR ONE UNIT
 0.52TMC/4 MONTHS STORAGE FOR TWO UNITS

38
ASH DISPOSAL AREA

STILLING POND

DIVERSION OF NALSA
 TO TUNGA BHADRA
 HIGH LEVEL CANAL



- 1A. TO BUILDING
- 2A. BOILER HOUSE
- 3A. ELECTROSTATIC PRECIPITATOR
- 4A. CHIMNEY
- 5A. TRANSFORMER BAY
- 6A. SWITCH YARD (Including 220KV extension)
- 7A. SWITCH YARD CONTROL BUILDING
- 8A. DIESEL GENERATOR HOUSE
- 9A. AIR WHEEL UNIT(150 RPM)
10. TECHNICAL OFFICE & WORKSHOP INCLUDING FIRST AID CENTER (COMMON FOR U-12&3)
- 11A. COMPRESSOR HOUSE(FUR UNIT-3)
- 12A. COMPRESSOR STORAGE TANK, CONDENSATE TRAPPER PUMP, BOILER FILL PUMPS & CPU REGENERATION BUILDING
- 13A. A/C PLANT ROOM FOR TO BUILDING
- 14A. VACUUM PUMP HOUSE & TRANSPORT AIR COMPRESSOR HOUSE
- 15A. ESP/VED CONTROL ROOM
- 16A. CLAYED WATER PUMP HOUSE/RESERVOIR
- 17A. ROOM BUILDING
- 18A. COOLING TOWER No.-3
- 19A. COOLING WATER PUMP HOUSE, A/CW PUMP HOUSE,
- 20A. COOLING WATER PUMP HOUSE, A/CW PUMP HOUSE,
- 21A. WHI STORAGE BUNKER,
- 22A. AIR HANDLING UNIT
- (a) ASH WATER & ASH SLURRY PUMP HOUSE
- (b) ASH WATER & ASH SLURRY PUMP
- (c) OVERFLOW/UNDERFLOW-BELT-FULL-ASH-POND-RECOVER-WATER-CHIMNEY-HOUSE
- (d) TRANSPORT-AIR-COMPRESSOR-HOUSE
- (e) ASH SLURRY PUMP
23. FUEL OIL TANK AREA (common for U 1,2&3)
- 24A. (a) ASH SLURRY PUMP HOUSE/ELECTROSTATIC PRECIPITATOR & CONTROL ROOM
- (b) ASH SLURRY PUMP
- 25A. BAG FILTER/BLEAFER KOPPER/METTING HEAD/COLLECTOR TANK-TOWER
- 26A. EFFLUENT TREATMENT PLANT AREA WITH CMB (unit-3)
- 27A. TUNG BHDRA SUGAR TREATMENT
- 28A. LID UNLOADING & LID/VED PRESSURING & HEATING FACILITIES
- (a) P & H UNIT
- (b) MUD/OP ROOM
- (c) UNLOADING AREA FOR ROAD TRUCKS (common for U 1&2)
- (d) LID UNLOADING PUMPS (common for U 1&2)
- (e) TANK HOUSE ETC.
- 29A. H2O UNLOADING PUMP HOUSE/FACILITIES (common for U 1&2)
- 30A. CH-DECONTAMINATION-4-DECONTAMINATION-SYSTEM (PL REFER SI No.59)
- 31A. A/CW/ALKA STORAGE
- 32A. WORKING PIT
- 33A. CPU REGENERATION BUILDING (Unit-3)
- 34A. DM STORAGE TANK, DA PUMP HOUSE
- PUMP HOUSE IS TO ACCELERATE UNIT-3
- (a) CPU/MS REGENERATION/PUMPS
- 35A. AIR WHEEL RECOVERY PUMP HOUSE (common for U 1&2)
- 36A. COAL HANDLING PLANT
- 36A.1A. COAL STOCK YARD WITH GRABBER DRUMS
- 36A.2. COAL PILE BUNKER FIT WITH REGENERATION TANK & PUMPS
- 36A.3A. BELTDRUM SEED FOR UNIT-3
- 36A.4A. BELTDRUM SEED FOR UNIT-3
50. FIRE STATION (Common for U 1&2)
- 51A. STORAGE WATER STORAGE TANK
52. ROAD MESH BRIDGE/CONTROL ROOM (Common for U 1&2)
54. LIDCO (Common for U 1&2)
55. WARE HOUSE & CHEMICAL WAREHOUSE PLANT (EXISTING)
- 55A. RAW WATER PUMP HOUSE & PAVING
- 55B. RAW WATER TANK HOUSE (COMMON FOR U 1&2) ONLY 3 PUMPS.
- 55C. SPIN. WEG & IN. NEED TO BE PROVIDED
- 56A. 600-6000-RECOVER-PUMP-HOUSE (NOT REQUIRED)
- 57A. FIRE WATER PUMP HOUSE/TANKS - DELETED AS IT IS COVERED IN 16
- 58A. CONDENSATION PUMP HOUSE
- 59A. CH TREATMENT PLANT
- 60A. SEE STREAM STEAM FILTRATION

CUSTOMER SCOPE (EXISTING):

37. RAW WATER RESERVOIR
38. ASH DISPOSAL AREA
39. RAILWAY SIDING/ RAIL TRACK
40. CANFIELD
41. WAREHOUSE/CONFERENCE
42. ASH/MS BUILDING WITH CONFERENCE
43. PARKING AREA
44. OBSERVATION TOWER
45. WATCH TOWER
46. GATE HOUSE
47. 60/11 KV SUBSTATION
48. DEVELOPMENT OF GREEN BELT
56. COLONY

- NOTES:-**
1. POWER HOUSE FINISHED GROUND FLOOR LEVEL IS EL.(430.00M WHICH CORRESPONDS TO RL.476.00)
 2. ALL ROADS ARE FLEXIBLE PAVEMENT TYPE OF CONSTRUCTION UNLESS NOTED OTHERWISE. WIDTH OF ROAD ARE AS FOLLOWS:
 a) TYPE A:- 23m WIDE WITH TWO CARRIAGEWAYS OF 10m WIDE WITH 3m REFUGE
 b) TYPE B:- 17m WIDE WITH TWO CARRIAGEWAYS OF 7m WIDE WITH 3m REFUGE
 c) TYPE C:- 4m WIDE
 d) TYPE D:- 5m WIDE CONCRETE ROAD WITH RAILS
 e) TYPE E:- 5m WIDE CONCRETE ROAD
 f) TYPE F:- 7m WIDE CONCRETE ROAD WITH RAIL
 g) TYPE G:- 7m WIDE CONCRETE ROAD WITH RAIL
 3. FINISHED TOP OF ROADS SHALL BE 250mm ABOVE THE SURROUNDING GRADE LEVEL IN MAIN PLANT GRADED AREA.
 4. ALL ROADS INDICATED ON THIS DWG ARE SUGGESTIVE ONLY AND ARE IN CUSTOMERS SCOPE
 5. PIPE/CABLE ROADS ARE INDICATIVE ONLY & FINAL DETAIL SHALL BE AS PER SEPARATE DETAILED DWG.

- LEGEND:-**
- RAILWAY TRACK
 - FUTURE
 - BOUNDARY
 - FENCING
 - EFFLUENT DRAIN
 - STORM WATER DRAIN
 - ROAD
 - GREEN BELT AREA
 - ROADS IN COAL HANDLING AREA/GREEN BELT AREA

REV	DATE	ALTD	CHKD	APPRD	DESCRIPTION
1	15/08/2011				ISSUED FOR PERMITTING
2	15/08/2011				ISSUED FOR PERMITTING
3	15/08/2011				ISSUED FOR PERMITTING
4	15/08/2011				ISSUED FOR PERMITTING
5	15/08/2011				ISSUED FOR PERMITTING

KARNATAKA POWER CORPORATION LIMITED
 BELLARY TPS, UNIT-3 1x700MW

TRACTEE ENGINEERING PVT.LTD
 CONSULTANT

BHARAT HEAVY ELECTRICALS LTD
 POWER ENGINEERING MANAGEMENT

PROJECT ENGINEERING MANAGEMENT

DATE: 15/08/2011
 TIME: 10:00 AM
 DRAWING NO: PE-10-387-100-M001
 SHEET: 1 OF 1
 REV: 0

PLOT PLAN

SCALE: 1:1000



TITLE:

**TECHNICAL SPECIFICATION FOR
OZONE GENERATION PLANT**

**1X700 MW BELLARY THERMAL POWER
STATION UNIT NO. 3, STAGE-3**

BHEL DOCUMENTS NO.: PE-TS-367-174-14000A-A001

VOLUME III

REV. NO. 02

DATE: 04/12/2014

LIST OF SCHEDULES



TITLE:

**TECHNICAL SPECIFICATION FOR
OZONE GENERATION PLANT
1X700 MW BELLARY THERMAL POWER
STATION UNIT NO. 3, STAGE-3**

BHEL DOCUMENTS NO.: PE-TS-367-174-14000A-A001

VOLUME **III**

REV. NO. 02

DATE: 04/12/2014

SUGGESTIVE PRICE FORMAT FOR OZONE GENERATION PLANT: 1X700 MW BELLARY THERMAL POWER STATION UNIT NO. 3, STAGE-3

Sl. No.	DESCRIPTION OF EQUIPMENT / ITEM	TOTAL PRICE FOR "FOR" SITE
(1)	(2)	(3)
1.00	Total lump sum firm price on FOR site basis for design, engineering, manufacturing, painting, inspection & testing, supply, delivery, installation, packing and forwarding of equipments to site, loading, unloading, storage and handling at site, in site transportation, complete with all accessories including start up and commissioning spares, essential spares, site testing, erection, testing & commissioning, trial run, performance guarantee test and handing to customer inclusive of all prevailing taxes, duties and other levies as required of OZONE GENERATION PLANT and as defined in the technical specification (PE-TS-367-174-14000A-A001 REV 02) for 1X700 MW BELLARY THERMAL POWER STATION UNIT NO. 3, STAGE-3.	
	NOTES:	
a	Bidder to note that total price indicated above at 1.00 shall be considered for evaluation and hence, should be complete in all respect for the full scope defined and considering all terms and conditions agreed.	
b	In case, price indicated above does not match with item wise break-up given at 2.00, the highest price so calculated shall be considered for evaluation but in case of order, the same shall be placed at the lowest price.	
2.00	BREAK-UP OF PRICES GIVEN IN 1.00 ABOVE	
2.01	Total lump sum firm price for EQUIPMENT (SUPPLY) for design, engineering, manufacturing, painting, inspection & testing, supply, delivery, installation, packing and forwarding of equipments to site, complete with all accessories including start up and commissioning spares, inclusive of all taxes & duties for the complete scope of supply of OZONE GENERATION PLANT and as defined in the technical specification (PE-TS-367-174-14000A-A001 REV 02) for 1X700 MW BELLARY THERMAL POWER STATION UNIT NO. 3, STAGE-3.	
2.02	Total lump sum firm price for all services including unloading, handling & transportation at site, insite transportation, Erection & Commissioning, trial run, preparation & submission of "As Built" drawings, etc, required for completion of OZONE GENERATION PLANT and as defined in the technical specification (PE-TS-367-174-14000A-A001 REV 02) for 1X700 MW BELLARY THERMAL POWER STATION UNIT NO. 3, STAGE-3.	
2.03	PG test and handing over the plant to customer.	
2.04	Essential spares as indicated in Section C1- Annexure – X.	
3.00	Recommended spares for three (3) years normal operation (optional item).	
4.00	Break-up (%) of prices given at SI No-2.01 above (To be used during contract execution for payment)	
4.01	Lumpsum firm price for supply of Ozonators with accessories inclusive of all taxes, duties and other levies as applicable.	35% of sl no 2.01 above.
4.02	Lumpsum firm price for supply of Compressor with accessories inclusive of all taxes, duties and other levies as applicable.	15% of sl no 2.01 above.
4.03	Lumpsum firm price for supply of Oxygen Generation plant (air receiver, air dryer, oxygen generator, oxygen receiver) with accessories inclusive of all taxes, duties and other levies as applicable.	20% of sl no 2.01 above.
4.04	Lumpsum firm price for supply of Tanks, Pumps, Valves, piping and chillers with accessories inclusive of all taxes, duties and other levies as applicable.	13% of sl no 2.01 above.
4.05	Lumpsum firm price for supply of PLC and instruments with accessories inclusive of all taxes, duties and other levies as applicable.	15% of sl no 2.01 above.
4.06	Lumpsum firm price for supply of Miscellaneous scope with accessories inclusive of all taxes, duties and other levies as applicable.	2% of sl no 2.01 above.



TITLE:

**TECHNICAL SPECIFICATION FOR
OZONE GENERATION PLANT
1X700 MW BELLARY THERMAL POWER
STATION UNIT NO. 3, STAGE-3**

BHEL DOCUMENTS NO.: PE-TS-367-174-14000A-A001

VOLUME **III**

REV. NO. 02

DATE: 04/12/2014

COMPLIANCE CUM CONFIRMATION SCHEDULE

The bidder shall confirm compliance with following by signing/ stamping this compliance certificate and furnishing same with the offer:

- a.) The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusions/ deviations with regard to same.
- b.) QP/ test procedures shall be submitted in the event of order based on the guidelines given in the specification & QP enclosed therein.
QP will be subject to BHEL/Customer approval in the event of order & customer hold points for inspection/ testing shall be marked in the QP at the contract stage. Inspection/ testing shall be witnessed as per same apart from review of various test certificates/ Inspection records etc. The charges for 3rd party inspection (Lloyds, TUV or equivalent) for imported components shall be included in the base price of the equipment by the bidder.
- c.) All drawings/data – sheets etc. to be submitted during contract shall be subject to BHEL/Customer review/ approval. GA drawings, as submitted with offer at tender stage are for reference purpose only and shall be subject to approval during contract stage.
- d.) There are no other deviations with respect to specification other than those furnished in the 'Schedule of Deviations'
- e.) The offered materials shall be either equivalent or superior to those specified. Also for components where material is not specified it shall be suitable for intended duty, materials shall be subject to approval in the event of order.
- f.) The commissioning spares (if any) are supplied on 'As Required Basis' & prices for same included in the base price (If bidders reply to this is "No commissioning spares are required" and if some spares are actually required during commissioning same shall be supplied by bidder without any cost to BHEL).
- g.) All sub vendors shall be subject to BHEL/CUSTOMER approval
- h.) Any special tools & tackles, if required, shall be in bidder's scope.
- i.) Performance Guarantees shall stand valid till the satisfactory completion of performance testing and its acceptance by purchaser/customer
- j.) Prices for recommended spares (if any) for three year operation shall be furnished separately and not to be included in the base price.



TITLE:

**TECHNICAL SPECIFICATION FOR
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VOLUME **III**

REV. NO. 02

DATE: 04/12/2014

SCHEDULE OF PRE-BID CLARIFICATION

All clarification from the Technical Specification shall be filled in by the BIDDER clause by clause in this format only.

VOLUME	SECTION	CLAUSE NO.	PAGE NO.	SPECIFICATION REQUIREMENT	CLARIFICATION	REASONS FOR CLARIFICATION

DEVIATION SHEET (COST OF WITHDRAWAL)**PROJECT:-1X700 MW BELLARY THERMAL POWER STATION UNIT NO. 3, STAGE-3****PACKAGE:- OZONE GENERATION PLANT****TENDER ENQUIRY REFERENCE:-****NAME OF BIDDER:-**

SL NO	VOULME/ SECTION	PAGE NO.	CLAUSE NO.	TECHNICAL SPECIFICATION/ TENDER DOCUMENT	COMPLETE DESCRIPTION OF DEVIATION	COST OF WITHDRAWAL OF DEVIATION	REFERENCE OF PRICE SCHEDULE ON WHICH COST OF WITHDRAWAL OF DEVIATION IS APPLICABLE	NATURE OF COST OF WITHDRAWAL OF DEVIATION (POSITIVE/ NEGATIVE)	REASON FOR QUOTING DEVIATION
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TECHNICAL DEVIATIONS

COMMERCIAL DEVIATIONS

PARTICULARS OF BIDDERS/ AUTHORISED REPRESENTATIVE

NAME	DESIGNATIONS	SIGN & DATE

NOTES:

- For self manufactured items of bidder, cost of withdrawal of deviation will be applicable on the basic price (i.e. excluding taxes, duties & freight) only.
- For directly dispatchable items, cost of withdrawal of deviation will be applicable on the basic price including taxes, duties & freight.
- All the bidders have to list out all their Technical & Commercial Deviations (if any) in detail in the above format.
- Any deviation not mentioned above and shown separately or found hidden in offer, will not be taken cognizance of.
- Bidder shall submit duly filled unpriced copy of above format indicating "quoted" in "cost of withdrawal of deviation" column of the schedule above along with their Techno-commercial offer, wherever applicable.
- Bidder shall furnish price copy of above format along with price bid.
- The final decision of acceptance/ rejection of the deviations quoted by the bidder shall be at discretion of the Purchaser.
- Bidders to note that any deviation (technical/commercial) not listed in above and asked after Part-I opening shall not be considered.
- For deviations w.r.t. Payment terms, Liquidated damages, Firm prices and submission of E1/ E2 forms before claiming 10% payment, if a bidder chooses not to give any cost of withdrawal of deviation loading as per Annexure-VIII of GCC, Rev-06 will apply. For any other deviation mentioned in un-priced copy of this format submitted with Part-I bid but not mentioned in priced copy of this format submitted with Priced bid, the cost of withdrawal of deviation shall be taken as NIL.
- Any deviation mentioned in priced copy of this format, but not mentioned in the un-priced copy, shall not be accepted.
- All techno-commercial terms and conditions of NIT shall be deemed to have been accepted by the bidder, other than those listed in unpriced copy of this format.
- Cost of withdrawal is to be given separately for each deviation. In no event bidder should club cost of withdrawal of more than one deviation else cost of withdrawal of such deviations which have been clubbed together shall be considered as NIL.
- In case nature of cost of withdrawal (positive/negative) is not specified it shall be assumed as positive.
- In case of discrepancy in the nature of impact (positive/ negative), positive will be considered for evaluation and negative for ordering.



TITLE
*** SCHEDULE OF DECLARATIONS**

BHEL DOCUMENTS NO.: PE-TS-367-174-14000A-A001

VOL III

SHEET..... OF.....

*** Bidder shall include this schedule both in technical and Price offers**

DECLARATION

Icertify that all the technical data and information pertaining to this specification are correct and are true representation of the equipment/system covered by our format proposal number Dated and there is no deviation to the specification (except indicated in the deviation sheet (cost of withdrawal)).

I hereby certify that I am duly authorized representative of the Bidder's company whose name appears above my signature.

Biders Company Name

Authorised representative's Signature

Name

Bider's Name The bidder hereby agrees to fully comply with the requirements and intent of this specification for the price indicated

PARTICULARS OF BIDDER / AUTHORISED REPRESENTATIVE				
NAME	DESIGNATION	SIGNATURE	DATE	COMPANY SEAL