

**ANNEXURE-I TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015**

**1 X 800 MW WANAKBORI TPS-AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES**

**SUPPLY, ERECTION AND COMMISSIONING & MANDATORY SPARES**

| SL NO                              | ITEM DESCRIPTION   | UNIT | TOTAL QTY | Total Ex-works Duly Packed (Rs.) | ED @... % (for self manufactured items only) (Rs.) | CST @ .... % Against C-form & E1/E2 or VAT @.... % Whichever is applicable (Rs.) | FREIGHT (including service tax, if any ) @ .... % of total ex-works price (Rs.) | Service Tax @ (Rs) | "Swach Bharat Cess (SBC) @ 0.5% on TOTAL E & C | TOTAL F.O.R SITE PRICE (Rs.) |
|------------------------------------|--|------|-----------|----------------------------------|--|--|---|--------------------|--|------------------------------|
| A                                  | MAIN EQUIPMENT SUPPLY OF AIR CONDITIONING SYSTEM(AS PER ANNEXURE-II)   | LOT  | 1         |                                  |  |  |   |                    |  |                              |
| B                                  | E & C COMPLETE AIR CONDITIONING SYSTEM( AS PER ANNEXURE-III)           | LOT  | 1         |                                  |  |  |   |                    |  |                              |
| <b>TOTAL PRICE OF A &amp; B</b>    |  |      |           |                                  |  |  |   |                    |  |                              |
| C                                  | MANDATORY SPARES SUPPLY OF AIR CONDITIONING SYSTEM(AS PER ANNEXURE-IV) | LOT  | 1         |                                  |  |  |   |                    |  |                              |
| <b>TOTAL ORDERING VALUE(A+B+C)</b> |  |      |           |                                  |  |  |   |                    |  |                              |

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APPENDIX-A TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015

| PROJECT : 1 X 800 WANAKBORI AIR CONDITIONING SYSTEM |  |  |
|---|--|--|
| PACKAGE : AIR CONDITIONING SYSTEM                   |  |  |
| Percentage breakup for Air Conditioning Package     |  |  |
| SL NO   | DESCRIPTION OF EQUIPMENT/ ITEM   | Percentage of total price                    |
| 1   | Total lumpsum firm prices for equipment & Services as specified, Comprising Engineering, design, manufacture, inspection & Testing at manufacturer's/subvondor's works, Painting at manufactures works, duly packed for transportation, delivery to site, unloading, storage & handling at site, fabrication, erection and commissioning, performance and guarantee testing, submission of as built drawing, carrying out acceptance tests at site, and final painting of complete air conditioning system on turnkey basis as per specification PE-TS-408-553-A001 including special tool & tackels for maintenance, commissioning spares, all taxes, duties etc. (Without mandatory spare - Sr. No. 2.10 of Annexure-II) | 100%   |
| 2.0   | <b>BREAK-UP OF PRICES GIVEN IN 1.0 ABOVE (To be used during contract execution for payment)</b>  |  |
| 2.1   | Total lump sum firm price for EQUIPMENT (SUPPLY) for Engineering, design, manufacture, inspection & Testing at manufacturers works/subvondor's work, Painting at manufactures works, duly packed for transportation, delivery to site, unloading storage & handling at site, for the complete scope of supply of air conditioning system and as defined in the technical specification ( PE-TS-408-553-A001)   | 80%  |
| 2.2   | Erection & commissioning, carrying out acceptance tests at site, final painting and handing over to customer the complete AC system on turnkey basis as per specification PE-TS-408-553-A001 including all taxes, duties etc..   | 20%  |
| 3.0   | <b>Break-up (%) of prices given at SI No-2.1 above (To be used during contract execution for payment)</b>  | Percentage of total price of SL No 2.1 above |
| 3.1   | Water Chilling machine - VAM - (Item no A 1 of Annexure-II)  | 15%  |
| 3.2   | Water Chilling machine - Screw Chiller - (Item no A2 of Annexure-II)   | 12%  |
| 3.3   | Air handling units (Item Nos A3, A4 & A5 of Annexure-II)   | 9%   |
| 3.4   | Cooling Towers (Item no A6 & D3* of Annexure-II)   | 5%   |
| 3.5   | Pumps (Item no A7, A8, A9, D2* & D4* of Annexure-II)   | 5%   |
| 3.6   | Tanks (Item Nos A10, A11 & D5* of Annexure-II)   | 2%   |
| 3.7   | Water treatment equipment (Item no A12, B4 & D6* of Annexure-II)   | 1%   |
| 3.8   | Condenser water piping (Item no A13 & D7* of Annexure-II)  | 4%   |
| 3.9   | Chilled & Drain water piping (Item no A14 & C6* of Annexure-II)  | 4%   |
| 3.10  | Heaters and humidifiers (Item no A15 & A16 of Annexure-II)   | 2%   |
| 3.11  | Fresh air Fans and smoke exhaust fan (Item no A17,A18, B2, B3, D8* & D9* of Annexure-II)   | 1%   |
| 3.12  | Water cooled Precision AC - (Item no B1 & D1* of Annexure-II)  | 6%   |
| 3.13  | Air cooled PAC units (Item no D10* of Annexure-II)   | 1%   |
| 3.14  | Air cooled split type AC units (Item no D11* of Annexure-II)   | 8%   |
| 3.15  | Fan coil units (Item no C1* of Annexure-II)  | 1%   |
| 3.16  | Fire Dampers (Item no C2* of Annexure-II)  | 1%   |
| 3.17  | GSS Duct work with airline accessories (Item no C3* of Annexure-II)  | 9%   |
| 3.18  | Acoustic insulation (Item no C4 of Annexure-II)  | 1.5%   |
| 3.19  | Thermal Insulation (Item no C5* of Annexure-II)  | 3%   |
| 3.20  | Field instruments - (Item no C8 of Annexure-II)  | 1%   |
| 3.21  | PLC including cable (Item no C7 & C9* of Annexure-II)  | 6%   |
| 3.22  | Energy recovery ventilator (Item no D12* of Annexure-II)   | 1%   |
| 3.23  | Manually operated platform trolley (Item no E of Annexure-II)  | 0.2%   |
| 3.24  | Special Tools tackles & Commissioning Spares (Item no F & G of Annexure-II)  | 1%   |

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ANNEXURE-II TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015-SCHEDULE OF PRICES  
SUPPLY PORTION (MAIN EQUIPMENT SUPPLY)**

| Sl. NO | DESCRIPTION OF EQUIPMENT/ ITEM  | Qty | UNIT | Unit Price (Duly packed) (Rs) | Total Ex-works Duly Packed (Rs.) | ED @... % (for self manufactured items only) (Rs.) | CST @ .... % Against C-form & E1/E2 or VAT @..... % Whichever is | FREIGHT (including service tax, if any) @ ..... % of total ex-works price (Rs.) | TOTAL F.O.R. SITE PRICE (Rs.) |
|--------|---|-----|------|-------------------------------|----------------------------------|--|--|---|-------------------------------|
| 3      | 4   | 5   | 6    | 7                             | 8                                | 9  | 10=6+7+8+9   |   |                               |
| 1      | <b>LUMP SUM PRICES</b><br>Total lumpsum firm prices for equipment & Services as specified, Comprising Engineering, design, manufacture, inspection & Testing at manufacturer's / subvendor's works, Painting at manufactures works, duly packed for transportation, delivery to site, unloading, storage & handling at site, fabrication, erection and commissioning, performance and guarantee testing, submission of as built drawing, O&M Manual, carrying out acceptance tests at site, and final painting of complete Air Conditioning system on turnkey basis as per specification PE-TS-408-553-A001 including mandatory spares, special tool & tacksels for maintenance, commissioning spares, all taxes, duties etc.                                 | 2   |      |                               |                                  |  |  |   |                               |
| 1.0    |   |     |      |                               |                                  |  |  |   |                               |
| 2.0    | Break up prices for items covered in clause 1.0 above are as below  |     |      |                               |                                  |  |  |   |                               |
| A      | <b>AC-Plant-1: CENTRAL CHILLED WATER SYSTEM FOR MAIN AREAS AND SERVICE BUILDING</b>   |     |      |                               |                                  |  |  |   |                               |
| 1      | Water Chilling packages, each of minimum 320 TR capacity consisting of a) Vapour Absorption Machine complete with high temperature generator, low temperature generator / condenser assembly, Evaporator / absorber assembly with eliminators, regenerative heat exchangers, purge recovery units, absorbent pumps, refrigerant pumps all interconnecting piping, valve and other accessories, microprocessor based / PLC control panel incorporating controls safety & interlocks, required charge of lithiumbromide solution and refrigerant for all the units, cooling / heating switch valves, structural mounting base for all the components etc and accessories as specified including PRDS, condensate tank, condensate pump and desuperheating pump. | 1   | NO.  |                               |                                  |  |  |   |                               |
| 2      | Water chilling packages, each of minimum 160 TR capacity consisting of (a) Screw refrigerant compressor complete with motors, control panel, multi drive set, controls and interlocks other accessories as specified; (b) Water cooled condenser adequately sized & other accessories and (c) Shell & tube type water chiller & other accessories, as specified.  | 2   | NO.  |                               |                                  |  |  |   |                               |
| 3      | Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, pre filters at inlet inside the AHU and high efficiency filter (at the outlet duct of each AHU). 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of the main CR areas at 17 m.  | 2   | NO.  |                               |                                  |  |  |   |                               |
| 4      | Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, pre filters at inlet inside the AHU and high efficiency filter (at the outlet duct of each AHU), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of the UPS room at 8.5 m.  | 2   | NO.  |                               |                                  |  |  |   |                               |

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|---------------------------------------|--|-----|------|-------------------------------|----------------------------------|--|---|--|------------------------------|
| 1                                     | 2  | 3   | 4    | 5                             | 6                                | 7  | 8   | 9  | 10=6+7+8+9                   |
| 5                                     | Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set/pre filters at inlet inside the AHU and high efficiency filter (at the outlet duct of each AHU), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of each floor of service building. | 10  | NO.  |                               |                                  |  |   |  |                              |
| 6                                     | Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make-up water & quick fill water connection, Level witch, drains, piping, valves, strainers, ladder, structural support & all accessories as specified.  | 3   | NO.  |                               |                                  |  |   |  |                              |
| 7                                     | Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.   | 3   | NO.  |                               |                                  |  |   |  |                              |
| 8                                     | Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.  | 3   | NO.  |                               |                                  |  |   |  |                              |
| 9                                     | MAKE UP Booster pump with motor and accessories, as specified as per Technical specification.  | 2   | NO.  |                               |                                  |  |   |  |                              |
| 10                                    | Make up Water GI / FRP Storage tank to cooling towers with level switch, pr switch and other accessories as required as per technical specification, capacity 8 m3.  | 2   | NO.  |                               |                                  |  |   |  |                              |
| 11                                    | GI / FRP Expansion Tank (insulated) for chilled water with all accessories as required as per technical specification, capacity 1 m3.  | 1   | NO.  |                               |                                  |  |   |  |                              |
| 12                                    | Non Chemical water treatment equipment as per specification.   | 1   | NO.  |                               |                                  |  |   |  |                              |
| 13                                    | Condenser water piping with necessary fittings, strainers, valves including piping from make up water storage tank to humidifiers of AHU room as specified as per Technical specification  | 1   | LOT  |                               |                                  |  |   |  |                              |
| 14                                    | Chilled water piping from AC plant to AHU rooms of power house building and service building complete with valves supports, fittings, strainers, insulation with finish as per Technical specification specification.  | 1   | LOT  |                               |                                  |  |   |  |                              |
| 15                                    | Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc. as per specification.   | 1   | LOT  |                               |                                  |  |   |  |                              |
| 16                                    | Electrode type humidifier for each AHU room as per specification.  | 1   | LOT  |                               |                                  |  |   |  |                              |
| 17                                    | Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and high efficiency filters), dampers etc. as per specification.  | 1   | LOT  |                               |                                  |  |   |  |                              |
| 18                                    | Smoke evacuation system with exhaust fan and all other accessories as per specification  | 1   | LOT  |                               |                                  |  |   |  |                              |
| <b>TOTAL PRICE (DULY PACKED) OF A</b> |  |     |      |                               |                                  |  |   |  |                              |

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|---------------------------------------|---|-----|------|-------------------------------|----------------------------------|--|---|---|------------------------------|
| 1                                     | 2   | 3   | 4    | 5                             | 6                                | 7  | 8   | 9   | 10=6+7+8+9                   |
| <b>B</b>                              | <b>AC Plant -2 (ESP building)</b>   |     |      |                               |                                  |  |   |   |                              |
| 1                                     | Water cooled Precision type Package air conditioning units of 20TR (Net) capacity complete with scroll compressors (suitable for R-410/407c refrigerant) and water cooled shell and tube condensers, interconnecting refrigerant piping (duly insulated) between condensers and PAC units, evaporator fans with highly efficient EC motors and their controls, high efficiency filters, cooling coils with electronic expansion valve, electrode type humidifiers with controls, electric strip heaters, thermally and acoustically lined powder coated MS casing, insulated SS drain pan, insulated drain piping, and built-in microprocessor based control panel as per specification. The cost shall include cooling water recirculation piping with valves and accessories from the terminal point. | 3   | NO.  |                               |                                  |  |   |   |                              |
| 2                                     | Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc. as per specification.  | 1   | LOT  |                               |                                  |  |   |   |                              |
| 3                                     | Smoke evacuation system with exhaust fan and all other accessories as per specification   | 1   | LOT  |                               |                                  |  |   |   |                              |
| 4                                     | Non Chemical water treatment equipment as per specification.  | 1   | NO.  |                               |                                  |  |   |   |                              |
| <b>TOTAL PRICE (DULY PACKED) OF B</b> |   |     |      |                               |                                  |  |   |   |                              |
| <b>C</b>                              | <b>ITEMS COMMON TO ALL AC PLANTS</b>  |     |      |                               |                                  |  |   |   |                              |
| 1*                                    | Fan coil unit (FCU) consisting of chilled water cooling coil, blower, motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories. All accessories like vibration isolation pads, hanger rods, supporting arrangement, canvass connection, nuts, bolts, washers and other items required to make the installation complete in all respect shall be supplied in adequate quantity along with the FCUs.   | 3   | NO   |                               |                                  |  |   |   |                              |
| a*                                    | 3 TR  |     |      |                               |                                  |  |   |   |                              |
| b*                                    | 2 TR  | 1   | NO   |                               |                                  |  |   |   |                              |
| 2*                                    | Fire damper.  |     |      |                               |                                  |  |   |   |                              |
| a*                                    | Fire damper with auto resetting, limit switches, indication lamps etc.  | 15  | SQM  |                               |                                  |  |   |   |                              |
| b*                                    | Motorized actuator with single phase power supply for the above fire damper.  | 20  | NO   |                               |                                  |  |   |   |                              |
| 3*                                    | Finished ductwork fabricated from GSS sheet having zinc coating of 180 gms/ m <sup>2</sup> complete with hangers/ supports, and all other accessories to make the duct complete in all respect.   |     |      |                               |                                  |  |   |   |                              |

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|--|---|------|------|-------------------------------|----------------------------------|--|---|--|------------------------------|
| 1  | 2   | 3    | 4    | 5                             | 6                                | 7  | 8   | 9  | 10=6+7+8+9                   |
| a* 18G.  |   | 1500 | SQM  |                               |                                  |  |   |  |                              |
| b* 20G.  |   | 1750 | SQM  |                               |                                  |  |   |  |                              |
| c* 22G.  |   | 1450 | SQM  |                               |                                  |  |   |  |                              |
| d* 24G.  |   | 2500 | SQM  |                               |                                  |  |   |  |                              |
| e* Supply air diffuser with VCD (Extruded Aluminium).    |   | 30   | SQM  |                               |                                  |  |   |  |                              |
| f* Return air diffuser without VCD (Extruded Aluminium). |   | 50   | SQM  |                               |                                  |  |   |  |                              |
| g* GI Volume control dampers                             |   | 15   | SQM  |                               |                                  |  |   |  |                              |
| 4  | Acoustic insulation of the first 5 of ducting from AHU outlets.   | 1    | LOT  |                               |                                  |  |   |  |                              |
| 5*   | Thermal insulation of supply air duct & return air duct with finish as specified.   | 6480 | SQM  |                               |                                  |  |   |  |                              |
| 6*   | MS medium class drain piping upto nearest drain point with and without insulation as per specification  |      |      |                               |                                  |  |   |  |                              |
| 6.1*   | 50 mm   | 250  | M    |                               |                                  |  |   |  |                              |
| 6.2*   | 40 mm   | 150  | M    |                               |                                  |  |   |  |                              |
| 7  | PLC control system complete with PLC panels, RIO panels and all accessories like OWS, printer, furniture, RIO panel etc. as specified in the specification. | 1    | LOT  |                               |                                  |  |   |  |                              |
| 8  | Field instruments like pressure gauge, temperature gauge, pressure switch, differential pressure switch, flow switch, flow meter etc.                       | 1    | LOT  |                               |                                  |  |   |  |                              |
| 9*   | Fibre optic cable and special type of cable   | 200  | RMTR |                               |                                  |  |   |  |                              |
| <b>TOTAL PRICE (DULY PACKED) OF C</b>                    |   |      |      |                               |                                  |  |   |  |                              |

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|--------|---|-----|------|-------------------------------------|-------------------------------------|---|---|--|---------------------------------|
| 1      | 2   | 3   | 4    | 5                                   | 6                                   | 7   | 8   | 9  | 10=6+7+8+9                      |
| 1      | Air conditioning system for aux control rooms/ aux building as specified.   | 3   | NO.  |                                     |                                     |   |   |  |                                 |
| 1*     | Water cooled Precision type Package air conditioning units of 10TR (Net) capacity complete with scroll compressors (suitable for R-410/407c refrigerant) and water cooled shell and tube condensers, interconnecting refrigerant piping (duly insulated) between condensers and PAC units, evaporator fans with highly efficient EC motors and their controls, high efficiency filters, cooling coils with electronic expansion valve electrode type humidifiers with controls, electric strip heaters, thermally and acoustically lined powder coated MS casing, insulated SS drain pan, insulated drain piping, and built-in microprocessor based control panel as per specification. | 3   | NO.  |                                     |                                     |   |   |  |                                 |
| 2*     | Centrifugal pump sets for condenser water recirculation complete with TEC motor & all accessories as specified. The capacity of each condenser water pump shall match the capacity of each PAC.   | 3   | NO.  |                                     |                                     |   |   |  |                                 |
| 3*     | Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make-up water & quick fill water connection, Level witch, drains, piping, valves, strainers, ladder structural support & all accessories as specified. The capacity of each cooling tower shall match the capacity of each PAC.   | 3   | NO.  |                                     |                                     |   |   |  |                                 |
| 4*     | MAKE UP Booster pump with motor and accessories, as specified.  | 2   | NO.  |                                     |                                     |   |   |  |                                 |
| 5*     | Make up Water GI/ FRP Storage tank to cooling towers with level switch, pr switch and other accessories as required. capacity 2 m3.   | 2   | NO.  |                                     |                                     |   |   |  |                                 |
| 6*     | Non Chemical water treatment equipment as per specification.  | 1   | NO.  |                                     |                                     |   |   |  |                                 |
| 7*     | Condenser water piping with necessary fittings, strainers, valves including as specified.   | 20  | RMT  |                                     |                                     |   |   |  |                                 |
| 8*     | Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc. as per specification.  | 1   | NO.  |                                     |                                     |   |   |  |                                 |
| 9*     | Smoke evacuation system with exhaust fan and all other accessories as per specification.  | 1   | NO.  |                                     |                                     |   |   |  |                                 |
| 10*    | Air Cooled PAC-Unit complete with all accessories as specified The package unit shall be complete with all accessories like duct heaters, humidifier, filters, acoustic insulation of duct for 5m from PAC, drain piping with insulation upto nearest drain, required instrumentation etc   |     |      |                                     |                                     |   |   |  |                                 |
| 10.1*  | Capacity 15 TR  | 1   | NO.  |                                     |                                     |   |   |  |                                 |
| 10.2*  | Capacity 10 TR  | 1   | NO.  |                                     |                                     |   |   |  |                                 |

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|---|---|-----|------|-------------------------------|----------------------------------|--|---|--|-------------------------------|
| 1                                       | 2   | 3   | 4    | 5                             | 6                                | 7  | 8   | 9  | 10=6+7+8+9                    |
| 11*                                     | Air-cooled split type AC units consisting of condensing unit & evaporating unit including refrigerant pipes & fittings with insulation etc. (Minimum BEE Rating 5 Star for non ductable units except 5 TR capacity)                                     | 1   | NO   |                               |                                  |  |   |  |                               |
| 11.1*                                   | 5.0 TR capacity (ductable type, 415 V, 3 phase with isolation switch i.e MCB of suitable rating as specified, Voltage stabilizer, cabling, all supporting structure and refrigerant piping to suit as per actual site condition)                        | 1   | NO   |                               |                                  |  |   |  |                               |
| 11.2*                                   | 2.0 TR capacity (non-ductable type, 240 V, 1 phase isolation switch) with isolation switch, i.e MCB of suitable rating as specified, Voltage stabilizer, cabling, all supporting structure and refrigerant piping to suit as per actual site condition. | 30  | NO   |                               |                                  |  |   |  |                               |
| 11.3*                                   | 1.5 TR capacity (non-ductable type, 240 V, 1 phase isolation switch) with isolation switch, i.e MCB of suitable rating as specified, Voltage stabilizer, cabling, all supporting structure and refrigerant piping to suit as per actual site condition. | 70  | NO   |                               |                                  |  |   |  |                               |
| 12*                                     | Energy recovery ventilator of suitable capacity as per specification  | 20  | NO   |                               |                                  |  |   |  |                               |
| <b>TOTAL PRICE (DULY PACKED) OF D</b>   |   |     |      |                               |                                  |  |   |  |                               |
| E                                       | Manually operated palletform trolley of 1 ton capacity with base area 2 m X 1.5 m   | 1   | NO   |                               |                                  |  |   |  |                               |
| F                                       | Total lumpsum price for special tools & tackles for maintenance inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).  | 1   | LOT  |                               |                                  |  |   |  |                               |
| G                                       | Total lumpsum price for commissioning spares inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).   | 1   | LOT  |                               |                                  |  |   |  |                               |
| H                                       | Total lumpsum price for mand spares inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).  | 1   | LOT  |                               |                                  |  |   |  |                               |
| I                                       | Any other item, not covered above, but required to complete the system, complete in all respect (bidder shall submit itemwise breakup in technocommercial offer as well as in price offer)  | 1   | LOT  |                               |                                  |  |   |  |                               |
| <b>GRAND TOTAL ( A+B+C+D+E+F+G+H+I)</b> |   |     |      |                               |                                  |  |   |  |                               |

**NOTES**

- The bidder shall furnish unit rates for variable item (marked \*) for necessary adjustment (plus or minus) variation during detailed engg. stage. The unit rates quoted above shall be considered and no separate unit rates shall be quoted. Unit rates shall be
- Bidder must submit prices in the Pro Forma duly filled in signed and stamped on every page without any ambiguity. The price shall be written against each item. Term such as "refer covering letter" etc. are not acceptable. Extra sheet may be attached if
- Price format shall not be changed by the bidder as the bidder may get disqualified by doing so.
- For limitation on payment, percentages of individual items/equipments, as specified in the Appendix-A shall be applicable

*Adm*

**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**  
**ANNEXUANNEUXURE-III TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015- SCHEDULE OF PRICES**  
**ERECTION & COMMISSIONING PORTION**

| SL NO                  | DESCRIPTION OF EQUIPMENT/ ITEM  | Qty | UNIT | Unit Price (Rs) | Total price (Rs) | Service Tax @----- (Rs) | "Swach Bharat Cess (SBC) @ 0.5% on TOTAL E & C (Rs.) | PRICE (Erection and commissioning including Service tax & swach Bharat Cess) (Rs.) | TOTAL |
|------------------------|---|-----|------|-----------------|------------------|-------------------------|--|--|-------|
| 1                      | 2   | 3   | 4    | 5               | 6                | 7                       | 8  | 9=6+7+8  |       |
| <b>LUMP SUM PRICES</b> |   |     |      |                 |                  |                         |  |  |       |
| 1.0                    | Total lumpsum firm prices for equipment & Services as specified, Comprising Engineering, design, manufacture, inspection & Testing at manufacturer's / subvendor's works, Painting at manufactures works, duly packed for transportation, delivery to site, unloading, storage & handling at site, fabrication, erection and commissioning, performance and guarantee testing, submission of as built drawing, O&M Manual, carrying out acceptance tests at site, and final painting of complete Air Conditioning system on turnkey basis as per specification PE-TS-408-553-A001 including mandatory spares, special tool & tackleis for maintenance, commissioning spares, all taxes, duties etc.   |     |      |                 |                  |                         |  |  |       |
| 2.0                    | Break up prices for items covered in clause 1.0 above are as below  |     |      |                 |                  |                         |  |  |       |
| A                      | <b>AC-Plant-1: CENTRAL CHILLED WATER SYSTEM FOR MAIN CR AREAS AND SERVICE BUILDING</b>  |     |      |                 |                  |                         |  |  |       |
| 1                      | Water Chilling packages, each of minimum 320 TR capacity consisting of a) Vapour Absorption Machine complete with high temperature generator, low temperature generator / condenser assembly, Evaporator / absorber assembly with eliminators, regenerative heat exchangers, purge recovery units, absorbent pumps, refrigerant pumps all interconnecting piping, valve and other accessories, microprocessor based / PLC control panel incorporating controls safety & interlocks, required charge of lithiumbromide solution and refrigerant for all the units, cooling / heating switch valves, structural mounting base for all the components etc and accessories as specified including PRDS, condensate tank, condensate pump and desuperheating pump. | 1   | NO.  |                 |                  |                         |  |  |       |
| 2                      | Water chilling packages, each of minimum 160 TR capacity consisting of (a) Screw refrigerant compressor complete with motors, control panel, multi drive set, controls and interlocks other accessories as specified; (b) Water cooled condenser adequately sized & other accessories and (c) Shell & tube type water chiller & other accessories, as specified.  | 2   | NO.  |                 |                  |                         |  |  |       |
| 3                      | Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, pre filters at inlet inside the AHU and high efficiency filter (at the outlet duct of each AHU), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of the main CR areas at 17 m.  | 2   | NO.  |                 |                  |                         |  |  |       |
| 4                      | Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, pre filters at inlet inside the AHU and high efficiency filter (at the outlet duct of each AHU), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of the UPS room at 8.5 m.  | 2   | NO.  |                 |                  |                         |  |  |       |

*Am*

**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM  
ANNEXUANNEXXURE-III TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015- SCHEDULE OF PRICES  
ERECTION & COMMISSIONING PORTION**

| SL NO                   | DESCRIPTION OF EQUIPMENT/ ITEM  | Qty | UNIT | Unit Price (Rs) | Total price (Rs) | Service Tax @----- (Rs) | "Swach Bharat Cess (SBC) @ 0.5% on TOTAL E & C (Rs.) | PRICE (Erection and commissioning including Service tax & swach Bharat Cess) (Rs.) | TOTAL   |
|-------------------------|---|-----|------|-----------------|------------------|-------------------------|--|--|---------|
| 1                       | 2   | 3   | 4    | 5               | 6                | 7                       | 8  |  | 9=6+7+8 |
| 5                       | Sheet metal cabinet type air handling units (double skin as per specification) consisting of chilled water cooling coil, centrifugal blower, TEFC sq cage induction motor, drive set, pre filters at inlet inside the AHU and high efficiency filter (at the outlet duct of each AHU), 3 way motorised mixing valve with thermostatic controls and other accessories to meet the AC load of each floor of service building. | 10  | NO.  |                 |                  |                         |  |  |         |
| 6                       | Fibreglass reinforced plastic (FRP) construction cooling towers complete with fan, motor, FRP basin, nozzles, make-up water & quick fill water connection, Level witch, drains, piping, valves, strainers, ladder, structural support & all accessories as specified.   | 3   | NO.  |                 |                  |                         |  |  |         |
| 7                       | Centrifugal pump sets for condenser water recirculation complete with TEFC motor & all accessories as specified.  | 3   | NO.  |                 |                  |                         |  |  |         |
| 8                       | Centrifugal pump sets for chilled water recirculation complete with TEFC motor & all accessories, as specified.   | 3   | NO.  |                 |                  |                         |  |  |         |
| 9                       | MAKE UP Booster pump with motor and accessories, as specified as per Technical specification.   | 2   | NO.  |                 |                  |                         |  |  |         |
| 10                      | Make up Water GI / FRP Storage tank to cooling towers with level switch, pr switch and other accessories as required as per technical specification, capacity 8 m3.   | 2   | NO.  |                 |                  |                         |  |  |         |
| 11                      | GI / FRP Expansion Tank (insulated) for chilled water with all accessories as required as per technical specification, capacity 1 m3.   | 1   | NO.  |                 |                  |                         |  |  |         |
| 12                      | Non Chemical water treatment equipment as per specification.  | 1   | NO.  |                 |                  |                         |  |  |         |
| 13                      | Condenser water piping with necessary fittings, strainers, valves including piping from make up water storage tank to humidifiers of AHU room as specified as per Technical specification   | 1   | LOT  |                 |                  |                         |  |  |         |
| 14                      | Chilled water piping from AC plant to AHU rooms of power house building and service building complete with valves supports, fittings, strainers, insulation with finish as per Technical specification  | 1   | LOT  |                 |                  |                         |  |  |         |
| 15                      | Monsoon reheating/ winter heating kit comprising strip heaters, safety controls, air-stat, contactors, frame work, thermostat & humidistat/ sensors etc. as per specification.  | 1   | LOT  |                 |                  |                         |  |  |         |
| 16                      | Electrode type humidifier for each AHU room as per specification.   | 1   | LOT  |                 |                  |                         |  |  |         |
| 17                      | Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and high efficiency filters), dampers etc. as per specification.   | 1   | LOT  |                 |                  |                         |  |  |         |
| 18                      | Smoke evacuation system with exhaust fan and all other accessories as per specification   | 1   | LOT  |                 |                  |                         |  |  |         |
| <b>TOTAL PRICE OF A</b> |   |     |      |                 |                  |                         |  |  |         |

*Adm*

**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM  
ANNEXUANNEXURE-III TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015- SCHEDULE OF PRICES  
ERECTION & COMMISSIONING PORTION**

| SL NO                   | DESCRIPTION OF EQUIPMENT/ ITEM   | Qty  | UNIT | Unit Price (Rs) | Total price (Rs) | Service Tax @----- (Rs) | "Swach Bharat Cess (SBC) @ 0.5% on TOTAL E & C (Rs.) | PRICE (Erection and commissioning including Service tax & swach Bharat Cess) (Rs.) | TOTAL |
|-------------------------|--|------|------|-----------------|------------------|-------------------------|--|--|-------|
| 1                       | 2  | 3    | 4    | 5               | 6                | 7                       | 8  | 9=6+7+8  |       |
| B                       | AC Plant -2 (ESP building)   |      |      |                 |                  |                         |  |  |       |
| 1                       | Water cooled Precision type Package air conditioning units of 20TR (Net) capacity complete with scroll compressors (suitable for R-410A/407c refrigerant) and water cooled shell and tube condensers, interconnecting refrigerant piping (duly insulated) between condensers and PAC units, evaporator fans with highly efficient EC motors and their controls, high efficiency filters, cooling coils with electronic expansion valve, electrode type humidifiers with controls, electric strip heaters, thermally and acoustically lined powder coated MS casing, insulated SS drain pan, insulated drain piping, and built-in microprocessor based control panel as per specification. The cost shall include cooling water recirculation piping with valves and accessories from the terminal point. | 3    | NO.  |                 |                  |                         |  |  |       |
| 2                       | Fresh air fan (axial flow type), complete with motor, inlet cone, air filters (pre and fine), dampers etc. as per specification.   | 1    | LOT  |                 |                  |                         |  |  |       |
| 3                       | Smoke evacuation system with exhaust fan and all other accessories as per specification  | 1    | LOT  |                 |                  |                         |  |  |       |
| 4                       | Non Chemical water treatment equipment as per specification.   | 1    | NO.  |                 |                  |                         |  |  |       |
| <b>TOTAL PRICE OF B</b> |  |      |      |                 |                  |                         |  |  |       |
| C                       | <b>ITEMS COMMON TO ALL AC PLANTS</b>   |      |      |                 |                  |                         |  |  |       |
| 1*                      | Fan coil unit (FCU) consisting of chilled water cooling coil, blower, motor, drive set, filters (pre filter), 3 way motorised mixing valve with thermostatic controls and other accessories. All accessories like vibration isolation pads, hanger rods, supporting arrangement, canvass connection, nuts, bolts, washers and other items required to make the installation complete in all respect shall be supplied in adequate quantity along with the FCUs.  | 3    | NO   |                 |                  |                         |  |  |       |
| a* 3 TR                 |  |      |      |                 |                  |                         |  |  |       |
| b* 2 TR                 |  | 1    | NO   |                 |                  |                         |  |  |       |
| 2*                      | Fire damper.   |      |      |                 |                  |                         |  |  |       |
| a*                      | Fire damper with auto resetting, limit switches, indication lamps etc.   | 15   | SQM  |                 |                  |                         |  |  |       |
| b*                      | Motorized actuator with single phase power supply for the above fire damper.   | 20   | NO   |                 |                  |                         |  |  |       |
| 3*                      | Finished ductwork fabricated from GSS sheet having zinc coating of 180 gms/ m <sup>2</sup> complete with hangers/ supports, and all other accessories to make the duct complete in all respect.  |      |      |                 |                  |                         |  |  |       |
| a* 18G.                 |  | 1500 | SQM  |                 |                  |                         |  |  |       |
| b* 20G.                 |  | 1750 | SQM  |                 |                  |                         |  |  |       |

Asht

**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**  
**ANNEXUANNEURE-III TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015- SCHEDULE OF PRICES**  
**ERECTION & COMMISSIONING PORTION**

| SL NO  | DESCRIPTION OF EQUIPMENT/ ITEM   | Qty  | UNIT | Unit Price (Rs) | Total price (Rs) | Service Tax @----- (Rs) | "Swachh Bharat Cess (SBC) @ 0.5% on TOTAL E & C (Rs.) | TOTAL PRICE (Erection and commissioning including Service tax & swachh Bharat Cess) (Rs.) |
|--|--|------|------|-----------------|------------------|-------------------------|---|---|
| 1  | 2  | 3    | 4    | 5               | 6                | 7                       | 8   | 9=6+7+8   |
| c* 22G.  |  | 1450 | SQM  |                 |                  |                         |   |   |
| d* 24G.  |  | 2500 | SQM  |                 |                  |                         |   |   |
| e* Supply air diffuser with VCD (Extruded Aluminium).    |  | 30   | SQM  |                 |                  |                         |   |   |
| f* Return air diffuser without VCD (Extruded Aluminium). |  | 50   | SQM  |                 |                  |                         |   |   |
| g* GI Volume control dampers                             |  | 15   | SQM  |                 |                  |                         |   |   |
| 4  | Acoustic insulation of the first 5 of ducting from AHU outlets.  | 1    | LOT  |                 |                  |                         |   |   |
| 5*   | Thermal insulation of supply air duct & return air duct with finish as specified.  | 6480 | SQM  |                 |                  |                         |   |   |
| 6*   | MS medium class drain piping upto nearest drain point with and without insulation as per specification   |      |      |                 |                  |                         |   |   |
| 6.1*   | 50 mm  | 250  | M    |                 |                  |                         |   |   |
| 6.2*   | 40 mm  | 150  | M    |                 |                  |                         |   |   |
| 7  | PLC control system complete with PLC panels , RIO panels and all accessories like OWS, printer, furniture, RIO panel etc. as specified in the specification. | 1    | LOT  |                 |                  |                         |   |   |
| 8  | Field instruments like pressure gauge, temperature gauge, pressure switch, differential pressure switch, flow switch, flow meter etc.                        | 1    | LOT  |                 |                  |                         |   |   |
| 9*   | Fibre optic cable and special type of cable  | 200  | RMT  |                 |                  |                         |   |   |
| <b>TOTAL PRICE OF C</b>                                  |  |      |      |                 |                  |                         |   |   |

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**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**  
**ANNEXUANNEURE-III TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015- SCHEDULE OF PRICES**  
**ERECTION & COMMISSIONING PORTION**

| Sl.NO                                   | DESCRIPTION OF EQUIPMENT/ ITEM  | Qty | UNIT | Unit Price (Rs) | Total price (Rs) | Service Tax @----- (Rs) | "Swachh Bharat Cess (SBC) @ 0.5% on TOTAL E & C (Rs.) | PRICE (Erection and commissioning including Service tax & swachh Bharat Cess) (Rs.) | TOTAL |
|---|---|-----|------|-----------------|------------------|-------------------------|---|---|-------|
| 1                                       | 2   | 3   | 4    | 5               | 6                | 7                       | 8   | 9=6+7+8   |       |
| 11.2*                                   | 2.0 TR capacity (non-ductable type, 240 V, 1 phase isolation switch) with isolation switch, i.e MCB of suitable rating as specified, Voltage stabilizer, cabling, all supporting structure and refrigerent piping to suit as per actual site condition. | 30  | NO   |                 |                  |                         |   |   |       |
| 11.3*                                   | 1.5 TR capacity (non-ductable type, 240 V, 1 phase isolation switch) with isolation switch, i.e MCB of suitable rating as specified, Voltage stabilizer, cabling, all supporting structure and refrigerent piping to suit as per actual site condition. | 70  | NO   |                 |                  |                         |   |   |       |
| 12*                                     | Energy recovery ventilator of suitable capacity as per specification  | 20  | NO   |                 |                  |                         |   |   |       |
| <b>TOTAL PRICE OF D</b>                 |   |     |      |                 |                  |                         |   |   |       |
| E                                       | Manually operated palteform trolley of 1 ton capacity with base area 2 m X 1.5 m  | 1   | NO   |                 |                  |                         |   |   |       |
| F                                       | Total lumpsum price for special tools & tackles for maintenance inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).  | 1   | LOT  |                 |                  |                         |   |   |       |
| G                                       | Total lumpsum price for commissioning spares inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).   | 1   | LOT  |                 |                  |                         |   |   |       |
| H                                       | Total lumpsum price for mand spares inclusive of packing forwarding, transportation up to site, etc. (Bidder shall submit item-wise price break-up).  | 1   | LOT  |                 |                  |                         |   |   |       |
| I                                       | Any other item, not covered above, but required to complete the system, complete in all respect (bidder shall submit itemwise breakup in technocommercial offer as well as in price offer)  | 1   | LOT  |                 |                  |                         |   |   |       |
| <b>GRAND TOTAL ( A+B+C+D+E+F+G+H+I)</b> |   |     |      |                 |                  |                         |   |   |       |

**NOTES**

- The bidder shall furnish unit rates for variable item (marked \*) for necessary adjustment (plus or minus) variation during detailed engg. stage. The unit rates quoted above shall be considered and no separate unit rates shall be quoted. Unit rates shall be valid throughout the contract.
- Bidder must submit prices in the Pro Forma duly filled in signed and stamped on every page without any ambiguity. The price shall be written against each item. Term such as "refer covering letter" etc. are not acceptable. Extra sheet may be attached if the space provided is not sufficient.
- Price format shall not be changed by the bidder as the bidder may get disqualified by doing so.

*Adm*

**ANNEXURE-IV TO Enquiry No. PE/PG/WAN/E-5124/2015, Dt: 18/12/2015**  
**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES**

**MANDATORY SPARE LIST**

| Sl. No                                | DESCRIPTION OF EQUIPMENT/ ITEM   | QUANTITY                      | UNIT | Unit Ex-works price (Rs.) | Total ex-works price (Rs.) | ED @ ...% (for self manufactured items only) (Rs.) | CST @ .....% Against C-form & E1/E2 or VAT @ .....% Whichever is applicable (Rs.) | FREIGHT (Including service tax, if any) @ .....% of total ex-works price (Rs.) | Total Lumpsum price FOR site (Rs.) |
|---------------------------------------|--|-------------------------------|------|---------------------------|----------------------------|--|---|--|------------------------------------|
| <b>1 MECHANICAL AND GENERAL</b>       |  |                               |      |                           |                            |  |   |  |                                    |
| 1                                     | Vapour Absorption Machine  |                               |      |                           |                            |  |   |  |                                    |
| 1.1                                   | Bearing for absorbent and refrigerant pump   | 1 Set for each category       |      |                           |                            |  |   |  |                                    |
| 1.2                                   | Gaskets as applicable for Condenser & Chiller Heads                                      | 1 Set for each category       |      |                           |                            |  |   |  |                                    |
| 1.3                                   | Steam Regulating Valve   | 1 Set                         |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 1</b> |  |                               |      |                           |                            |  |   |  |                                    |
| 2.                                    | Centrifugal fans   |                               |      |                           |                            |  |   |  |                                    |
| 2.1                                   | Bearings for fan & motor   | 2 Sets for each category      |      |                           |                            |  |   |  |                                    |
| 2.2                                   | V-belts  | 1 Set for each category       |      |                           |                            |  |   |  |                                    |
| 2.3                                   | Vibration Isolators  | 1Set                          |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 2</b> |  |                               |      |                           |                            |  |   |  |                                    |
| 3.                                    | Screw Chiller  |                               |      |                           |                            |  |   |  |                                    |
| 3.1                                   | Bearing for the compressor   | 1Set                          |      |                           |                            |  |   |  |                                    |
| 3.2                                   | Gaskets as applicable for Condenser & Chiller Heads                                      | 1Set for each category        |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 3</b> |  |                               |      |                           |                            |  |   |  |                                    |
| 4.                                    | Air Handling Units   |                               |      |                           |                            |  |   |  |                                    |
| 4.1                                   | Bearings for each AHU blower & motor   | 1Set for each category        |      |                           |                            |  |   |  |                                    |
| 4.2                                   | V-Belts  | 2 Sets for each category      |      |                           |                            |  |   |  |                                    |
| 4.3                                   | Filters of each type   | 2 Sets for each category      |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 4</b> |  |                               |      |                           |                            |  |   |  |                                    |
| 5.                                    | Refrigerant & Oil  |                               |      |                           |                            |  |   |  |                                    |
| 5.1                                   | Refrigerant gas in a non-returnable cylinder   | 15% of installed charge       |      |                           |                            |  |   |  |                                    |
| 5.2                                   | Empty cylinders of 68kg 2.5.2 capacity to hold the charge of the highest capacity system | As required to suit the above |      |                           |                            |  |   |  |                                    |
| 5.3                                   | Filter oil in sealed tins for the full set for 6 operations of cleaning                  | As required                   |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 5</b> |  |                               |      |                           |                            |  |   |  |                                    |

*Adm*

**ANNEXURE-IV TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015  
1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES  
MANDATORY SPARE LIST**

| Sl No                                 | DESCRIPTION OF EQUIPMENT/ ITEM                        | QUANTITY   | UNIT | Unit Ex-works price (Rs.) | Total ex-works price (Rs.) | ED @ ....% (for self manufactured items only) (Rs.) | CST @ ....% Against C-form & E1/E2 or VAT @ ....% Whichever is applicable (Rs.) | FREIGHT (including service tax, if any) @ ....% of total ex-works price (Rs.) | Total Lumpsum price FOR site (Rs.) |
|---------------------------------------|---|--|------|---------------------------|----------------------------|---|---|---|------------------------------------|
| 6.                                    | Centrifugal pump                                      |  |      |                           |                            |   |   |   |                                    |
| 6.1                                   | Bearings for each pump and motor                      | 2 sets for each category   |      |                           |                            |   |   |   |                                    |
| 6.2                                   | Mechanical seal, wearing rings and lantern rings      | 1 set for each category  |      |                           |                            |   |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 6</b> |   |  |      |                           |                            |   |   |   |                                    |
| 7.                                    | Cooling Tower   |  |      |                           |                            |   |   |   |                                    |
| 7.1                                   | Spray nozzles   | 10% of one Tower   |      |                           |                            |   |   |   |                                    |
| 7.2                                   | Set of fills  | 10% of one Tower   |      |                           |                            |   |   |   |                                    |
| 7.3                                   | Bearings for each fan and motor                       | 2 sets   |      |                           |                            |   |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 7</b> |   |  |      |                           |                            |   |   |   |                                    |
| 8.                                    | Precision Air Conditioners                            |  |      |                           |                            |   |   |   |                                    |
| 8.1                                   | Vibration Isolators                                   | 1 set for each category  |      |                           |                            |   |   |   |                                    |
| 8.2                                   | Filters   | 1 set for each PAC unit  |      |                           |                            |   |   |   |                                    |
| 8.3                                   | Bearings  | 1 set for each rating of PAC unit (both for condenser & Indoor Unit) |      |                           |                            |   |   |   |                                    |
| 8.4                                   | Condenser fan Impeller                                | 1 set for each PAC unit  |      |                           |                            |   |   |   |                                    |
| 8.5                                   | Expansion valve                                       | 1 set for each rating of PAC unit                                    |      |                           |                            |   |   |   |                                    |
| 8.6                                   | Any other spare parts recommended by the Manufacturer | 1 set for each rating of PAC unit                                    |      |                           |                            |   |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 8</b> |   |  |      |                           |                            |   |   |   |                                    |
| 9.                                    | Split Air Conditioners                                |  |      |                           |                            |   |   |   |                                    |
| 9.1                                   | Fan-motor bearing for outdoor unit                    | 1 set for each rating of SAC unit                                    |      |                           |                            |   |   |   |                                    |
| 9.2                                   | Vibration Isolators                                   | 1 set each for outdoor unit & Indoor unit for each SAC unit          |      |                           |                            |   |   |   |                                    |
| 9.3                                   | Filter  | 1 set for each SAC unit  |      |                           |                            |   |   |   |                                    |
| 9.4                                   | Expansion valve                                       | 1 set for each rating of SAC unit                                    |      |                           |                            |   |   |   |                                    |
| 9.5                                   | Any other spare parts recommended by the Manufacturer | As recommended by the Manufacturer                                   |      |                           |                            |   |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 9</b> |   |  |      |                           |                            |   |   |   |                                    |

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**ANNEXURE-IV TO Enquiry No. PE/PG/WAN/E-5124/2015, Dt: 18/12/2015**  
**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES**

**MANDATORY SPARE LIST**

| Sl No                                  | DESCRIPTION OF EQUIPMENT/ ITEM                         | QUANTITY   | UNIT | Unit Ex-works price (Rs.) | Total ex-works price (Rs.) | ED @ ...% (for self manufactured items only) (Rs.) | CST @ .....% Against C-form & E1/E2 or VAT @.....% Whichever is applicable (Rs.) | FREIGHT (Including service tax, if any ) @ .....% of total ex-works price (Rs.) | Total Lumpsum price FOR site (Rs.) |
|--|--|--|------|---------------------------|----------------------------|--|--|---|------------------------------------|
| 10.                                    | Electrical spares                                      |  |      |                           |                            |  |  |   |                                    |
| 10.1                                   | Air Break Switches                                     | 1 No. of each rating                                     |      |                           |                            |  |  |   |                                    |
| 10.2                                   | Control ,isolating and selector switches               | 5% of each type and rating                               |      |                           |                            |  |  |   |                                    |
| 10.3                                   | Fuses  | 6Nos. of each type and rating or 10% whichever is higher |      |                           |                            |  |  |   |                                    |
| 10.4                                   | Fuse Bases   | 3Nos. of each type and rating or 5% whichever is higher  |      |                           |                            |  |  |   |                                    |
| 10.5                                   | Indicating Lamps                                       | 10% of installed quantity                                |      |                           |                            |  |  |   |                                    |
| 10.6                                   | Indicating lamps cover of different colour and holders | 5% of installed quantity                                 |      |                           |                            |  |  |   |                                    |
| 10.7                                   | Push Buttons of various colours                        | 10 nos. of each type and colour                          |      |                           |                            |  |  |   |                                    |
| 10.8                                   | Terminal Blocks  | 5% of installed quantity                                 |      |                           |                            |  |  |   |                                    |
| 10.9                                   | 415 Volt Motor (above 30 KW Rating upto 160 KW)        |  |      |                           |                            |  |  |   |                                    |
| 10.9.1                                 | End Shield Cover Driving & Non-Driving End             | 1Set for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.9.2                                 | Driving End & Non-Driving End Bearing                  | 1Set for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.9.3                                 | Cooling Fan  | 1No. for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.9.4                                 | Motor Space Heater                                     | 1No. for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.9.5                                 | Motor Terminal Block                                   | 1No. for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.9.6                                 | Complete Set of Coupling                               | 1Set for each Application                                |      |                           |                            |  |  |   |                                    |
| 10.2                                   | 415 Volt Motor (Upto 30KW Rating)                      |  |      |                           |                            |  |  |   |                                    |
| 10.20.1                                | Driving End & Non-Driving End Bearing                  | 3Set for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.20.2                                | Cooling Fan  | 2No. for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.20.3                                | Motor Terminal Block                                   | 5No. for each type and rating of Motor                   |      |                           |                            |  |  |   |                                    |
| 10.20.4                                | Complete Set of Coupling                               | 1Set for each Application                                |      |                           |                            |  |  |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 10</b> |  |  |      |                           |                            |  |  |   |                                    |

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**ANNEXURE-IV TO Enquiry No. PE/PG/WAN/E-5124/2015, Dt: 18/12/2015**  
**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES**

**MANDATORY SPARE LIST**

| Sl No                                  | DESCRIPTION OF EQUIPMENT/ ITEM  | QUANTITY  | UNIT | Unit Ex-works price (Rs.) | Total ex-works price (Rs.) | ED @ ...% (for self manufactured items only) (Rs.) | CST @ .....% Against C-form & EI/E2 or VAT @ .....% Whichever is applicable (Rs.) | FREIGHT (Including service tax, if any) @ .....% of total ex-works price (Rs.) | Total Lumpsum price FOR site (Rs.) |
|--|---|---|------|---------------------------|----------------------------|--|---|--|------------------------------------|
| 11.                                    | PLC System  |   |      |                           |                            |  |   |  |                                    |
| 11.1                                   | I/O cards   | 1 No. or 20% of equipped cards whichever is maximum   |      |                           |                            |  |   |  |                                    |
| 11.2                                   | Process cards   | 1 No.   |      |                           |                            |  |   |  |                                    |
| 11.3                                   | Power Supply module   | 1 No.   |      |                           |                            |  |   |  |                                    |
| 11.4                                   | Communication Process cards   | 1 No.   |      |                           |                            |  |   |  |                                    |
| 11.5                                   | Hand-held Programmer  | 1 No.   |      |                           |                            |  |   |  |                                    |
| 11.6                                   | Keyboard and cursor control devices.  | 2 (two) numbers for each type   |      |                           |                            |  |   |  |                                    |
| 11.7                                   | LCD TFT (24") Monitors.   | 2 (two) numbers   |      |                           |                            |  |   |  |                                    |
| 11.8                                   | Interface cables with connecting plugs for each type of peripherals & I/O hardware.   | 10 (ten) sets   |      |                           |                            |  |   |  |                                    |
| 11.9                                   | Power supply modules.   | 10 (ten) percent of the total qty. offered for each type or 4 (four) numbers, whichever is higher   |      |                           |                            |  |   |  |                                    |
| 11.1                                   | electronic modules (I / O)  | 10 (ten) percent of the total qty. offered for each type of electronic modules (I / O) or 5 (five) numbers of each electronic type of module, whichever is higher.              |      |                           |                            |  |   |  |                                    |
| 11.11                                  | Bus couplers and communication interface cards  | 10 (ten) percent of total bus couplers and communication interface cards of each type or 2 (two) numbers of bus couplers and communication interface cards whichever is higher. |      |                           |                            |  |   |  |                                    |
| 11.12                                  | Controllers for control system of PLC   | 10% of each type (at least 1 no. of each type) whichever is higher  |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 11</b> |   |   |      |                           |                            |  |   |  |                                    |
| 12.                                    | CONTROL VALVES  |   |      |                           |                            |  |   |  |                                    |
| 12.1                                   | Control valve stem packing for each of the control valves, as offered.  | 2 (two) sets  |      |                           |                            |  |   |  |                                    |
| 12.2                                   | Valve trim (including cage, plug, stem, seat rings, guide bushings etc.) for both the units for each of the control valves, as offered. | 1 (one) set   |      |                           |                            |  |   |  |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 12</b> |   |   |      |                           |                            |  |   |  |                                    |
| 13.                                    | ACTUATORS FOR CONTROL VALVES  |   |      |                           |                            |  |   |  |                                    |

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**ANNEXURE-IV TO Enquiry No. PE/PG/WAN/E-5124/2015, Dt: 18/12/2015**  
**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES**

**MANDATORY SPARE LIST**

| SL No                                  | DESCRIPTION OF EQUIPMENT/ ITEM  | QUANTITY  | UNIT | Unit Ex-works price (Rs.) | Total ex-works price (Rs.) | ED @ ...% (for self manufactured items only) (Rs.) | CST @ ....% Against C-form & E1/E2 or @ ....% Whichever is applicable (Rs.) | FREIGHT (including service tax, if any) @ ....% of total ex-works price (Rs.) | Total Lumpsum price FOR site (Rs.) |
|--|---|---|------|---------------------------|----------------------------|--|---|---|------------------------------------|
| 13.1                                   | Actuators with drive of each type and rating.   | 1 (one) set   |      |                           |                            |  |   |   |                                    |
| 13.2                                   | Valve positioners of each type.   | 10 (ten) percent  |      |                           |                            |  |   |   |                                    |
| 13.3                                   | Position transmitters of each type.   | 10 (ten) percent  |      |                           |                            |  |   |   |                                    |
| 13.4                                   | Limit switches/torque switches of each type.  | 10 (ten) percent  |      |                           |                            |  |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 13</b> |   |   |      |                           |                            |  |   |   |                                    |
| 14.                                    | Field instruments (transmitters/ temperature elements (T/C/ RTD)/ gauges/ switches etc. along with relevant accessories ) | 10 (ten) percent of total of each type or at least one (whichever is higher) of each type along with accessories. |      |                           |                            |  |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 14</b> |   |   |      |                           |                            |  |   |   |                                    |
| 15.                                    | Control panel/ Desk Mounted Items   |   |      |                           |                            |  |   |   |                                    |
| 15.1                                   | Push Button   |   |      |                           |                            |  |   |   |                                    |
| 15.1.1                                 | Complete assembly   | 5 nos. of each colour   |      |                           |                            |  |   |   |                                    |
| 15.1.2                                 | Contact Element ( 1 NO + 1NC) Block   | 20 nos.   |      |                           |                            |  |   |   |                                    |
| 15.2                                   | Selector Switch   | 10Nos. for each type and rating   |      |                           |                            |  |   |   |                                    |
| 15.3                                   | Meter (Analog or Digital)   |   |      |                           |                            |  |   |   |                                    |
| 15.3.1                                 | Ammeter   | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.3.2                                 | Voltmeter   | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.3.3                                 | Frequency   | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.3.4                                 | MW  | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.3.5                                 | MVAR  | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.3.6                                 | Power Factor  | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.3.7                                 | Synchroscope  | 10% for each type and range or minimum one (1) no. whichever is more  |      |                           |                            |  |   |   |                                    |
| 15.4                                   | Indicating lamps complete assembly  | 10Nos. for each Colour and type   |      |                           |                            |  |   |   |                                    |

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**ANNEXURE-IV TO Enquiry No.PE/PG/WAN/E-5124/2015, Dt: 18/12/2015**  
**1X800 MW WANAKBORI STTP- AIR CONDITIONING SYSTEM**

**SCHEDULE OF PRICES**  
**MANDATORY SPARE LIST**

| Sl No  | DESCRIPTION OF EQUIPMENT/ ITEM               | QUANTITY                        | UNIT | Unit Ex-works price (Rs.) | Total ex-works price (Rs.) | ED @ ...% (for self manufactured items only) (Rs.) | CST @ ....% Against C-form & E1/E2 or VAT @ ....% Whichever is applicable (Rs.) | FREIGHT (including service tax, if any) @ ....% of total ex-works price (Rs.) | Total Lumpsum price FOR site (Rs.) |
|--|--|---------------------------------|------|---------------------------|----------------------------|--|---|---|------------------------------------|
| 15.5   | Mimic Lamps                                  | 10Nos. for each Colour and type |      |                           |                            |  |   |   |                                    |
| 15.6   | MCB  | 2Nos. for each type and rating  |      |                           |                            |  |   |   |                                    |
| 15.7   | Door Limit Switch                            | 2Nos.                           |      |                           |                            |  |   |   |                                    |
| 15.8   | Annunciation system                          |                                 |      |                           |                            |  |   |   |                                    |
| 15.8.1   | Lamp Box with Facia & Lamps (LED type)       | 25Nos.                          |      |                           |                            |  |   |   |                                    |
| 15.8.2   | Hocter                                       | 1No.                            |      |                           |                            |  |   |   |                                    |
| 15.8.3   | Each type of PCB (for non-PLC driven system) | 1(one) no.                      |      |                           |                            |  |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 15</b>                       |  |                                 |      |                           |                            |  |   |   |                                    |
| 16.  | Actuator (Motorised Valve)                   |                                 |      |                           |                            |  |   |   |                                    |
| 16.1   | Complete set of Actuator                     | 1No. for each type and rating   |      |                           |                            |  |   |   |                                    |
| 16.2   | Limit Switch                                 | 2 Nos each type and rating      |      |                           |                            |  |   |   |                                    |
| 16.3   | Torque Switch                                | 2 Nos each type and rating      |      |                           |                            |  |   |   |                                    |
| 16.4   | Auxiliary Contact                            | 1 no each type and rating       |      |                           |                            |  |   |   |                                    |
| 16.5   | Motor  | 1 no each type and rating       |      |                           |                            |  |   |   |                                    |
| 16.6   | Complete Seal kit                            | 1Set for each type and rating   |      |                           |                            |  |   |   |                                    |
| 16.7   | Complete O-Ring Set                          | 1Set                            |      |                           |                            |  |   |   |                                    |
| <b>TOTAL PRICE (DULY PACKED) OF 16</b>                       |  |                                 |      |                           |                            |  |   |   |                                    |
| <b>GRAND TOTAL ( 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16)</b> |  |                                 |      |                           |                            |  |   |   |                                    |

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