



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

**BHARAT HEAVY ELECTRICALS LIMITED**

(A Govt. of India Undertaking)

**TCN - 02**

Ref: PSER:SCT:IIS-T1023:TCN-02

Date: 18-07-2009

|     |   |  |
|-----|---|--|
| Sub | Tender change notice (TCN) 02.  |  |
| Job | Erection, Testing & Commissioning of steam turbine & auxiliaries, generator & auxiliaries, BPTG AND turbo-blowers at 3X 18 MW, power & blowing station, IISCO Burnpur, West Bengal. |  |
| Ref | 1.0   | Tender no PSER:SCT:IIS-T1023:09.   |
|     | 2.0   | BHEL's NIT, vide reference no Ref: PSER:SCT:IIS-T1023:09 Dated 26-06-2009        |
|     | 3.0   | BHEL's TCN-01, vide reference no Ref: PSER:SCT:IIS-T1023:TCN-01 Dated 14-07-2009 |
|     | 4.0   | Other references (if any).   |

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Due date of submission of offer is extended from 20-07-2009 to 27-07-2009, 15-00 hrs.
- 2.0 APPENDIX-I of VOL-ID & II has been revised as APPENDIX-I (Revision 01)
- 3.0 The details of Deaerator is furnished at sl.no-9.0 of APPENDIX-I (Revision 01) . Lifting of deaerator including necessary arrangement for this work to be done by contractor.
- 4.0 Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
- 5.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

DGM (SCT)

Encl

- 1.0 Revised format of 'No deviation certificate'.
- 2.0 Revised APPENDIX-I

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

**FORMAT FOR NO DEVIATION CERTIFICATE**  
**(To be submitted in the bidder's letter head)**

BHARAT HEAVY ELECTRICALS LIMITED,  
Power Sector - Eastern Region,  
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,  
Kolkata – 700 091

|     |   |   |
|-----|---|---|
| Sub | No Deviation Certificate.   |   |
| Job | Erection, Testing & Commissioning of steam turbine & auxiliaries, generator & auxiliaries, BPTG AND turbo-blowers at 3X 18 MW, power & blowing station, IISCO Burnpur, West Bengal. |   |
| Ref | 1.0   | Tender no PSER:SCT:IIS-T1023:09.  |
|     | 2.0   | BHEL's NIT, vide reference no Ref: PSER:SCT:IIS-T1023:09 Dated 26-06-2009   |
|     | 03  | BHEL's TCN-01, vide reference no PSER:SCT:IIS-T1023:TCN-01, dated 14-07-09. |
|     | 04  | BHEL's TCN-02, vide reference no PSER:SCT:IIS-T1023:TCN-02, dated 18-07-09. |

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized  
representative of the bidder)

**Vol - II**

**APPENDIX – I(Revision 01)**

**WEIGHT AND LIST OF EQUIPMENTS / COMPONENTS TO BE RECEIVED FROM STORES/STORAGE YARD,HANDLED/REHANDLED,TRANSPORTED TO PLACE OF ERECTION, ERECTED AND COMMISSIONED BY THE CONTRACTOR**

**1.00: STEAM TURBINE GENERATOR AND AUXILIARIES**

MAJOR EQUIPMENT FOR EACH STG SET

1. STEAM TURBINE
2. OIL SUPPLY SYSTEM
3. SURFACE CONDENSER
4. STEAM JET AIR EJECTORS 2X100%
5. GLAND STEAM CONDENSER
6. L.P. HEATER –1 NO
7. H.P.HEATER-1 NO
8. HPH.FLASH TANK
9. DEAERATOR- 1 NO
- 10.OIL COOLERS – 2 X 100 %
- 11.AIR COOLERS
- 12.DRAIN COOLERS
- 13.0 GENERATORS
- 14.BOILER FEED PUMP
- 15.0 BALANCE OF PLANT EQUIPMENT- MECHANICAL

NOTE : DETAILED ARE IN ENCLOSED SHEETS.

## 1.0 STEAM TURBINE:

| SL NO | DESCRIPTION                           | WEIGHT IN TON(EACH) | QTY | TOTAL WT(IN TON) |
|-------|---------------------------------------|---------------------|-----|------------------|
| 1     | STEAM TURBINE FOR 3X18 MW STG         | 36                  | 3   | 108              |
| 2     | STEAM TURBINE FOR 1 NO 8.275 MW BPTG  | 17                  | 1   | 17               |
| 3     | STEAM TURBINE FOR 3 NOS TURBO-BLOWERS | 30                  | 3   | 90               |
|       | <b>TOTAL</b>                          |                     |     | <b>215T</b>      |

## 2. OIL SUPPLY SYSTEM

| SL NO    | DESCRIPTION                            | WEIGHT IN TON(EACH) | QTY | TOTAL WT(IN TON) |
|----------|--|---------------------|-----|------------------|
| <b>1</b> | <b>LO SYSTEM FOR 3X18 MW STG</b>       |                     |     |                  |
| I)       | LUBE OIL TANK                          | 5.6                 | 3   | 16.8             |
| II)      | OVERHEAD LUBE OIL TANK                 | 2.05                | 3   | 6.15             |
| III)     | LUBE OIL PUMP ASSLY                    | 1.45                | 6   | 8.7              |
| IV)      | EMERGENCY OIL PUMP ASSLY               | 0.6                 | 3   | 1.8              |
| V)       | OIL VAPOUR EXTRACTION FAN ASSLY        | 0.075               | 6   | 0.45             |
| VI)      | JACKING OIL PUMP ASSLY                 | 0.200               | 6   | 1.2              |
| VII)     | DUPLEX FILTER                          | 1.6                 | 3   | 4.8              |
| VIII)    | OIL PURIFICATION UNIT                  | 1.350               | 3   | 4.05             |
|          | <b>SUB-TOTAL</b>                       |                     |     | <b>43.95</b>     |
| <b>2</b> | <b>LO SYSTEM FOR 1 NO 8.275MW BPTG</b> |                     |     |                  |
| I)       | LUBE OIL TANK                          | 5.6                 | 1   | 5.6              |
| II)      | OVERHEAD LUBE OIL TANK                 | 2.05                | 1   | 2.05             |
| III)     | LUBE OIL PUMP ASSLY                    | 1.2                 | 2   | 2.4              |
| IV)      | EMERGENCY OIL PUMP ASSLY               | 0.65                | 1   | 0.65             |
| V)       | OIL VAPOUR EXTRACTION FAN ASSLY        | 0.1                 | 2   | 0.2              |
| VI)      | DUPLEX FILTER                          | 1.1                 | 1   | 1.1              |
| VII)     | OIL PURIFICATION UNIT                  | 1.4                 | 1   | 1.4              |
| VIII)    | OIL ACCUMULATOR ASSEMBLY               | 0.4                 | 1   | 0.4              |
|          | <b>SUB-TOTAL</b>                       |                     |     | <b>13.8</b>      |

|          |  |       |   |                |
|----------|--|-------|---|----------------|
| <b>3</b> | <b>LO SYSTEM FOR 3 NOS TURBO-BLOWER</b>                    |       |   |                |
| I)       | LUBE OIL TANK  | 6.8   | 3 | 20.4           |
| II)      | OVERHEAD LUBE OIL TANK                                     | 1.6   | 3 | 4.8            |
| III)     | LUBE OIL PUMP ASSLY  | 2.2   | 6 | 13.2           |
| IV)      | EMERGENCY OIL PUMP ASSLY                                   | 1.0   | 3 | 3              |
| V)       | JACKING OIL PUMP ASLY                                      | 0.8   | 3 | 2.4            |
| VI)      | DUPLEX FILTER FOR LUBE OIL                                 | 0.7   | 3 | 2.1            |
| VII)     | LUBE OIL ACCUMULATORS                                      | 1.2   | 3 | 3.6            |
|          | <b>SUB-TOTAL</b>   |       |   | <b>49.5</b>    |
| <b>4</b> | <b>VALVES &amp; GOVERNING SYSTEM FOR 3X18 MW STG</b>       |       |   |                |
| I)       | QCNRV(TAG NO.EX-01)  | 0.24  | 3 | 0.72           |
| II)      | QCNRV(TAG NO.EX-02)  | 1.275 | 3 | 3.825          |
| III)     | QCNRV(TAG NO.EX-03)  | 1.5   | 3 | 4.5            |
| IV)      | GOVERNING CONSOLE  | 0.7   | 3 | 2.1            |
|          | <b>SUB-TOTAL</b>   |       |   | <b>11.145</b>  |
| <b>5</b> | <b>GOVERNING SYSTEM FOR 1 NO 8.275MW BPTG</b>              |       |   |                |
| I)       | GOVERNING CONSOLE  | 0.380 | 1 | 0.380          |
|          | <b>SUB-TOTAL</b>   |       |   | <b>0.380</b>   |
| <b>6</b> | <b>VALVES &amp; GOVERNING SYSTEM FOR 3 NOS TURBOBLOWER</b> |       |   |                |
| I)       | GOVERNING OIL ACCUMULATORS                                 | 0.4   | 3 | 1.2            |
| II)      | BARRING GEAR CONSOLE                                       | 0.85  | 3 | 2.55           |
| III)     | OIL CENTRIFUGE (TROLLEY TYPE)                              | 0.45  | 3 | 1.35           |
| IV)      | GOVERNING CONSOLE  | 0.7   | 3 | 2.1            |
| V)       | SUCTION FILTER & SILENCER                                  | 30    | 3 | 90             |
| VI)      | GOVERNING CONSOLE  | 0.35  | 3 | 1.05           |
| VII)     | VALVES   | 4.0   | - | 4              |
|          | <b>SUB-TOTAL</b>   |       |   | <b>102.25</b>  |
|          | <b>TOTAL</b>   |       |   | <b>221.025</b> |

**3.SURFACE CONDENSER :**

| SL NO | DESCRIPTION                              | WEIGHT IN TON(EACH) | QTY | TOTAL WT(IN TON) |
|-------|--|---------------------|-----|------------------|
| 1     | SURFACE CONDENSER FOR 3X18 MW STG        | 46                  | 3   | 138              |
| 2     | SURFACE CONDENSER FOR 3 NOS TURBO-BLOWER | 55                  | 3   | 165              |
|       | <b>TOTAL</b>                             |                     |     | <b>303T</b>      |

**4.STEAM JET AIR EJECTOR :**

| SL NO | DESCRIPTION   | WEIGHT IN TON(EACH) | QTY | TOTAL WT(IN TON) |
|-------|---|---------------------|-----|------------------|
| 1     | STEAM JET AIR EJECTOR ASSLY FOR 3X18 MW STG         | 7.1                 | 3   | 21.3             |
| 2     | STEAM JET AIR EJECTOR ASSLY FOR 3 NOS TURBO-BLOWERS | 7.1                 | 3   | 21.3             |
|       | <b>TOTAL</b>  |                     |     | <b>42.6T</b>     |

**5.0 GLAND STEAM CONDENSER :**

| SL NO | DESCRIPTION                                   | WEIGHT IN TON(EACH) | QTY | TOTAL WT(IN TON) |
|-------|---|---------------------|-----|------------------|
| 1     | GLAND STEAM CONDENSER FOR 3X18 MW STG         | 1.4                 | 3   | 4.2              |
| 2     | GLAND STEAM CONDENSER FOR 1 NO 8.275MW BPTG   | 5.5                 | 1   | 5.5              |
| 3     | GLAND STEAM CONDENSER FOR 3 NOS TURBO-BLOWERS | 1.4                 | 3   | 4.2              |
|       | <b>TOTAL</b>                                  |                     |     | <b>13.9T</b>     |

**6.0 L.P.HEATER :**

| SL NO | DESCRIPTION                       | WEIGHT IN TON(EACH) | QTY | TOTAL WT(IN TON) |
|-------|-----------------------------------|---------------------|-----|------------------|
| 1     | LP HEATER FOR 3X18 MW STG         | 4.5                 | 3   | 13.5             |
| 2     | LP HEATER FOR 3 NOS TURBO-BLOWERS | 4.5                 | 3   | 13.5             |
|       | <b>TOTAL</b>                      |                     |     | <b>27T</b>       |

**7.0 H.P.HEATER:**

| SL NO | DESCRIPTION                       | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|-------|-----------------------------------|------------------|----|-----|------------------|
| 1     | HP HEATER FOR 3X18 MW STG         | 8.5              |    | 3   | 25.5             |
| 2     | HP HEATER FOR 3 NOS TURBO-BLOWERS | 4.25             |    | 3   | 12.75            |
|       | <b>TOTAL</b>                      |                  |    |     | <b>38.25T</b>    |

**8.0 HPH FLASH TANK**

| SL NO | DESCRIPTION                            | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|-------|--|------------------|----|-----|------------------|
| 1     | HPH FLASH TANK FOR 3X18 MW STG         | 1                |    | 3   | 3                |
| 2     | HPH FLASH TANK FOR 3 NOS TURBO-BLOWERS | 1                |    | 3   | 3                |
|       | <b>TOTAL</b>                           |                  |    |     | <b>6T</b>        |

**9.0 DEAERATOR :**

| SL NO    | DESCRIPTION   | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|----------|---|------------------|----|-----|------------------|
| <b>1</b> | SPRAY-CUM-TRAY DEAERATOR(OVERALL HEIGHT - 7500)         |                  |    |     |                  |
| i)       | HEADER  | 37(TOTAL)        |    | 3   | 111(TOTAL)       |
| ii)      | FEED STORAGE TANK                                       |                  |    |     |                  |
| <b>2</b> | SPRAY-CUM-TRAY DEAERATOR(50 TPH) (OVERALL HEIGHT -5200) |                  |    |     |                  |
| i)       | HEADER  | 15.5(TOTAL)      |    | 1   | 15.5(TOTAL)      |
| ii)      | FEED STORAGE TANK                                       |                  |    |     |                  |
|          | <b>TOTAL</b>  |                  |    |     | <b>126.5 T</b>   |

**10.0 ST OIL COOLER :**

| SL NO | DESCRIPTION                                  | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|-------|--|------------------|----|-----|------------------|
| 1     | ST OIL COOLER(2X100%) FOR 3X18 MW STG        | 5.7              |    | 3   | 17.1             |
| 2     | ST OIL COOLER(2X100%) FOR 3 NOS TURBO-BLOWER | 3.35             |    | 3   | 10.05            |
| 3     | ST OIL COOLER FOR 1 NOS 8.275MW BPTG         | 2                |    | 1   | 2                |
|       | <b>TOTAL</b>                                 |                  |    |     | <b>29.15T</b>    |

**11.0 STG AIR COOLER :**

| SL NO | DESCRIPTION                            | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|-------|--|------------------|----|-----|------------------|
| 1     | STG AIR COOLER FOR 3X18 MW STG         | 0.96             |    | 3   | 2.88             |
| 2     | STG AIR COOLER FOR 3 NOS TURBO-BLOWERS | 0.96             |    | 3   | 2.88             |
| 3     | STG AIR COOLER FOR 1 NOS 8.275MW BPTG  | 0.96             |    | 1   | 0.96             |
|       | <b>TOTAL</b>                           |                  |    |     | <b>6.72 T</b>    |

**12.0 DRAIN COOLER :**

| SL NO | DESCRIPTION                          | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|-------|--------------------------------------|------------------|----|-----|------------------|
| 1     | DRAIN COOLER FOR 3X18 MW STG         | 1.65             |    | 3   | 4.95             |
| 2     | DRAIN COOLER FOR 3 NOS TURBO-BLOWERS | 1.65             |    | 3   | 4.95             |
|       | <b>TOTAL</b>                         |                  |    |     | <b>9.9T</b>      |

### 13.0 GENERATOR

| SL. NO. | DESCRIPTION OF EQUIPMENT                 | WEIGHT IN M.TONS | QTY | TOTAL WT IN M.TONS |
|---------|--|------------------|-----|--------------------|
| 1.      | GENERATOR PACKAGE FOR 3X18 MW STG        | 50.6             | 3   | 151.8              |
| 2       | GENERATOR PACKAGE FOR 1 NO 8.275 MW BPTG | 25.6             | 1   | 25.6               |
|         | <b>TOTAL</b>                             |                  |     | <b>177.4T</b>      |

### 14.0 BOILER FEED PUMP

| SL NO | DESCRIPTION  | WEIGHT TON(EACH) | IN | QTY | TOTAL WT(IN TON) |
|-------|--|------------------|----|-----|------------------|
| 1     | BFP SKID(PUMP ASSLY+BASE PLATE+TUBING+SEAL COOLER) | 6.9              |    | 4   | 27.6             |
| 2     | HYDRAULIC COUPLING(DD)                             | 1.06             |    | 4   | 4.24             |
| 3     | HYD.COUPLING OIL COOLER(dd)                        | 0.5              |    | 4   | 2                |
| 4     | HYD.COUPLING LOOSE ITEMS                           | 0.2              |    | 4   | 0.8              |
| 5     | SUCTION STRAINER AT BFP SUCTION (DD)               | 0.8              |    | 4   | 3.2              |
| 6     | BFP RECIRCULATION VALVE(DD)                        | 0.35             |    | 4   | 1.4              |
|       | <b>TOTAL</b>                                       |                  |    |     | <b>11.44T</b>    |

**15.0 ERECTION INPUTS PED BOP ( Mechanical) ,Auxiliary & pipings**

| SI.No     | Equipment Description   | qty | Unit Weight each | Total weight |
|-----------|---|-----|------------------|--------------|
| Unit      | --  | no  | tons             | --           |
| <b>1.</b> | <b>LDO system for boilers</b>   |     |                  |              |
| a         | Condensate drain tank with 2x100% pumps   | 1   | 5.0              | 5.0          |
| b.        | LDO tank  | 1   | 50.0             | 50           |
| <b>2.</b> | <b>Feed water system</b>  |     |                  |              |
| a.        | Boiler feed pumps for export  | 2   | 1.2              | 2.4          |
| b.        | LP dosing skids   | 2   | 4.0              | 8            |
| c.        | HP dosing skids   | 1   | 6.0              | 6            |
| <b>3.</b> | <b>Condensate system</b>  |     |                  |              |
| a.        | CEPs for 18MW STGs  | 6   | 2.0              | 12           |
| b.        | CEPs for 25MW ST for blowers  | 6   | 3.0              | 18           |
| <b>4.</b> | <b>Cooling water system</b>   |     |                  |              |
| a.        | Main cooling water pumps-For TB   | 4   | 15.0             | 60           |
| b.        | Main cooling water pumps-For TG   | 3   | 12.5             | 38           |
| c.        | Auxiliary cooling water pumps   | 3   | 10.0             | 30           |
| d.        | Cooling water make-up pumps   | 2   | 3.5              | 7            |
| <b>5.</b> | <b>Miscellaneous Equipment</b>  |     |                  |              |
| a)        | Sump pumps  | 5   | 0.025            | 0.1          |
| b)        | Boiler fill pumps   | 4   | 0.050            | 0.2          |
| <b>6.</b> | Unit condensate float tank  | 6   | 25.0             | 150          |
| <b>7.</b> | Condensate transfer pumps for LDO heaters condensate  | 2   | 3.5              | 7.0          |
| <b>8.</b> | Miscellaneous pumps   | 8   | 0.1              | 0.8          |
| <b>9.</b> | <b>Piping, Valves and fittings,insulation and supports(this is inclusive of tools and tackles(600kg))</b> |     | 907              | 907          |
| I)        | CONDENSER COOLING WATER SYSTEM(STG)   | -   |                  |              |
| II)       | CONDENSER COOLING WATER SYSTEM(TB)  | -   |                  |              |
| III)      | TURBO-BLOWER'S-1 CONDENSATE SYSTEM UPTO HOTWELL LEVEL CONTROL VALVE                                       | -   |                  |              |
| IV)       | TURBO-BLOWER'S-2 CONDENSATE SYSTEM UPTO HOTWELL LEVEL CONTROL VALVE                                       | -   |                  |              |

|            |  |   |            |            |
|------------|--|---|------------|------------|
| v)         | TURBO-BLOWER'S-3<br>CONDENSATE SYSTEM<br>UPTO HOTWELL LEVEL<br>CONTROL VALVE |   |            |            |
| vi)        | SURVICE WATER<br>DISTRIBUTION SYSTEM   |   |            |            |
| vii)       | PA SYSTEM  |   |            |            |
| viii)      | POTABLE WATER<br>DISTRIBUTION SYSTEM   |   |            |            |
| ix)        | STG-1 CONDENSATE<br>SYSTEM UPTO HOTWELL<br>LEVEL CONTROL VALVE               |   |            |            |
| x)         | STG-2 CONDENSATE<br>SYSTEM UPTO HOTWELL<br>LEVEL CONTROL VALVE               |   |            |            |
| xi)        | STG-3 CONDENSATE<br>SYSTEM UPTO HOTWELL<br>LEVEL CONTROL VALVE               |   |            |            |
|            | <b>TOTAL</b>   |   | <b>907</b> | <b>907</b> |
| <b>10</b>  | <b>Chlorination system for<br/>cooling tower</b>                             | 2 | 0.2        | 0.4        |
| a          | CW chlorination booster<br>pumps   | 2 | 0.15       | 0.3        |
| b          | CW chlorination evaporator   | 2 | 0.2        | 0.4        |
| c          | N-pit Agitator motor   | 2 | 3.0        | 6.0        |
| d          | Chlorine tonners   |   |            |            |
| <b>11</b>  | <b>Acid dosing system for<br/>cooling tower</b>                              | 2 | 0.2        | 0.4        |
| a          | Acid unloading pumps   | 1 | 5.0        | 5.0        |
| b          | Acid storage tank  |   |            |            |
| c.         | Acid dosing pumps  | 2 | 0.2        | 0.4        |
| <b>12.</b> | <b>Bio-cid dosing system for<br/>cooling tower</b>                           |   |            |            |
| a.         | Biocide unloading pumps  | 2 | 0.2        | 0.4        |
| b.         | Chemical storage tank  | 2 | 5.0        | 10.0       |
| c.         | Dosing pumps   | 2 | 0.2        | 0.4        |
| d.         | Chemical mixing tank   | 1 | 1.5        | 1.5        |
| <b>13.</b> | a) DM Water transfer pump<br>with electric motor                             | 2 | 2.0        | 4.0        |
|            | b) DM water transfer pump –<br>coke oven plant                               | 2 | 1.0        | 2.0        |
| <b>14.</b> | CW side stream filter pumps  | 3 | 10         | 30         |
| <b>15</b>  | Gear box   |   |            |            |
| <b>a</b>   | Gear box for 3x18 MW STG   | 3 | 13         | 39         |
| <b>b</b>   | Gear box for 1X8.275MW<br>STG  | 1 | 8          | 8          |
| <b>16</b>  | CBD TANK   | 1 | 4          | 4          |

|    |               |   |    |                |
|----|---------------|---|----|----------------|
| 17 | IBD TANK      | 1 | 4  | 4              |
| 18 | TURBO-BLOWERS | 3 | 60 | 180            |
|    | <b>TOTAL</b>  |   |    | <b>1597.7T</b> |

**TOTAL WEIGHT TO BE ERECTED BY PSER      2825.585T**

**Note:**

- 1 All pipes shall be supplied in available commercial lengths. PSER shall consider the edge preparation, cutting of pipes as per requirement and stub welding to pipes as per isometric drgs in their scope.
  
- 2 **Notes:**
  - i) Condenser will be dispatched in semi-assembled condition. (for turbo blower only)
  - ii) Only shell, channel, dome, tubesheet, support plates, CW nozzles, End Cover and saddle supports will be sent in assembled condition to site.(turbo blower only)
  - iii) Tubes will be dispatched loose and tubing is to be done at site. (for turbo blowwer only)
  - iv) Hotwell, connecting pieces, SS Expansion Bellow, Standpipes, Surge pipes will also be sent loose for assembly at site by erection agency(For all six condensers)
  - v) Turbo generator condenser will be supplied in tubes and tested condition.