

## ESTIMATED WEIGHT OF PIPING SYSTEMS - ITEM WISE - SYSTEM WISE (IN MT)

| SYSTEM                              | IBR  | HMD      |          |      |     |       |
|-------------------------------------|------|----------|----------|------|-----|-------|
|                                     |      | AS (P91) | AS (P22) | CS   | SS  | TOTAL |
| ALL ITEMS                           |      |          |          |      |     |       |
| MAIN STEAM                          | IBR  | 269      | 9        | 0    | 0   | 278   |
| BOILER STARTUP STEAM                | IBR  | 17       | 39       | 55   | 0   | 111   |
| AUXILIARY STEAM                     | IBR  | 2        | 1        | 5    | 0   | 8     |
| DEAERATOR PEGGING STEAM             | IBR  | 1        | 5        | 30   | 0   | 36    |
| EXTRACTION STEAM                    | IBR  | 0        | 0        | 276  | 0   | 276   |
| BOILER FLASH TANK VENT TO DEAERATOR | IBR  | 0        | 0        | 21   | 0   | 21    |
| BFP-SUCTION                         | IBR  | 0        | 0        | 67   | 0   | 67    |
| FEED WATER                          | IBR  | 0        | 0        | 491  | 0   | 491   |
| SPRAY TO AUX DEAERATOR PEGG PRDS    | IBR  | 0        | 0        | 5    | 0   | 5     |
| SPRAY TO BSS PRDS                   | NIBR | 0        | 0        | 0    | 5   | 5     |
| CONDENSATE - CS                     | NIBR | 0        | 0        | 72   | 0   | 72    |
| CONDENSATE - SS                     | NIBR | 0        | 0        | 0    | 129 | 129   |
| LP HEATER 1, 2, 3 & DEAERATOR DRAIN | NIBR | 0        | 0        | 48   | 0   | 48    |
| HP HEATE 5 & 6 DRAIN                | NIBR | 0        | 0        | 62   | 0   | 62    |
| COOLING WATER                       | NIBR | 0        | 0        | 123  | 0   | 123   |
| AUX COOLING WATER                   | NIBR | 0        | 0        | 111  | 0   | 111   |
| CLOSED CIRCUIT COOLING WATER        | NIBR | 0        | 0        | 148  | 0   | 148   |
| MISC - DRAINS                       | NIBR | 0        | 0        | 39   | 0   | 39    |
| MISC - VENTS                        | NIBR | 0        | 0        | 6    | 0   | 6     |
| INSTRUMENT AIR & PLANT AIR          | NIBR | 0        | 0        | 12   | 0   | 12    |
| TOTAL                               |      | 289      | 54       | 1571 | 134 | 2048  |
| PIPES                               |      |          |          |      |     |       |
| MAIN STEAM                          | IBR  | 194      | 3        | 0    | 0   | 197   |
| BOILER STARTUP STEAM                | IBR  | 10       | 28       | 36   | 0   | 74    |
| AUXILIARY STEAM                     | IBR  | 1        | 1        | 5    | 0   | 7     |
| DEAERATOR PEGGING STEAM             | IBR  | 0        | 3        | 18   | 0   | 21    |
| EXTRACTION STEAM                    | IBR  | 0        | 0        | 134  | 0   | 134   |
| BOILER FLASH TANK VENT TO DEAERATOR | IBR  | 0        | 0        | 17   | 0   | 17    |
| BFP-SUCTION                         | IBR  | 0        | 0        | 45   | 0   | 45    |
| FEED WATER                          | IBR  | 0        | 0        | 310  | 0   | 310   |
| SPRAY TO AUX DEAERATOR PEGG PRDS    | IBR  | 0        | 0        | 4    | 0   | 4     |
| SPRAY TO BSS PRDS                   | NIBR | 0        | 0        | 0    | 3   | 3     |
| CONDENSATE - CS                     | NIBR | 0        | 0        | 33   | 0   | 33    |
| CONDENSATE - SS                     | NIBR | 0        | 0        | 0    | 50  | 50    |
| LP HEATER 1, 2, 3 & DEAERATOR DRAIN | NIBR | 0        | 0        | 34   | 0   | 34    |
| HP HEATE 5 & 6 DRAIN                | NIBR | 0        | 0        | 38   | 0   | 38    |
| COOLING WATER                       | NIBR | 0        | 0        | 51   | 0   | 51    |
| AUX COOLING WATER                   | NIBR | 0        | 0        | 70   | 0   | 70    |
| CLOSED CIRCUIT COOLING WATER        | NIBR | 0        | 0        | 104  | 0   | 104   |
| MISC - DRAINS                       | NIBR | 0        | 0        | 27   | 0   | 27    |
| MISC - VENTS                        | NIBR | 0        | 0        | 4    | 0   | 4     |
| INSTRUMENT AIR & PLANT AIR          | NIBR | 0        | 0        | 8    | 0   | 8     |
| SUB TOTAL                           |      | 205      | 35       | 938  | 53  | 1231  |
| FITTINGS                            |      |          |          |      |     |       |
| MAIN STEAM                          | IBR  | 38       | 0        | 0    | 0   | 38    |

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| SYSTEM                              | IBR  | HMD       |          |            |           |            |
|-------------------------------------|------|-----------|----------|------------|-----------|------------|
|                                     |      | AS (P91)  | AS (P22) | CS         | SS        | TOTAL      |
| BOILER STARTUP STEAM                | IBR  | 1         | 1        | 9          | 0         | 11         |
| AUXILIARY STEAM                     | IBR  | 0         | 0        | 0          | 0         | 0          |
| DEAERATOR PEGGING STEAM             | IBR  | 0         | 0        | 2          | 0         | 2          |
| EXTRACTION STEAM                    | IBR  | 0         | 0        | 61         | 0         | 61         |
| BOILER FLASH TANK VENT TO DEAERATOR | IBR  | 0         | 0        | 1          | 0         | 1          |
| BFP-SUCTION                         | IBR  | 0         | 0        | 11         | 0         | 11         |
| FEED WATER                          | IBR  | 0         | 0        | 72         | 0         | 72         |
| SPRAY TO AUX DEAERATOR PEGG PRDS    | IBR  | 0         | 0        | 0          | 0         | 0          |
| SPRAY TO BSS PRDS                   | NIBR | 0         | 0        | 0          | 0         | 0          |
| CONDENSATE - CS                     | NIBR | 0         | 0        | 9          | 0         | 9          |
| CONDENSATE - SS                     | NIBR | 0         | 0        | 0          | 10        | 10         |
| LP HEATER 1, 2, 3 & DEAERATOR DRAIN | NIBR | 0         | 0        | 5          | 0         | 5          |
| HP HEATE 5 & 6 DRAIN                | NIBR | 0         | 0        | 10         | 0         | 10         |
| COOLING WATER                       | NIBR | 0         | 0        | 37         | 0         | 37         |
| AUX COOLING WATER                   | NIBR | 0         | 0        | 11         | 0         | 11         |
| CLOSED CIRCUIT COOLING WATER        | NIBR | 0         | 0        | 13         | 0         | 13         |
| MISC - DRAINS                       | NIBR | 0         | 0        | 4          | 0         | 4          |
| MISC - VENTS                        | NIBR | 0         | 0        | 1          | 0         | 1          |
| INSTRUMENT AIR & PLANT AIR          | NIBR | 0         | 0        | 1          | 0         | 1          |
| <b>SUB TOTAL</b>                    |      | <b>39</b> | <b>1</b> | <b>247</b> | <b>10</b> | <b>297</b> |
| <b>FLANGES</b>                      |      |           |          |            |           |            |
| MAIN STEAM                          | IBR  | 4         | 0        | 0          | 0         | 4          |
| BOILER STARTUP STEAM                | IBR  | 0         | 0        | 0          | 0         | 0          |
| AUXILIARY STEAM                     | IBR  | 0         | 0        | 0          | 0         | 0          |
| DEAERATOR PEGGING STEAM             | IBR  | 0         | 0        | 0          | 0         | 0          |
| EXTRACTION STEAM                    | IBR  | 0         | 0        | 3          | 0         | 3          |
| BOILER FLASH TANK VENT TO DEAERATOR | IBR  | 0         | 0        | 0          | 0         | 0          |
| BFP-SUCTION                         | IBR  | 0         | 0        | 4          | 0         | 4          |
| FEED WATER                          | IBR  | 0         | 0        | 1          | 0         | 1          |
| SPRAY TO AUX DEAERATOR PEGG PRDS    | IBR  | 0         | 0        | 0          | 0         | 0          |
| SPRAY TO BSS PRDS                   | NIBR | 0         | 0        | 0          | 0         | 0          |
| CONDENSATE - CS                     | NIBR | 0         | 0        | 5          | 0         | 5          |
| CONDENSATE - SS                     | NIBR | 0         | 0        | 0          | 4         | 4          |
| LP HEATER 1, 2, 3 & DEAERATOR DRAIN | NIBR | 0         | 0        | 1          | 0         | 1          |
| HP HEATE 5 & 6 DRAIN                | NIBR | 0         | 0        | 1          | 0         | 1          |
| COOLING WATER                       | NIBR | 0         | 0        | 0          | 0         | 0          |
| AUX COOLING WATER                   | NIBR | 0         | 0        | 10         | 0         | 10         |
| CLOSED CIRCUIT COOLING WATER        | NIBR | 0         | 0        | 9          | 0         | 9          |
| MISC - DRAINS                       | NIBR | 0         | 0        | 1          | 0         | 1          |
| MISC - VENTS                        | NIBR | 0         | 0        | 0          | 0         | 0          |
| INSTRUMENT AIR & PLANT AIR          | NIBR | 0         | 0        | 1          | 0         | 1          |
| <b>SUB TOTAL</b>                    |      | <b>4</b>  | <b>0</b> | <b>36</b>  | <b>4</b>  | <b>44</b>  |
| <b>VALVES</b>                       |      |           |          |            |           |            |
| MAIN STEAM                          | IBR  | 33        | 6        | 0          | 0         | 39         |
| BOILER STARTUP STEAM                | IBR  | 2         | 7        | 10         | 0         | 19         |
| AUXILIARY STEAM                     | IBR  | 1         | 0        | 0          | 0         | 1          |

**ESTIMATED WEIGHT OF PIPING SYSTEMS - ITEM WISE - SYSTEM WISE (IN MT)**

| SYSTEM                              | IBR  | HMD       |           |            |           |            |
|-------------------------------------|------|-----------|-----------|------------|-----------|------------|
|                                     |      | AS (P91)  | AS (P22)  | CS         | SS        | TOTAL      |
| DEAERATOR PEGGING STEAM             | IBR  | 1         | 1         | 9          | 0         | 11         |
| EXTRACTION STEAM                    | IBR  | 0         | 0         | 78         | 0         | 78         |
| BOILER FLASH TANK VENT TO DEAERATOR | IBR  | 0         | 0         | 3          | 0         | 3          |
| BFP-SUCTION                         | IBR  | 0         | 0         | 7          | 0         | 7          |
| FEED WATER                          | IBR  | 0         | 0         | 106        | 0         | 106        |
| SPRAY TO AUX DEAERATOR PEGG PRDS    | IBR  | 0         | 0         | 1          | 0         | 1          |
| SPRAY TO BSS PRDS                   | NIBR | 0         | 0         | 0          | 2         | 2          |
| CONDENSATE - CS                     | NIBR | 0         | 0         | 25         | 0         | 25         |
| CONDENSATE - SS                     | NIBR | 0         | 0         | 0          | 61        | 61         |
| LP HEATER 1, 2, 3 & DEAERATOR DRAIN | NIBR | 0         | 0         | 6          | 0         | 6          |
| HP HEATE 5 & 6 DRAIN                | NIBR | 0         | 0         | 11         | 0         | 11         |
| COOLING WATER                       | NIBR | 0         | 0         | 35         | 0         | 35         |
| AUX COOLING WATER                   | NIBR | 0         | 0         | 20         | 0         | 20         |
| CLOSED CIRCUIT COOLING WATER        | NIBR | 0         | 0         | 22         | 0         | 22         |
| MISC - DRAINS                       | NIBR | 0         | 0         | 1          | 0         | 1          |
| MISC - VENTS                        | NIBR | 0         | 0         | 1          | 0         | 1          |
| INSTRUMENT AIR & PLANT AIR          | NIBR | 0         | 0         | 2          | 0         | 2          |
| <b>SUB TOTAL</b>                    |      | <b>37</b> | <b>14</b> | <b>337</b> | <b>63</b> | <b>451</b> |
| <b>OTHERS</b>                       |      |           |           |            |           |            |
| MAIN STEAM                          | IBR  | 0         | 0         | 0          | 0         | 0          |
| BOILER STARTUP STEAM                | IBR  | 4         | 3         | 0          | 0         | 7          |
| AUXILIARY STEAM                     | IBR  | 0         | 0         | 0          | 0         | 0          |
| DEAERATOR PEGGING STEAM             | IBR  | 0         | 1         | 1          | 0         | 2          |
| EXTRACTION STEAM                    | IBR  | 0         | 0         | 0          | 0         | 0          |
| BOILER FLASH TANK VENT TO DEAERATOR | IBR  | 0         | 0         | 0          | 0         | 0          |
| BFP-SUCTION                         | IBR  | 0         | 0         | 0          | 0         | 0          |
| FEED WATER                          | IBR  | 0         | 0         | 2          | 0         | 2          |
| SPRAY TO AUX DEAERATOR PEGG PRDS    | IBR  | 0         | 0         | 0          | 0         | 0          |
| SPRAY TO BSS PRDS                   | NIBR | 0         | 0         | 0          | 0         | 0          |
| CONDENSATE - CS                     | NIBR | 0         | 0         | 0          | 0         | 0          |
| CONDENSATE - SS                     | NIBR | 0         | 0         | 0          | 4         | 4          |
| LP HEATER 1, 2, 3 & DEAERATOR DRAIN | NIBR | 0         | 0         | 2          | 0         | 2          |
| HP HEATE 5 & 6 DRAIN                | NIBR | 0         | 0         | 2          | 0         | 2          |
| COOLING WATER                       | NIBR | 0         | 0         | 0          | 0         | 0          |
| AUX COOLING WATER                   | NIBR | 0         | 0         | 0          | 0         | 0          |
| CLOSED CIRCUIT COOLING WATER        | NIBR | 0         | 0         | 0          | 0         | 0          |
| MISC - DRAINS                       | NIBR | 0         | 0         | 6          | 0         | 6          |
| MISC - VENTS                        | NIBR | 0         | 0         | 0          | 0         | 0          |
| INSTRUMENT AIR & PLANT AIR          | NIBR | 0         | 0         | 0          | 0         | 0          |
| <b>SUB TOTAL</b>                    |      | <b>4</b>  | <b>4</b>  | <b>13</b>  | <b>4</b>  | <b>25</b>  |