|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From (Section)** | **DGM & I/c** | **To** | **DGM & I/c (U&S)** | |
| **Assignment No.** |  | **Issue date** | |  |
| **Title :-** | | **By when required** | |  |
| **Name of engineer to be contacted for clarifications:** | |  | | |

1. **Brief description of the job with all necessary input information:**
2. **Scope of work for the system with Process flow diagram and layout in form of drawing or sketch to be attached.**
3. **Area wise required input information to be filled up by Technologist/TFL:**

**3.1 Utilities**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Utilities** | **Purpose** | **Press.**  **kg/cm2(g)** | **Temp**  **degC** | **Flow**  **Nm3/h** | **Purity(%)** |
| Nitrogen gas |  |  |  |  |  |
| Oxygen |  |  |  |  |  |
| Argon |  |  |  |  |  |
| **Utilities** | **Purpose** | **Press.**  **kg/cm2(g)** | **Temp**  **degC** | **Flow**  **Nm3/h** | **Atmospheric Dew Point (degC)** |
| Compressed Air for general purpose |  |  |  |  |  |
| Instrument Air |  |  |  |  |  |

**3.2 Fuel Gases** (LPG, Propane, BF Gas, CO Gas, Mixed gas shall be selected by U&S based on requirement to be given technologist)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Utilities** | | **Purpose** | **Pressure** | **Calorific Value** | **Flow Nm3/h** | | | | |
| Mixed Gas | |  |  |  | Max. | | Avg. | | Min. |
| BF Gas | |  |  |  |  | |  | |  |
| CO Gas | |  |  |  |  | |  | |  |
| Propane | |  |  |  |  | |  | |  |
| Any other fuel | |  |  |  |  | |  | |  |
| **In case fuel is not decided following data to be provided** | | | | | | | | | |
| **Max. Production by the shop/ process (tph)** | **Purpose** | | **Pressure** | **Specific Energy Consumption**  **(G cal/t)** | | **Flow**  **Nm3/h** | | **Remarks** | |
|  |  | |  |  | |  | |  | |
|  |  | |  |  | |  | |  | |
|  |  | |  |  | |  | |  | |
|  |  | |  |  | |  | |  | |

**3.3 Water/Steam**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Purpose** | **Inlet Condition to Process** | | | **Outlet condition from Process** | | |
| **Type** |  | **Press.**  **kg/cm2(g)** | **Temp**  **degC** | **Flow m3/h** | **Press.**  **kg/cm2(g)** | **Temp**  **degC** | **Flow m3/h** |
| Industrial Water |  |  |  |  |  |  |  |
| Soft Water |  |  |  |  |  |  |  |
| DM water |  |  |  |  |  |  |  |
| Emergency Water |  |  |  |  | -- | -- |  |
| Steam |  |  |  |  |  |  |  |

**Desired inlet quality and expected outlet quality of each type of water shall be mentioned for considering water treatment process by U&S.**

**3.4 Air-conditioning and Ventilation system**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Name and size of Room/premises** | **Required System\*** | **Temp. to be maintained** | **False ceiling (Yes/No)** | **Occupancy (No.)** | **Heat load**  **kW** |
| 1. |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |

**\*Air Conditioning/ Exhaust Ventilation/ Dry-Pressurised Ventilation/ Push-pull Ventilation/ Washed Air Ventilation**

**3.5 Fire fighting system**

**3.5.1 Fire hydrant**

**Layout drawing for complete premises and Multi-storeyed building floor details with staircase details to provided.**

**3.5.2 Portable fire extinguishers and Cable entry/ exit sealing**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No.** | **Name of Room/premises** | **Size of Room/ premises** | **No. and opening size of cable entry/exit** | **Manned**  **(Yes/No)** | **Remarks** |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
| 4. |  |  |  |  |  |
| 5. |  |  |  |  |  |

**3.5.3 Assignment for Fire detection & alarm shall be given to PC&A separately by technologists/TFL**

**3.6 Pollution control System**

**3.6.1 BF/BOF Gas Cleaning System**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Raw Gas Generation, Nm3/h** | | | **Dust Load in Raw gas,** | **Raw gas analysis** | **Raw gas Temp.**  **deg. C** | | **Pressure,**  **kg/cm2(g)** | |
| **Max.** | **Avg.** | **Min.** | **g/Nm3** |  | **Avg.** | **peak** | **Raw gas** | **Clean gas** |
| 1. |  |  |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |  |  |
| 4. |  |  |  |  |  |  |  |  |
| 5. |  |  |  |  |  |  |  |  |

**3.6.2 Dust Suppression /Extraction System**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No.** | **Name of dust generating points** | **Size of dust generating equipment** | **Capacity of dust generating equipment(t/h)** | **Name and Dust analysis of material** | **Remarks** |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
| 4. |  |  |  |  |  |
| 5. |  |  |  |  |  |