**Dena Petrochemical Industries**

**SYSTEMS & SUBSYSTEM**

**IDENTIFICATION**

**Doc. Number: COM-KC-8694-001 REV. NO: 01**

**SYSTEM IDENTIFICATION:**

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| --- | --- |
| SYSTEM | SYSTEM Name |
| 120 | Electrical Distribution Substation |
| 1000 | Gas Preparation |
| 2000 | Reforming |
| 3000 | Compression & Synthesis |
| 4000 | Utility |
| 5000 | Distillation |
| 7000 | Flare |
| LS | Lighting System |
| ESD | Emergency Shout Down |
| F&G | Fire and Gas Detection |
| ES | Earthing System |
| TEL | Telecom System |
| DCS | Distributed Control System |
| BL | Building |
| HVAC | HVAC |

**System: 1000 GAS PREPARATION**

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| Subsystem | Subsystem Name |
| 1000-01 | N.G. AND DESULPHURIZATION |
| 1000-02 | FUEL GAS & DISTRIBUTION |
| 1000-03 | NATURAL GAS SATURATION & PROCESS CONDENSATE |

**System: 2000 REFORMING**

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| Subsystem | Subsystem Name |
| 2000-01 | PRE-REFORMING |
| 2000-02 | PRIMARY REFORMING |
| 2000-03 | PROCESS OXYGEN AND SECONDARY REFORMER |
| 2000-04 | STEAM GENERATION &SUPERHEATING STEAM |
| 2000-05 | GAS COOLING AND SEPARATION |
| 2000-06 | NITROGEN CIRCUIT |

**System: 3000 COMPESSION and SYNTHESIS**

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| Subsystem | Subsystem Name |
| 3000-01 | SYNTHESIS GAS COMPRESSION |
| 3000-02 | METHANOL SYNTHESIS |
| 3000-03 | SYNTHESIS GAS COOLING |
| 3000-04 | HYDROGEN SYSTEM |

**System 5000 Distillation and Methanol Product**

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| Subsystem | Subsystem Name |
| 5000-01 | Crude Methanol and Stabilized |
| 5000-02 | LP Methanol |
| 5000-03 | MP Methanol |
| 5000-04 | Methanol Product |
| 5000-05 | Liquid Off Stream |

**System 4000 Utility (AG)**

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| Subsystem | Subsystem Name |
| 4000-01 | Nitrogen |
| 4000-02 | HHP, HP and LP Steam |
| 4000-03 | MP Steam |
| 4000-04 | BFW Generation & Distribution |
| 4000-05 | Blow Down |
| 4000-06 | DM & Polishing Water & Neutralization System |
| 4000-07 | Plant Air |
| 4000-08 | Cooling Water |
| 4000-09 | Oily Water Treatment |
| 4000-10 | Sanitary Water Collection |
| 4000-11 | Instrument Air |
| 4000-12 | COC Water and Lab Chemical Sump |
| 4000-13 | Slope Close Drain |
| 4000-14 | Fire Water |
| 4000-15 | RO Water |
| 4000-16 | PK-8004 |
| 4000-17 | PK-8003 |
| 4000-18 | PK-8002 |
| 4000-19 | PK-8005 |
| 4000-20 | Cooling Tower |
| 4000-21 | Potable & Service Water |

**System 4000 UTILITY (UG)**

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| Subsystem | Subsystem Name |
| 4000-01 | Boiler Blow Down (BD) |
| 4000-02 | Closed Drain (CD) |
| 4000-03 | Chemical (CHA) |
| 4000-04 | Cooling Water (CWR , CWS) |
| 4000-05 | Demineralized Water (DMW) |
| 4000-06 | Foam Solution (FOS) |
| 4000-07 | Fire Water (FW) |
| 4000-08 | Instrument Air (IA) |
| 4000-09 | Liquid Off Stream Methanol (LOS) |
| 4000-10 | Low Pressure Steam (LPS) |
| 4000-11 | Nitrogen (N) |
| 4000-12 | Natural Gas (NG) |
| 4000-13 | Oily Water (OW) |
| 4000-14 | Plant Air (PA) |
| 4000-15 | Crude Methanol (PMC) |
| 4000-16 | Rich Methanol Liquid (PMP) |
| 4000-17 | Methanol Water (PMW) |
| 4000-18 | Potable Water (PW) |
| 4000-19 | Reverse Osmosis Water (ROW) |
| 4000-20 | Service Water ( Plant Water ) (SRW) |
| 4000-21 | Vent To Atmosphere (VA) |
| 4000-22 | Waste Water (WW) |
| 4000-23 | Chemical Waste Water (WWC) |
| 4000-24 | Oily Waste Water (WWO) |
| 4000-25 | Sanitary Waste Water (WWS) |

**System 7000 Flare System**

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| **Subsystem** | **Subsystem Name** |
| 7000-01 | Flare System |

**System: 120 ELECTRICAL DISTRIBUTION SUBSTATION**

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| Subsystem | Subsystem Name |
| 120-01 | 6kV SWITCHBOARD SS-SWB2A/B-01 |
| 120-02 | 0.4KV SWITCHBOARD SS-SWB3A/B-01 |
| 120-03 | 0.4KV SWITCHBOARD SS-SWB3A/B-02 |
| 120-04 | 0.4KV SWITCHBOARD SS-SWB3A/B-03 |
| 120-05 | 0.4KV SWITCHBOARD SS-SWB3A/B-04 |
| 120-06 | 0.4KV SWITCHBOARD SS-SWB3A/B-05 |
| 120-07 | 0.4KV SWITCHBOARD SS-ESWB3A/B-01 |
| 120-08 | EMERGENCY DIESEL GENERATOR SS-DG-5701 |
| 120-09 | CR-UPS-01 FOR INSTRUMENT SUPPLY 190/110 AC UPS |
| 120-10 | SS-CH-01 FOR ELECTRICAL SUPPLY 110V DC |
| 120-11 | SS-UPS-01 FOR SAFETY LIGHTING SUPPLY 230 AC UPS |
| 120-12 | SS PDCS SYSTEM |
| 120-13 | CATHODIC PROTECTION SYSTEM |
| 120-14 | ELECTRIC HEAT TRACING SYSTEM |
| 120-15 | CAPACITOR BANK |

**Unit: LS Lighting System**

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| Subsystem | Subsystem Name |
| LS-01 | SS-MLP-01 FOR NORMAL LIGHTING SYSTEM |
| LS-02 | SS-EMLP-01 FOR EMERGENCY LIGHTING SYSTEM |
| LS-03 | LIGHTING SYSTEM FOR SUBSTATION |
| LS-04 | LIGHTING SYSTEM FOR CONTROLL BLDG |
| LS-05 | LIGHTING SYSTEM FOR LABORATORY & YARD OFFICE |
| LS-06 | LIGHTING SYSTEM FOR STREET |
| LS-07 | LIGHTING SYSTEM FOR AREA-02 |
| LS-08 | LIGHTING SYSTEM FOR AREA-03 |
| LS-09 | LIGHTING SYSTEM FOR AREA-04 |
| LS-10 | LIGHTING SYSTEMFOR AREA-05 |
| LS-11 | LIGHTING SYSTEM FOR AREA-06 |
| LS-12 | LIGHTING SYSTEM FOR AREA-07 |
| LS-13 | LIGHTING SYSTEM FOR WARHOUS |
| LS-14 | LIGHTINH SYSTEM FOR ANALYZER HOUSE |

**System: ESD EMERGENCY SHUTDOWN**

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| Subsystem | Subsystem Name |
| ESD-01 | EMERGENCY SHUT DOWN UNIT-1000 |
| ESD-02 | EMERGENCY SHUT DOWN UNIT-2000 |
| ESD-03 | EMERGENCY SHUT DOWN UNIT-3000 |
| ESD-04 | EMERGENCY SHUT DOWN UNIT-4000 |
| ESD-05 | EMERGENCY SHUT DOWN UNIT-5000 |

**Unit: F&G Fire and Gas Detection**

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| Subsystem | Subsystem Name |
| FGS-01 | FIRE & GAS DETECTION FOR FIRE ZONE 1001 |
| FGS-02 | FIRE & GAS DETECTION FOR FIRE ZONE 1002 |
| FGS-03 | FIRE & GAS DETECTION FOR FIRE ZONE 1003 |
| FGS-04 | FIRE & GAS DETECTION FOR FIRE ZONE 1004 |
| FGS-05 | FIRE & GAS DETECTION FOR FIRE ZONE 1005 |
| FGS-06 | FIRE & GAS DETECTION FOR FIRE ZONE 1006 |
| FGS-07 | FIRE & GAS DETECTION FOR FIRE ZONE 1007 |
| FGS-08 | FIRE & GAS DETECTION FOR SUBSTATION |
| FGS-09 | FIRE & GAS DETECTION FOR CONTROLL BLDG |
| FGS-10 | FIRE & GAS DETECTION FOR LABORATORY |
| FGS-11 | FIRE & GAS DETECTION FOR HVAC BLDG |
| FGS-12 | FIRE & GAS DETECTION FOR DIESEL ROOM |
| FGS-13 | FIRE & GAS DETECTION FOR MAIN OFFICE |
| FGS-14 | FIRE & GAS DETECTION FOR ANALYZER HOUSE |

**Unit: ES Earthing System**

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| Subsystem | Subsystem Name |
| ES-01 | EARTHING & ROOF LIGHTNING SYSTEM FOR SUBSTATION |
| ES-02 | EARTHING & ROOF LIGHTNING SYSTEM FOR CONTROLL BLDG |
| ES-03 | EARTHING & ROOF LIGHTNING SYSTEM FOR LABORATORY & YARD OFFICE |
| ES-04 | EARTHING & ROOF LIGHTNING SYSTEM FOR ANALYZER HOUSE |
| ES-05 | EARTHING & ROOF LIGHTNING SYSTEM FOR WARHOUSE |
| ES-06 | EARTHING SYSTEM FOR AREA-02 |
| ES-07 | EARTHING SYSTEM FOR AREA-03 |
| ES-08 | EARTHING SYSTEM FOR AREA-04 |
| ES-09 | EARTHING SYSTEM FOR AREA-05 |
| ES-10 | EARTHING SYSTEM FOR AREA-06 |
| ES-11 | EARTHING SYSTEM FOR AREA-07 |

**Unit: TELE Telecom Systems**

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| Subsystem | Subsystem Name |
| TELE-01 | TELECOM SYSTEM FOR AREA-01 |
| TELE-02 | TELECOM SYSTEM FOR AREA-02 |
| TELE-03 | TELECOM SYSTEM FOR AREA-03 |
| TELE-04 | TELECOM SYSTEM FOR AREA-04 |
| TELE-05 | TELECOM SYSTEM FOR AREA-05 |
| TELE-06 | TELECOM SYSTEM FOR AREA-06 |
| TELE-07 | TELECOM SYSTEM FOR AREA-07 |
| TELE-08 | TELECOM SYSTEM FOR SUBSTATION |
| TELE-09 | TELECOM SYSTEM FOR CONTROLL BLDG |
| TELE-10 | TELECOM SYSTEM FOR LABORATORY |
| TELE-11 | TELECOM SYSTEM FOR YARD OFFICE |
| TELE-12 | TELECOM SYSTEM FOR ANALYZER ROOM |
| TELE-13 | CCTV |

**System: BL BUILDING**

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| --- | --- |
| Subsystem | Subsystem Name |
| BLD-01 | SUBSTATION |
| BLD-02 | CONTROL BLDG |
| BLD-03 | LABORATORY |
| BLD-04 | HVAC BLDG |
| BLD-05 | DIESEL ROOM |
| BLD-06 | MAIN OFFICE |
| BLD-07 | ANALYZER HOUSE |

**System: HVAC HVAC SYSTEM**

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| Subsystem | Subsystem Name |
| HVAC-01 | HVAC BLDG |

**System: DCS DISTRIBUTED CONTROL SYSTEM**

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| Subsystem | Subsystem Name |
| DCS-01 | PANELS& MARSHALING CABINETS |