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| <br>GUJARAT GAS |         | Annual Operation and Maintenance Plan (AOMP)            |              | Format No.                           | AIM-F-15               |
|                                                                                                  |         |                                                         |              | Rev. No.                             | 8                      |
|                                                                                                  |         |                                                         |              | Effective Date                       | 01.05.2026             |
| AOMP - PNG O&M                                                                                   |         |                                                         |              |                                      |                        |
| Type of Asset/Equipment /System                                                                  | Sl. No. | Name of Activity                                        | Frequency    | Ref. Documents: SOP/Guideline/Format | Remarks                |
| City Gas Station / Tap-off Station including FMS                                                 | 1       | Monitoring of Pressure / Flow of CGS                    | Daily/Hourly |                                      |                        |
|                                                                                                  | 2       | Testing of Emergency Siren                              | Weekly       |                                      | GGL owned installation |
|                                                                                                  | 3       | Calibration of Metering system Transmitters (PT/TT/DPT) | Quarterly    |                                      |                        |

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|  | 4  | Environment monitoring & Noise level                                        | Quarterly   |                               | Noise monitoring to be done at boundary of premises during day (6 A.M. to 10 P.M.) and night hours (10 P.M. to 6 A.M.) in each quarter to ensure Ambient Air noise levels within limits specified in the CCA issued by SPCB |
|  | 5  | Leak Check of all Joints on CGS                                             | Half Yearly | Doc. No.: MAI-P-16 & MAI-F-82 |                                                                                                                                                                                                                             |
|  | 6  | Valve Operation & Greasing                                                  | Half Yearly |                               | Greasing only if required to facilitate smooth valve operation                                                                                                                                                              |
|  | 7  | Functional Test of PRV/SSV/CRV & stream change over                         | Half Yearly |                               |                                                                                                                                                                                                                             |
|  | 8  | Checking of Earth pit & Earthing electrodes                                 | Half Yearly | Doc. No.: MAI-P-13 & MAI-F-73 |                                                                                                                                                                                                                             |
|  | 9  | External examination (visual) of filter & Knock out drum (KOD)              | Half Yearly |                               | Inspection Form applicable as per State Factory Rules/Factory Act (Form 9/11/13 certified by Competent person) to be obtained for filter & Knock out drum installed inside Factory Licensed Premises                        |
|  | 10 | Draining of condensate in Filter/KoD                                        | Half Yearly |                               | Checking Filter cartridge & cleaning based on DPG reading                                                                                                                                                                   |
|  | 11 | Thickness checking of filter & Knock out drum (KOD) and above ground piping | Yearly      | Doc. No.: AIM-G-01 & AIM-F-14 | Inspection Form applicable as per State Factory Rules/Factory Act (Form 9/11/13 certified by Competent person) to be obtained for filter & Knock                                                                            |

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|                       |    |                                                                                 |                                        |                                     | out drum installed inside<br>Factory Licensed Premises                                                                                                                                                                    |
|                       | 12 | Testing and Calibration of Fixed Gas detection<br>System (OPD / PD)             | Yearly                                 | Doc. No.: IGM-P-05<br>& IGM-F-14    |                                                                                                                                                                                                                           |
|                       | 13 | Functional testing of SRV                                                       | Yearly                                 | Doc. No.: IGM-P-05<br>& IGM-F-16    |                                                                                                                                                                                                                           |
|                       | 14 | Calibration of PT/TT                                                            | Yearly                                 | Doc. No.: IGM-P-05<br>& IGM-F-10/17 | PT/TT not related to<br>metering system                                                                                                                                                                                   |
|                       | 15 | Calibration of all Pressure Gauges                                              | Yearly                                 | Doc. No.: IGM-P-05<br>& IGM-F-11    |                                                                                                                                                                                                                           |
|                       | 16 | Illumination (Lux level) monitoring                                             | Yearly                                 |                                     |                                                                                                                                                                                                                           |
|                       | 17 | Overhauling of PRV                                                              | Once in 5 Years                        |                                     |                                                                                                                                                                                                                           |
|                       | 18 | Hydro testing of Filter and Knock Out Drum (KOD)                                | Once in 4 Years                        |                                     | Inspection Form applicable<br>as per State Factory<br>Rules/Factory Act (Form<br>9/11/13 certified by<br>Competent person) to be<br>obtained for filter & Knock<br>out drum installed inside<br>Factory Licensed Premises |
|                       | 19 | Painting touch up of A/G piping                                                 | Need base / atleast<br>Once in 5 years |                                     | Painting for entire gas<br>installation to be done<br>atleast once in 5 years                                                                                                                                             |
| <b>Odorant System</b> | 20 | Monitoring of Odorant System Parameters                                         | Daily                                  | Doc. No.: MAI-P-08<br>& MAI-F-80    |                                                                                                                                                                                                                           |
|                       | 21 | Monitoring of Odorant smell at defined network<br>extreme ends                  | Fortnightly                            | Doc. No.: MAI-P-18                  |                                                                                                                                                                                                                           |
|                       | 22 | Leak Check of all Joints                                                        | Four Monthly                           | Doc. No.: MAI-P-08                  |                                                                                                                                                                                                                           |
|                       | 23 | Maintenance of Odorant system including solar<br>panel, Battery & control panel | Four Monthly                           | Doc. No.: MAI-P-08                  |                                                                                                                                                                                                                           |

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|                                                                        | 24 | Monitoring of Scrubber & neutralizing agent                                                                       | Four Monthly | Doc. No.: MAI-P-08            | -replace scrubber as and when required<br>-maintain adequate Qty. of neutralizing agent                                                                           |
|                                                                        | 25 | External examination (visual) of Odorant tank & Expansion tank                                                    | Half Yearly  |                               | Inspection Form applicable as per State Factory Rules/Factory Act (Form 9/11/13 certified by Competent person) to be obtained for odorant tank and expansion tank |
|                                                                        | 26 | Checking of Earth pit & Earthing electrodes                                                                       | Half Yearly  | Doc. No.: MAI-P-13 & MAI-F-73 |                                                                                                                                                                   |
|                                                                        | 27 | Calibration of all PTs and Storage tank PG                                                                        | Yearly       | Doc. No.: IGM-P-05            | Confirm functioning of Panel PG w.r.t. PT                                                                                                                         |
|                                                                        | 28 | Functional test of SRV                                                                                            | Yearly       |                               |                                                                                                                                                                   |
|                                                                        | 29 | Ultrasonic Thickness test of Odorant tank & Expansion tank by competent person                                    | Yearly       |                               | Form 11 (by competent person) to be obtained for odorant tank and expansion tank                                                                                  |
| <b>Cathodic Protection System</b><br><b>Cathodic Protection System</b> | 30 | Monitoring Readings at TRU                                                                                        | Daily        | Doc. No.: MAI-P-09            |                                                                                                                                                                   |
|                                                                        | 31 | Monitoring of ON PSP (TCP/PCP) at TLP & ON/OFF PSP at Polarization Coupon                                         | Quarterly    |                               |                                                                                                                                                                   |
|                                                                        | 32 | Monitoring of Protective devices (Surge Diverter, Polarisation Cell, Interference bonds, Shunts, Resistors, etc.) | Quarterly    |                               |                                                                                                                                                                   |
|                                                                        | 33 | Monitoring of Isolating Joints (ON PSP)                                                                           | Quarterly    |                               |                                                                                                                                                                   |
|                                                                        | 34 | Monitoring of Foreign Pipeline Crossings (ON PSP)                                                                 | Quarterly    |                               |                                                                                                                                                                   |
|                                                                        | 35 | Monitoring of HT Crossings (ON PSP)                                                                               | Quarterly    |                               |                                                                                                                                                                   |
|                                                                        | 36 | Monitoring of Minor/River Crossings                                                                               | Quarterly    |                               |                                                                                                                                                                   |

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|  | 37 | Monitoring of Sacrificial Anodes                         | Quarterly            |                    |                         |
|  | 38 | Shorting Between Casing & Carrier Pipe                   | Half Yearly          |                    | (In wet and dry season) |
|  | 39 | Monitoring & Maintenance of Anode Ground Bed and AJB/CJB | Half-Yearly          |                    |                         |
|  | 40 | Maintenance of TRU                                       | Half-yearly          |                    |                         |
|  | 41 | Calibration of TRU meters - Voltage & Amp meter          | Yearly               | Doc. No.: MAI-P-09 |                         |
|  | 42 | ON-OFF PSP at TLPs                                       | Yearly               |                    |                         |
|  | 43 | Current measurements at Type-B TLPs                      | Yearly               |                    |                         |
|  | 44 | Monitoring of Isolating Joints (ON-OFF PSP)              | Yearly               |                    |                         |
|  | 45 | Monitoring of Foreign Pipeline Crossings (ON-OFF PSP)    | Yearly               |                    |                         |
|  | 46 | Monitoring of HT Crossings (ON-OFF PSP)                  | Yearly               |                    |                         |
|  | 47 | CIPL ON/OFF PSP along the length of the pipeline         | Once in Five Year    |                    |                         |
|  | 48 | DCVG Survey along the length of the pipeline             | Once in Five Year    |                    |                         |
|  | 49 | CAT/CAT-A Frame- to check the condition of coating       | As and when required |                    |                         |
|  | 50 | Preventive maintenance of TLPs, Painting, etc.           | As and when required |                    |                         |

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| <b>PRI Other than CGS (Combo skid, CPRS, IPRS, DRS, DPRC, MRS including wall mounted) and IMS</b> | 51 | Maintenance of PRI (GGL Owned) including ...<br>1. Checking the Filter cartridge, cleaning and Draining of Condensate (Based on DPG reading)<br>2. Leak Detection<br>3. Functional Test of PRV/SSV/CRV (of stand by stream) & stream change over<br>4. Housekeeping<br>5. Valve Operation & Greasing of ball valve<br>6. Visual Inspection for painting condition | Half yearly                         | Doc. No.: MAI-P-16 & MAI-F-82 | For Customer Owned PRI, Customer has to obtain Third Party Agency certification, as per PNGRB regulation at every three years.<br><br>Greasing only if required to facilitate smooth valve operation |
|                                                                                                   | 52 | Thickness assessment of pressure vessel and above ground piping (sections >=300# Class) at Combo skid & DRS/CPRS                                                                                                                                                                                                                                                  | Yearly                              | Doc. No.: AIM-G-01 & AIM-F-14 | Form 11 to be obtained for filter & Knock out drum installed inside Factory Licensed Premises                                                                                                        |
|                                                                                                   | 53 | Checking of Earth pit & Earthing electrodes                                                                                                                                                                                                                                                                                                                       | Half Yearly                         | Doc. No.: MAI-P-13 & MAI-F-73 |                                                                                                                                                                                                      |
|                                                                                                   | 54 | Functional test of SRV                                                                                                                                                                                                                                                                                                                                            | Yearly                              | Doc. No.: IGM-P-05 & IGM-F-16 |                                                                                                                                                                                                      |
|                                                                                                   | 55 | Calibration of Gas Detector installed in DRS/CPRS/DPRC                                                                                                                                                                                                                                                                                                            | Yearly                              | Doc. No.: IGM-P-05            |                                                                                                                                                                                                      |
|                                                                                                   | 55 | Calibration of PG/TG/DPG/PT/DPT                                                                                                                                                                                                                                                                                                                                   | Yearly                              | Doc. No.: IGM-P-05            |                                                                                                                                                                                                      |
|                                                                                                   | 56 | Overhauling of PRV                                                                                                                                                                                                                                                                                                                                                | Once in 5 years                     |                               |                                                                                                                                                                                                      |
|                                                                                                   | 57 | Painting touch up of A/G piping                                                                                                                                                                                                                                                                                                                                   | Need base / atleast Once in 5 years |                               | Painting for entire installation to be done atleast once in 5 years                                                                                                                                  |

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| <b>De-Compression Skid (DCS) Station</b> | 58 | Planned Maintenance of Decompression Skid including ...<br>1. Checking & cleaning of Filter/Strainer (Based on DPG reading)<br>2. Leak Detection of entire skid<br>3. Functional Test of PRV/SSV/CRV (of stand by stream) & stream change over<br>4. Housekeeping<br>5. Valve Operation & Greasing<br>6. Visual Inspection for painting condition & correction if required | Half Yearly         | Doc. No.: MAI-P-28            |                                                                                                                                                                                              |
|                                          | 59 | Planned Maintenance of Water bath heater including functional checks of all interlocks & alarms                                                                                                                                                                                                                                                                            | Half Yearly         |                               |                                                                                                                                                                                              |
|                                          | 60 | Calibration of Pressure Gauge, Temperature Gauge, Level Gauge, Temperature Element, Temperature Transmitter, Pressure Switch, Level Switch, Temperature Switch                                                                                                                                                                                                             | Yearly              | Doc. No.: IGM-P-05 & MAI-P-28 |                                                                                                                                                                                              |
|                                          | 61 | SS tubing and fitting maintenance                                                                                                                                                                                                                                                                                                                                          | Quarterly           | Doc. No.: CNG-P-01 & MAI-P-28 |                                                                                                                                                                                              |
|                                          | 62 | Stationary Cascade Maintenance                                                                                                                                                                                                                                                                                                                                             | Quarterly           |                               |                                                                                                                                                                                              |
|                                          | 63 | Stationary Cascade cylinder hydrotesting and Ultrasonic Examination                                                                                                                                                                                                                                                                                                        | Once in Three years |                               |                                                                                                                                                                                              |
| <b>Steel Distribution Network</b>        | 64 | Patrolling of steel distribution network (including Railway crossing & road crossing)                                                                                                                                                                                                                                                                                      | Fortnightly         | Doc. No.: MAI-P-04 & MAI-F-35 |                                                                                                                                                                                              |
|                                          | 65 | Special survey of entire Steel pipeline network to check availability & adequacy of all types of Pipeline markers as per GGL requirement                                                                                                                                                                                                                                   | Yearly              |                               | Survey conducted by GGL Engineer. Network length divided in four equal length and each section to be covered in each quarter. Corrective actions to be completed before end of next quarter. |
|                                          | 66 | Leak Detection Test                                                                                                                                                                                                                                                                                                                                                        | Quarterly           | Doc. No.: MAI-P-01            |                                                                                                                                                                                              |

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|                                            | 67 | LPT Survey of steel distribution network                                                                                              | Yearly      |                               | Where LPT is not possible deviation approval for the same is required                                                                                                                                 |
| <b>PE Distribution Network</b>             | 68 | Patrolling of MP PE network & Crossings                                                                                               | Fortnightly | Doc. No.: MAI-P-04 & MAI-F-35 |                                                                                                                                                                                                       |
|                                            | 69 | Special survey of entire PE pipeline network to check availability & adequacy of all types of Pipeline markers as per GGL requirement | Yearly      |                               | Survey conducted by GGL Engineer. Network length divided in four equal length sections and each section to be covered in each quarter. Corrective actions to be completed before end of next quarter. |
|                                            | 70 | LPT / LDT of PE Network                                                                                                               | Quarterly   | Doc. No.: MAI-P-01            |                                                                                                                                                                                                       |
| <b>Steel &amp; PE Distribution Network</b> | 71 | Special Leak Survey during festival                                                                                                   | Half Yearly |                               | (before Holi & Diwali Festival)                                                                                                                                                                       |
|                                            | 72 | Utility Coordination Meeting in coordination with District Authority                                                                  | Yearly      |                               | Chaired by DM/DC or delegated authority                                                                                                                                                               |
|                                            | 73 | Risk Awareness & Utility coordination Meetings for Gas pipeline damage prevention with Third party Utilities (Government/Private)     | Quarterly   |                               | Planning should be such that all major Government and Private utility agencies with most excavation sites are covered atleast once in FY                                                              |
|                                            | 74 | High Consequence Area (HCA) identification study for Steel & PE pipeline network                                                      | Yearly      |                               | High-population-density areas, difficult-to-evacuate facilities (e.g. hospitals / schools), locations of people congregate (e.g. places of worship, office buildings, etc.)                           |

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| <b>Valve chambers (PE &amp; Steel Network)</b> | 75 | Maintenance of Valves and Valve chambers including<br>1. Leak test of joints, fasteners, gasket by Gas Detector as well as soap solution<br>2. Greasing and purging (for valves installed on steel pipeline network)<br>3. Check for ease of operation of valves<br>4. Cleaning, De-watering and General Housekeeping of Valve chamber | Half Yearly                         | Doc. No.: MAI-G-03 & MAI-F-104 |                |
|                                                | 76 | Maintenance of Valves and Valve chambers including<br>1. White washing of valve chamber<br>2. Painting and coating of valve, pipe section & sleepers<br>3. Numbering (tagging) of valve chambers<br>4. Civil Repair of Valve Chamber /Sleeper, if any                                                                                  | Need base / atleast Once in 2 years | Doc. No.: MAI-G-03 & MAI-F-105 | Post Monsoon   |
|                                                | 77 | Pest control for rat and snake repellent                                                                                                                                                                                                                                                                                               | Yearly                              |                                | (Post Monsoon) |
| <b>Service Regulator (SR)</b>                  | 78 | Monitoring of Pressure (Inlet/Outlet)                                                                                                                                                                                                                                                                                                  | Quarterly                           |                                |                |
|                                                | 79 | General Maintenance of whole installation including<br>1. Leak Detection<br>2. Painting, if required<br>3. Pest control for rat and snake repellent, if required                                                                                                                                                                       | Quarterly                           | Doc. No.: MAI-P-16 & MAI-F-83  |                |
| <b>DOM / COM / Non-COM / NDEC Connections</b>  | 80 | Inspection visit of each Crematorium connection                                                                                                                                                                                                                                                                                        | Yearly                              | Doc. No.: HSE-G-14 & HSE-F-29  |                |
|                                                | 81 | Preventive Maintenance / Annual Maintenance of each PNG DOM Connection                                                                                                                                                                                                                                                                 | Yearly                              |                                |                |
|                                                | 82 | Preventive Maintenance / Annual Maintenance of each PNG DOM Connection with Island Kitchen connection                                                                                                                                                                                                                                  | Half Yearly                         |                                |                |

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|                                                  | 83 | Preventive Maintenance / Annual Maintenance of each commercial/non-commercial/NDEC connection up to meter | Yearly                          |                    |                                                                                                                                                               |
|                                                  | 84 | Maintenance of GI Riser (Threaded Riser/Welded Riser) and horizontal header & welded basement approach    | Once in 3 years                 |                    |                                                                                                                                                               |
|                                                  | 85 | Replacement of Suraksha hose for single point - DOM connection                                            | As per due date for replacement |                    | Suraksha hose replacement to be done along with AMC of Domestic connection in case of Surakhsha hose damage/expired / validity expiring within next 11 months |
| <b>Gas Meters (COM / IND / Custody Transfer)</b> | 86 | Testing of RPD meter (G16 to G65)                                                                         | 10 years                        | Doc. No.: IGM-P-02 |                                                                                                                                                               |
|                                                  | 87 | Testing of RPD meter (G100 to G250)                                                                       | 7 years                         |                    |                                                                                                                                                               |
|                                                  | 88 | Testing of RPD meter (G400 & G650)                                                                        | 3 years                         |                    |                                                                                                                                                               |
|                                                  | 89 | Testing of Turbine meter G65                                                                              | 10 years                        |                    |                                                                                                                                                               |
|                                                  | 90 | Testing of Turbine meter (G100 to G250)                                                                   | 7 years                         |                    |                                                                                                                                                               |
|                                                  | 91 | Testing of Turbine meter (G400 to G650)                                                                   | 3 years                         |                    |                                                                                                                                                               |
|                                                  | 92 | Testing of Turbine meter (G1000 to G1600)                                                                 | 1 year                          |                    |                                                                                                                                                               |
| <b>Fire Protection System</b>                    | 93 | Fire Extinguishers visual inspection                                                                      | Monthly                         |                    |                                                                                                                                                               |
|                                                  | 94 | Fire Extinguishers Inspection & Maintenance                                                               | Quarterly                       |                    |                                                                                                                                                               |
|                                                  | 95 | Function check and maintenance of fire alarm / public address system                                      | Quarterly                       |                    |                                                                                                                                                               |
|                                                  | 96 | Refilling / Performance test of ABC/BC/CO2 type fire extinguisher                                         | Once in 5 Years                 |                    |                                                                                                                                                               |
|                                                  | 97 | Hydro test of BC/ABC/CO2 type fire extinguisher cylinders                                                 | Once in 5 Years                 |                    |                                                                                                                                                               |

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|               | 98  | Refilling / performance test of Mechanical foam type (Portable and or Cartridge type)              | Once in 3 Years |                               |                                                |
|               | 99  | Hydro test of Foam type fire extinguisher cylinders                                                | Once in 3 year  |                               |                                                |
|               | 100 | Hydro test of BA Set Cylinder                                                                      | Once in 5 Years |                               |                                                |
| <b>Others</b> | 101 | Calibration & Testing of Portable Ethyl Mercaptan Detector                                         | Half Yearly     | Doc. No.: IGM-P-05 & IGM-F-15 |                                                |
|               | 102 | Calibration & Testing of Leak Surveyor/O2 Analyser/Multi-Function/Portable Gas Detector            | Half Yearly     |                               |                                                |
|               | 103 | Calibration of Master Calibrator (SCANDURA make)                                                   | Yearly          | Doc. No.: IGM-P-02            |                                                |
|               | 104 | Calibration of Searcher Bar                                                                        | Yearly          |                               | (Used during LDT)                              |
|               | 105 | Inspection of working at height (WAH) personal protective Equipment (e.g. Petzl make WAH equipment | Yearly          |                               | GGL Owned Work at height Rope-access equipment |