



Petroleum and Natural Gas Regulatory Board



**2nd Knowledge Sharing Workshop for CGD
Entities 14th February, 2022**

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T4S CGD Regulations: Amendments in 2019



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- CNG Stations to confirm PNGRB T4S Dispensing of Automotive Fuels Regulations, 2018
- Use of multi layered composite pipe as per ISO 17484-1 as an alternate to copper pipe/ tube
- Butterfly valves codes added for use in underground DPRS.
 - API 609: Butterfly valves: Double flanged, lug-type & wafer-type.
 - EN 13774: Valves for gas distribution systems with maximum operating pressure less than or equal to 16 bar.
 - BS EN 593: Industrial valves. Metallic butterfly valves for general purposes.

T4S CGD Regulations: Amendments in 2019



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- Safety features like crash guards, caging of facilities for Wall mounted regulating system in IPRS. Maximum outlet pressure restricted up to 2.0 bar (g).

- Piping beyond consumer meter set assembly to gas appliance:
 - Metal seated leak detection cum excess flow shut off valve made optional

T4S CGD Regulations: Amendments in 2020



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- Establishment of CGS outside the Authorized Geographical Area
- Inter-distance between the SVs in steel pipes in CGD networks outside municipal limits can be as per PNGRB T4S for NGPL Regulations
- Use of Reinforced Thermoplastic Pipes (RTP) or Multi Layered Thermoplastic Pipes in CGD networks
- MDPE Pipeline: Anti-oxidant and UV stabilizers used in PE resin as per EN 1555-1, and ISO 4437-1
- PNGRB Guidelines for Industrial, Commercial customer and Multi occupancy buildings notified in September 2020

T4S CGD Regulations: Amendments in 2021



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- Metering Equipments: Coriolis meters conforming to the following permitted in CGD Network:
 - AGA Report No. 11 API MPMS Chapter 14.9: Measurement of Natural Gas by Coriolis Meter;
 - IS 15672: Flow measurement of natural gas and fluids by Coriolis Meters;
 - ISO 10790: Measurement of fluid flow in closed conduits- Guidance to the selection, installation and use of Coriolis flowmeters (mass flow, density and volume flow measurements)

IMS CGD Regulations: Amendments in 2021



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- IMS document Approval by Board of entity – First time, periodic review by CEO or Full time director
- Entity to submit Approved IMS document along with confirmation of its implementation to PNGRB
- Focus on establishing baseline data
- Differentiation between Integrity Assessment (ECDA or Pressure testing) & Monitoring Tool (CP, Surveys, Patrolling etc.)
- ECDA, Pressure Testing & provisioning of other integrity assessment methodology

IMS CGD Regulations: Amendments in 2021



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- Manpower Qualification (Appendix III) omitted: Entity to decide
- Typical matrix for Risk Assessment and Risk Register included
- Implementation of IMS within 1 Year of the date of commissioning
- Frequency of Integrity Management System Audit
 - Internal Audit - Every year.
 - External Audit – Every 3 years by third party empaneled by the Board

ERDMP Regulations: Amendments in 2020



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- Applicability of regulations extended. (Natural gas storage facilities including LNG terminals, RO for dispensing LNG, CNG etc., Road transportation of LNG, CNG etc.)
- Entity can prepare single document for large facilities. However, location specific information shall be included.
- Emergency Plan for Constructions/Projects.
- Penalty provision under Mutual Aid Association omitted.
- Siren code requirement revised.
- Reporting of the Incident : The classification of Level-1,2,3 incident changed to Major and Minor Incidents

ERDMP Regulations: Amendments in 2020



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- All major incidents shall be investigated by entity.
- Terms of reference of enquiry committee: identify the lapses / shortcomings, establish the root cause (s) of failure, suggest improvements / remedial measures.
- Investigation Report to be submitted to PNGRB within 30 days.
- PNGRB may also constitute investigation committee in major incidents.

Critical Observations



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- Supply of Non-Odourised Gas
- Gas Detectors not installed in CGS
- Automatic CO₂ flooding system as per PNGRB Dispensing of Automotive Fuels Regulation, 2018
- Preservation of the steel pipelines
- Maintenance of Cathodic protection for steel pipelines
- Vent pipe height less than 3 meter

Critical Observations



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- Geographical Information System for CGD Network
- Use of Non sparking tool
- Accessibility of ESD at CNG compressor
- On-board CNG cylinder fitness checking prior to filling

Audit/ Inspections Process



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- Checklist for T4S CGD Audit
- Standardization of Audit Team composition
- Audit Team approval for CGD Sector
- Review of flash audit/ mock drill report by PNGRB and compliance by entity
- Standardization of ERDMP Certification process.

Major root causes of Incidents in CGD Sector



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- Third party damage of MDPE pipelines
- CNG cylinder rupture/ explosion

Gaps in submission of Compliance Report



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- T4S/IMS/ERDMP audit compliance status
- T4S/ IMS/ERDMP audit to be conducted on time
- Critical observation compliance in time bound manner
- Major Incident and Quarterly Incident Reporting within timeline
- ERDMP Certification, T4S audit for partially operational GAs

Thank You

