

Guidelines For Implementation of the Petroleum and Natural Gas Regulatory Board (Technical Standards and Specifications including Safety Standards for City or Local Natural Gas Distribution Networks) Amendment Regulations, 2026 notified on 18.09.2026 vide Gazette No. CG-DL-E-29092026-276594.

Controlled Utilization of Multilayer Composite (MLC) Piping Systems for above-ground PNG Service Lines

Petroleum and Natural Gas Regulatory Board (Technical Standards and Specifications including Safety Standards for City or Local Natural Gas Distribution Networks) Regulations dated 27th August 2008 have been amended vide PNGRB T4S Amendment Regulations, 2026 dated 18.09.2026.

2. PNGRB T4S CGD Regulations already permits the application of Multilayer Composite (MLC) pipes downstream of the consumer meter (primarily inside kitchens). However, recognized international and national frameworks specifically **ISO 17484 and IS 17544** provide robust technical benchmarks for material integrity, installation, testing, and safety governance for MLC Pipes.

3. Vide the said Amendment Regulations, the use of MLC pipes in CGD networks has now been permitted for upstream applications as well, subject to adherence to the Guidelines as follows:

Entities intending to use the MLC pipes upstream of the consumer meter must ensure the following safe practices:

- i. All system components, engineering designs, and installation procedures must strictly comply with the applicable codes and standards such as IS 17544, ISO 17484-1, ISO 17484-2 (with Ultraviolet stabilizers certification for ISO 17484) and approved OEM installation procedures.

- ii. MLC piping shall be routed only within secured boundaries, enclosed premises, or protected building zones (such as internal service shafts, dedicated balconies, interior walls etc.). In cases where installation is along an external wall, MLC piping should be deployed only downstream of the Transition Fitting and shall be at a minimum height of 3 metres above ground level, so as to prevent unauthorized third-party access and minimize the risk of accidental damage or mechanical impact. MLC pipes should be installed in basements, only where adequate ventilation is provided and maintained to prevent the accumulation of gas in the event of any leakage.
- iii. For using MLC pipes in riser installations, the CGD entity shall carry out a comprehensive engineering risk assessment covering, inter alia, structural adequacy, mechanical strength, environmental and weather exposure, impact resistance, support arrangement, installation configuration, and any other factors that may affect the safety, integrity, and long-term reliability of the installation.

In case, the installation integrity or safe operability of MLC pipes cannot be established/assessed by the CGD entity, GI pipes shall be the used to ensure safe and reliable operations.

- iv. For continuous operations outside the standard ambient envelope specifically below 0°C or between 40°C and 60°C, explicit technical consultation and approval from the manufacturer are mandatory.
- v. Entities must secure a manufacturer certificate validating the integration of Ultraviolet (UV) stabilizers, in case they are compliant with ISO 17484.
- vi. Adequate robust structural supports (brackets/clips), suitable clamps and optimized routing safeguards must be engineered into the installation path to prevent sagging or stress concentration. Further, minimum clearance of 10 mm between the outer surface of the pipe and the adjacent wall shall be maintained to prevent direct wall contact, abrasion, allowing visual inspection, natural ventilation etc.
- vii. Wherever MLC pipes are installed in areas susceptible to mechanical impact from doors, grills, falling objects, or any other source, suitable protective measures such as impact-resistant clamps, guards, or equivalent mechanical protection shall be provided to prevent damage to the piping system; however, in locations where heavy impact or high mechanical stress is foreseeable, GI piping shall be the mandatory preferred choice.

- viii. To mitigate fire hazards, toxic exposure, and structural vulnerabilities, MLC piping is strictly prohibited from passing through or being routed within the following zones:
- Chimneys, flues, or exhaust ducts.
 - Elevator/lift shafts and dedicated electrical switchgear rooms/ducts.
 - High-temperature surfaces, fire-prone zones, open or unprotected terraces.
 - Rodent-infested or prone areas.
 - Vehicular movement zones or any publicly accessible areas.
- ix. As the MLC pipes are generally delivered as a complete system, pipes, fittings, tools, etc. may not be compatible with components of another brand. Acknowledging that inter-brand compatibility may pose a risk during network repairs or emergency isolation, operating entities must establish an aggressive lifecycle management strategy. Entities must procure and maintain an optimal inventory of brand-specific maintenance fittings and specialized tooling well in advance for operational flexibility.
- x. The installation, testing and commissioning of MLC piping shall be carried out strictly in accordance with the requirements of ISO 17484-1/2 or IS 17544, as applicable. However, **prior to commissioning the PNG supply, a compliance report must be obtained from a PNGRB-approved Third Party Inspection Agency (TPIA), validating the successful inspection, testing, and integrity assessment of the pipeline and other associated facilities to be used.** The respective CGD entity shall be responsible for ensuring reliable operations, timely maintenance along-with safety and integrity of these MLC piping system throughout its service life.
- xi. Trainings shall be imparted to the installation/operation/maintenance personnel, contractors and service providers by OEMs or authorized agencies in accordance with the applicable standards and manufacturers' requirements.
- xii. Operating entities must formulate and execute a structured, periodic operation and maintenance plan tailored specifically to the unique aging characteristics and environmental exposures of the composite materials along-with ensuring system integrity.

Accordingly, Multilayer Composite (MLC) piping systems conforming to IS 17544 or ISO 17484 should be permitted for upstream deployment before the consumer meter in PNG installations, after comprehensive assessment of associated risks, provided they are installed above a minimum height of 3m (for external installations), within protected premises, isolated from unauthorized third-party interference, have provisions in place to prevent UV

degradation, and deployed strictly as a complete, manufacturer-certified system in accordance with the above guidelines.

- xiii. It is clarified that in the event of any conflict between these Guidelines and the above referred Amendment Regulations, the latter shall prevail.

Secretary