

INSPECTION & CERTIFICATION OF CITY GAS DISTRIBUTION NETWORK

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WHAT IS CITY GAS DISTRIBUTION (CGD)?

CGD is the last component of the Natural Gas value chain delivering Natural Gas to end users in town and cities to meet the demand for a cleaner, more efficient, economical and environmentally-friendly energy source.

WHAT IS NATURAL GAS?

Natural gas is a hydrocarbon gas mixture consisting primarily of methane, but commonly includes varying amounts of other higher alkanes and even a lesser percentage of carbon dioxide, nitrogen, and hydrogen sulfide. Natural gas is odorless, colorless and tasteless & lighter than air. Natural gas is an energy source often used for heating, cooking, and electricity generation.

CITY GAS DISTRIBUTION CONCEPT

- ❖ Development of Pipeline Network in a pre-defined geographical spread
- ❖ Maintaining Different Levels of Gas Pressure to meet the Demand of various segments of gas users - Domestic, Commercial, Industrial and Automobiles.
- ❖ Designing high pressure and medium pressure network such that supply to any consumer is possible from either side.
- ❖ Design gas storage / Gas sourcing for maximum survival period
- ❖ Consider Health, Safety & Environment at all stages

DR CONSTITUENTS OF CGD :

- ❖ **City Gate station**
- ❖ **Pipeline Network (Steel , Poly Ethylene GI / Cu Pipelines)**
- ❖ **Metering Stations / Metering & Regulating Stations**

GATE STATION (CGS) :

or the network is normally located at Tap off point of the main transmission line se connected by a spurline to the main transmission line. The CGS has an inlet ly mains from the transmission pipeline, pressure reduction system, filtering unit, chromatograph and metering, odorant injection system and associated piping ; with various monitoring and control systems.



pipeline network

- ❖ **Primary network:** A medium Pressure Distribution System comprising of Pipelines, Gas Mains or Distribution Mains normally constructed using steel pipes and connects one or more Transmission Pipeline to respective CGS or one or more CGS to one or more DPRS.. The operating pressure shall be above 100 psig (7 bar) and below 711 psig (49 bar)
- ❖ **Secondary Network:** A low Pressure Distribution System comprising of Gas Mains or Distribution Mains usually constructed using thermoplastic piping (MDPE) and connects DPRS to various service regulators at commercial, industrial, and domestic consumers. Network operate at pressure below 100 psig (7 bar) and above 1.5 psig (100 mbar)
- ❖ **Tertiary Network:** A service Pressure Distribution System comprising of Service Lines, Service Regulators and customer/ consumer Meter Set Assemblies constructed using a combination of thermoplastic (MDPE) piping and GI/ copper tubing components. Network operates at pressure less than 1.5 psig(100 mbar).



- **DRS & MRS:** The basic steel grid pipeline network is laid for transporting & distributing Gas from the City Gate Stations to various places of consumption like DRS, MRS & CNG Compressors. Pressure of the trunk lines is too high for direct customer usage thereby necessitating the steps of Pressure Regulation at a District Regulating Station, to reduce & maintain the pressure





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Natural Gas Users:

- ❖ Automobiles (Buses, Cars, Auto, Truck etc.)
- ❖ Manufacturing Industries.
- ❖ Commercial industries.
- ❖ Power generator industries.
- ❖ Domestic



APPLICABLE CODES & STANDARDS

- Oil Industry Safety Directorate (OISD standards)
- Petroleum Natural Gas Regulatory Notification (T4S)
- American Society Of Mechanical Engineers (ASME)
- American Petroleum Institute (API)



HAS APPROVED ICS?

- ❖ Organisation like PSUs, Regulatory Bodies Corporate of Repute, Have extended approval and preconsation on your effective service viz.
- ❖ Conformity Assessment Body as per ISO/IEC 17020 –Certified by NABCB
- ❖ Petroleum and Natural Gas Regulatory Board (PNGRB)
- ❖ Quality Council of India (QCI)
- ❖ Petroleum Explosive & safety Organisation (PESCO, CCOE, Nagpur).
- ❖ Bharat Petroleum Corporation Ltd.
- ❖ Indian Oil Corporation Ltd.
- ❖ Hindustan Petroleum Corporation Limited.
- ❖ Oil & Natural Gas Corporation Ltd.
- ❖ Reliance Industries Ltd.
- ❖ Mahanagar Gas Ltd.
- ❖ Gugrat Gas Company Ltd.
- ❖ Adani Gas Limited
- ❖ Indraprastha Gas limited
- ❖ Green Gas Limited.
- ❖ Sabermati Gas Limited.

THIRD PARTY INSPECTION & CERTIFICATION REQUIRED BY ICS.

ICS is committed to give solution under one roof for inspection on quality backed by code of integrity system , partiality & professional conduct being innovative ,giving respect to legal & ethical mannerism for certification in the client authorized area of health, wealth, safety, environment & social responsibility. Satisfactory level measured by clients and used as tool for improving our performance continually. "Conformity Assessment Body"

Leveraging on a robust network of 27 offices strategically located all over India, besides 14 offices in overseas , manned with over 450 engineering professionals specialized in various discipline , which enables a definaite standard with prompt service to its clients due to proximity. We have well established quality assurance system, competent, well qualified and highly experienced personnel in various technology and management systems. We provide value added services covering the following main activities

- ❖ Designing verification , materials inspection, fabrication inspection, welding inspection & NDT inspection.
- ❖ Inspection for steel pipeline laying, PE pipeline laying, GI piping installation & Copper piping installation.
- ❖ Inspection for DRS installation, MRS installation, Valve installation, Service regulator installation & CGS installation.
- ❖ Inspection for Installation testing , Pipeline network testing, DRS testing .
- ❖ Inspection/audit during pre commissioning & commissioning stage.
- ❖ Inspection for The CNG Station, CNG Mother Station, CNG On-Line Station and CNG Daughter
- ❖ Inspection for operation, maintenance, modifications and abandonment of steel pipeline between city gate station and natural gas pipeline.

Call for further information at:

International Certification Services Pvt.Ltd.

Corporate Office

22/23, Goodwill Premises Swastik Estate , 178 CST Road , Kalina ,
Santacruz (E) , Mumbai -400 098 , Maharashtra, INDIA.

Tel:022 -26507777-82, 42200900, 30608900-4 , Fax: 42200933,

Email: info@icspl.org / info@icsasian.com Web: www.icsasian.com / www.icspl.org