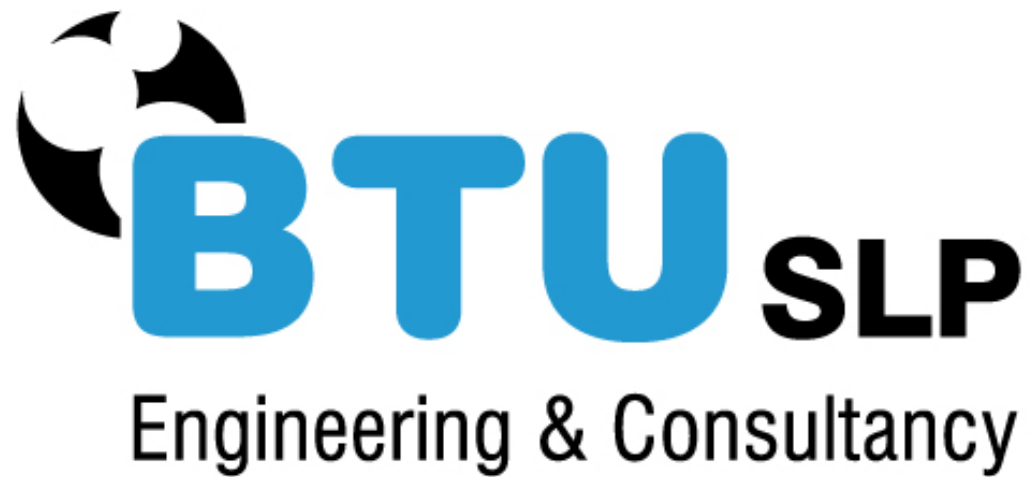


LPG – AUTOGAS SERVICE STATIONS

Professional Training Program

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3. Installation Components



4. Installation Design

1. REGULATORY FRAMEWORK

**FOR ALL INSTALLATIONS, THE APPLICABLE REGULATIONS CONSIST OF
VARIOUS STANDARDS/NORMS:**



**TECHNICAL REGULATIONS FOR
THE PLANT/INSTALLATION**

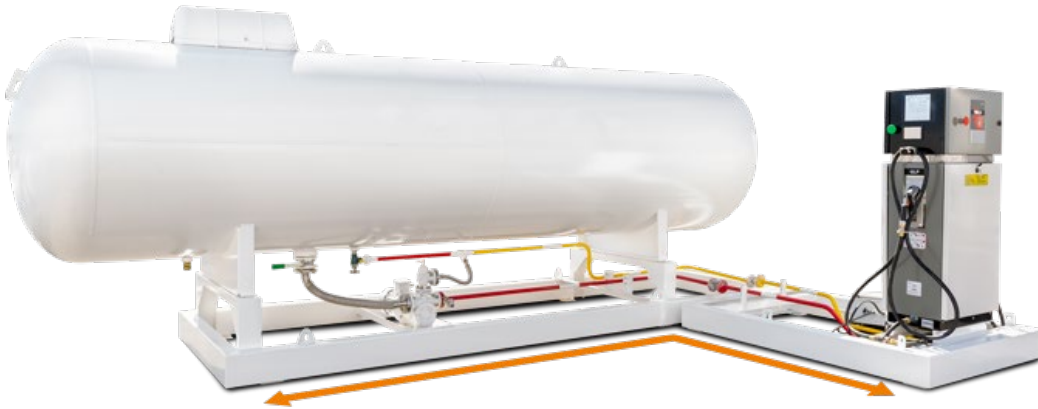
**REGULATIONS FOR THE
PLANT/INSTALLATION –
INTERACTION WITH THE
ENVIRONMENT**

1. REGULATORY FRAMEWORK

**REGULATIONS FOR
INSTALLATION DESIGN**

**TECHNICAL REGULATIONS
EQUIPMENT AND
INSTALLATIONS**

**REGULATIONS RELATING TO
THE ENVIRONMENT**



2. AUTOGAS SERVICE STATIONS



1. INSTALLATION DIAGRAM

2. LPG STORAGE AREA

2.1 LOCATION

2.2 TANKS

2.3 PUMPS

3. SAFETY DISTANCES – LAYOUT

4. LPG DISPENSING AREA

4.1 DISPENSERS

4.2 INTERCONNECTION PIPES

3. INSTALLATION COMPONENTS



1. CIVIL WORKS
 - 1.1 ABOVE GROUND TANKS
 - 1.2 UNDERGROUND TANKS
 - 1.3 UNDERGROUND PIPES
 - 1.4 TRENCH
 - 1.5 UNDERGROUND PIT FOR PUMPS

2. SKID UNITS

3. FIRE PROTECTION

4. ELECTRICAL INSTALLATION
 - 4.1 GROUNDING
 - 4.2 PROTECTION AGAINST CORROSION
 - 4.3 HAZARDOUS AREAS

5. EMERGENCY SHUTDOWN SYSTEM

6. ACTIONS IN CASE OF EMERGENCY

7. TESTING AND VERIFICATIONS

8. INERTIZATION AND COMMISSIONING

9. DECOMMISSIONING TANK/INSTALLATION

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12. TRANSFER EQUIPMENT

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4. INSTALLATION DESIGN

GROUP EXERCISE



1. LPG DAILY CONSUMPTION

2. TANK VOLUME – TANK SELECTION

3. SAFETY VALVE SELECTION

4. INSTALLATION OPTIONS

5. PUMP SIZING

6. PIPE SIZING

7. ELECTRICAL INSTALLATION

7.1 POWER LINE CALCULATION

7.2 CATHODIC PROTECTION

CALCULATION

7.3 HAZARDOUS AREAS



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