



Institut luxembourgeois de la normalisation  
de l'accréditation, de la sécurité et qualité  
des produits et services

**ILNAS-EN 17922:2024**

**Natural gas fuelling stations - LNG  
unloading stop system**

Stations-service de gaz naturel - Système  
d'arrêt de déchargement de GNL

Gasfüllanlagen - LNG-Entlade-Stopp-  
System

**03/2024**



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## Natural gas fuelling stations - LNG unloading stop system

Stations-service de gaz naturel - Système d'arrêt de  
déchargement de GNL

Gasfüllanlagen - LNG-Entlade-Stopp-System

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## European foreword

This document (EN 17922:2024) has been prepared by Technical Committee CEN/TC 326 “Natural gas vehicles - Fuelling and operation”, the secretariat of which is held by TSE.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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## Introduction

The transport of LNG over the road in Europe is organized through ADR regulations. This European Agreement concerning the International Carriage of Dangerous Goods by Road specifies the safety procedures of the road tanker and driver.

The design, construction, operation, maintenance and inspection including equipment safety and control devices for LNG fuelling stations are described in EN ISO 16924 “Natural gas fuelling stations — LNG stations for fuelling vehicles”.

This document describes the interface between the LNG road tanker and LNG fuelling station.

The unloading of LNG at the fuelling station must be carried out with an unloading stop system which, in the event of an emergency, safely stops the transfer process and closes the necessary valves.

However, at the moment different fuelling station operators are using different safety systems: some are using electronic safety systems, others are using pneumatic operated safety systems.

The proposed harmonized communication interface between the fuelling station and the LNG road tanker is a pneumatic system. Even though an electrical interface is also used, for the present it is difficult to propose a harmonized interface connector.

The aim of this document is to describe a harmonized pneumatic operated unloading stop system in such a way that the safety system of LNG road tanker is linking with the safety system of the LNG fuelling station.

The proposed unloading stop system is also applicable to the unloading of LNG road tanker to LNG industrial.

## 1 Scope

This document specifies the minimum safety interface requirement for the unloading stop system between the LNG road tanker and LNG fuelling station.

This document consists of two main topics:

- functional description of the unloading stop system;
- technical layout description of the unloading stop system.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6150:2018, *Pneumatic fluid power — Cylindrical quick-action couplings for maximum working pressures of 1 MPa, 1,6 MPa, and 2,5 MPa (10 bar, 16 bar and 25 bar) — Plug connecting dimensions, specifications, application guidelines and testing*

EN ISO 16924:2018, *Natural gas fuelling stations — LNG stations for fuelling vehicles (ISO 16924:2016)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1

#### **ESD emergency shutdown**

control actions undertaken to shut down equipment or processes in response to a hazardous situation

[SOURCE: ISO 13702:2015, 3.1.14]

### 3.2

#### **unloading stop system**

control action to stop the LNG unloading transfer process

### 3.3

#### **LNG transfer process**

LNG transfer between the LNG road tanker and the LNG fuelling station by using a transfer pump which is driven by LNG road tanker hydraulic system or electrical system through the engine PTO (Power Take Off)

Note 1 to entry: Alternatively, the transfer process can be by pressure decanting where the pressure in the LNG road tanker is raised higher than the LNG fuelling station storage tank pressure, allowing the LNG to flow into the LNG fuelling storage tank by pressure differential.

### 3.4

#### **unloading stop button**

emergency shut down device or button which activates the unloading stop system