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Hellenic Gas Transmission System Operator

HELLENIC GAS TRANSMISSION SYSTEM OPERATOR

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TECHNICAL JOB SPECIFICATION
911/1
REVISION 0
DATE 05/04/2011

HIGH PRESSURE (HP) TRANSMISSION SYSTEMS

ODORIZING PLANT

QUALITY ASSURANCE PAGE

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0	05-04-2011	FIRST ISSUE	PQ DPT.	V.G.
Rev.	Rev.	REASON FOR	Made By	Approved

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[Odorant Storage and Transportation Containers; Containers for Tetrahydrothiophene and other Odorants]
DIN 2353
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API 675
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1.0 SCOPE

This Specification covers the minimum requirements for odorizing units for the injection of odorant such as Tetrahydrothiophene (THT) into natural gas and is to be considered an integral part of Odorizing Plant Material Requisition.

1.1 PLANT MATERIAL REQUISITION

The intent is to permit the use of Manufacturer/Vendor's basic standard design, proven successful in similar services, but as amended herein.

Compliance with this specification does not relieve the vendor of the responsibility for furnishing equipment of proper design and construction and fully suitable for all specified operating conditions.

Exceptions to this and other applicable specifications and standards shall be clearly stated in the Manufacturer/Vendor's proposals.
Manufacturer/Vendor shall either submit a list of exceptions or a statement to the effect that its proposal is in full accordance with these standards. In this latter case the purchaser shall assume that the proposal includes the cost of the requirements of these standards.
Manufacturer/Vendor is responsible for ensuring that materials supplied by its sub-vendors comply with the requirements of these standards.

2.0 GENERAL REQUIREMENTS

2.1 APPLICABLE CODES & STANDARDS AND SPECIFICATIONS

EU Directives:

- 94/9/EC ATEX

- 93/68/EC CPD

- 2004/108/EEC EMC

- 97/23/EC PED

- 2006/42/EEC

IEC 60034
IEC 60072
IEC 60079
IEC 60085
IEC 60529

DIN 30650

Job Spec. No. 314/1
Job Spec. No. 700/1
Job Spec. No. 830/1
Job Spec. No. 970/2
Job Spec. No. 970/3

2.2 FUNCTIONAL REQUIREMENTS

The dosing pump shall be capable to inject automatically into the gas line an amount of odorant which is proportional to the gas flow. Impulses will be received from the gas flow metering module at a rate proportional to the gas flow.

There shall be means enabling the odorant concentration to be varied, as required.

The complete odorizing equipment shall be designed to allow containers of feed lines to be exchanged without odorant escape.

The flow monitoring device shall have a fail safe alarm function to monitor that the odorant is being injected. The device shall preferably be installed on the pressure side of the pump.

The equipment shall have a transparent intermediate transfer container through which the odorant shall pass between the main container and the pump unit.

The intermediate container shall be fitted with a burette for monitoring the actual injection rate and a level switch to produce a signal indicating that the level in the intermediate container is falling, i.e. the main container is empty.

Backflow through the pump into the intermediate container shall not be possible.

Pressure Build-up in the intermediate container shall be prevented by the use of pressure relief valves or similar.

2.3 DOSING PUMPS

Dosing pumps shall be according to **API 675** and **Job Spec. No. 314/1.**

They shall be capable of operating without odorant for a period of 24 hours in the event of an empty container.

2.4 ELECTRICAL AND CONTROL EQUIPMENT

The selection of the electrical equipment shall be made in accordance with the applicable zone classification.

All electrical equipment shall have an impulse protection level, unless otherwise specified in the Material Requisition.

The control unit shall not generate any interfering signals which could cause failure or fault conditions of electronic or microcomputer based equipment.

The electronics to be located in the Station Control Panel shall have minimum enclosure protection to IP 20 (Station Control Panel to IP 52).

All other electrical equipment shall have a minimum enclosure protection of IP 54 in accordance with **ELOT EN 60529.**

2.5 CONTAINERS

If the equipment is to operate with exchangeable odorant containers, these shall be designed and constructed according to **DIN 30650.**

2.6 MATERIALS

All metal parts which will be in contact with odorant shall be of stainless steel having at least 17% chromium and 9% nickel by weight. All other components shall be of materials proven to be resistant to THT.

All piping connections shall be in accordance with **DIN 2353** series S.

2.7 INSPECTION AND TESTING

Inspection & testing shall be according to specifications **Job Spec. No. 970/2 and 970/3** and the Material Requisition.

The complete odorizing system shall be fully function (string) tested at the manufacturer's plant.

2.8 GUARANTEE & WARRANTY

Unless exception is recorded by the vendor in his proposal, it shall be understood that he agrees to the following guarantees and warranties:

Unless otherwise specified in the Contract, all equipment and component parts shall be warranted by the Manufacturer/Vendor against defective materials, design, and/or workmanship for 1 year after being placed in service (but not exceeding 18 months after date of shipment).

The dosing unit shall be guaranteed for satisfactory performance at the unit rated horsepower and other operational conditions specified on the data sheets.

If any mal-performance or defects will occur during the guarantee and warranty period, vendor shall make all necessary alterations, repairs, and replacements free of charge, free on board from the factory.
Field labor charges, if any, shall be subject to negotiation between vendor and purchaser.

3.0 TECHNICAL DOCUMENTATION AND CERTIFICATION

Technical documentation shall be supplied as specified in the Material Requisition.

Certification requirements are specified in Specification **Job Spec. No. 970/3.**

4.0 COMPLIANCE WITH THE EU DIRECTIVES

Any equipment and /or assembly that comply with the "New Approach" directives shall be provided with:

a. A physical CE marking and other information as required by the relevant directives.

b. A declaration of conformity which lists all the directives with which the product complies.

c. Any other information specified by the directive, e.g. user instructions.