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HELLENIC GAS TRANSMISSION SYSTEM OPERATOR

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TECHNICAL JOB SPECIFICATION

639/1

REVISION 0

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HIGH PRESSURE (HP) TRANSMISSION SYSTEMS

SAFETY RELIEF VALVES

QUALITY ASSURANCE PAGE

CHANGES LOG

REVISIONS LOG

0	05-04-2011	FIRST ISSUE	PQ DPT.	V.G.
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CONTENTS

REFERENCED DOCUMENTS

Job Specification 830/1
[External Painting]

Job Specification 970/2
[Shop Inspection of Equipment and Materials for NGT Project]

EU Directive 97/23/EC PED
[Pressure Equipment Directive]

ELOT EN 1092-1
[Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges]

ELOT EN ISO 4126-1 (harmonized to PED)
[Safety Devices for Protection Against Excessive Pressure - Part 1: Safety Valves]

ELOT EN ISO 4126-4 (harmonized to PED)
[Safety Devices for Protection Against Excessive Pressure - Part 4: Pilot Operated Safety Valves]

ELOT EN ISO 8434
[Metallic tube connections for fluid power and general use]

DIN 2353
[Compression Fittings and Couplings]

1.0 SCOPE

1.1 ITEM

Safety Relief Valves with a maximum operating pressure < 100 bar.

1.2 SERVICE

Non corrosive Gas.

1.3 APPLICATION

Relieving of overpressure in piping systems due to leakage through closed pressure regulating valves, or ON/OFF valves.

2.0 GENERAL REQUIREMENTS

2.1 LEGISLATION AND STANDARDS

The requirements deriving from the **EU Directive 97/23/EC PED** for pressure equipment shall be considered.

Safety Relief Valves shall conform to the requirements specified in **ELOT EN ISO 4126-1** and **ELOT EN ISO 4126-4.**

2.2 UNITS

Metric.

2.3 TYPE

Spring loaded or pilot operated.

2.4 CONSTRUCTION

2.4.1 GENERAL

Safety relief valves may be of the conventional or balanced type and shall remain leak proof after discharge.

2.4.2 PILOT OPERATED

Non-flowing pilots shall be used to minimize entrance of dirt and formation of hydrates in the pilot.

Modulating pilots shall be used in cases during which variable relief loads are expected.

Pilot operated safety relief valves should be used if the sum of the superimposed and built-up back pressures exceeds 50% of the set point pressure, or when the operating pressure is quite close to the set pressure (usually greater than 90% of the set pressure).

Pilot operated safety relief valves shall be of the fail open type.

2.4.3 CONVENTIONAL TYPES

Conventional type safety relief valves may only be used if the sum of the superimposed and build-up back pressures does not exceed 10% of the set point pressure. Additionally the bonnet of the valve shall be vented to the discharge side of the valve.

2.4.4 SEALS

Soft type.

2.4.5 BLOW DOWN

Shall not exceed 5% of the set pressure.

2.4.6 INLET/OUTLET CONNECTIONS

Raised face flanges according to **ELOT EN 1092-1**.

2.4.7 AUXILIARY PIPING AND CONNECTIONS

Auxiliary piping and fittings shall be made of stainless steel.

Fittings shall conform to **DIN 2353** and **ELOT EN ISO 8434.**

If the specified fittings are not supplied adaptor fittings shall be delivered.

2.4.8 CAPACITY CONVERSIONS

Shall be determined in accordance with the **ELOT EN 4126-1.**

2.5 MATERIALS

All materials that are going to be used shall conform to with **ELOT EN ISO 4126-1** and **ELOT EN ISO 4126-4.**

2.6 SURFACE TREATMENT

Refer to **Job Specification 830/1.**

2.7 TESTING

A capacity certification test for each valve shall be done in accordance with **ELOT EN ISO 4126-1** and **ELOT EN ISO 4126-4.**

The primary pressure parts of each valve shall be tested at a pressure of at least 1.5 times the maximum allowable operating one.

Each valve assembly shall be tested to its set pressure.

A seat tightness test for each valve shall be done according to **ELOT EN ISO 4126-1** and **ELOT EN ISO 4126-4.**

The medium for all tests shall be in accordance with **ELOT EN ISO 4126-1** and **ELOT EN ISO 4126-4.**

2.8 TYPE TEST

The complete safety relief valve shall be type test approved by an Independent Accredited Inspection Body.

2.9 MARKING

Each safety relief valve shall be fitted with a stainless steel marker plate, indicating all relevant technical data required by **EU Directive 97/23/EC PED** and **ELOT EN ISO 4126-1** and **ELOT EN ISO 4126-4**, together with the contract and item tag numbers.

2.10 INSPECTION AND CERTIFICATION

Inspection will be performed by an Accredited Inspection Body appointed by Owner.

Inspection requirements are defined in the following documents.

a. Material requisition.

b. **Job Specification No 970/2.**

c. Relevant project specifications.

d. Inspection clauses of applicable Standards.

Inspection procedures to be followed are detailed in Owner document "Inspections and Test Instructions for the Project".

2.11 COMPLIANCE WITH THE EU DIRECTIVES

All parts 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.