



**HELLENIC GAS
TRANSMISSION
SYSTEM OPERATOR**

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**TECHNICAL JOB
SPECIFICATION**

F8

REVISION 1

DATE 22/09/2011

LIQUEFIED NATURAL GAS PLANTS

**LNG STORAGE TANKS
PUMP HANDLING FACILITIES**

QUALITY ASSURANCE PAGE

CHANGES LOG

- EU Directives added
- Changes in para 2.0 (b)

REVISIONS LOG

1	22-09-2011	DESFA COMMENTS	PQ DPT	VG
0	03-06-2011	FIRST ISSUE	PQ DPT	VG
Rev. No	Rev. Date	REASON FOR CHANGE	Made By	Approved By

CONTENTS**REFERENCE DOCUMENTS****1.0****2.0****3.0****4.0**

REFERENCE DOCUMENTS

ELOT EN 12385

[Steel wire ropes - Safety]

ELOT EN 14492

[Cranes - Power driven winches and hoists]

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EU DIRECTIVES

MD 2006/42/EC

[Machinery and amending Directive 95/16/EC (recast)]

LVD 2006/95/EC

[Harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits]

EMC 2004/108/EC

[Approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC EMC]

ATEX 94/9/EC

[Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres]

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- 1.0 A purpose made travelling hoist(s) shall be provided for maintenance of the in-tank LNG pumps and associated equipment at roof level.
- 2.0 The hoist and pump handling equipment shall incorporate the following features and be capable of the listed functions.
- a) The pump handling facilities shall ensure that the pump, cables and column are protected from adverse weather during all stages of insertion, removal and in particular a canister with provision for nitrogen purge shall be provided for transferring pump from tank top to warehouse.
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 b) A lifting device provided with a motor suitable for operation in explosive environment equipped with blocking brake shall be implemented to withdraw.
 - c) A cable winding device shall be provided for support, power and instrumentation cables. Cables are to be adequately protected. Secondary system shall provide secondary support and lift facility in the event of failure of main lifting device or cables.
 - d) Facilities and tools shall be provided to safely remove and store head plate as well as protecting column and supporting pump whilst head plate is removed.
 - e) The pump lift cable shall only be used for pump handling when inserting or removing from the column. At all other times it shall be stored in a safe and protected environment.
 - f) All lifting and support equipment shall be proof tested and certified to applicable National Regulations.
 - g) The proposed pump handling system shall be coordinated with the selected pump vendor at an early stage and shall meet all the requirements to ensure safe pump handling.
- 3.0 The lifting capacity of the hoist shall be at least 100% greater than the maximum load to be lifted. Testing of overhead hoists to be in accordance with **ELOT EN 14492** or equivalent. Testing of wire ropes for hoists to be in accordance with **ELOT EN 12385** or equivalent.
- 4.0 A typical general arrangement is shown on the attached drawing.