



**HELLENIC GAS
TRANSMISSION
SYSTEM OPERATOR**

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**TECHNICAL JOB
SPECIFICATION**

559/1

REVISION 0

DATE 05/04/2011

HIGH PRESSURE (HP) TRANSMISSION SYSTEMS

WELDING NOZZLES FOR BRANCH CONNECTIONS



Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 2/11

QUALITY ASSURANCE PAGE

CHANGES LOG

REVISIONS LOG

Rev. No	Rev. Date	REASON FOR CHANGE	Made By	Approved By
0	05-04-2011	FIRST ISSUE	PQ DPT	V.G.

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 3/11

CONTENTS

REFERENCE DOCUMENTS

- 1.0 SCOPE
- 2.0 GENERAL REQUIREMENTS
- 3.0 TECHNICAL DOCUMENTATION
- 4.0 INSPECTION AND CERTIFICATION

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 4/11

REFERENCE DOCUMENTS

Job Spec. No. 180/1
[Welding Inspection]

Job Spec. No. 199/4
[Welding]

Job Spec. No. 970/2
[Shop Inspection of Equipment and Materials for NGT Project]

Job Spec. No. 970/3
[Inspection and Test Instruction]

ELOT EN 10045-1
[Charpy Impact test on metallic materials-part 1: test method]

ELOT EN 10222-4
[Steel forgings for pressure purposes - Part 4: Weldable fine grain steels with high proof strength]

ELOT EN 10216-2
[Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 2: Non alloy and alloy steel tubes with specified elevated temperature properties]

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 5/11

1.0 **SCOPE**

1.1 **ITEM**

Welding nozzles for branch connections DN < 80.

1.2 **SERVICE**

Sweet, natural gas with sporadic passage of water and glycol.

1.3 **APPLICATION INFORMATION**

Additional information may be given in the Material Requisition and Purchase Order Specification and these documents should be read in conjunction with the general specification herein.

2.0 **GENERAL REQUIREMENTS**

2.1 **DESIGN**

In accordance with the "type" sketches herein, or of standard "O" let design. Refer to Material Requisition for requirement.

2.2 **UNITS**

Metric

2.3 **DIMENSIONS**

Refer to Material Requisitions for nominal diameter, schedule number and main pipe diameter, otherwise in accordance with the sketches herein.

2.4 **MATERIAL**

For each material used impact tests shall be performed according to **ELOT EN 10045-1** consisting of one set of three test specimens. Testing shall be carried out at -20°C. Minimum average absorbed energy shall be 31 Joules, with the lowest single value 24 joules.

2.4.1 **STANDARD "O" LETS**

P285NH/1.0477 (ELOT EN 10222-4) normalized or equivalent.

2.4.2 **WELDING NOZZLES :**

P265NH (ELOT EN 10216-2).

2.5 **WELDING**

According to **Job Spec. No. 199/4.**

2.6 **NON DESTRUCTIVE EXAMINATION**

All welding surfaces shall be magnetic particle or dye penetrant examined. Welding inspection to comply with **Job Spec. No. 180/1.**

2.7 **MARKING**

As a minimum the Material grade shall be die stamped using round nose dies. Owner Purchase Order Number and Manufacturer's mark will be paint stenciled.

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 6/11

3.0 **TECHNICAL DOCUMENTATION**

3.1 **QUANTITY**

Four copies of each inclusive of original for all documents and certificates.
Also electronic files of all Documents and Certificates must be submitted by Contractor to the Owner.

3.2 **DOCUMENT REQUIREMENTS**

3.2.1 **ON DELIVERY**

Nozzle Certification Package as listed above.
Owner Inspection Release Note (IRN).

4.0 **INSPECTION AND CERTIFICATION**

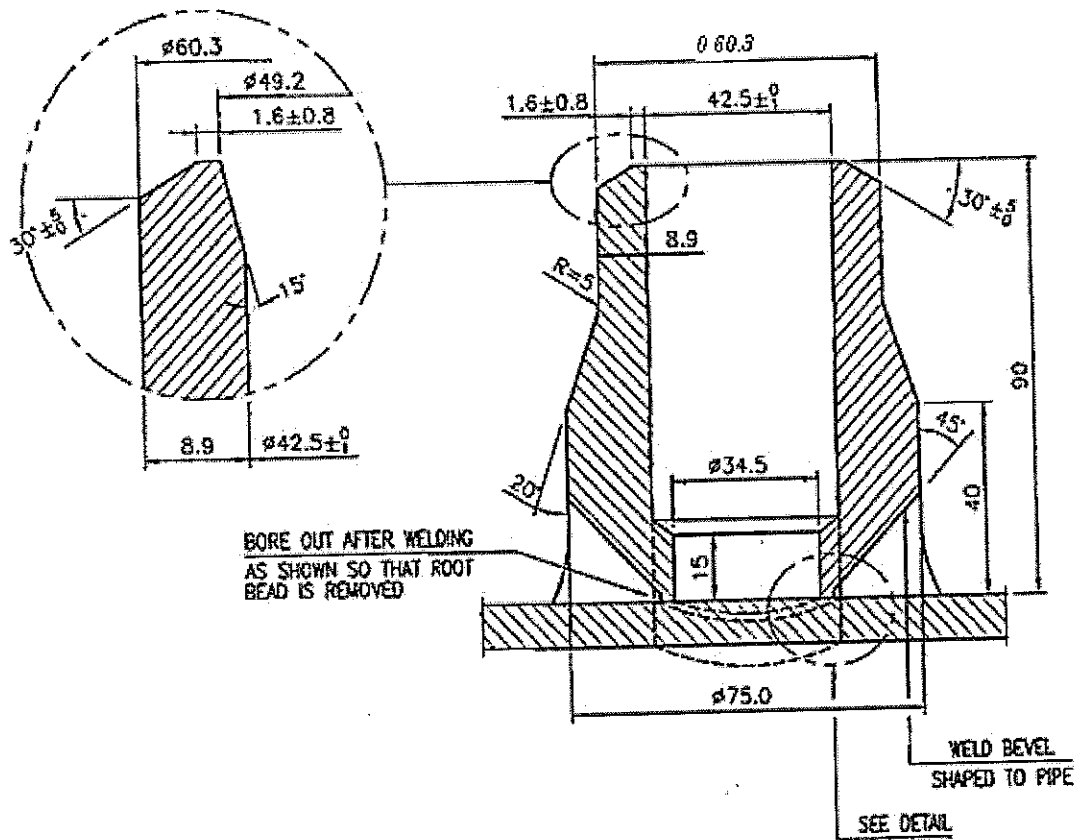
Inspection will be performed by a third party independent inspection company to be appointed by Owner.

Inspection requirements are defined in the following documents:

- a) Material Requisition.
- b) **Job Spec. No. 970/2** "Shop Inspection of Equipment and Materials for NGT Project".
- c) **Job Spec. No. 970/3** "Inspection and Test Instruction"
- d) Relevant Project Specifications.
- e) Inspection Clauses of Applicable Standards.

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 7/11

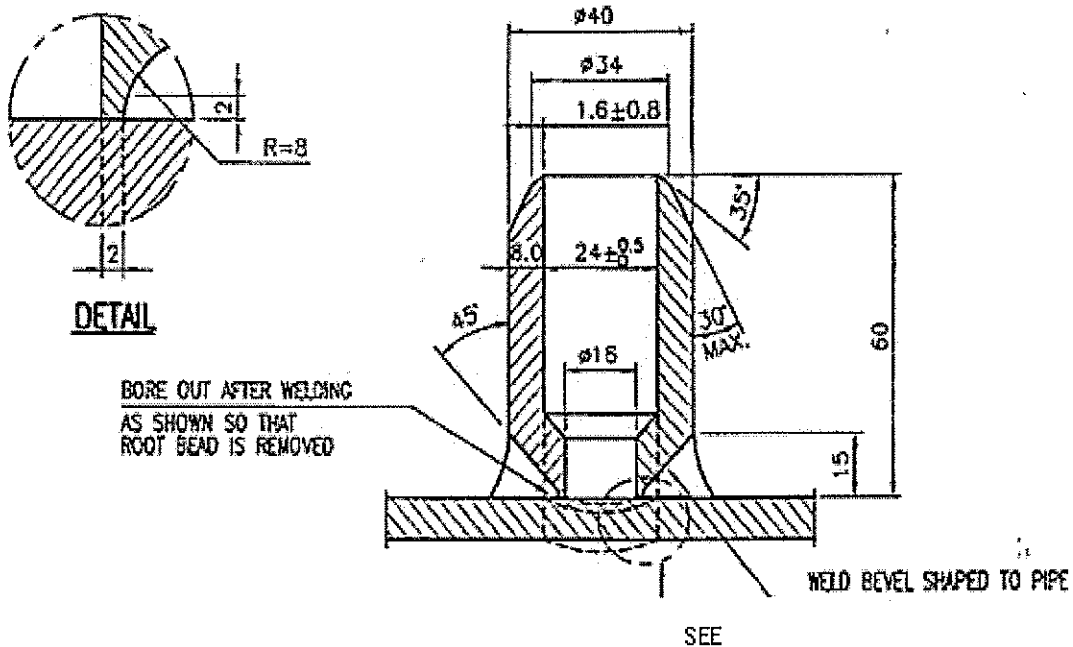
WELDING NOZZLES 80 BAR



TYPE 1: NPS 2"

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 8/11

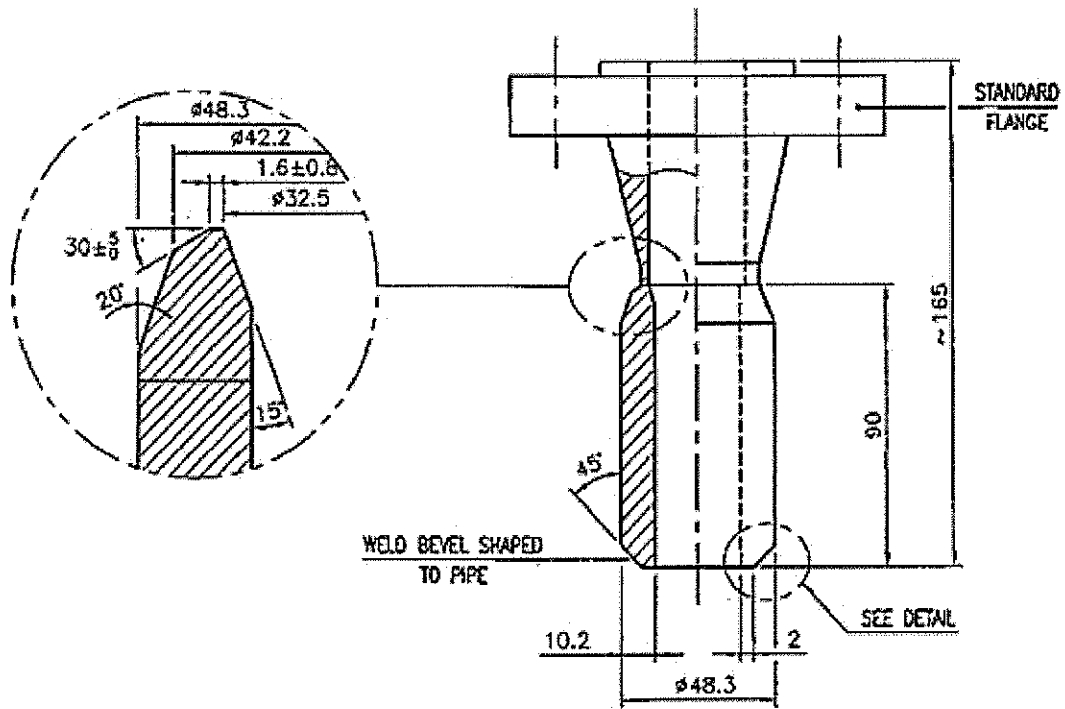
WELDING NOZZLES 80 BAR



TYPE 2: NPS 1"

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 9/11

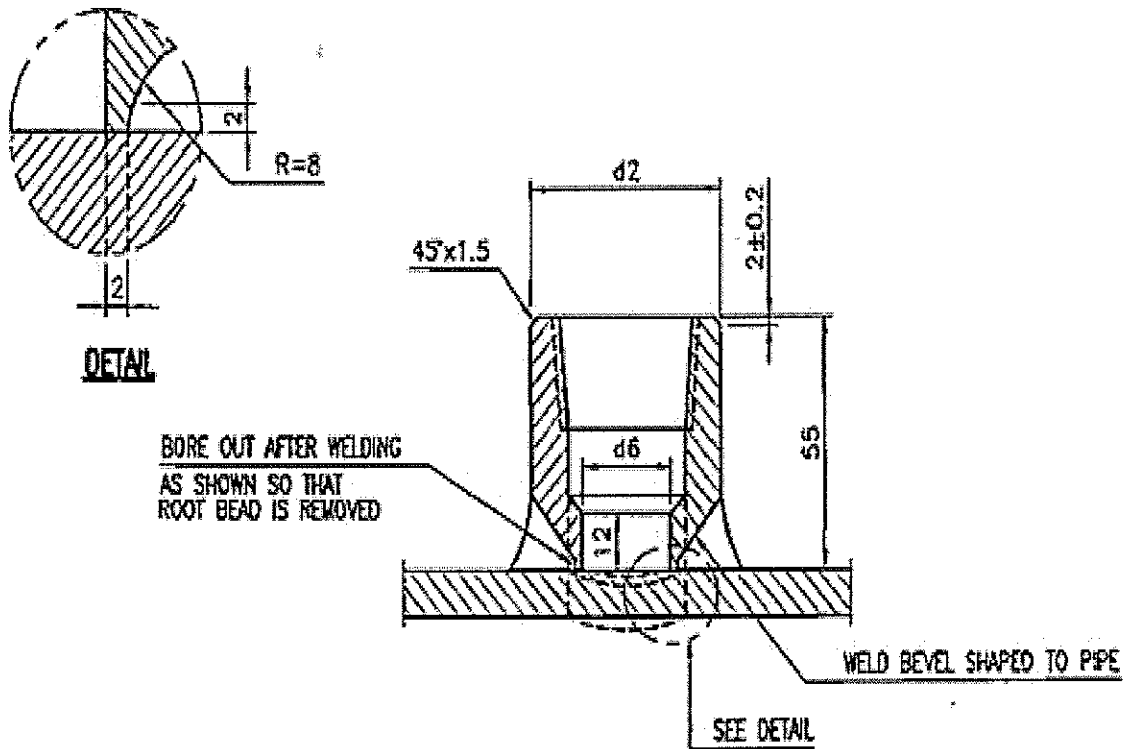
DETAILS



TYPE 3: FLANGE NOZZLE NPS 1 1/4" FOR TEMPORARY USE ONLY

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 10/11

DETAILS



TYPE 4: THREADED NOZZLES FOR INSTRUMENTATION

Job Spec. No 559/1
Revision 0
Date 05-04-2011
Page 11/11

DETAILS

NOM. PIPE SIZE	THREAD	d2 mm	d6 mm
1/2"	ANSI B1.20.1	48	10
3/4"	ANSI B1.20.1	53	14
1"	ANSI B1.20.1	63	20
1 1/4"	ANSI B1.20.1	73	28