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Hellenic Gas Transmission System Operator

HELLENIC GAS TRANSMISSION SYSTEM OPERATOR

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TECHNICAL JOB SPECIFICATION
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HIGH PRESSURE (HP) TRANSMISSION SYSTEMS

ROAD SIGNS

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REFERENCE DOCUMENTS

-BM5/0/40124

- ΚΟΚ , Ν2696 ΦΕΚ 57Α/23-03-1999 «ΚΥΡΩΣΗ ΚΩΔΙΚΑ ΟΔΙΚΗΣ ΚΥΚΛΟΦΟΡΙΑΣ»

- ΦΕΚ 676/Β/6-7-1974

- ΠΤΠ Σ301-75 ΦΕΚ 92/Β/26-1-76 (STANDARD TECHNICAL SPECIFICATIONS)

- ΠΤΠ Σ302-75 ΦΕΚ 92/Β/26-1-76(STANDARD TECHNICAL SPECIFICATIONS)

-ΦΕΚ 99/Β/28-1-76

- ΠΤΠ Σ310 ΦΕΚ 954/31-12-86(STANDARD TECHNICAL SPECIFICATIONS)

- ΠΤΠ Σ311 ΦΕΚ 954/31-12-86(STANDARD TECHNICAL SPECIFICATIONS)

1.0 SCOPE

This specification specifies the design, fabrication and installation of the road signs which are necessary for the construction of the Hellenic Natural Gas Transmission System.

Material, shape and colours of signs, size of the letters to be used and dimensions (height/section) of sign posts are specified in this specification.

2.0 APPLICABLE CODES AND LEGISLATION

Design and fabrication of signs shall be performed according to the Hellenic Traffic Code **(ΚΟΚ, Ν2696 ΦΕΚ 57/23-03-1999/Τεύχος Πρώτο)** and the following Technical Standards of the Department of Environment of the Ministry of Environment and Public Works (ΥΠΕΧΩΔΕ):

a. Road Signs, Comprehensive Review of Regulations and Methods, certified as per **ΦΕΚ 676/Β/6-7-1974.**

b. ΠΤΠ Σ301-75 **(ΦΕΚ 92/Β/26-1-76),** which supersedes Σ301-74A included in (a)

c. ΠΤΠ Σ302-75 **(ΦΕΚ 92/Β/26-1-76),** which supersedes Σ301-74A included in (a)

d. Instructions for Fabrication and Installation of Signs for Ordinary Road Networks (ΤΟΚΣΤΟΔ), ΔΜΕΟ October 1992 (Εγκύκλιος 1/92/ΑΠ. ΔΜΕΟ/Σ/ΟΙΚ/720/13-11-92)

e. ΠΤΠ Σ310 and ΠΤΠ Σ311 **(ΦΕΚ 954/31-12-86 Τεύχος Δεύτερο)**

f. Technical Standard for Metallic Posts Supporting Road Signs, certified as per **BM5/0/40124** of 30-9-80.

3.0 GENERAL

The required signs are of informative, warning and traffic controlling type.
Corresponding shapes for each type are:
Rectangular for informative, triangular for warning and circular for traffic controlling signs.

Informative signs will contain the following information in Greek:

ΔΕΣΦΑ

Έργο Φ. Αερίου

(Place name)

--> (Direction arrow)

The small letters size shall be 10cm and the type, layout, and order of letters and symbols shall conform to Σ305-74 and Σ305-74A.

Colours of the background and letters type shall conform to Σ310.

After the Contract award and before sign fabrication commences, the Contractor shall provide samples of signs for Owner's approval. If fabrication commences without this approval, Contractor will bear all costs resulting from possible mistakes and subsequent rejection of provided signs.

4.0 DIMENSIONS

Informative signs shall have the minimum dimensions required in order to contain the information mentioned in **para 3.2** herein above, on one hand and on the other, to fully comply with the specifications and requirements of **para 2.0** herein above. Other types of signs shall conform to the Hellenic Traffic Code (KOK) requirements, according to the road class and position of the sign.

5.0 MATERIALS

Sign boards shall be fabricated from $AlMg_2$ alloy sheets, 3mm thick, according to Σ301-75.

$AlMg_2$ sheets shall be fully reflective film type II, to provide a continuous fully reflective surface for any angle observation. Properties of the film (strength, colour, reflectivity, quality) shall be in conformance with ΠΤΠ Σ301-75 and ΠΤΠ Σ311.

6.0 DURABILITY

Durability of signs against various solvents, weather conditions, normal wear and accelerated ageing, shall be tested according to ΠΤΠ Σ311 and ΠΤΠ Σ301-75.

Minimum life time of signs shall be ten years. If deterioration of their properties occurs under normal use before the end of that period, Contractor shall replace the signs at his own expense.

7.0 VERIFICATION OF QUALITY

Supplier of reflective film shall bear special "Film Quality Certificate", which is issued for a two years period by ΥΠΕΧΩΔΕ, Department of Materials for Signs (Τ.Υ. Σ.). This certificate shall be available at Owner's request.

Before hand-over of a sign batch, a special committee appointed by the Owner, shall take samples of the signs the area of which is defined by the table in paragraph 6 of Σ311. These shall be submitted for checking and certification to ΚΕΔΕ or equivalent accredited private laboratory. After due consideration of the check results, the committee proceeds with acceptance or rejection of the sign batch.

All costs related to certifying quality of sign batches including laboratory costs will be Contractor's expenses.

8.0 SIGN POSTS

Sign posts shall be galvanized steel tubes. The minimum diameter, minimum wall thickness, number and size shall be justified by appropriate structural calculations, according to **BM5/0/40124.**

Also the requirements of paragraph B2 of ΤΟΚΣΤΟΔ shall be considered, to specify the height of post and the type of connection to the sign board.

9.0 SIGN POST FOUNDATIONS

Shall conform to **BM5/0/40124.**

10.0 SIGN LOCATIONS

Sign locations shall be decided after due consideration of Chapter Γ of ΤΟΚΣΤΟΔ requirements.

Signs shall be positioned at places where the risk of danger caused by traffic or other reasons shall be minimized.

11.0 APPROVAL AND HAND-OVER

Signs shall be counted at pieces of complete work, which includes the design, fabrication of boards and posts, transportation of all necessary materials, assembly and fixing on location.

If one of the above is found not accepted, the sign will not be accepted and the relevant amount will be withheld from Contractor until the defect is remedied.