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NATIONAL IRANIAN OIL REFINING & DISTRIBUTION COMPANY
NATIONAL IRANIAN OIL ENGINEERING
& CONSTRUCTION COMPANY

NIOEC SP

NIOEC SPECIFICATION FOR PACKAGED EQUIPMENT

FIRST EDITION

JULY, 2005

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IN THE NAME OF GOD**FOREWORD**

By their very nature, technical standard specifications are continuously subject to modifications and revisions. To strengthen their merit and usefulness, continuous improvements, addendum, deletion of disparate information and consequently provision of updated revisions are to be made in order to ascertain that such standard specifications meet the current requirements, inclusive of Iranian Petroleum Standards (IPS) and the recognized and acceptable national and international standards, as well as the optimal codes and practices based on the accumulated in-house know-how and plant knowledge and experiences.

However, in reality, due to several reasons, not to mention the complexity of the matter, the ultimate goal of continuous direct embedment of the required changes on the relevant standard specifications may be far reaching. Therefore, in the interim periods between the officially issued revisions, the required changes will appear in other documents related to the engineering and design work of the on going projects.

In response to the initiative of the Design Division of the Engineering and Construction Directorate, and considering that the task of the execution of several important and mega projects for the realization of the new oil refineries, pipelines and oil terminals as well as improvements of the existing facilities, has been assigned to NIOEC, it was decided to update the NIOEC Specifications and to issue new official revisions.

The Design Division of the Engineering and Construction Directorate was itself entrusted to carry out this important task, and as such by forming several special technical committees, working in close co-operation and cohesion and sharing their expertise and knowledge, the updated and revised NIOEC Specifications were successfully prepared and complied.

These Specifications are intended to be used for Oil Refineries, Distribution Depots, Oil Terminals, Pipelines and Pump Stations within NIOEC's projects, and have been proven to be of high value for such purposes. It must however be appreciated that these Specifications represent the minimum requirements and should in no way be interpreted as a restriction on the use of better procedures, engineering and design practices or materials.

We encourage and highly appreciate the users and other clear sighted and experts to send their comments on the Specifications to the Design Deputy of the Engineering and Construction Director of NIOEC for evaluation and consideration.

S. R. KASAEIZADEH



EXECUTIVE DIRECTOR

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NOTES:

- 1) THIS SHEET IS A RECORD OF ALL REVISIONS TO THIS SPECIFICATION.
- 2) REMARKS RELATED TO EACH REVISION SHOW A BRIEF DESCRIPTION. THESE REMARKS SHALL BE INTERPRETED IN CONJUNCTION WITH THE REVISED TEXT MARKED BY REVISION NUMBERS.
- 3) WHEN APPROVED EACH REVISION SHALL BE CONSIDERED AS A PART OF THE ORIGINAL DOCUMENT.
- 4) NUMBER OF PAGES EXCLUDES THIS SHEET AND THE COVER SHEET.

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0	JULY, 2005	M.R.FARZAM		M.R.FARZAM	M.A.A.SAJEDI
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1 SCOPE

NIOEC Specifications cover the general requirements for detailed engineering, procurements, testing inspection & construction of refinery/ oil plant, distribution depots, pump stations and pipelines.

Packaged units are Vendor designed and prefabricated process or utility units that could operate in isolation and perform a specific duty.

This specification shall be applicable to Vendor designed packages or equipment when so stated in the relevant duty specification and/or data sheet.

Requirements of the relevant duty Specification and data sheet shall take precedence over this specification.

Vendor shall select the proven and most suitable types, materials, sub-supplier and equipment based on his experience to meet the Employer's requirements and guarantee the performance specified in individual specification and/or data sheet. Vendor shall also construct the packaged unit in accordance with Employer's requirements and his proven ordinary design.

2 REFERENCE

Throughout this Specification the following dated and undated standards/ codes are referred to. These referenced documents shall, to the extent specified herein, form a part of this Specification.

For undated references, the latest edition of the referenced document (including any supplements and amendments) applies. For dated references, the edition cited applies.

The applicability of changes in dated references that occur after the cited date, shall mutually be agreed upon by NIOEC and the Vendor/Contractor.

AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION)

ASCE (AMERICAN SOCIETY OF CIVIL ENGINEERING)

ASME (AMERICAN SOCIETY OF MECHANICAL ENGINEERS)

ASME B 31.3	"Process Piping"
ASME B 16.5	"Piping Flanges and Flanged Fittings"
ASME B 16.34	"Valves-Flanged, Threaded and Welding End"
ASME B 46.1	"Surface Texture(Surface Roughness, Waviness and Lay)"
ASME Section VIII Division 1 or Division 2	

API (AMERICAN PETROLEUM INSTITUTE)

API STD	
API 650	"Welded Steel Tanks for Oil Storage"
API 612F	

BSI (BRITISH STANDARDIZATION INSTITUTE)

BS 5395

ISO (INTERNATIONAL ORGANIZATION FOR STANDARDIZATION)

ISO 9001

NACE (NATIONAL ASSOCIATION OF CORROSION ENGINEERS)

MR0103-2003

NIOEC-SP (NIOEC SPECIFICATIONS)[NIOEC-SP-00-10](#) "NIOEC Specification for Units"[NIOEC-SP-00-50](#) "NIOEC Specification for Design Criteria"[NIOEC-SP-00-54](#) "NIOEC Specification for Basic Engineering Design Data"[NIOEC-SP-20-01](#) "NIOEC Specification for Structural Steel Fabrication"[NIOEC-SP-40-01](#) "NIOEC Specification for General Specification of Rotary Machinery"[NIOEC-SP-41-03](#) "NIOEC Specification for Pressure Vessel"

NIOEC-SP-47-10 "NIOEC Specification for Noise Level Requirements and Measurements"

[NIOEC-SP-50-01](#) "NIOEC Specification for General Piping; Process and Utility Design
Equipment Layout and Drawing Procedure"[NIOEC-SP-50-02](#) "NIOEC Specification for General Piping; Process and Utility Fabrication
and Field Installation"[NIOEC-SP-50-04](#) "NIOEC Specification for Piping Material"[NIOEC-SP-50-08](#) "NIOEC Specification for Winterizing and Heat Conservation"[NIOEC-SP-60-36](#) "NIOEC Specification for Electrical Components of Packaged Units"[NIOEC-SP-70-01](#) "NIOEC Specification for Instrumentation"[NIOEC-SP-80-01](#) "NIOEC Specification for Insulation"[NIOEC-SP-80-02](#) "NIOEC Specification for Painting"**NIOEC-SD (NIOEC STANDARD DRAWING)**

NIOEC-SD-1000-1/7-A1 "NIOEC Standard Drawing for Instruction for Anchor Bolts Uses"

NIOEC-SD-1000-2/7-A1 "NIOEC Standard Drawing for Instruction for Anchor Bolts Uses"

NIOEC-SD-1000-3/7-A1 "NIOEC Standard Drawing for Type "T" Anchor Bolt"

NIOEC-SD-1000-4/7-A1 "NIOEC Standard Drawing for Type "S" Anchor Bolt"

NIOEC-SD-1000-5/7-A1 "NIOEC Standard Drawing for Type "U" Anchor Bolt"

NIOEC-SD-1000-6/7-A1 "NIOEC Standard Drawing for Type "B" Anchor Bolt"

NIOEC-SD-1000-7/7-A1 "NIOEC Standard Drawing for Type "W" Anchor Bolt"