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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

THIS SPECIFICATION IS THE PROPERTY OF NATIONAL IRANIAN OIL ENGINEERING & CONSTRUCTION COMPANY. IT IS CONFIDENTIAL AND ALL RIGHTS RESERVED TO THE OWNER. NEITHER WHOLE NOR ANY PART OF THIS DOCUMENT MAY BE DISCLOSED TO ANY THIRD PARTY, REPRODUCED, STORED IN ANY RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE PRIOR WRITTEN CONSENT OF THE NATIONAL IRANIAN OIL ENGINEERING & CONSTRUCTION COMPANY.

IN THE NAME OF GOD**FOREWORD**

By their very nature, technical 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 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 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 ongoing projects.

In response to the initiative of the Design and Engineering 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 and Engineering 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 and Engineering Director of NIOEC for evaluation and approval.

REVISION INDEX

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NOTES:

- 1) THIS SHEET IS A RECORD OF ALL REVISIONS TO THIS SPECIFICATION.
- 2) WHEN APPROVED EACH REVISION SHALL BE CONSIDERED AS A PART OF THE ORIGINAL DOCUMENT.
- 3) NUMBER OF PAGES EXCLUDES THIS SHEET AND THE COVER SHEET.

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1. SCOPE

This specification defines NIOEC's minimum requirements for 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.

Deviations from this specification will only be permitted on obtaining written approval from NIOEC.

Resolution on cases not explicitly stipulated in this Specification, or on cases where conflicts may arise among the requirements of the referenced/relevant IPS and the international standards, shall be made through written consent and approval of NIOEC.

2. REFERENCE

The following standards, codes and specifications, to the extent specified hereinafter, shall constitute a part of this NIOEC specification. Latest edition of the undated referenced documents and the cited edition of the dated references shall apply. The applicability of changes made to the dated references, after the cited date shall be mutually agreed upon between NIOEC and the Vendor/ Contractor.

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	

NACE (NATIONAL ASSOCIATION OF CORROSION ENGINEERS)

NACE MR0103	Materials Resistant to Sulfide Stress Cracking in Corrosive Petroleum Refining Environments
ANSI/NACE MR0175/ISO 15156	Petroleum and natural gas industries- Materials for use in H ₂ S-containing environments in oil and gas production

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 Control and Vibration."
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-SP-00-01	"NIOEC Specification for Civil Design Criteria"
NIOEC-SP-00-55	"NIOEC Specification for Piping and Instrumentation Diagrams"
NIOEC-SP-00-62	"NIOEC Specification for Numbering System"
NIOEC-SP-40-01	"NIOEC Specification for General Design Requirements of Machineries"
NIOEC-SP-44-01	"NIOEC Specification for Shell and Tube Heat Exchangers"

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"
NIOEC-SD-0001-1/4-A1	"NIOEC Standard Drawing for P&IDs Symbols and Legends (Piping)"
NIOEC-SD-0001-2/4-A1	"NIOEC Standard Drawing for P&IDs Symbols and Legends (Instrument)"