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

NIOEC SP

NIOEC SPECIFICATION

FOR

VENDOR DATA REQUIREMENTS FOR MACHINERIES AND AUXILARY EQUIPMENT

SECOND EDITION

SEPTEMBER, 2017

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

REV. PAGE	1	2	3	4	5	REV. PAGE	1	2	3	4	5	REV. PAGE	1	2	3	4	5	REV. PAGE	1	2	3	4	5
1	x					26						51						76					
2	x					27						52						77					
3	x					28						53						78					
4	x					29						54						79					
5	x					30						55						80					
6	x					31						56						81					
7						32						57						82					
8						33						58						83					
9						34						59						84					
10						35						60						85					
11						36						61						86					
12						37						62						87					
13						38						63						88					
14						39						64						89					
15						40						65						90					
16						41						66						91					
17						42						67						92					
18						43						68						93					
19						44						69						94					
20						45						70						95					
21						46						71						96					
22						47						72						97					
23						48						73						98					
24						49						74						99					
25						50						75						100					

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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CONTENTS:	PAGE NO.
INTRODUCTION.....	2
1. SCOPE	2
2. ADDENDUM TO IPS STANDARD (IPS-E-PM-400).....	2

INTRODUCTION

To satisfy the requirements of this NIOEC Specification, Iranian Petroleum Standard IPS-E-PM-400 (second revision Jan. 2010) with the modifications as specified herein after shall be strictly followed.

Articles 1 of this document replace entirely the related articles in the referenced IPS Standard.

The following annotations, as specified hereunder, have been used at the bottom right hand side of each clause or paragraph to indicate the type of change made to the equivalent clause or paragraph of IPS.

Substitution: The clause in IPS shall be deleted and replaced by the new clause in this Standard.

Addition: The new clause with the new number shall be added to the relevant section of IPS.

Modification: Part of the clause or paragraph in IPS shall be modified and/or the new description.

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.

This Specification provides detailed general requirements concerning machinery and auxiliary equipment. For specific requirements, reference shall be made to the individual Specification of each machinery.

The Contractor shall determine by careful security which of the requirements are the more stringent and which combination of requirements will be acceptable as regards safety, economic and legal aspects.

Compliance with the requirements of this Specification and the Standards and codes referred to herein shall not relieve the contractor or manufacturer of their responsibility to follow safe.

Resolution on cases not explicitly stipulated in this Specification, or on cases where conflicts may arise among the requirements of the referenced/relevant consent and approval of NIOEC.

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

2. ADDENDUM TO IPS STANDARD (IPS-E-PM-400)

3.3. (Addition)

The time required for the Manufacturer to submit certified drawing and information after award of order and the time required to achieve shipment are both critical and each will receive careful consideration.

3.4. (Addition)

Maximum uniformity and interchangeability is desired. However, differences in price and adjustments to shipment time to achieve uniformity and interchangeability will be considered separately during evaluation of the Manufacturer's proposal.

4. (Modification)

Add the following sentences at the first of this paragraph:

Proposal information should be in accordance with relevant NIOEC specification for each equipment. Otherwise....

4. (j) (Modification)

Add the following sentences at the end of this paragraph:

This is a supplemental list which includes price and delivery in addition to the standard data required on the complete part list. (Note that this list will generally be required promptly and in time to permit ordering and delivery of spare parts prior to field start-up).

A list of recommended spares should be sufficient for start-up and two year's operation should be submitted with quotation based on NIOEC-SP- 40-03.

5.1.4. (Addition)

All drawings and data submitted must be identified with the NIOEC Purchase Order number and tag item number.

5.1.5. (Addition)

Prior to final drawing submittal, Manufacturer shall add to his drawings notes and data requested by the Purchaser. This is required since these drawings are used by the Purchaser in the field for erection and installation. Also, these drawings are incorporated into the Purchaser's bound documents for the ultimate users' record.

5.1.6. (Addition)

"END COPY" labels shall be stamped on the top of the final drawings and on the front pages of documents, drawing and data-definitions.

5.24. (i) (Modification)

Add the following sentences at the end of this paragraph:

Auxiliary connections listed on the composite outline drawing shall be identified as follows:

- Not furnished in this order.
- Not drilled in this order.
- Plugged, requires field piping by Purchaser.
- Plugged, not required in this order.
- Piped by Manufacturer.

The composite outline drawing shall also reference any supplementary drawings required to complete the pump auxiliary piping. Seal flushing and cooling water piping, identified by the applicable API plan or code is acceptable.

5.2.4. (k) (Modification)

Add the following sentences at the end of this paragraph:

Bills of Material for rotary equipment and driver must include:

- Part number
- Names of parts.
- Number of parts required.
- Metallurgy of part (identified by ASTM number or similar).
- Drawing number which identifies each part as to interchangeability.

Bills of Material must be submitted with each auxiliary system describing in detail each item of accessory equipment including:

- Manufacturer.
- Description of equipment.
- Catalog No. or Part No.
- Materials of Construction.
- Electrical, steam and cooling water consumption.
- Set point and ranges for instruments and control valves.
- Rated pressure, temperatures and capacities of auxiliary pump (s).
- Horsepower and relief value settings for auxiliary pump.

5.2.6. (Modification)

Add the following sentences at the end of this paragraph:

Certified correct dimensional drawings of completely associate units, which shall show:

- Identification data for rotary equipment, coupling and driver
- Rotation
- Weight
- Adequate dimensional data to permit the design of foundation, piping and wiring connections.
- Location of motor junction box(es).
- Piping connection identified, with the size, rating, and facing indicated.
- Clearance required for disassembly and maintenance.

5.4.6. (Modification)

Add the following sentences at the end of this paragraph:

A General arrangement and layout of auxiliary piping, to show its approximate location and routing relation to the major components. A material list must be shown on the drawing.

Schematic drawings of auxiliary piping systems shall include (but not limited to) and identify all components by manufacturer, type, size, capacity pressure rating, materials, as applicable.

5.4.7. (Modification)

Add the following sentences at the end of this paragraph:

Lubrication Schedule shall include all equipment furnished by the Manufacturer and show:

- Recommended lubricant for use during break-in and normal operation, to meet NIOEC Requirements. Specification for Lubricating, Sealing And Controlling Oil (NIOEC-SP-40-04) only to be specified.
- Method of application of the lubricant.
- Quantity of initial fill.
- Quantity of lubricant shipped with initial order.
- Recommended break-in period of initial application.
- Recommended time between changes of lubrication.
- Refill quantities and quality if different from initial change.
- Technical Specification of each lubricant to be used including ASTM viscosity, SAE number, etc.
- Expected annual consumption.
- Note any special lubrication precautions, or detailed lubrication considerations to be observed on the equipment.