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

NIOEC SP

NIOEC SPECIFICATION FOR NUMBERING SYSTEM

FIRST EDITION

AUGUST, 2006

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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.

A5					
A4					
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A1	AUGUST. 2006	M.R.FARZAM		M.R.FARZAM	M.A.A.SAJEDI
A0	JULY, 2005	M.A.A.SAJEDI		M.R.FARZAM	M.A.A.SAJEDI
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0. INTRODUCTION

To satisfy the requirements of this NIOEC Specification, Iranian Petroleum Standard [IPS-E-PR-308](#) with the modifications as specified herein after shall be strictly followed.

Articles 1 and 2 of this document replace entirely the related articles in the referenced IPS Standard.

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 prescribes equipment and material numbering system including numbering for instrument and electrical equipment, piping line and engineering documents such as specifications, purchase orders, and other facilities.

2. REFERENCES

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.

IPS (IRANIAN PETROLEUM STANDARDS)

IPS-E-PR-308 "Engineering Standard for Numbering System"

ISA (INSTRUMENTATION, SYSTEM, AUTOMATION SOCIETY OF AMERICA)

ISA-S 5.1 "Instrumentations Symbol and Identification Formerly", Ed. 1989

ISO (INTERNATIONAL ORGANIZATION FOR STANDARDIZATION)

6708-1995 (E) "Pipe Components Definition and Selection of Nominal Size"
, 2nd. Ed., 1995.

NIOEC-SP (NIOEC SPECIFICATIONS)

[NIOEC-SP-00-10](#) "NIOEC Specification for Units"

NIOEC-SD (NIOEC STANDARD DRAWINGS)

[NIOEC-SD-00-0101-1/1](#) "P &I Ds, Abbreviation"

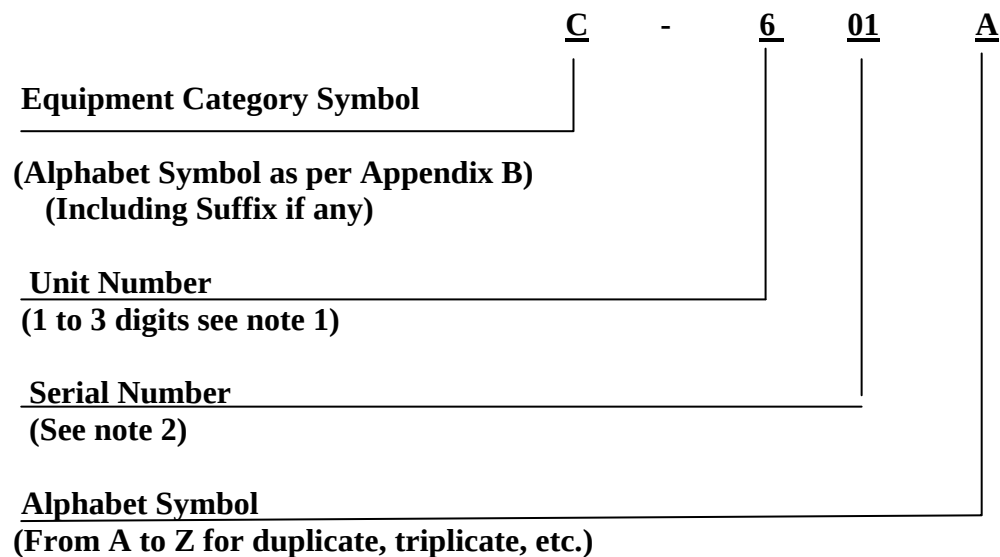
3. ADDENDUM TO [IPS-E-PR-308](#)

This addendum revises the below listed articles of the referenced standard as follows:

5. UNITS (Modification)

International system of units (SI) shall be used in accordance with [NIOEC-SP-00-10](#), unless otherwise specified.

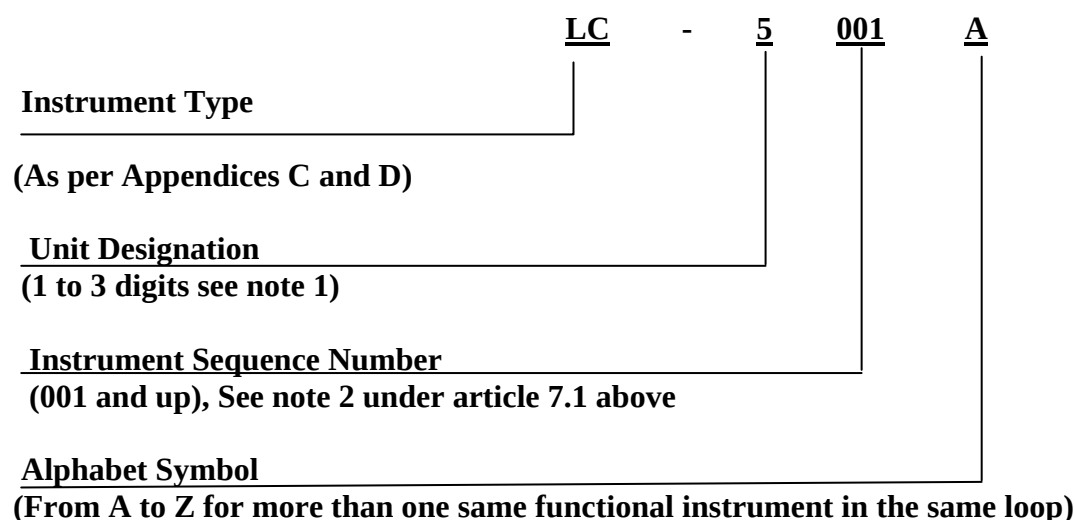
7.1 Equipment Numbering System (Modification)



Note: (Substitution)

1) Unit number for the equipment and pipeline plants shall start from 1 (not from 01). For a typical refinery unit see Appendix A.

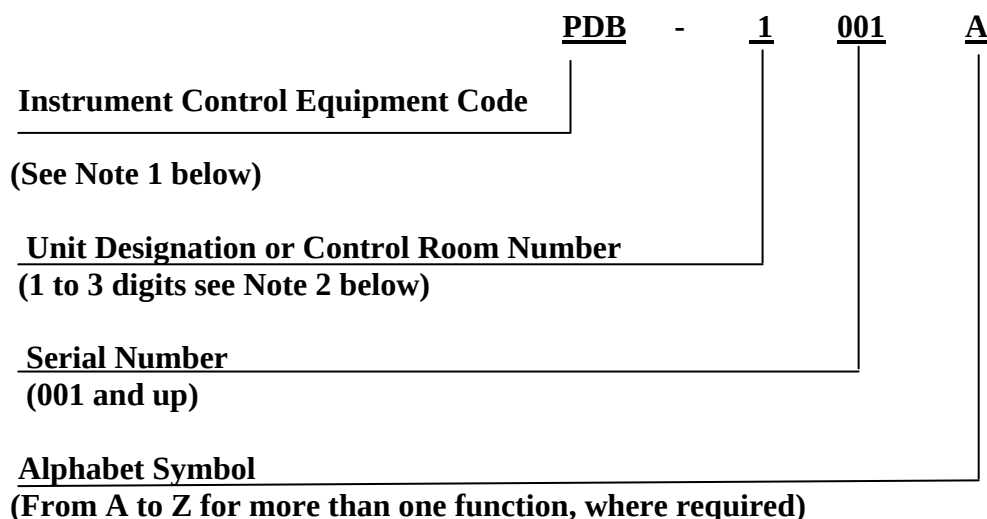
8.1 Instrument and Control Equipment (Modification)



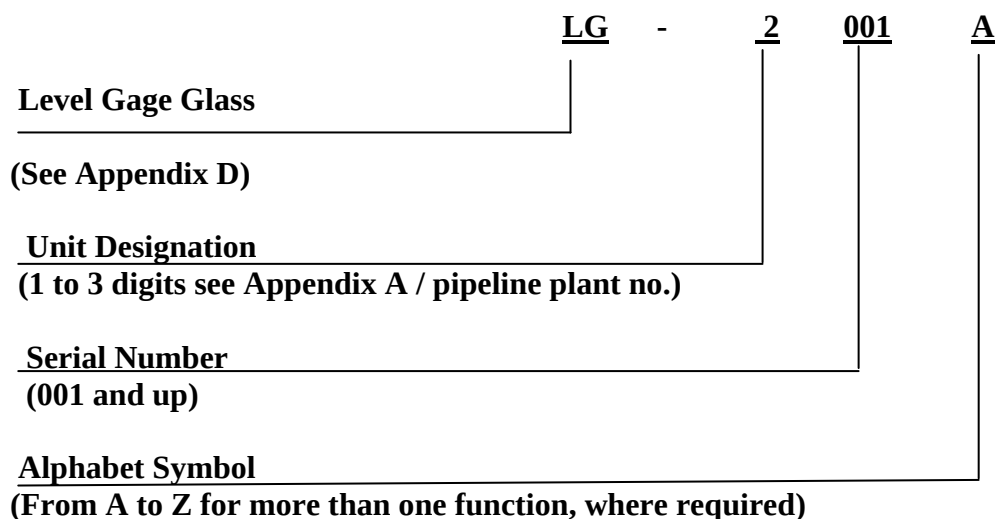
Note: (Substitution)

Unit designation for the instrument equipment and pipeline plants shall start from 1 (not from 01). For a typical refinery unit see Appendix A.

8.2 Instrument Accessories and Locations (Modification)



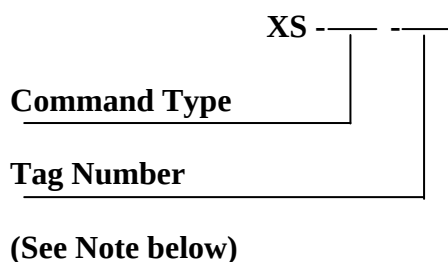
8.3.1 Gage Glasses Numbering System (Modification)



8.4. Numbering for Signal Exchanged Between MCC and DCS/ESD (Addition)

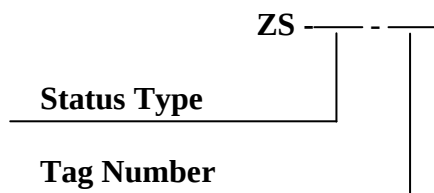
Numbering of signals exchanged between MCC/DCS/ESD and indication of equipment status shall be as follow:

a) DCS/ESD interlock/ logic commands to equipment (Via MCC):



Command Type: P = Stop , T = Start

b) Equipment status signals to DCS/ESD:



(See Note below)

Status Type:

A = Auto Contact

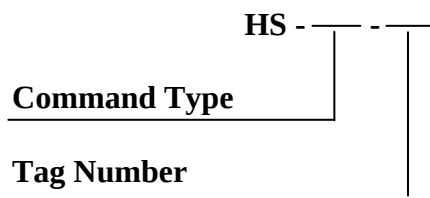
F = Failure Contact

L = Local Position Contact

R = Remote Position

No abbreviation used for Running Status

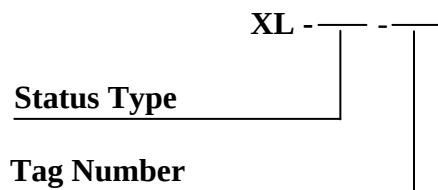
c) Operator Console commands:



(See Note below)

Command Type : P = Stop , T = Start

d) Equipment status indication in DCS/ESD:



(See Note below)

Status Type:

A = Auto Contact

F = Failure Contact

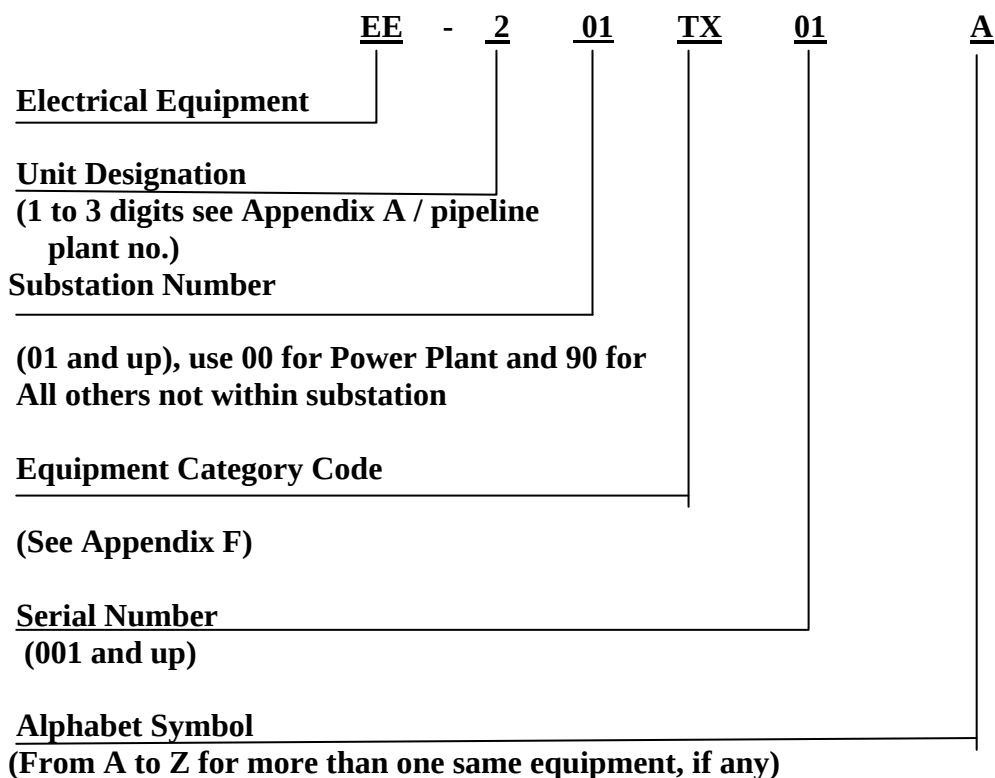
L = Local Position Contact

R = Remote Position

No abbreviation used for Running Status

Note : Tag number is included Unit Designation and Instrument Sequence Number (Refer to Section 8.1 above).

9.1 Numbering for Main Electrical Equipment (Modification)



9.3 Numbering for Motor Operating Valves (Addition)

