



NATIONAL PETROCHEMICAL COMPANY
STANDARDS

MATERIAL STANDARD
FOR
COMMUNICATION SYSTEM

NPCS-MS-EL-07

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1 SCOPE

- 1.1 This standard covers the minimum requirements for the design, manufacture, testing and supply of communication system consisting of:
- Plant paging system.
 - Telephone system (PABX).
- 1.2 Site conditions and system conditions shall be as what will be specified in the material requisition.
- 1.3 This standard is supplemented by the riser diagrams in which relations between plant communication system elements is shown in detail.
- 1.4 In case of conflict between documents listed below, the ones appearing first in sequence of this listing will precede over the following ones.
- a) Purchase order.
 - b) Speech riser diagrams.
 - c) This material standard.
 - d) Other standards and specifications referred to in the above documents.
 - e) Vendor drawings.
- 1.5 All documents shall be issued, using SI metric system of measurement according to NPCS-ES-GN-03.
- 1.6 The English language shall be used for all correspondence documents, catalogues, drawings and nameplates.
- 1.7 In the reference number of this standard purchaser means National Petrochemical Company of Iran "NPC".

2 STANDARDS AND CODES

- 2.1 The equipment design shall be in accordance with the latest edition of standards issued by IEEE (Institute of Electrical and Electronics Engineers) and CCITT (The International Telegraph and Telephone Consultative Committee).

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2.2 The equipment may conform with the national standards of the country of manufacture, provided these standards are based on IEEE & CCITT recommendations.

2.3 Vendor shall state in his quotation the standards to which the equipment conforms. If these are the national standards, then vendor shall state in the quotation, the deviations (if any) from the relevant IEEE & CCITT recommendations.

3 GENERAL REQUIREMENTS

3.1 The selection of electrical equipment for use within hazardous areas shall meet the following requirements and IEC standards.

3.1 1 Zone 1 (Division 1) Areas

Increased safety EX'e' equipment,

Flameproof or explosionproof EX'd' equipment, only if EX'e' is not commercially available.

3.1 2 Zone 2 (Division 2) Areas

Non-Sparking EX'n' equipment.

Equipment complying with the requirements of Clause 3.1.1 above.

3.1 3 Equipment for use in hazardous areas shall be suitable for the gas group(s) and ignition temperature(s) which will be stated in the requisition documents.

3.1 4 Electrical equipment for using in hazardous areas shall be certified by a government approved testing authority, e.g. PTB (Physikalische Technische Bundesanstalt, BASEFPA (British Approval Service for Electrical Equipment).

3.1 5 In non-hazardous areas, standard industrial equipment may be used with enclosures suitable for indoor or outdoor locations. Indoor enclosures shall be IP41 minimum and outdoor enclosures shall be 11'55 minimum.

3.2 PROTECTIVE FINISH

Vendor shall state the protective coating or materials which will be employed to meet the environmental conditions to which the instruments will be subjected.

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4 PAGING SYSTEM

4.1 OVERALL SYSTEM

4.1.1 The intercomm/paging systems shall consist of' a central exchange employing static circuitry, intercom stations, loudspeakers, tone generator, testing and monitoring units, back-up batteries, chargers, marshalling boxes, cable glands, etc., as specified in this standard and the requisition documents.

4.1.2 Vendor shall include all the equipment required for safe, reliable and efficient operation, monitoring, protection and maintenance of the system even if the same is not specifically mentioned in this standard.

4.1.3 Exchange unit, master stations and some of the intercom stations will be located in non-hazardous areas; some intercom stations & loudspeakers may be located in hazardous areas. The extent and detail of hazardous area will be defined in the requisition.

4.1.4 The number of stations and loudspeakers will be specified in the requisition.

4.1.5 The equipment shall provide for high reliability. The system shall be easy to repair and maintain and shall require minimum downtime during the repair and maintenance phase. The system should continuously monitor itself and perform self-tests. The system should pinpoint faults and automatically record the location for maintenance.

4.1.6 The system shall be electronic type.

4.2 POWER SUPPLY

The input voltage will be 380/220V. The back-up via a battery-charger system shall be used. The battery set shall be rated for normal operation of the system for at least 30 minutes subsequent to power failure.

4.3 WIRING & INSTALLATION

The system design shall allow for future expansion and ease of maintenance.
Where for maintenance/access circuits are required to be hinged out, there shall be negligible mechanical stress on cables & wiring.

4.4 CENTRAL EXCHANGE

4.4.1 The exchange shall be fully electronic type with semiconducting devices and shall not have any mechanical and moving part.

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