



NATIONAL PETROCHEMICAL COMPANY
STANDARDS

MATERIAL STANDARD
FOR
PROCESS STREAM ANALYZERS

NPCS-MS-IN-34

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1 GENERAL

1.1 SCOPE

1.1.1 This standard, covers the minimum requirements for the design, construction, materials, nameplate marking, testing and shipping of process stream analyzers.

1.1.2 The related standards referred to herein and mentioned below shall be of the latest editions prior to the date of the Purchaser's enquiry:

- ANSI B 2.1 Pipe Threads.
- ANSI B 16.5 Pipe Flanges and Flanged Fittings.
- API RP 550 PART-II Process Steam Analyzers.
- NEMA-NFPA 70 National Electrical Code.
- NEMA National Electrical Manufacturers Association.
- IEC International Electrotechnical Commission.
- CENELEC Comite European de Normalisation Electrotechnique.

1.1.3 In the event of any conflict between this standard and data sheets, related standards, codes, etc., the vendor should refer the matter to the purchaser for clarifications and only after obtaining the same should proceed with the manufacture of the items in question.

1.1.4 Vendor's extent of responsibility includes the following:

- a) Proper design of the sampling system and analyzer proper to measure the component of interest with the stated accuracy.
- b) Selection of materials for all the parts of the analyzer system so as to be compatible with the process stream and the surrounding atmosphere as per purchaser's data sheets.

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1.2 BIDS

Vendor's quotation shall include a detailed specification sheet for each analyzer system which shall contain the following information:

- a) All the details regarding type, construction, materials, accessories, etc. of the analyzer.
- b) Overall dimensions of major units in millimeters.
- c) An interconnecting wiring diagram for the complete analyzer system showing locations e.g. field, panel, etc.
- d) Any special cabling requirements including shielding and grounding requirements, maximum permissible distance, etc.
- e) Details of sampling system.
- f) Electrical power consumption in voltamperes.
- g) Flow in m^3/hr° .

1.2.2 All the units of measurement for various items in vendor's specification sheets shall be the same as those in purchaser's data sheets.

1.2.3 All the material specifications for various parts in the vendor's specification sheets shall be to the same standards as those in purchaser's data sheet's e.g. ASTM, BS, etc. .

1.2.4 Vendor shall attach a list of analyzers tag numberwise, summing up all the deviations from the purchaser's data sheets if there are any. Also, Vendor should provide reasons for these deviations wherever possible.

1.2.5 Vendor shall enclose catalogues giving detailed technical specifications and other information for each analyzer and its accessories covered in the bid.

1.2.6 Vendor's quotation, catalogues, drawings, and maintenance manuals shall be in English, The operating and maintenance manuals shall be prepared in such a way to enable the NPC engineers to do the commissioning and maintenance without outside help.

1.2.7 Vendor shall also quote for the following:

- a) Any special tools/devices needed for installation and maintenance work on the analyzer.



- b) Complete calibration and standardization kits for a period of one year, consisting of zero gas and span gas cylinders for each gas analyzer. For PH analyzers, vendor shall quote for buffer solutions. Also any reagents lubricants, etc., shall be quoted by the vendor.
- c) Two years' operational spares for each analyzer system.
- d) Commissioning spares.
- e) Availability of parts/products for at least 10 years from the date of withdrawal from the sale shall be confirmed by the vendor.

1.3 DRAWINGS AND DATA

1.3.1 Detailed drawings/diagrams schedule, reports, inspection plans, data, catalogues and manuals required from the vendor are indicated by the purchaser in vendor data requirement sheets. The required number of reproducibles and prints should be despatched to the address mentioned, adhering to the time limits indicated.

1.3.2 After placement of purchase order, vendor shall submit conformity certificates, test certificates, electrical certificates, and any other certified drawings and specification sheets for each analyzer which shall include the following:

- a) Overall dimensions in millimeters.
- b) Detailed inter-connection diagram for wiring, process piping and tubing, outline and mounting dimensions diagrams, detailed flow diagrams, circuit diagrams, panel diagrams and recommended installation diagram to be provided by the vendor.
- c) Detailed training, operating and maintenance manuals to be provided.
- d) Calibration curves.
- e) Cabling details including shielding/grounding requirements.

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