



NATIONAL PETROCHEMICAL COMPANY
STANDARDS

MATERIAL STANDARD
FOR
GENERAL PURPOSE STEAM TURBINES
FOR REFINERY SERVICES
NPCS-MS-RE-13
REVISION : 0

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1 GENERAL

- 1.1 General purpose steam turbines shall be supplied in accordance with the following:
- API 611, Third Edition, August 1988 "General Purpose Steam Turbines for Refinery Service".
- 1.2 This standard is supplemented by data sheets for each individual item on which the operating conditions and special requirements are listed. Wherever the data sheets conflict with the provisions of this standard, the data sheets shall govern. In the event that there are any exceptions to standard, data sheets, codes, standards, etc., these shall be clearly listed in vendor's bid.
- 1.3 Compliance by manufacturer with provisions of this standard does not relieve him of his responsibility of furnishing equipment and accessories of proper design mechanically suited to meet the specified service conditions.
- 1.4 Unproven, prototype or "first-off" equipment is not acceptable; only proven equipment may be used. Proven equipment is defined as equipment that has been in continuous operation elsewhere for a minimum of two years without major breakdowns, on similar duties, and under similar conditions. In this context, "similar" does not mean absolutely identical. However, turbine casings of given sizes and pressure ratings must have been operated at powers and speeds of the same order of magnitude on the application under consideration. Vendor is to provide an experience list with the bid.

2 MODIFICATIONS TO API 611

The following paragraphs specifying the modifications follow the API 611 numbers and each paragraph denotes an addition, substitution or deletion.

(Substitution)

The API Standard clause is deleted and replaced by the new clause.



(Deletion)

The API Standard clause is deleted without any replacement.

(Addition)

A new clause with a new number is added.

(Modification)

Part of the API Standard clause is modified, and/or a new description and/or condition is added to that clause.

3

SECTION 1 - GENERAL

1.1

SCOPE

(Substitution)

This standard covers the minimum requirements for general purpose steam turbines used in process services.

Note: Purchaser's requirements for all paragraphs in API 611 which require a purchaser's decision (bulleted paragraphs) will be indicated on the data sheets, or in this standard. If not addressed in the enquiry, the proposal shall clearly state the basis included in the furnished pricing.

1.2

ALTERNATIVE DESIGN

1.2.1

(Addition)

Metric fasteners and flanges constitute alternative design features and must be cited as an exception in the proposal.

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1.2.2

(Addition)

Where reference is made *in* this standard to AISI or ASTM materials, alternative equivalent materials are acceptable. Where alternates are offered in place of AISI, ASTM or ASME, they shall be of similar or higher quality and design. Chemical composition and properties shall be checked to ensure suitability for the intended service. All materials will be subject for review by purchaser. Where pressure vessels as defined by the ASME Code are included, they shall be designed and manufactured in accordance with sections VIII and IX.

CONFLICTING REQUIREMENTS

(Substitution)

In case of conflict between the various documents, *their* order of precedence is as follows:

- a) Purchase order.
- b) Requisition.
- c) Data sheets.
- d) This standard.
- e) Referenced industry standards.

(Addition)

All conflicting requirements shall be referred to purchaser in writing. Purchaser will issue confirming documentation, if needed, for clarification.

DEFINITION OF TERMS

1.4.26

(Substitution)

"Unit Responsibility" refers also to the technical responsibility for coordinating all auxiliary systems included in the scope of the order. This includes expediting and assurance that all applicable standard referenced on the data sheets or requisition are complied with by any sub-vendor. It also includes guarantee of performance of the complete package furnished.