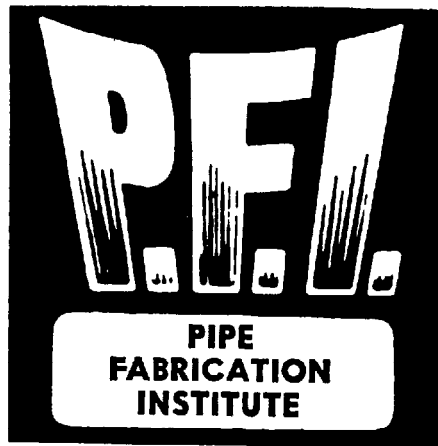


Guidelines Clarifying Relationships and Design Engineering Responsibilities Between Purchasers' Engineers and Pipe Fabricator or Pipe Fabricator Erector

Prepared by
Pipe Fabrication Institute Engineering Committee



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FOREWORD

The Pipe Fabrication Institute publishes these guidelines for the use and convenience of designers and consulting engineering firms, for pipe fabricators and fabricator erectors generally, and for the customers of each of them, in order to furnish some intelligent and practical observations concerning the ordinary and accepted responsibilities which are incurred by the design consultant and by the pipe fabricator or pipe fabricator erector in connection with large piping jobs.

It has been the aim of those responsible for this publication to furnish guidance to eliminate or reduce misunderstandings which have arisen in the industry due to lack of impartial definition concerning the area of responsibility which the participating groups assume on these jobs.

The guidelines will be of particular interest in situations where no contractual provision is made affecting these imprecise areas. It is possible that the guidelines might be used by contracting parties choosing to do so simply by their making reference to them in the contract.

We recognize that no guides can possibly provide for every contingency which might arise. For this reason the work has been directed toward the normal and usual situation which from time to time confronts the designer and the fabricator or erector.

Obviously, use of the guidelines is left to the discretion and judgement of the contracting parties, but it is our belief that an impartial and objective guide post will find quick support in the trade, will be welcomed by designers, fabricators, and erectors and appreciated, especially, by their customers.

Guidelines

GENERAL— BIDDING AND CONTRACTOR

- 1.0. Bid and contract documents shall specify the specific code or code sub-section applicable to the piping systems.

PIPING FABRICATOR/ERECTOR RESPONSIBILITY

- 2.0. Some major areas of responsibility of the Piping Fabricator or Erector encompass the following:
 - 2.1. Furnish materials in compliance with Purchasers' specifications, standards, approved construction drawings and applicable code requirements.
 - 2.2. Recommend alternate materials, fabrication or construction methods and procedures — which comply with applicable codes—whenever they provide advantages.
 - 2.3. Prepare all fabrication sketches and details as required for fabricators' regular production procedures and furnish copies in reasonable quantities as required by Purchasers' Engineers for their review, approval and records.
 - 2.4. Advise Purchasers' Engineers upon discovery of any conflict between their specifications and approved construction drawings and/or deviation from applicable codes, standards and any other condition which may adversely affect the work.
 - 2.5. Confirm accuracy of fabricated assemblies complying with Purchasers' approved construction drawings within dimensional tolerances of current PFI Standard ES3, irrespective of reviews of fabricator's sketches by Purchasers' Engineers.
 - 2.6. Provide the services of experienced technical personnel for performance in shop and field of specified non-destructive examination in conformance with Purchasers' requirements and code procedures.
 - 2.7. Advise Purchasers' Engineers currently on any conditions of material procurement that adversely affect delivery and erection schedules, with suggestions for available substitutes where feasible.
 - 2.8. Comply with code and specification requirements applicable to fabrication and non-destructive examination including required data reports.
 - 2.9. Maintain quality assurance and quality control program as required by the applicable code.

PURCHASING ENGINEERS RESPONSIBILITY

- 3.0. Some major areas of responsibility of Purchaser's Engineers on piping projects encompass the following:

- 3.1. The presentation of designs and materials by construction drawings, specifications and other documents which are adequate, suitable and acceptable for the intended service conditions and environment.
- 3.2. Approved construction drawings shall have complete and accurate over-all and intermediate dimensions and elevations. Where applicable they shall reflect requirements of built-in pitch and include erection positions before cold springing, and points of all cold spring gaps, with each delineated by three plane dimensions. They shall also indicate fillet weld size for support and special attachments.
- 3.3. Adequate identification references to all valves, equipment and specialties covered by Purchasers' approved drawings and specifications.
- 3.4. Piping flexibility analysis, where required, shall include pipe line deflections at intermediate and terminal points for all required conditions.
- 3.5. Provide in design adequate clearance between piping systems, equipment, facilities and structures to permit erection and free movement from thermal changes without any fouling or undesired interferences.
- 3.6. Indicate on approved construction drawings actual locations of field welds which are mandatory because of construction conditions, (floors, walls, columns, etc.).
- 3.7. Provide adequate drawing designs and operational procedures for all temporary piping requirements such as "blow out", cold pull, flushing, chemical cleaning and leak testing.
- 3.8. Specify all non-destructive examination requirements and the applicable acceptance standards that are in excess of applicable code requirements.
- 3.9. Advise the location for inspection and acceptance of shop fabrication as well as the procedure for notification of acceptance or the reason for rejection.
- 3.10. Provide personnel qualified to perform inspection and interpretation of nondestructive examination results when source inspection of fabrication is required.
- 3.11. Provide drawing release schedules at periodic intervals, compatible with fabrication requirement for erection compliance, on entire project scope. Consult with fabricator/erector before implementing such changes to ensure all factors are considered adequately.
- 3.12. Furnish reproducibles or a reasonable quantity of construction drawings, specifications and other documents, required by the Piping Fabricator and/or Erector to accomplish his work.

A current index of the latest revised ES Standards and Technical Bulletins is available from the Pipe Fabrication Institute.

PFI Standards and Technical Bulletins are published to serve proven needs of the pipe fabricating industry at the design level and in actual shop operations. Hence, such needs are continually considered and reviewed by the Engineering Committee of the Pipe Fabrication Institute to provide recommended procedures which have been demonstrated by collective experiences to fulfill requirements in a manner for Code compliance. However, as the PFI Standards are for minimum requirements the designer or fabricator always has the option of specifying supplementary conditions in the form of requirements beyond the scope of the PFI publications.