PROCESS INDUSTRY PRACTICES

COMPLETE REVISION
September 2016

Structural

PIP STE01100
Constructability Design Guide

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

PUBLISHING HISTORY
December 2009 Issued
September 2016 Complete Revision

Not printed with State funds

PIP STE01100
Constructability Design Guide

Table of Contents

1. Scope

This Practice provides engineers and designers with guidelines for improving constructability of a project.

This Practice describes guidelines for improving constructability of civil, structural, and architectural components of a project. This Practice provides guidelines for grass root projects, revamp projects, and turnarounds.

2. References

Applicable parts of the following PIP Practices, industry codes and standards, and government regulations shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

2.1 Industry Codes and Standards

- Construction Industry Institute (CII)
  - CII SP34-1 - *Constructability Implementation Guide*

3. Definitions

constructability: The optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve overall project objectives

contract documents: Any and all documents, including codes, studies, design drawings, specifications, sketches, practices, and data sheets, that purchaser or engineer of record has transmitted or otherwise communicated, either by incorporation or reference, and made part of the legal contract agreement or purchase order between purchaser and constructor

conventional construction: A method of construction where individual elements and components from multiple fabricators, vendors, and suppliers are shipped to the construction site and assembled piece-by-piece into the final structure or building; sometimes referred to as "stick built." This traditional method of construction tends to concentrate craft labor hours in the field.

grass roots project: A project where construction is substantially performed in a clear, open site with minimal interference from constructing around existing facilities

modularization: A method of construction where individual elements and components are shipped to one or more module fabrication shops where they are assembled into complete units that are shipped to the construction site for installation. This type of construction tends to move a portion of craft labor hours from the field to a controlled shop environment.

owner: Party who has authority through ownership, lease, or other legal agreement over site, facility, structure, or project wherein what is to be provided or installed will be used

pre-assembly: A process by which various materials, prefabricated components, and/or equipment are joined together at a remote location for subsequent installation as a unit