



Standard Practice for Quality Assurance Plan for Structural Steel Fabrication for Highway Structures¹

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1. Scope

1.1 This practice establishes procedures for a quality assurance plan for structural steel fabrication for highway structures. These procedures pertain to the inspections, measurements, and tests necessary for the fabricator and owner to substantiate material and product conformance to contract requirements. The fabricator's quality control plan (QCP) is to be designed and implemented with the objective of ensuring that all materials incorporated into the work conform to contract requirements. The owner's acceptance testing plan (ATP) is designed to provide assurance that the fabricator has successfully met this objective.

1.2 Inherent in this practice is the assumption that design details and specifications allow maximum flexibility in procedures and processes to allow the most cost-effective fabrication to be performed consistent with the quality level specified.

1.3 Alternative sampling methods, processes, procedures, and inspection equipment may be used by the fabricator when such procedures and equipment provide, as a minimum, the quality assurance required by the contract documents. Prior to applying such alternative procedures, the fabricator is to describe the procedure in a written proposal, and demonstrate to the satisfaction of the owner that the effectiveness of these alternative procedures are equal to or better than the contract requirements. In case of dispute, the procedures stipulated in the contract documents will apply.

2. Referenced Documents²

2.1 ASTM Standards:

E 543 Practice for Agencies Performing Nondestructive Testing³

2.2 ANSI/AASHTO/AWS Codes:

D1.5 Bridge Welding Code⁴

ANSI/AWS D1.1 Structural Welding Code—Steel⁴

¹ This practice is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.32 on Bridges and Structures.

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² In the Referenced Documents, *quality control*, *quality assurance*, and related terms may be defined differently.

³ *Annual Book of ASTM Standards*, Vol 03.03.

⁴ Available from American Association of State Highway and Transportation Officials, 444 N. Capitol Street, S.W., Suite 225, Washington, DC 20001 or from American Welding Society, Inc., 550 N.W. LeJeune Rd., P.O. Box 351040, Miami, FL 33135.

2.3 AISC Publication:

AISC Quality Certification Program⁵

2.4 American Society for Nondestructive Testing, Inc. Publication:

Recommended Practice No. SNT-TC-1A⁶

3. Terminology

3.1 Definitions:

3.1.1 *acceptance testing*—testing performed by the owner as part of the ATP.

3.1.2 *acceptance testing inspector, ATI*—an employee or representative of the owner, responsible for performance of duties specified in the ATP.

3.1.3 *acceptance testing plan, ATP*—the formal procedures adopted by the owner to monitor the fabrication process to ensure that the quality levels specified are being achieved. This also includes a description of corrective actions to be taken by the fabricator when the fabricator is not controlling the fabrication operation according to the accepted QCP.

3.1.4 *engineer*—the State Highway Engineer of a Highway/Transportation Department/Agency, or authorized representative, limited by the scope of duties as assigned by the transportation agency.

3.1.5 *fabricator*—the contractor/subcontractor/fabricator/shop (hereinafter referred to as the fabricator) that provides the materials and processes to fabricate structural steel members.

3.1.6 *nondestructive testing, NDT*—the type of testing of the material or processes involved in the fabrication that does not require removal of material, or changes in the material characteristics, that would alter the behavior of the finished product.

3.1.7 *owner*—a transportation agency with the responsibility for planning, contracting, erecting and maintaining a fabricated structure.

3.1.8 *quality assurance plan, QAP*—the QAP consists of the fabricator's quality control plan (QCP) and the owner's acceptance testing plan (ATP), and is intended to ensure that materials, personnel, procedures, and processes utilized during fabrication of steel members meet the quality levels specified in the contract.

⁵ Available from American Institute of Steel Construction, 400 North Michigan Avenue, Chicago, IL 60611.

⁶ Available from the American Society for Nondestructive Testing, Inc. 4153 Arlingate Plaza, Caller 28518, Columbus, OH 43228-0518.