



CERTIFICATION PROGRAMS

Supplemental Requirements for Fabricators of Hydraulic Steel Structures (HYD)

Preface

The 2019 revision is not a complete revision of the *Supplemental Requirements for Fabricators of Hydraulic Steel Structures (HYD)*. The following changes have been made in this revision:

- Preface - New Section Added
- Section 1 Before the Site Audit
 - HD1.1 - Editorial

Scope

This document (hereinafter referred to as *Supplements*) provides the additional requirements for the AISC Certification Program for Fabricators Hydraulic Steel Structures (HYD) (hereinafter referred to as the *Program*).

Purpose

Purpose of this *Program* is to confirm to owners, the design community, the construction industry, and the public that a certified hydraulic steel structures fabrication facility has the personnel, organization, experience, documented procedures, knowledge, equipment, and commitment to produce fabricated steel of the quality required for hydraulic steel structures. This *Program* is applicable to the following types of hydraulic steel structures: lock gates (miter gates, vertical-lift gates, sector gates, roller gates, and submersible Tainter gates), spillway gates, bulkheads, needle beams, lock culvert valves, and stop logs used in navigation, flood control, or hydropower projects and similar structures.

This certification offers assistance to the hydraulic structures professionals, owners, general contractors, and other interested parties in assessing a fabricator's capability to satisfy project quality needs. The Quality Management System (QMS) of the fabrication facilities (not products) is certified. The certification should not be understood as a product inspection of fabricated steel. Certification includes all functions of fabrication from receipt of contract through final delivery. The scope of this certification does not include design or installation.

Section 1 Before the Site Audit

- HD1.1 All Participants/Applicants are required to have available and comply with these *Supplements* and the *Governing Requirements for Certification Programs* (hereinafter referred to as *Requirements*).
- HD1.2 The AISC *Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components—2016* (hereinafter referred to as *Standard*) is the primary normative document for all Certification Programs. Whenever there is a conflict between



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the *Supplements* and the *Standard*, the *Supplements* govern.

- HD1.3 All Participants/Applicants shall be held to these *Supplements* and to Chapter 1 Sections 3 through 19, Chapter 4 Sections 4.5 through 4.7.8, and Chapter 4.F Sections 4.F.5 through 4.F.15.2 of the *Standard*. When using the *Standard*, the words “steel bridge” are to be replaced with “hydraulic steel structures.”

Standard Chapter 1 (General Requirements) and Chapter 4 (Bridge Fabricator Requirements) apply to this *Program*. *Standard* Chapters 4.I and 4.A are excluded.

- HD1.4 Participants/Applicants are eligible to apply for the Sophisticated Painting Endorsement (SPE). For information and requirements concerning this endorsement, refer to the *Requirements* Section 2, “Applying for Certification,” or Section 8, “Making Changes to the Certification Scope,” and the *AISC Supplemental Program Requirements for Applicators of Complex Coatings Endorsement*.
- HD1.5 Applicants to this *Program* must submit an application, payment, and all documents required by the *Application Document Submittal for AISC Certification—Fabricators and Manufacturers*.

Section 2 During the Site Audit

- HD2.1 The QMS that this *Program* applies to will be audited. Sample jobs/contracts of hydraulic steel structure work will be used to demonstrate capability to meet the *Program* regardless of whether the job/contract requires an AISC-certified fabricator.

- HD2.2 Participants/Applicants are required to have work in the shop at the time of the site audit that can be used to demonstrate compliance with the provisions of the *Program*. This work must be hydraulic steel structure work. If it is known or suspected that there will not be this type of work in the shop at the time of the site audit, AISC Certification must be contacted at least 30 days prior to the site audit to discuss alternate arrangements.

Solutions may include the performance of mock exercises or using other work of equal complexity that follows the quality management system practices to demonstrate capability. Failure to have adequate work in the shop during the site audit could result in an Additional Site Audit fee being required or in a Rescheduled Site Audit fee.

- HD2.3 *Standard* Section 1.3 is clarified and modified by the following:
- All references must be in English.

Current editions of the following references are required. (*Note:* Other editions may also be required by existing participant contracts.)

- AISC 303, *Code of Standard Practice for Steel Buildings and Bridges*
- ANSI/AISC 360, *Specification for Structural Steel Buildings*
- RCSC *Specification for Structural Joints Using High Strength Bolts*
- AISC *Selected ASTM Standards for Structural Steel Fabricators*, or equivalent
- AASHTO/AWS D1.5M/D1.5, *Bridge Welding Code*
- SSPC-PA 1, *Shop, Field, and Maintenance Coating of Metals*



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- SSPC-PA-2, *Paint Application Standard No. 2*

Provisions of *Standard* Section 1.3 not modified above remain in effect.

- HD2.4 The Certified Welding Inspector (CWI) may be an employee of the Participants/Applicants or contracted. In the case of the latter, contract status and qualifications of the CWI must be demonstrable. The CWI must be available during the site audit.
- HD2.5 Participants/Applicants must demonstrate that their Quality Control Inspector(s) (QCI) is qualified per the current ANSI/AISC 360, *Specification for Structural Steel Buildings* Section N4. These qualifications must be stated by the Participant/Applicant in its quality management system, including experience and training requirements.
- HD2.6 Bolt test method demonstrations will be required of participants at every Initial Certification (INIT) and Full Certification Renewal (RF) site audit. The demonstrations shall comply with the current RCSC *Specification for Structural Joints Using High Strength Bolts* Section 7, “Pre-Installation Verification.”
- A procedure for Rotational Capacity Testing is not required as listed in *Standard* Section 4.12.2.
- HD2.7 Participants/Applicants will be audited and evaluated to ensure compliance with the current AWS D1.5M/D1.5, *Structural Welding Code—Steel*, regardless of whether this is required by the sampled contracts and specifications.
- HD2.8 Participants/Applicants shall maintain the following documents in compliance with AASHTO/AWS D1.5M/D1.5, *Bridge Welding Code*, and have them available for review during each site audit:
1. One representative Welding Procedure Specification (WPS)
 2. Supporting Procedure Qualification Record (PQR), when required
 3. Welder Performance Qualification Record (WPQR) maintained current and qualified with records of period of effectiveness
- HD2.9 Participants/Applicants must develop, document and implement an effective Fracture Control Plan. The plan must outline responsibilities and methods employed in the facility to meet the requirements of Clause 12, AASHTO/AWS D1.5M/D1.5, *Bridge Welding Code*.
- HD2.10 Participants/Applicants must demonstrate capability to produce work that meets the requirements of Clause 12, AASHTO/AWS D1.5M/D1.5, *Bridge Welding Code*. If the Participant has not produced Fracture Critical (FC) work within the past three years, then its capability shall be demonstrated by running a job or a portion of a job as if it met FC requirements in accordance with the Fracture Critical Mock Exercises.
- HD2.11 Participants/Applicants shall demonstrate that training has been performed at least annually for the requirements of their Fracture Control Plan and the requirements of Clause 12, AASHTO/AWS D1.5M/D1.5, *Bridge Welding Code*. This training must be documented and available during the site audit.



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COMMENTARY Provided for clarification of criteria in the *Standard* and includes references to the appropriate section(s) of the *Standard*.

- C1 1.6 **Contract Review** This section requires a “documented procedure” for contract review. As a part of this review, there will be required sign-offs, checksheet completion, or other means of determining that the bid offered is meeting the contract and that any special considerations found in the contract documents have been considered and planned for. During the audit, the auditor will be looking for evidence in the form of records of the outcome of the contract review process.
- C2 1.10.3 **Receipt inspection** The term “receiving inspection” is not used in the *Standard*. It has
1.13 been replaced by 1.10.3 where “verification of purchased product, materials and services” is used. This verification or inspection can be performed as part of the purchasing or inspection procedure depending on how the company is structured. Section 1.13.2 does mention that “materials shall be inspected before work begins,” which is indicative of an inspection of materials, but if it is done as part of the in-process inspection and a defect is found requiring replacement of the material, then the delay could have a greater impact on the project than if the inspection is performed at or near receipt of material.
- C3 1.12 **Process Control** This section requires “documented procedure(s)” for those fabrication and erection processes that affect quality. A list of minimum required procedures is provided, but what are the procedures that affect quality? The answer to this question is found in the Glossary of the *Standard* by referring to the definition of Fabrication and Erection.
- C4 1.13 **Inspection Sampling** Section 1.13 requires “documented procedure” to ensure that the completed work meets contract documents.
- C5 1.10.2 **Subcontracted Fabrication/Erection** When a Certified company needs to subcontract fabrication/erection, the criteria of 1.10.2 require subcontractors to be evaluated on their ability to meet the requirements of approved construction documents. If the approved construction documents require a Certified Fabricator/Erector, then the subcontractor needs to meet the requirement. When an approved construction document is not met or needs to be changed/deviated from, 1.8.2 for control of construction documents is followed for requesting changes and approval.
- C6 1.14 **Calibration or Adjustment History** These types of quality records provide evidence that the calibration was performed and traceable to a national or international standard, to identification of the equipment that was calibrated, to who performed the calibration, to the date of the calibration, and the date the calibration expires or the next calibration is due. The calibration record would also provide evidence of any adjustments that were performed during the calibration process.
- C7 **Quality Control Records** This term is used throughout the *Standard* to identify this type



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of record. These records are controlled by referring to *Standard* Section 1.9.