



CERTIFICATION PROGRAMS

AISC 207-16 AUDIT GUIDE All Erector Programs and Endorsements

Purpose

This audit guide is provided to assist the transition from the current standards:

- AISC 206-13 *Certification Program for Structural Steel Erectors - Standard for Structural Steel Erectors*

to the new standard AISC 207-16 *Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components (207-16)*.

Scope

This audit guide can be used during internal audits to identify “gaps” between the management systems and the new standard or as a starting point for implementing management systems to meet the requirements of AISC Certification. It can also be useful when considering adding additional certifications and/or endorsements to an existing certificate. This audit guide includes all certification programs and endorsements. **The Program Requirements for Fabricator, Erector and Manufacturer Certifications and the program specific Supplemental Requirements are not included but should be reviewed as part of the internal audit to ensure compliance.** For users of the SPE/QP3 420-10 *Certification Standard for Shop Application of Complex Protective Coating Systems*, the additional criteria are included with a reference to the general sections of 207-16.

Use Instruction

Explanation of the column layout:

- **Ref#** - identifies the section or subsection of new standard 207-16
- **Criteria** - notes the text from the new standard and each “shall” is required for implementation of the management system(s)
- **MS Ref** - record the reference of the management system which contains this criteria. (procedure number, Quality Manual section, etc.)
- **Audit Findings** - use this space to indicate what was observed, which provides evidence of what was reviewed to determine conformance
- **Results** - use to indicate the result of comparing the evidence observed versus the criteria. A key is provided in the footer of each page.

Program Codes

E - Structural Steel Erectors (CSE)

When a section contains new criteria, the affected programs will be indicated in the **Ref#** column in **RED** and the new portion of the criteria will also be in **RED** to make identification of potential changes or gaps easy to identify.

Customize to Your System

If you have multiple certifications and/or endorsements, you may want to copy and paste the criteria from the supplemental Chapters of 207-16 provided in this guide into the row of the associated general section. Criteria that does not apply to your certifications can be deleted making a custom internal audit guide for your company.

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Ref#	Criteria	MS Ref	Audit Findings	Results
1.1	<p>Purpose The purpose of this Standard is to confirm to owners , the design community, the construction industry, and public officials that those who adhere to the requirements in this Standard have the personnel, organization, experience, documented procedures , knowledge, equipment and commitment to:</p> <ul style="list-style-type: none"> A. produce fabricated steel to the quality required for structural steel buildings and other structures , or B. produce components to the quality required for bridge and highway construction, or C. produce fabricated steel to the quality required for steel highway or railroad bridge construction, or D. erect fabricated steel to the quality required for structural steel buildings and other structures, steel highway or railroad bridge construction. 			
1.2	<p>Scope The requirements in this Standard shall apply as follows:</p> <ul style="list-style-type: none"> A. Chapters 1 and 2 shall apply to Building Fabricators, who fabricate and supply the structural steel frames for buildings. B. Chapters 1 and 3 shall apply to Metal Component Manufacturers, who manufacture components that include bracing not designed for primary loads (diaphragms, cross frames and lateral bracing); camera, light, sign and signal support structures; bridge rail; stairs; walkways; grid decks; drains; scuppers; expansion joints; bearings; ballast plates; and mechanical movable bridge equipment. Manufacturers of camera, light, sign and signal support structures; high mast light towers; bridge rail; complex expansion joints; high load multi-rotational (HLMR) bearings; and mechanical movable bridge equipment shall also be required to meet specific supplemental requirements to this Standard. C. Chapters 1 and 4 shall apply to Bridge Fabricators, who fabricate and supply steel highway or railroad bridges. D. Chapters 1 and 5 shall apply to Erectors. <p>In Chapters 2 through 5, only those subsections that are supplementary to Chapter 1 are indicated. The Glossary is an integral part of this Standard. Nonmandatory Commentaries are provided for background, and the user is encouraged to consult them.</p>			
1.3 E	<p>References The reference documents and standards necessary to make personnel aware of work requirements shall be consistent with the requirements of existing contract documents and shall be readily available to those who need them. The ability to work to and meet the requirements of the latest edition of the following documents shall be demonstrated:</p> <ul style="list-style-type: none"> A. ANSI/AISC 303 Code of Standard Practice for Steel Buildings and Bridges B. RCSC Specification for Structural Joints Using High-Strength Bolts C. AISC 503 Selected ASTM Standards for Structural Steel Fabrication, or equivalent D. AWS A2.4 Symbols E. AWS A3.0M/A3.0 Terms and Definitions F. AWS D1.1/D1.1M Structural Welding Code—Steel 			

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1.4 E	<p>Definitions Definitions for terms in the body of this Standard printed in italics are defined in the Glossary. Acronyms for professional organizations are not italicized in the text but are included in the Glossary.</p> <p style="color: red;">As used in this Standard, the words shall or will denote a mandatory requirement. The word should denotes a guideline or recommendation. The words may or can denote an opportunity to make a choice.</p>			
1.5	MANAGEMENT RESPONSIBILITY			
1.5.1	<p>Policy for Quality Executive management shall ensure that the policy for quality is understood, implemented and maintained. The policy for quality shall include:</p> <ul style="list-style-type: none"> A. A commitment to quality that includes a commitment to meet the requirements in contract documents . B. A quality management system that provides a framework for establishing, communicating and reviewing quality goals. <p>Executive management shall establish goals to improve quality. Goals shall be measurable and documented through objective evidence . As quality goals are achieved, new goals shall be set that demonstrate commitment to continuous improvement.</p>			
1.5.2	<p>Periodic Management Review Executive management shall conduct periodic review of the quality management system at planned intervals, but annually at a minimum. Management review shall encompass, assess and report the following, at a minimum:</p> <ul style="list-style-type: none"> A. A summary of previous management reviews. B. Results of any internal and external audits conducted since the previous management review. C. An assessment of customer feedback and feedback mechanisms, identifying opportunities for improving quality. D. An assessment of product or work nonconformances . Both the number and severity of nonconformances shall be assessed. E. An assessment of process nonconformances, including compliance with the documented procedures comprising the quality management system . F. An assessment of the effectiveness of the corrective actions taken. G. An assessment of the results of equipment inspections, including the adequacy of equipment resources. H. An assessment of the adequacy of the training program with respect to the levels of qualification required as appropriate. I. An assessment of any proposed or required modifications to the quality management system. <p>The management review record shall include the decisions and actions required for implementation of:</p> <ul style="list-style-type: none"> A. Improvement of the effectiveness of the quality management system and its processes B. Improvement of product quality C. Resource needs <p>Records from management reviews shall be maintained according to the record retention policy.</p>			

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1.5.3	<p>Responsible Quality Personnel Executive management shall designate a management representative for quality who shall report directly to (or be a part of) executive management . The designated management representative for quality may perform other functions within the company, provided that those functions do not conflict with the quality responsibilities. The designated management representative(s) shall have the ability, responsibility and authority to:</p> <ul style="list-style-type: none"> A. Ensure that documented procedures needed for the quality management systems are established, implemented and maintained in accordance with this Standard. B. Report to executive management on the performance of the quality management system and any need for improvement. C. Communicate with external parties on matters relating to the quality management system . 			
1.5.4	<p>Resource Management Resources necessary to comply with the contract documents shall be available. Resources shall include, but are not limited to, the resources described in the following. Personnel performing defined functions shall have the required qualifications and the ability to successfully perform the function.</p>			
1.5.5	<p>Quality Management System The quality management system shall satisfy all of the requirements of this Standard and the requirements of the contract documents and referenced standards. The quality management system shall include a quality manual , documented procedures and records as required by this Standard.</p>			
1.5.6	<p>Internal Communication Executive management shall ensure that appropriate communication processes are established and that communication takes place on a regular basis regarding the effectiveness of management systems.</p>			
1.5.7	<p>Quality Manual The quality manual shall include a page showing the current revision date and the name and location of the facility or organization. The quality manual shall include or incorporate by reference the following documents at a minimum:</p> <ul style="list-style-type: none"> A. Documented statements of a quality policy and quality objectives as required by this Standard. B. Documented procedures established for the quality management system (or references to them), along with their associated quality records . C. Documents needed by the organization to ensure the effective planning, operation and control of its processes. D. Organizational chart describing the interrelationship of functional positions that manage, perform and verify work affecting quality. E. Job descriptions outlining responsibilities, authority and required qualifications for key positions . F. Qualification evidence for individuals in key positions /functions. G. Equipment list. H. Facility plan (not applicable to erectors). <p>Executive management shall define additional documented procedures , drawings or other documents that are required beyond the minimum requirements set by this Standard to meet the needs of the organization and its customers. The highest ranking member of executive management shall sign and date the quality manual .</p>			

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1.6	Construction Document Review and Communication A documented procedure shall be developed for contract and project specification review. The procedures shall require these reviews for each project, and the review shall begin no later than the acceptance of responsibility for performing the work.			
1.7	DETAILING - Section 1.7 does not apply to erectors .			
1.8	CONTROL OF MANAGEMENT SYSTEM DOCUMENTS AND PROJECT DOCUMENTS			
1.8.1	Management System Documents A documented procedure shall be developed to control quality management system documents.			
1.8.1.1	Quality Management System Documents Documents covered by this Section shall include, but not be limited to, the quality manual , the safety manual as applicable, and any documented procedures.			
1.8.1.2	Review and Approval Documents shall be reviewed and approved by the same function and authority level that authorized the original document. The function and authority levels that have responsibility for review and approval of internal standards and documented procedures shall be designated. Revisions to the quality manual and other quality management system documents shall be reviewed for adequacy and approved by the same function and authority level that authorized the original document. The documented procedure for document and data control shall describe the frequency and requirements for review and updating, and establish a method to identify changes.			
1.8.1.3	Revision Control Revisions shall be clearly identifiable and there shall be a method for monitoring and identifying the latest revision. Revisions shall be reviewed for adequacy and approved by the same function and authority level that authorized the original document. Documents shall remain legible and easily identifiable.			
1.8.1.4	Access Documents shall be available and readily accessible to all personnel responsible for performing functions affecting the quality of the completed work.			
1.8.1.5	Communication Changes and revisions shall be clearly communicated to all personnel responsible for performing functions affecting the quality of the completed work.			
1.8.2	Project Documents A documented procedure shall be developed to control project documents. Documents covered by this Section shall include, but not be limited to, contract documents , revised contract documents , shop drawings , erection drawings , RFIs, and any quality assurance documents received.			

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1.8.2.1 E	<p>Tracking Contract documents and changes to the contract documents , including, but not limited to, revised contract documents , change orders, and RFIs , shall be tracked.</p> <p>Tracking information shall indicate, at a minimum, date of receipt, summary of issue, and ultimate disposition of the change, including distribution of the final decision to the appropriate parties. The documented procedure shall define methods for receipt and documentation of owner and general contractor requirements and fabricator -originated changes as they occur throughout the fabrication and detailing process. Requirements may be received in original contract documents ; in subsequent telecommunications, letters, transmittals related to product requirements; and in change orders or contract addenda.</p> <p>The documented procedure shall require records (e.g., logs, files or master lists) that show receipt of change data, incorporation, issue, and distribution of approved and revised approval documents to all necessary departments and personnel at the fabricator's facility and necessary external organizations, subcontractors or suppliers.</p>			
1.8.2.2	<p>Revision Control For project documents that the fabricator, erector or manufacturer produces, revisions shall be clearly identifiable and there shall be a method for monitoring and identifying the latest revision.</p> <p>The documented procedure shall include provisions to prevent inadvertent use of obsolete documents.</p> <p>Documents shall remain legible and easily identifiable.</p>			
1.8.2.3	<p>Access Documents shall be available and readily accessible to all personnel responsible for performing functions affecting the quality of the completed work.</p>			
1.8.2.4	<p>Communication Changes and revisions shall be clearly communicated to all personnel responsible for performing functions affecting the quality of the completed work.</p>			
1.9	<p>MAINTENANCE OF QUALITY RECORDS A documented procedure shall be developed for the maintenance of quality records that provide for record identification, collection, storage and retrieval, retention, and disposition.</p>			
1.9.1	<p>Retention Quality records shall be subject to an established retention policy. The documented procedure for the control of quality records shall contain provisions for the disposition of the records at the end of the retention period.</p>			
1.9.2	<p>Storage Quality records shall be stored in a manner that minimizes damage, deterioration or loss.</p>			
1.9.3	<p>Retrieval Quality records shall be accessible in a reasonable time frame.</p>			
1.10	<p>PURCHASING A documented procedure shall be developed to ensure that subcontractors and suppliers provide contracted services and materials conforming to project requirements.</p>			

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1.10.1	<p>Purchasing Data Purchasing documents shall clearly describe subcontracted work, purchased materials and services ordered in written purchasing documents. This information shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> A. The type of service, material, class, grade, and other unique identification B. The applicable specifications , drawings, process requirements, and inspection instructions and any witness points C. Delivery instructions and date D. Required quality reports, certified test reports, and certificates of compliance/conformance of purchased materials 			
1.10.2	<p>Selection of Subcontractors and Suppliers Subcontractors and suppliers shall be evaluated and selected on the basis of their ability to meet subcontract requirements, the management system requirements, the requirements of this Standard, and the requirements of the approved construction documents and referenced standards.</p> <p>A documented procedure shall be developed that describes how the certified company conducts initial and ongoing evaluation of all subcontractors and suppliers.</p> <p>Management shall determine:</p> <ul style="list-style-type: none"> A. Evaluation criteria B. Reevaluation interval C. Personnel involved in the evaluation process <p>Subcontractors and suppliers shall be evaluated via an audit or documented acceptable past experience. As a minimum, quality of the final products and timely, proper delivery of services or products shall be part of the evaluation.</p>			
1.10.3	<p>Verification of Purchased Product, Materials and Services The documented procedure for verification shall identify the activities necessary for ensuring that purchased products, materials and services meet project requirements. Purchasing documents, subcontractor and supplier qualification records, and records of the periodic evaluation of subcontractors and suppliers shall be maintained as required by Section 1.9.</p>			
1.10.4	<p>Control of Customer-Furnished Material If materials are furnished by the customer, the organization shall verify, store and maintain materials in an appropriate fashion. Customer-furnished material shall be protected to prevent use for other than its intended purpose. Any such product that is lost, damaged, or otherwise unsuitable for use shall be recorded and reported to the customer.</p>			

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1.11 E	<p>MATERIAL IDENTIFICATION</p> <p>A documented procedure shall be developed for the identification of material. Records that provide a basis for material identification shall be maintained as defined for quality control records.</p> <p>Structural steel material shall be identified as stated in the Code of Standard Practice , unless otherwise noted in the contract documents.</p> <p>Welding consumables shall be identified in accordance with the appropriate AWS specification.</p> <p>Coating materials (excluding metallic coating) shall be identified on the container by, at a minimum, color (pigment description and federal standard number, or manufacturer's number), lot/batch number, ID/stock number, quantity of coating in container, date of manufacture , date of expiration, and manufacturer's name and address.</p> <p>Metallic coatings shall be identified by composition and the appropriate ASTM specification , including hot dip or mechanical galvanizing and metallizing.</p> <p>Fasteners shall be stored in containers clearly identified by type, grade, size and lot number(s).</p> <p>Material traceability to corresponding MTRs is necessary only when specifically required by contract. The fabricator or manufacturer shall develop a documented procedure to maintain traceability, when required, of materials from the point of receipt and throughout the course of fabrication.</p>			
1.12	<p>PROCESS CONTROLS</p> <p>Documented procedures shall be developed for the processes necessary to produce a consistent, acceptable level of quality of the completed work in accordance with applicable codes and project requirements.</p> <p>Regardless if these processes are routinely performed, effective implementation of the following documented procedures is required as a minimum.</p>			
1.12.1 E	<p>Welding A documented procedure shall be developed for welding. The documented procedure for welding shall address the development and management of:</p> <ul style="list-style-type: none"> A. WPSs B. Preheat requirements C. PQRs D. Storage (including ovens) and identification requirements for welding consumables E. Welder, welding operator, and tack welder qualifications and qualification test records in accordance with appropriate AWS requirements F. Welder, welding operator, and tack welder performance records—to provide objective evidence that the "period of effectiveness" has not been exceeded and satisfactory performance is consistently achieved G. Traceability of welds to the welders who produce them, as applicable <p>WPSs shall be in close proximity to and used by the welders, welding operators or tack welders.</p>			
1.12.2 E	<p>Bolt Installation A documented procedure shall be developed for bolting. The procedure shall meet the requirements of the RCSC Specification for Structural Joints Using High-Strength Bolts and the requirements of approved construction documents and referenced standards. The documented bolting procedure shall include storage, pre-installation verification, installation, and inspection of fastener assemblies for snug-tightened, pretensioned and slip-critical joint types.</p>			

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1.12.3 E	Material Preparation for Application of Coatings The documented procedure for surface preparation shall support achievement of cleanliness and surface profile required by coating manufacturer recommendations, product data sheets, and contract documents.			
1.12.4 E	Coating Application The documented procedure shall support application and curing of coatings in accordance with manufacturer recommendations and product data sheets and with contract documents			
1.12.5 E	Equipment Maintenance The documented procedure for equipment maintenance shall, at a minimum, define the evaluation of and preventive maintenance for equipment necessary to meet product or work quality and delivery requirements.			
1.13	INSPECTION AND TESTING A documented procedure shall be developed to ensure that the completed work meets the requirements of the contract documents .			
1.13.1 E	Assignment of QC Inspections and Monitoring Qualification requirements for QC inspectors shall be defined and documented as required in Section 1.5.4. Production personnel may be assigned to QC inspection duties under the following conditions: A. They are knowledgeable in proper inspection methods and acceptance criteria specified for the material or products they are inspecting and hold the required certification as applicable. B. They are aware of their responsibilities and are given time to perform them. C. They do not inspect their own work. D. Their inspections are monitored by qualified quality control personnel.			
1.13.2 E	In-Process Inspection Materials shall be inspected before the work begins. The fabricator, manufacturer or erector shall employ in-process inspection plans and practices for specified process requirements and inspection acceptance criteria that are not verifiable at final inspection or for which final inspection can hinder subsequent work . In-process inspection is appropriate for processes including, but not limited to, welding, bolting, coating surface preparation, and coating application, as applicable. Compliance with documented process control procedures shall be monitored.			
1.13.3 E	Final Inspection Final inspection shall be conducted. QC inspectors qualified and responsible for final inspection shall perform the final inspection of structural steel products and metal components prior to delivery in the case of fabrication , or after the completion of work in the case of erection.			
1.13.4 E	Inspection Records The inspection procedure shall indicate what records and marks are used to document inspections. In-process inspections shall be verifiable until the final inspection of the piece. Final inspections shall be documented . The quality records produced shall be filed and retained as defined in the procedure required by Section 1.9. Inspection records shall clearly show what was inspected, the result of the inspection, and who performed the inspection.			

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1.14 E	<p>CALIBRATION OF INSPECTION, MEASURING AND TEST EQUIPMENT A documented procedure shall be developed to calibrate and maintain inspection, measuring and testing equipment. The procedure shall define equipment calibration frequency. However, the volt/amp meters used to verify compliance with WPS parameters (may be welding machine volt and amp meters or auxiliary volt/amp meters) shall be calibrated at a minimum every 12 months, unless a more frequent interval is required. The documented procedure shall include provisions for:</p> <ul style="list-style-type: none"> A. A unique identifier for each piece of equipment. B. An equipment list. C. Service use for each piece of equipment, including the required precision for the types of inspections, measurements or tests made. D. Calibration or adjustment instructions in accordance with the manufacturer's recommendations. E. Frequency of calibration or adjustment. F. Tracking calibrations, adjustments and repairs. G. Storage and handling of inspection, measuring, and test equipment to maintain accuracy and fitness for use. H. Identification of standards or certified equipment having a known valid relationship to internationally or nationally recognized standards used to calibrate each listed piece of equipment. Where such standards do not exist, the basis used for calibration shall be documented . I. The action to be taken when equipment does not meet the calibration requirements. This action includes disposition of the measuring device and an evaluation of the impact to product that was measured using the device. J. Method of preventing inadvertent use of uncalibrated equipment where calibration is required. <p>Calibration or adjustment history shall be available.</p> <p>Rented or borrowed equipment must be accompanied by a valid calibration certificate and is subject to the requirements of this Section. For equipment that is damaged, dropped, knocked over or functioning improperly, the documented procedure shall include provisions for prominently marking or tagging such equipment to preclude usage and removing the equipment from service until it can be recalibrated, adjusted or repaired.</p> <p>Whenever the accuracy of inspection, measuring and test equipment is in question, proactive calibration shall occur, regardless of manufacturer's recommendations. The precision required of any piece of equipment shall be sufficient to satisfy the acceptance standards of the project specifications or industry standards.</p>			
1.15	<p>CONTROL OF NONCONFORMANCES A documented procedure shall be developed to identify and control nonconformances .</p>			
1.15.1	<p>Nonconformance with Management Systems A nonconformance related to the performance of the management system shall be documented to the detail level described by the documented procedure . These nonconformances may be identified by the management systems , during external audits, or by quality assurance inspections.</p>			

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1.15.2	<p>Nonconforming Product and Work The documented procedure for nonconforming product and work shall provide for identification, documentation , evaluation, treatment of nonconforming product and work, and notification of the relevant functions concerned. Nonconforming product and work may also be identified in a quality assurance inspection report. These reports, when received, become quality assurance inspection records. The procedure shall provide for the disposition of quality assurance inspection records.</p> <p>Nonconforming product and work shall be clearly marked as soon as practical after it is discovered. Records shall be kept of the pieces affected, the nature of the nonconformance , the treatment selection, authorization, and reinspection results if applicable. The treatment of nonconforming work may include:</p> <ul style="list-style-type: none"> A. Redesign and rework , as approved by the responsible party, and as required in the contract documents B. Repair , as approved by the responsible party, and as required in the contract documents C. Use as-is, as approved by the responsible party, and as required in the contract documents D. Scrap <p>If the treatment is rework or repair , the result will be inspected per project requirements, as well as per the quality control process.</p>			
1.16 E	<p>CORRECTIVE ACTION</p> <p>A documented procedure shall be developed for corrective action to improve quality. Any corrective action taken shall be to the degree appropriate to the magnitude of problems and commensurate with the risks to quality. The documented procedure shall include periodic review of records or summaries of nonconformances and of internal and external quality audit reports for determination and initiation of corrective actions. The corrective action procedure shall address these steps:</p> <ul style="list-style-type: none"> A. Document a corrective action request (CAR) that includes the nonconformance to be addressed by the corrective action and the requirement that has not been met. The corrective action procedure shall define the functional positions authorized to issue a CAR and initiate the corrective action process. B. Assign responsibility and establish a time frame for the response to a CAR. C. Investigate and document the scope of the nonconformance , root causes, corrective measures taken, and list the actions to be taken to prevent recurrence. D. Communicate the corrective action request and resolution to executive management and appropriate members of the organization. E. Follow up the corrective action taken with periodic monitoring to assure the corrective action is implemented and is effective. <p>Corrective action shall be applied when:</p> <ul style="list-style-type: none"> A. There is a nonconformance that is repetitive in nature as identified by periodically reviewing nonconformance reports or summaries for negative trends. B. Process nonconformances are found during the internal and external quality audits indicating that the quality management systems may not be implemented and functioning as stated in the quality manual . C. Nonconformance with the quality management system is found during the day-to-day execution of the system. D. Nonconformance is unacceptable as determined by management. E. A customer complaint has been investigated and corrective action has been determined necessary. 			

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1.17	<p>HANDLING, STORAGE AND DELIVERY OF PRODUCTS AND MATERIALS Products and materials shall be stored, loaded and shipped to avoid damage and deterioration as required by the Code of Standard Practice. Products and materials shall be protected to prevent use in other than its intended purpose. Any such material that is lost, damaged, or otherwise unsuitable for use shall be recorded and reported as appropriate.</p>			
1.18	<p>TRAINING Personnel responsible for functions that affect quality, including, but not limited to, project managers, field/shop supervisors, detailers, inspectors, welding personnel, fitters, painters, riggers, signal persons, and crane operators, shall receive appropriate initial and periodic documented training. Training records shall be controlled in the same manner as quality records. Personnel providing training shall have appropriate training or experience in the subject they are teaching. Training course outlines include the subject and the key points.</p>			
1.19 E	<p>INTERNAL AUDIT In accordance with a documented procedure, an internal audit of each section of the quality management system shall be performed at least once a year to evaluate the compliance and the effectiveness of implementation. Different parts of the management systems may be audited at different times and different frequencies, as long as all sections of the management systems are audited annually. The management representative or a qualified individual, independent of the function being audited, shall perform the audit and produce a written record of the audit result from each section. Internal audit records shall be controlled in the same manner as quality records.</p>			
	<p>CHAPTER 5 ERECTOR REQUIREMENTS</p>			
5.3	<p>References The ability to work to and meet the requirements of the latest edition of the following documents shall be demonstrated: (a) ANSI/AISC 360 Specification for Structural Steel Buildings</p>			
5.3.4	<p>Safety The erector shall provide access to OSHA Part 1926 Safety and Health Regulations for Construction or the appropriate state equivalent to employees and others who require access to this information to perform their scope of work.</p>			

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5.5.2	<p>Periodic Management Review Executive management shall conduct periodic review of the safety management system at planned intervals, but annually at a minimum. The management review shall encompass the following, at a minimum:</p> <ul style="list-style-type: none"> A. A brief summary of applicable previous management reviews. B. Results of any internal and external audits conducted since the previous management review. C. An assessment of customer feedback and feedback mechanisms, identifying opportunities for improving safety. D. An assessment of product nonconformances . Both the number and the severity of product nonconformances shall be assessed. E. An assessment of process nonconformances , including compliance with the documented procedures comprising the safety management system . F. An assessment of the results of equipment inspections, including the adequacy of equipment resources. G. An assessment of the adequacy of the training program with respect to the levels of qualification required, as appropriate. H. An assessment of any proposed or required modifications to the safety management system . <p>Records from management reviews shall be maintained according to the record retention policy.</p>			
5.5.4.3	<p>Erection Tools and Equipment The erector shall have under their control the tools and equipment necessary to perform the work, and the tools and equipment shall be maintained at the level necessary to produce the required quality.</p>			
5.5.8	<p>Safety Manual The highest ranking member of executive management shall sign and date the safety manual . The safety manual shall contain the following information at a minimum:</p> <ul style="list-style-type: none"> A. Safety policy statement B. Identification of the individual responsible for the safety management system C. Safety and health inspections D. Incident investigation E. Hazard prevention and control F. Safety and health training G. Personal protective equipment H. Hazard communication I. Lockout/tagout procedure J. Respiratory protection K. Fall protection 			
5.5.9	<p>Policy for Safety Executive management shall be responsible for training employees on the policy for safety as well as for implementation and ongoing maintenance. The policy for safety shall include:</p> <ul style="list-style-type: none"> A. A commitment to safety that includes, at a minimum, a commitment to meet federal and/or state requirements for construction safety B. A safety management system that provides a framework for establishing, communicating and reviewing safety goals C. A commitment to safety training <p>Executive management shall establish safety goals. Goals shall be measurable and documented through objective evidence . As safety goals are achieved, new goals shall be set that demonstrate commitment to continuous improvement.</p>			

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5.5.10	<p>Responsible Safety Personnel Executive management shall designate a management representative for safety who shall report directly to (or be a part of) executive management . The designated management representative for safety may perform other functions within the company, provided that those functions do not conflict with the safety responsibilities. The designated management representative(s) shall have the ability, responsibility and authority to:</p> <ul style="list-style-type: none"> A. Ensure that documented procedures needed for the safety management systems are established, implemented and maintained in accordance with this Standard. B. Report to executive management on the performance of the safety management system and any need for improvement. C. Communicate with external parties on matters relating to the safety management system . 			
5.8.1.4	<p>Access The safety management system documents shall be available and readily accessible to all personnel affected by the safety management system .</p>			
5.8.1.5	<p>Communication Changes and revisions to the safety management system documents shall be clearly communicated to all personnel affected by the safety management system.</p>			
5.8.2.1 E	<p>Tracking A transmittal system shall be established to record the distribution of project information to steel erection personnel, subcontractors and suppliers . Transmittals shall indicate the status of approval and release for erection.</p>			
5.8.2.3	<p>Access The safety plan shall be available and readily accessible to all personnel affected by the safety management system.</p>			
5.10 E	<p>Purchasing The information included in purchasing documents shall include safety data sheets.</p>			
5.16	<p>Corrective Action Any corrective action taken shall be to the degree appropriate to the magnitude of problems and commensurate with the risks to erection safety. The documented procedure shall include periodic review of records or summaries of nonconformances and of internal and external safety audit reports for determination and initiation of corrective actions. Corrective action shall be applied when:</p> <ul style="list-style-type: none"> A. Process nonconformances are found during the internal and external safety audits indicating that the safety management system may not be implemented and functioning as stated in the safety manual . B. Nonconformance with the safety management system is found during the day-to-day execution of the system. 			
5.18	<p>Training The requirements in Section 1.18 shall additionally apply to personnel responsible for functions that affect safety.</p> <p>Safety training shall include weekly safety training talks and an initial safety orientation for each employee. Safety training shall include the requirements of OSHA 1926, as applicable.</p>			
5.19	<p>Internal Audit The requirements in Section 1.19 shall additionally apply to the safety management system .</p>			

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Ref#	Criteria	MS Ref	Audit Findings	Results
5.20	<p>Erection Plan The erector shall prepare an erection plan for every project. The erection plan , in whole or in part, may be described graphically or in text. The erection plan shall include the following information as appropriate for the project:</p> <ul style="list-style-type: none"> A. Project name and location. B. Indication of access for material delivery and equipment delivery, including lay-down, shake-out, and field- assembly areas. C. Sequence of erection. D. Dimensions and locations of cranes or other lifting equipment. E. Required site conditions for the crane location and confirmation of adequate base support for the crane. F. Sizes, model names or numbers, and capacity charts for lifting equipment. G. Information regarding the heaviest lift and its radius; the longest radius and its lift weight; and the boom configuration for each at every location of the lifting equipment. H. Indicate critical lifts, if any, and include the critical lift protocol or procedure. I. Requirements for multi-lift rigging. J. Types of slings to be used and, if more than one type, the locations in which they will be used. K. Rigging information for atypical lifts (weight, geometry, center of gravity, etc.) such as slings and hardware, rated lifting beams, beam clamps (including catalog cuts), as applicable to the lift. L. Designation of crane paths from position to position, indicating load travel paths, swing restrictions, and personnel exclusion zones. M. Designation of space required for field assembly prior to erection. N. Identification of special fastening sequences and/or methods. O. Identification of special or atypical connections. P. Traffic control notes. Q. Identification of specification requirements for erection , such as plumbing tolerances smaller than those stipulated in the Code of Standard Practice. R. The stability of the structure and individual members during erection shall be checked in accordance with Section 7.10.3 of the Code of Standard Practice . S. Falsework requirements and corresponding design calculations. T. Jacking layout and jacking procedure. U. Notation of special problems due to overhead restrictions, underground utilities, barriers to crane tail swing, etc. <p>The erection plan shall be reviewed before the start of erection by the erector's project management team and be available to all employees assigned to the project. All revisions shall be approved by the site superintendent and communicated to affected personnel at the time of the revision.</p>			

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Ref#	Criteria	MS Ref	Audit Findings	Results
5.21 E	<p>Safety Plan The erector shall prepare a safety plan for every project.</p> <p>A safety plan shall consider known or reasonably anticipated hazards relating to the project site and construction activities. The safety plan shall include a pre-task analysis for each steel erection activity that occurs on the project site, a list of all hazardous materials in the control of the erector at the project site, an emergency evacuation plan, and requirements for regularly scheduled safety inspections. The safety plan shall include the following information as appropriate for the project:</p> <ul style="list-style-type: none"> A. Project name and location B. The erector's emergency contacts on site and off site C. Medical services available on site, contact information for emergency services, and emergency evacuation procedures D. Fall protection requirements that differ from those in the safety manual E. Required personal protective equipment F. Protection for openings and perimeters G. Special procedures required, such as, but not limited to, lockout/tagout, confined space training, and lead exposure mitigation H. Special training required I. Employee drug-testing requirements that differ from those in the safety manual J. Requirements for work attire K. Information as provided to the erector regarding other hazardous materials onsite <p>The safety plan shall be reviewed before the start of erection by the erector's project management team and be available to all employees assigned to the project. All revisions shall be approved by the individual responsible for the safety management system and communicated to affected personnel at the time of the revision.</p>			
5.22	<p>Other Project-Specific Requirements In accordance with OSHA Subpart R, the Code of Standard Practice , and the contract documents , prior to the start of erection , the erector shall have documentation or other evidence that required site conditions have been met. In accordance with the Code of Standard Practice and contract documents , the erector shall have documentation or other evidence that the required information in Section 7.10 of the Code of Standard Practice has been provided.</p>			
	SEISMIC ERECTION ENDORSEMENT			
5.3.1	<p>For the erection of structures requiring the use of ANSI/AISC 341, Seismic Provisions for Structural Steel Buildings , the erector shall have available and demonstrate the ability to work to and meet the requirements of:</p> <ul style="list-style-type: none"> (a) ANSI/AISC 341 Seismic Provisions for Structural Steel Buildings (b) AWS D1.8 Structural Welding Code—Seismic Supplement 			
	METAL DECK INSTALLATION ENDORSEMENT			
5.3.2 E	<p>When the erector's work includes the installation of metal deck, the erector shall have available and demonstrate the ability to work to and meet the requirements of ANSI/SDI QA/QC Standard for Quality Control and Quality Assurance for Installation of Steel Deck . Instructions for metal deck installation shall be provided in the erection plan and the safety plan .</p> <p>(a) AWS D1.3 Structural Welding Code—Sheet Steel</p>			
	BRIDGE ERECTION ENDORSEMENT			
5.3.3	<p>For the erection of bridges, the erector shall have available and demonstrate the ability to work to and meet the requirements of:</p> <ul style="list-style-type: none"> (a) AASHTO/AWS D1.5 Structural Welding Code—Bridge Welding Code 			