



QS1 Auditor Checklist
Quality System Audit

Company: _____

Audit Location: _____

Date: _____

Audit Performed By: _____

Date Completed: _____

Key Contact(s): _____

Name/Title: _____

Email Address: _____

Phone Number: _____

QCS: _____

Project Manager: _____

I. Quality Systems Requirements				
	QS-1 REFERENCE	M.A.R.	RATING 1 2 3	COMMENTS
1.	6.1 Quality System Requirements	<ul style="list-style-type: none"> • Company has established and maintains a written quality system appropriate to the type, range, and volume of in process inspection activities its QC personnel undertake as required per job specifications and requirements. • Elements of the quality system are documented and are available to affected contractor personnel. • Policies, objectives, and commitment to good quality management and industry practice are defined and documented in a quality control manual. • There is written evidence that the quality manual is communicated to all affected personnel. • There is evidence that written procedures are followed by all affected personnel where applicable. • Company meets audit criteria and is certified to SSPC QP-1, QP-3, QP-6 or QP-8. • The quality manual is reviewed by executive management at least annually for continued efficacy, and is updated as necessary or if required by a customer. This management review is documented. • Approved company signatures are on file. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	
	6.7			

II. Organization & Management				
	QS-1 REFERENCE	M.A.R.	RATING 1 2 3	COMMENTS
5.	6.8 Independent verification of inspection result by Supervisor	<ul style="list-style-type: none"> There is written evidence (sign off) that contractor inspection results (reports) are verified by a competent supervisory level person familiar with applicable inspection and test methods, not directly involved in the inspections. <p>Auditor note: a supervisor/qualified person, an assistant QCS/TQM, or the QCS, consistent with the structure of the company, should accomplish this. Every inspection report shall be reviewed and “signed off” by a qualified person while the project is in progress, to the extent practical.</p>	1 2 3	Note: Unlike QP-1 and other QP programs, QS-1 requires a separation between the quality group and the production group. (5.6.2)
	5.21	<ul style="list-style-type: none"> Review of inspection reports prepared by field personnel are conducted by quality management at least weekly. 	1 2 3	
	5.2.2 / 5.2.3	<ul style="list-style-type: none"> There is evidence that verification of the inspection results is administered independently of the inspection and production operation. 	1 2 3	

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
6.	6.3.1 Quality Planning	<ul style="list-style-type: none"> Company shall define and document how requirements for quality are met on projects where QS-1 is implemented. Quality plan is consistent with company quality system and shall be documented in a format as required per company procedures or a job- specific required format. <p>The contractor shall include, as a minimum, the following activities as appropriate in meeting the specified requirements for products, projects, or contracts:</p> <ul style="list-style-type: none"> Project-specific quality plans Identification and acquisition of any controls, processes, or equipment needed to achieve the required quality. Ensuring compatibility of the production process and the applicable documentation. Revisions are issued as needed to continue improvement and meet new and existing requirements. This includes: <ul style="list-style-type: none"> (1) Taking into account new inspection techniques, equipment new to the company and equipment new to the market. (2) The identification and development of any measurement requirement involving capability that exceeds the known state-of-the-art, in time to meet a contract requirement or request a waiver from the customer. 	1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
7.	6.3.2 Work plans	<ul style="list-style-type: none"> • Company has a separate written work plan, including an inspection plan for each job phase if they differ in scope. • An approved plan is prepared for each task that requires performance of productive work prior to the start of work on that specific project. • Plan is revised and updated to stay current with all requirements and is available at the job site during production. • The plan is a compilation of all processes that make up the required work. Each process shall include as a minimum: <ul style="list-style-type: none"> • A written description of the process. • Qualification requirements for personnel performing the work. <p><u>Auditors Note:</u> Company's craft personnel must meet QP-1 or QP-3 (if Shop) criteria for craft worker assessment and have current and valid certifications as required per job specifications (CAS, C-7, C-14, C-12, C-13, etc...).</p> <ul style="list-style-type: none"> • Methods used to ensure personnel accomplishing the procedure have direct knowledge of the requirements prior to beginning work. • Methods used to control procedure. • Acceptance and rejection criteria referenced to the contract and internal requirements. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	Note: this is an expansion of the "Work Plan" concept in QP-1.

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
8.	6.4 Procedures for Project Document Review	<ul style="list-style-type: none"> • Company shall establish and maintain documented procedures for project documentation review (QS1-6.4.1). 	1 2 3	
	6.4.2	<ul style="list-style-type: none"> • Before submission of a bid, tender, proposal or acceptance of a contract the project documents are reviewed to ensure that: <ul style="list-style-type: none"> ○ Requirements are adequately defined and documented. ○ There is documentation that all ambiguities and differences are resolved and approved. ○ The Company has the capability to meet all contract and specification requirements. 	1 2 3	
	6.4.3	<ul style="list-style-type: none"> • There are procedures showing how amendments and revision to project contracts and specifications are documented and correctly and accurately issued to project personnel. • Channels of communication and interfaces with customers are established (QS1 6.4.3). • Records of contract reviews by management are maintained (QS1-6.4.4). 	1 2 3	

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
9.	6.5.1 Document and Data Control	<ul style="list-style-type: none"> The Company has implemented and maintains documented procedures to control all documents and data that relate to the requirements of QS-1. Individual documents are clearly legible and have a unique numbering system for identification where applicable. <p>Note: Various media are acceptable for documents such as: electronic, photos, drawings, diagrams, sketches, tapes, etc.</p>	<p>1 2 3</p> <p>1 2 3</p>	Examples of documents include industry standards and customer drawings.

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
10.	6.5.2 Document and Data Approval and Issuance	<ul style="list-style-type: none"> Procedures for reviewing documents and approval of adequacy by authorized personnel is verified. master list or equivalent document control procedure identifying the current revision status of documents is established. The document control procedures shall ensure that: <ul style="list-style-type: none"> Pertinent issues of appropriate documents are available at all locations where operations essential to the effectiveness of the quality system are performed. There are procedures for removing invalid and obsolete documents. Retained obsolete documents for legal reasons or knowledge preservation are clearly marked. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
11.	6.5.3 Document and Data Revisions	<ul style="list-style-type: none"> Changes to documents and data are reviewed and approved by personnel that performed original review and approval or by other authorized personnel who have access to pertinent background information. 	1 2 3	

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
12.	6.6 Internal Review	<ul style="list-style-type: none"> There is written evidence that inspection results/tests are independently reviewed in the field or shop floor on a spot basis by a competent supervisor to ensure conformance with specifications and other contract requirements. There is a company policy for spot checks, and documentation of specific project changes. The QM shall conduct at least one formal audit of the Quality System for each job that requires implementation of QS-1 no later than 50% into production. All audit findings are documented in writing. <p>Auditor note: Where specifically documented, and performed by a qualifying auditor, independent of the inspection program, such field or shop floor checks can be considered part of the internal audit process. Look for sign-off specific to this task and corresponding travel/expense/trip records, if making</p>	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	This process refers to visiting the field or shop floor. Item 9 of the checklist refers to routine paperwork review of inspection reports.
	Internal Review "Internal audits"			

		<p>these checks in the field (e.g., for QP-1 firms).</p> <ul style="list-style-type: none"> • Company has a plan that outlines the particulars of internal audits (who, when, where, etc.). At a minimum, the plan meets SSPC Guidelines for internal auditing (see Appendix A attached to the bottom of this checklist.). • Audits are done by <u>qualified</u> personnel who have auditor training. • Audits are conducted, findings documented, and results reported to management in accordance with company procedure for internal audits. • Projects requiring internal auditing by clients are audited. • An internal audit is performed upon receipt of a formal client or prime contractor complaint regarding the inspection process. <ul style="list-style-type: none"> • Corrective actions are documented and implemented within 5 working days after notifying executive management of results. • Findings are tracked until corrected. • Records of corrective action follow up being performed are maintained. • Customers are notified in writing if an internal audit casts doubt on the validity of an inspection. • Appropriate action is taken as a result of findings from external audits and that action is documented. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	
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III. Personnel				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
13.	7.1 Quality Manager (QM)	<ul style="list-style-type: none"> • Contractor shall employ a full time Quality Manager (QM) who supervises and directs all QC personnel. • There shall be a competent qualified QM backup available. • Qualifications: <ul style="list-style-type: none"> ○ SSPC or NACE PCS or; ○ Level III coating inspectors (SSPC, NACE) for QP-1,3,6 firms or; ○ CCI for QP-8 firms or; ○ BS degree in Materials Science, Corrosion Engineering or equivalent. ○ Successfully completed QCS course or equivalent. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	
	7.4 Physical Qualifications of Inspectors	<ul style="list-style-type: none"> • Each inspector has the physical ability to access all areas of the job requiring inspection (QS1-7.4.1) and perform required tests. • Each inspector shall show proof of being examined no less than every 2 years to ensure 	<p>1 2 3</p> <p>1 2 3</p>	

		<p>natural or corrected near distance visual acuity. The inspector shall read the J-1 letters of a standard Jaeger Test Chart or equivalent, at a distance of not less than 12 inches with one or both eyes, corrected or uncorrected (QS1-7.4.2).</p> <ul style="list-style-type: none"> • Each inspector is shall be initially examined for color perception using the Ishihara Test or the Farnsworth D-15 Test (QS1-7.4.3) and must pass one of these tests. • Exams are administered by a qualified person. An inspector that does not pass the Farnsworth D-15 test must be evaluated by a Licensed Medical Practitioner to determine color perception. An inspector can only perform work that is within his/her color perception capability. (7.4.4) • The Company has a program to identify any other physical qualifications in addition to visual acuity testing required to perform assigned duties (QS1-7.4.6). • All exams mentioned above must be administered by a Licensed Medical Practitioner (7.4.5). 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	
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V. Equipment & Equipment Reference Materials				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
14.	8.1 Measurement and Test, Equipment (M&TE) and equipment reference materials	<ul style="list-style-type: none"> • Inspection personnel are furnished all items of equipment, including references to perform required inspection tests. • If the contractor uses equipment outside its permanent control, it shall ensure that the equipment meets all Measurement and Test Equipment requirements. 	<p>1 2 3</p> <p>1 2 3</p>	

		Auditor note: Project records should document all M&TE issued to each project or each inspector.		
15.	8.2 Maintenance of inspection equipment 6.2.10	<ul style="list-style-type: none"> • All equipment is maintained in accordance with manufacturer's recommendations. • Records indicate that defective equipment is clearly identified and removed from service (QS1-8.3.8). <ul style="list-style-type: none"> • The contractor shall evaluate the effects of any defect on previous inspections and tests. 	1 2 3 1 2 3 1 2 3	
16.	8.3 Calibration of Inspection Instruments 8.3.1-8.3.8 6.2.10	<p>Calibration records shall be maintained for each instrument. The records shall include:</p> <ul style="list-style-type: none"> • The name of the instrument. • Manufacturer's name, type identification, and serial number or other unique identification. • Date instrument was received & date placed in service. • Current location of instrument. • Condition of the instrument when received (e.g., new, used reconditioned). • Manufacturer's operating and accuracy verification instructions for the instrument. • Dates and results of the instruments calibration and date of expiration. • Records of all current and valid calibration certificates. • History of any damage, malfunction, modification or repair. 	1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	

V. Measurement Traceability & Calibration				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
17.	9.0. Measurement Traceability and Calibration 9.3	<ul style="list-style-type: none"> All M&TE having an effect on the accuracy or validity of inspections and tests are calibrated. There is evidence that measurements, where applicable, are traceable to nationally recognized standards. Calibration certificates shall state such. <p>Auditor note: When traceability to national standards is not applicable, the company has a procedure or instrument manufacturer's instructions to confirm correlation of results.</p>	<p>1 2 3</p> <p>1 2 3</p>	
18.	9.2 Measurement Traceability (in service) 9.4 9.5	<ul style="list-style-type: none"> Where relevant, reference standards and measuring and testing equipment are subjected to in-service checks (calibration verification) between calibrations. Inspectors note field calibration verification or accuracy checks on inspection reports. Inspectors note equipment model and serial number for measurements taken with each instrument on inspection reports. Calibration intervals shall be established for M & TE. Intervals shall be no longer than that recommended by the equipment manufacturer. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	Note: Sometimes contract requirements will state calibration intervals.

VI. Inspection Methods & Practices				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
19.	10.1 Inspection methods/practices (general)	<ul style="list-style-type: none"> Inspectors are furnished up-to-date instruction manuals, which include current standards, instructions on calibration and use of Measurement and Test Equipment references. Records demonstrating that individual inspectors have received and understand procedures for use and calibration verification of equipment exist and are current. Inspectors are provided job site specifications, special provisions, product data sheets, SDS, appropriate standards and other applicable job site documents and equipment. (10.1.1) There are post-job inspection files, which document what was furnished to the inspector at the job site. There is evidence that inspectors are brought up-to-date, at least annually, on new and revised standards, tests, instruments, and practices. <p>Auditor note: Look for an annual (or routine) meeting or class, online or in person, to discuss inspection changes. Review meeting outline or class syllabus for applicability. Other acceptable methods include disseminating changes through traceable documents, self-study materials or via computer based training.</p>	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	

	QP 5 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
20.	10.2. Inspection methods/practices (job specific)	<ul style="list-style-type: none"> • Appropriate methods and procedures that comply with contract requirements are used for inspections, tests and related activities. • Where methods are not specified, methods are selected that have been published by technical societies (e.g., ASTM, NACE, SSPC, IMO, API, ISO) or other relevant scientific/technical organizations or journals. • Where it is necessary to employ methods not specified or not spelled out as a standard, agreement is reached between the contractor, client and coating manufacturer on acceptable methods, or industry standards to reference and this is documented. (10.3) 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	
21.	10.5 Sampling and Sample Selection	<ul style="list-style-type: none"> • Where sampling is carried out as part of the test method, the company uses documented procedures and appropriate statistical techniques to select samples. 	<p>1 2 3</p>	
22.	10.6 Calculations and data transfer	<ul style="list-style-type: none"> • Calculations and data transfers shall be subject to appropriate checks. 	<p>1 2 3</p>	

23.	10.7 Computers and other data recording devices 10.7.1 10.7.2	Where computers or automated equipment are used for the recording, processing, manipulation, reporting, storage or retrieval of calibration or inspection data, the contractor ensures that: <ul style="list-style-type: none"> Procedures shall be established and implemented for protecting the integrity of data; such procedures shall include, but not be limited to, integrity of data entry or capture, data storage, data backup and replication, data transmission and data processing, controlled access to computer files. Procedures shall be established to verify protection of the data's integrity. Procedures to verify computer and automated equipment are secure and property is maintained in acceptable environmental and operating conditions so data is protected. 	 1 2 3 1 2 3 1 2 3	
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VII. Traceability of Records & Reports				
	QS-1 REFERENCE	M.A.R.	Rating	COMMENTS

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24.	11.2 Traceability of records and reports 11.2.1-11.2.7	There are procedures for ensuring quality of inspection and support activities as follows: <ul style="list-style-type: none"> • Inspection procedures and recording systems. • Procedures for receipt of specifications and revisions. • Records of standards and specifications or coatings inspection work records and their utilization. • System for filing, distribution, storing and retrieving of inspection reports. • Availability of inspection equipment and procedures for verification of accuracy. • Procedures to ensure that each major significant activity (e.g., surface preparation, coating application, and curing of primer, intermediate and topcoat application) was inspected and documented. • Procedures to verify that specified steps were taken in storing, handling, and applying coatings, in compliance with OSHA, EPA, state, and local regulations and applicable NFPA standards. 	 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	

	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
25.	11.3 Record system	There is evidence that: <ul style="list-style-type: none"> • The contractor maintains a record system to suit 	1 2 3	

		<p>its particular circumstance and comply with any applicable regulations.</p> <ul style="list-style-type: none"> • It retains on record all original observations, calculations and derived data, calibration records and a copy of the calibration certificate, or inspection report, for an appropriate period. • The records for each inspection and test contain sufficient information to permit their repetition based on current standards, industry best practices contract requirements, and shall include the identity of personnel involved in sampling, preparation, inspection, or testing. 	<p>1 2 3</p> <p>1 2 3</p>	
26.	11.4 Storage of Records	<ul style="list-style-type: none"> • All records (including those pertaining to calibration and test equipment), certificates and reports are safely stored, held secure and in confidence to the client. • Reasonable efforts (e.g., locked room, vault, secure server, or file cabinets with controlled access) are made to keep records safe and secure, a minimum of five (5) years or as required in the specific contract, whichever is longer. 	<p>1 2 3</p> <p>1 2 3</p>	

VIII. Certificates & Reports				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
27.	12.0 Certificates and reports	<p>There is evidence that:</p> <ul style="list-style-type: none"> • The results of each inspection, test, or series of inspections or tests carried out by the contractor are recorded in a documented report accurately and objectively, in accordance with any instructions in the inspection or test methods. The reports include all the information necessary for the interpretation of the inspection or test results and all information required by the method used. • Each report includes at least: <ol style="list-style-type: none"> 1. A descriptive title. 2. Name and address of Inspection Company, and location where the inspection was carried out. 3. Identification of the Measurement and Test Equipment (such as serial number). 4. Name and address of client. 5. Name and address of coating Application Company. 6. Description and clear identification of the structure or equipment inspected. 7. Description of the test area and results of the inspection or test. 8. Date of inspection. 9. Identification of the inspection or test method used, or clear description of any non-standard method used. 10. Reference to sampling procedure, if relevant. 11. Any deviations from, additions to or exclusions from the inspection or test method, and any other information relevant to a specific inspection or test, such as environmental conditions. 12. Measurements, examinations and derived results, supported by tables, graphs, 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	

		<p>sketches and photographs as appropriate, and any failures identified.</p> <p>13. A signature and title, or an equivalent identification of the persons accepting responsibility for the content of the report and date of issue.</p> <p>14. Where relevant, a statement to the effect that the results relate only to items inspected/tested.</p> <p>15. A statement that the report shall not be reproduced except in full, without the written approval of the company.</p> <p>16. Where the report contains results of inspections or tests performed by sub-contractors, these results shall be clearly identified.</p>	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	<p>** Inspection reports shall be legible. Note too, that the content and format of inspection reports may be dictated by the contractor's customer (owner or prime contractor).</p>
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IX. Subcontracting				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS

28.	13.0 Subcontracting	<ul style="list-style-type: none"> The company shall show proof of written acceptance by the client of all subcontractors used. 	1 2 3	
		<ul style="list-style-type: none"> Where a contractor subcontracts any part of its QC inspection or testing or QA, this work shall be placed with a contractor that is SSPC-QS 1 certified or a Coating and Lining Inspection company that is SSPC-QP 5 certified. 	1 2 3	
		<ul style="list-style-type: none"> The contractor shall record and retain details of its investigation of the competence and compliance of its sub-contractors and maintain a register of all subcontracting. 	1 2 3	

X. Outside Support & Services				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS
29.	14.0 Outside Support, Supplies and Services	<ul style="list-style-type: none"> Company shows evidence of using outside services and supplies that are of adequate quality to sustain the client's confidence on worked performed. 	1 2 3	
		<ul style="list-style-type: none"> Company shall maintain records of all suppliers for whom it obtains support services or supplies required to perform work as required. 	1 2 3	
		<ul style="list-style-type: none"> Verify that suppliers provide materials and / or supplies of adequate quality verified by certificates of conformance or contract-specific document requirements. 	1 2 3	
		<ul style="list-style-type: none"> Where no independent assurance is available, the contractor verifies that purchased equipment and consumable materials are not used until they have been inspected, calibrated and otherwise determined as complying with specifications. 	1 2 3	

XI. Complaints				
	QS-1 REFERENCE	M.A.R.	Rating 1 2 3	COMMENTS

30.	15 Complaints	<ul style="list-style-type: none"> • Company shall have a documented policy and procedures for the resolution of complaints received by clients. • A record shall be kept of all complaints and of the actions taken by the company to resolve the complaint. • The contractor shall maintain a record of all complaints and Corrective Action Requests (CARS) issued and the actions taken to address them. Complaints shall be reviewed by executive management on a periodic (e.g., annual basis) to look for trends adverse to production of quality work and trends detrimental to the contractor's reputation. • Where a complaint raises doubt concerning the contractor's compliance with the contract or its own QMS procedures, delineated in this standard, the contractor must show evidence that those areas of activity and responsibility are promptly and properly investigated. 	<p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p> <p>1 2 3</p>	
32.	Non-conformance and Corrective Action Procedures 6.2.11			
33.	Preventative Action Procedures 6.2.12	<ul style="list-style-type: none"> • There is evidence that the contractor has implemented procedures for evaluating previous and potential non-conformities to identify trends that could have a negative impact on the QS-1 QMS. <ul style="list-style-type: none"> ○ Look for evidence in Management Review meeting notes and routine supervisory/project management meeting notes. 	<p>1 2 3</p>	

Appendix A

I. Guidance on Meeting QS1 Internal Audit Requirement & SSPC Position

Statement on Internal Auditing Requirements for QS1 Certified Coating and Lining Firms:

This position statement applies to the your internal auditing of coating and lining work. The internal audit program consists of all internal audits, annual management evaluations, corrective actions, and follow-up.

A. Introduction: Why Implement an Internal Auditing Program?

Unlike the audit of a company's financial statements, internal quality auditing is used as a tool for monitoring the state of your company's quality management system (QMS). An effective internal audit process can benefit your company by improving operating efficiency (e.g., reducing waste and rework) and reducing business risks (e.g. warranty service demands, latent defects, and litigation problems). When you take the time to identify areas of inefficiency, you are always looking at your coating QS services with an eye toward improving your performance (i.e., reducing rework by getting it right the first time, every time).

The use of internal audits in conjunction with a QMS provides a framework for evaluating compliance. Internal audits also create an environment where continual improvement is both expected and desired.

If your firm implements a QMS merely to comply with QS1, your company is missing the point of the QMS. Likewise, if you implement an internal auditing program just to meet a QS1 audit item, you are again overlooking the benefits of continuous improvement.

The QMS provides the structure from which you can develop a baseline for management and operations / production personnel to improve processes in a controlled fashion. The internal audit process plays an important role in:

- Continually assessing your company's compliance with its QMS
- Helping you evaluate the effectiveness of previous improvement efforts
- Identifying future opportunities for improvement

Top management must be the first to recognize the value of the QMS and the internal audit program. There must be a total commitment from top management to implement the QMS and to continually improve your company's operations. An effective internal audit program is critical for monitoring your company's QMS and identifying where further efficiencies can be applied.

B. Who Makes a Good Internal Auditor?

ISO/ASQ QE19011-2002 Auditing identifies the following personal attributes for an auditor:

- Ethical (fair, truthful, sincere, honest, and discreet)
- Open-minded (willing to consider alternative ideas or points-of-view)
- Diplomatic (tactful in dealing with people)
- Observant (actively aware of physical surroundings and activities)
- Perceptive (instinctively aware of and able to understand situations)
- Versatile (adjusts readily to different situations)
- Tenacious (persistent, focused on achieving objectives)
- Decisive (reaches timely conclusions based on logical reasoning and analysis)
- Self-reliant (acts and functions independently while interacting effectively with others)

Your internal auditors should have all these characteristics, plus a keen eye for problems associated with operating the business and the ability to synthesize knowledge and observations into meaningful recommendations for improvement. Successful internal auditing also requires using certain techniques that are not necessarily complicated, but not always self-explanatory. Like all areas of business and management, once you've identified an individual with the desired personal characteristics, some training and experience will be required for the individual to perform satisfactorily.

C. Auditor Training and Qualifications

ISO/ASQ QE19011-2002 also provides numerous recommendations for auditor qualifications and experience. Additionally, the effective internal auditor must have general knowledge of coating and linings and company operations, as well as technical knowledge of the protective coatings industry.

The American Society for Quality (ASQ) has an Auditor Certification Program that is appropriate for internal auditors. While ASQ certification is not required for QS1 internal auditors, it may be worth considering for the individual(s) in your company heavily involved in internal auditing. The Body of Knowledge for the Certified Quality Auditor Program can be found at www.asq.org, or specifically at http://www.asq.org/cert/types/cqa/bok_new.html. ASQ also offers a self-study-auditing course in both "at home" and "online" versions. At a minimum, any individual assigned auditing functions should have completed ASQ e-Learning Courses – Auditing (CQA) Fundamentals I and Auditing (CQA) Fundamentals II, or ASQ's Foundations in Quality Learning Series – Certified Quality Auditor (self-study), or an equivalent. ASQ e-Learning Course – Quality 101 (web-based training) will provide a good foundation for anyone involved in developing, managing, auditing, or otherwise maintaining a QMS.

D. Compliance with QS1

SSPC expects QS1 firms to perform internal audits on a minimum of 50% of their coatings and linings projects. One way to demonstrate compliance with this quantitative requirement is to keep a log of annual (FY calendar) projects with notations on the log showing which

jobs were internally audited, the name of the internal auditor, and the date(s) of the internal audit. The log should link specific project records to the appropriate internal audit records.

If you already have such a log or list and use it for other purposes, this is acceptable. To assist you in identifying projects for auditing, here is a list of situations that might pose unusual risks and must be considered high-priority projects for internal auditing:

- Using or having used a QS Inspector “new” to your company.
- Using or having used a newly trained, inexperienced QS Inspector.
- Doing work for a new client.
- Doing a new category of work, regardless of whether you have an experienced QS Inspector on the project.
- Receiving a complaint about quality from a client or the prime contractor, or the material or equipment supplier.
- Receiving a formal request from a client to audit project documents and test procedures/results.
- Executing a contract that requires internal auditing.

You should allow for internal audits to be both announced and unannounced at the discretion of your Technical Quality Manager (TQM) or Quality Control/Assurance Manager (QCM) or the Responsible Executive (RE).

E. Audit Sample Size

Much value can be derived from internal audits when appropriate sampling techniques are used. You should have procedures in place to implement the internal audit policy, including selecting projects, sampling, evaluating, and reporting. Internal audits should be fair and objective. Before beginning any audit, the internal auditor must become familiar with the details of the coating specification, especially acceptance criteria, as well as details of the QS1 records, test procedures, and results. Results must be reviewed for completeness, accuracy, and relevance.

When the audit is complete, the internal auditor must sign the report and distribute copies to the TQM and the RE. All audit reports (internal and external), management reviews, corrective actions, and resolutions (internal and external) must be part of the controlled records.