

PURCHASE ORDER ATTACHMENT Q-201A

Software Quality Subcontractor Survey Questionnaire

INSTRUCTIONS FOR PURCHASE ORDER ATTACHMENT Q-201

1. A qualified employee shall be selected by the Software Quality Manager to perform each software quality supplier survey. Qualifications include software engineering and/or software quality assurance experience and attendance at internal software supplier quality training.
2. All questions on the Software Quality Supplier Survey Questionnaire shall be answered YES/NO regardless of whether or not the requirement will be tailored out on a specific purchase order.
3. Explanations shall be documented to support the YES/NO answer for each question. Explanations should include reference to the directive document (practice, procedure, or plan) which documents the required proem.
4. Objective evidence of implementation of each requirement should also be reviewed. If the requirement is newly documented such that implementation of the requirement has not occurred, then that too should be identified in the explanation to the question.
5. The Software Quality Supplier Survey Questionnaire should be sent to the supplier prior to the survey with sufficient time to allow the supplier to prepare. It is helpful to review the Software Quality Supplier Survey Questionnaire with the supplier over the phone so that they know what types of evidence they will be requested to produce and who might be necessary for interview.
6. The supplier should be told as the survey progresses or at least at the end of each day, which questions are being answered negatively (NO) so that the supplier is aware how successfully they are communicating. Occasionally, a supplier believes that they have provided answers or evidence to answer all the questions positively only to find out at the end of the survey that they have failed many questions.
7. It is recommended that the final survey results be reviewed with the surveyor's Software Quality Manager prior to presenting them to the supplier. The matrix at the end of the Software Quality Supplier Survey Questionnaire should be used to summarize the survey results. The preliminary *findings shall* be presented to the supplier in a de-briefing to be followed by a formal report sent by the respective Boeing Satellite Systems subcontracts management.

**SOFTWARE QUALITY SUBCONTRACTOR SURVEY LEVEL A
PRELIMINARY RESULTS**

ITEM	TOPIC	SUMMARY OF RESULTS INDICATING CONFORMANCE	SUMMARY OF RESULTS INDICATING NONCONFORMANCE
1 .	Policy.		
1.1	Software Quality System.		
2.	Independence.		
3.	Software Quality Program Plan.		
4.	Corrective Action.		
5.	Access for Contracting Agency Review.		
6.	Program Plans and Procedures.		
7.	Software Configuration Management.		
8.	Evaluation of Non-Deliverable Software.		
9.	Data Media Storage, Handling, Packaging and Shipping.		
10.	Formal and Informal Reviews and Audits.		
11.	Product Certification.		
12.	Other Software Processes.		
13.	Software Acceptance Testing.		
14.	Non-developmental Software.		
15.	Seller Quality Controls.		
16.	Management Scheduling and Reporting.		
17.	Evaluation Reports		

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

1. Policy:

___ ___ Does the supplier have a documented policy that defines objectives for, and commitment to, a software quality system?

___ ___ Is there evidence that the policy is understood, implemented and maintained at all levels in the organization?

1.1 Software Quality System (Maintenance):

___ ___ Is the software quality system reviewed at appropriate intervals by management to ensure its continuing suitability and effectiveness?

___ ___ Are audits scheduled on the basis of the status and importance of the activity?

___ ___ Are audits and follow-up carried out in accordance with documented corrective action procedures?

___ ___ Are records of such reviews and audits maintained?

2. Independence of the Software Quality Activity:

___ ___ Does the supplier have defined resources, responsibility, authority and organizational freedom to permit objective evaluations and to initiate and verify corrective action?

___ ___ Are Persons conducting evaluations free from the control of the product developers?

___ ___ Is a management representative assigned responsibility for the fulfillment of and assuring compliance with the software quality program requirements?

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

3. Software Quality Program Plan:

___ ___ Is the plan approved by the prime contractor?

___ ___ Is the supplier required to generate a documented software quality program plan with implementing instructions?

___ ___ Does the plan exist and is controlled?

Does the plan address?:

___ ___ - Verification of each quality requirement found in the subcontract

___ ___ - Special tools, facilities, or methodologies needed to support or implement the software quality program.

___ ___ Is the plan approved by the prime contractor unless the plan is provided by the prime contractor?

4. Corrective action:

Does the software quality program assure process and product nonconformances are?:

___ ___ - Documented in a timely manner

___ ___ - Tracked and reported to appropriate levels of management

___ ___ - Analyzed for extent and cause

___ ___ - Analyzed for adverse trends *to* reverse such trend

___ ___ - Provides solutions commensurate with the associated risks

___ ___ - Resolved in a timely manner -And verified *to* prevent recurrence.

___ ___ Are further processing, installation, or delivery of non-conforming product controlled until the unsatisfactory condition is corrected?

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

5. Supplier Oversight.

___ ___ Does the software quality program make provisions for review by the prime contractor, the contracting agency and the quality representatives of the contracting agency?

Does the Supplier?

- ___ ___ - Assure closure of identified subcontract discrepancies.
- ___ ___ - Provide accommodation, facilities, right of access to supplier's and supplier's supplier premises where any part of the subcontract is being performed.
- ___ ___ - Provide support for verification activities by the prime contractor, contracting agency, and quality representatives of the contracting agency.
- ___ ___ - Make available the software quality records

6. Program Plans and Procedures.

___ ___ Are subcontract requirements flowed down into appropriate program plans and implementing procedures?

Does the supplier assure that all software plans required by the subcontract are?

- ___ ___ - Documented
- ___ ___ - Satisfy requirements
- ___ ___ - Consistent with other program plans
- ___ ___ - Approved prior to execution
- ___ ___ - Are maintained.

Does the supplier review procedures to assure that software engineering reviews include?

- ___ ___ - Objectives
- ___ ___ - Milestones,
- ___ ___ - Roles of participants,
- ___ ___ - Recording,
- ___ ___ - Reporting,
- ___ ___ - Criteria for moving to the next phase of development.

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

7. Software configuration management.

___ ___ Does the supplier assure the software configuration management process, including the developmental library and its operation?:

- ___ ___ - Complies with the contract
- ___ ___ - Adheres to software plans
- ___ ___ - And includes a problem reporting process, configuration identification and control, change history and archives, and controlled internal distribution.

Does the configuration Management Process Include?:

- ___ ___ - Prompt documentation and reporting of software product and process problems.
- ___ ___ - Classification, as required by subcontract, of problems and analysis to identify trends in the problems reported.
- ___ ___ - Initiation of action to resolve the problem and reverse adverse trends.
- ___ ___ - Tracking the status of problems.
- ___ ___ - Verification the problems are resolved, changes have been correctly implemented that additional problems have not been introduced.
- ___ ___ - Assurances that only authorized modifications are made.
- ___ ___ - Changes to documents shall be reviewed and approved by the same functions/ organizations that performed the original review and approval unless specifically designated otherwise.
- ___ ___ - Accurate identification and documentation of software versions including a description of included changes.
- ___ ___ - Maintenance of records for the life of the contract.
- ___ ___ - The most recent authorized versions of materials under configuration control are clearly identified and are the ones routinely available from the library.
- ___ ___ - Previous versions of materials under configuration control are clearly identified and controlled to provide an audit trail that permits reconstruction of all changes made to each configuration item.
- ___ ___ - Controls exercised on the internal distribution of deliverable media and documentation.

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

8. Evaluation of non-deliverable software.

___ ___ Does the supplier evaluate each non-deliverable software item used in the automated manufacturing of deliverable hardware or in the qualification or acceptance of deliverable software or hardware to assure that?:

- ___ ___ - Objective evidence exists, prior to its intended use, that it performs required functions.
- ___ ___ - It was placed under internal configuration control prior to its use.

9. Data media storage, handling, packaging and shipping.

___ ___ Does the supplier evaluate the storage, handling, packaging, shipping and external distribution of deliverable software and associated documentation?

___ ___ Does the supplier assure compliance with the subcontract and adherence to the software plans and procedures to protect the integrity of the software products to be delivered to the point of destination to prevent damage and deterioration of product?

10. Formal Reviews and Functional Configuration and Physical Configuration Audits.

Prior to each formal review and audit does the supplier assure ?

- ___ ___ - All required products are available for contracting agency review.
- ___ ___ - All required preparations have been made.
- ___ ___ - The status and quality of each of the development products reviewed is ready for presentation.
- ___ ___ - Following each formal review and audit, the supplier assures that all software related action items assigned to the contractor have been performed.
- ___ ___ - All required procedures have been performed and evidence of satisfactory completion of these procedures is available for contracting agency inspection.
- ___ ___ - All deliverable software and documentation has been updated to reflect all changes approved and scheduled for inclusion by the contracting agency.

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

11. Product certification.

Does the supplier perform a final evaluation of all deliverable software and associated documentation to assure?:

- ___ ___ - All subcontract requirements have been met, that
- ___ ___ - Internal coordination has been conducted in accordance with software plans,
- ___ ___ - Documentation reflects status of the product.

___ ___ Is product inspection status identified?

___ ___ Does the supplier assure that the data rights provisions are consistent with the subcontract?

Does certification of the product assure that:

- ___ ___ - It complies with the subcontract and adheres to the software plans.
 - ___ ___ - Objective evidence exists, prior to its use, that it performs required functions.
 - ___ ___ - It was placed under internal configuration control prior to its use.
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12. Other Software Process

___ ___ Does the supplier assure compliance with subcontract and adherence to plans of all other processes used in software development, engineering, and management? This may include processes such as, peer reviews, integration and test, and software development files' maintenance?

13. Software Acceptance Testing

___ ___ Does the supplier identify all software quality activities related to software acceptance testing? These activities shall include?:

- ___ ___ - review of test document (plans, specification, procedures, reports, etc.) for adequacy, feasibility, testability, compliance with contractual requirements, and configuration that only authorized changes are incorporated.
- ___ ___ - verification that tests are conducted in accordance with approved test plans and procedures and that the software is the correct version.
- ___ ___ - provision to witness tests and/or certification that test results are actual and valid.
- ___ ___ - maintenance of test related documentation to allow test repeatability.

PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

- ___ ___ - identification, verification and control of any software, test data test files and hardware used as a tool for software testing.
 - ___ ___ - provision for the specification of the host development environment.
 - ___ ___ - verification that the test procedures include provision for all approved documented software functional requirements.
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14. Non-developmental software

- ___ ___ Does the Supplier have an established Procedure for the identification, control, examination, receipt, and accountability of non-developmental software?
- ___ ___ Does the procedure assure objective evidence exists that the software performs required functions and data rights are consistent with the subcontract?

15. Supplier Quality Controls.

Does the supplier software quality program include a supplier control system that includes?:

- ___ ___ - Qualification of software suppliers prior to procurement dependent upon the type of product and where appropriate, on previously demonstrated capability and performance.
 - ___ ___ - Flow down of software quality requirements from this subcontract to their supplier.
 - ___ ___ - Access to supplier facilities to evaluate performance to process and product requirements of the supplier subcontract and program plans and procedures.
 - ___ ___ - Assure supplier developed software and related documentation that is deliverable to the contracting agency satisfies this subcontract's requirements before use.
 - ___ ___ - Establishment and maintenance of baseline requirements for the software to be developed by the supplier.
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PURCHASE ORDER ATTACHMENT Q-201A (continued)

YES NO

16. Management Scheduling and Reporting

___ ___ Are the activities of the software quality plans scheduled to be fully integrated with activities required by the subcontract?

___ ___ Are software quality activities performed throughout the software development life cycle to evaluate product and process compliance with plans, practices and implementing procedures?

___ ___ Is the schedule adhered to for the duration of the subcontract?

___ ___ Is the supplier software quality program a pan of the management reporting system throughout the life of the subcontract?

17. Evaluation Reports.

Do supplier quality records include at a minimum?:

- ___ ___ - Evaluation date
- ___ ___ - Participants
- ___ ___ - Criteria
- ___ ___ - Results
- ___ ___ - Recommended corrective action.

___ ___ Are supplier quality records maintained to demonstrate achievement of the required quality and effective operation of the quality system?

___ ___ Are the supplier quality records identifiable to the product and the subcontract involved?

___ ___ Are quality records stored and maintained for the life of the subcontract and are they retrievable?

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