



Engineering Design " Essentials Sample j ° j #h

Good for smaller projects and bid qualifications

*Has All the Essential Elements of a well-founded
j ° j #Plan*

Contact:

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410-451-8006

PROJECT-SPECIFIC DESIGN QUALITY PLAN

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B. KEY ELEMENTS OF THE DESIGN QUALITY PLAN

Key elements of the [CompanyName] Design Quality Control Plan include:

Quality Management and Responsibilities. [CompanyName] fully integrates its quality management system into the organizational structure and performance management systems for each project. We:

- Maintain a documented quality system consisting of a quality manual with policies and procedures.
- Tightly control exceptions to the quality system so company standards are applied uniformly to every project
- Systematically maintains quality system documents and records.

Quality Control Personnel. [CompanyName] fully integrates its quality management system into the organizational structure and performance management systems for each project. We:

- Appoint a DQC Manager, Design Engineer, and Project Design Manager to each project, each with well-defined quality responsibilities and the authority to carry them out.
- Have well-defined quality responsibilities for every employee with specific quality responsibilities for key job positions.
- Plan project quality records and documentation that will be maintained.
- Tightly control exceptions to the quality system so company standards are applied uniformly to every project
- Enforce policies that monitor work conditions before and during work so that quality results are assured.

Project Quality Coordination and Communication. [CompanyName] tightly controls the design process to ensure quality results. We:

- Plan quality communications through meetings, reporting requirements, and points of contact.
- Have a project startup meeting to communicate project goals and expectations.
- Conduct preparatory meetings in advance of each scheduled work task to communicate requirement details and coordinate work activities.

Quality Assurance Surveillance. [CompanyName] audits the quality system to assure it is operating effectively. We:

- Audit the operation of the quality system on each project for conformance to the Project Design Quality Control Plan and the [CompanyName] Quality System requirements.
- Conduct annual company-wide audits to evaluate effectiveness of the [CompanyName] Quality System and improve its operation.

Design Reviews. [CompanyName] ensures that designs we prepare fulfill the intended goals of all stakeholders. We:

- Ensure that designs have well defined expectations, are clearly understood, and the necessary details are provided.
- Involve stakeholders for input and feedback from stakeholders at planned milestones throughout the design process and systematically incorporate their input into the design process.
- Plan out each step in the design process and use it to control activities, persons responsible, and deliverables.

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- Ensure that completed designs meet regulatory requirements and customer expectations.

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- Plan out each step in the design process and use it to control activities, persons responsible, and deliverables.
- Ensure that completed designs meet regulatory requirements and customer expectations.

Employee Qualifications. [CompanyName] ensures that only knowledgeable, capable employees carry out the planning, execution, and control of our projects. We:

- Identify employee qualification requirements, including licensing requirements, training qualifications, responsibilities, and authority for each job position.
- Train field employees on quality standards and procedures for their job position.
- Validate employee capabilities before they are assigned to carry out quality job responsibilities.
- Review ongoing employee qualifications and evaluate quality practices and performance as part of the employee performance management process.

Qualification of Architects, Engineers, and Subcontractors. [CompanyName] purchases only from architects, engineers, and subcontractors that consistently meet [CompanyName] standards for quality. We:

- Clearly define outside organization qualification requirements including licensing requirements, compliance with specific quality standards, quality responsibilities, qualification of personnel and quality improvement processes.
- Validate capabilities to meet project quality requirements at planned production levels.
- Verify ongoing quality performance.

Work Task Quality Inspections. [CompanyName] quality inspection processes ensure that all work activities comply with the documented standards and specifications. We:

- Identify required quality inspections and tests at key milestones during the project.
- Identify each work task that is subject to a series of quality inspections and quality control activities
- Conduct a series of quality inspections for each design task: before work begins, at first article completion, while work is in process, and at completion.
- Inspect all materials before use.
- Record the result of each work task inspection.

Quality Control of Corrections and Nonconformances. [CompanyName] nonconformance control processes ensure that we prevent all nonconformances from cover-up, inadvertent use, and corrected. We:

- Mark the item to clearly identify it for correction.
- Make corrections in a timely manner and validate their effectiveness.
- Require customer approval before accepting any nonconforming items.
- Identify nonconformance items for future prevention.

H. DESIGN REVIEW PROCESS

Design design controls are in place to assure the quality of design designs for this project.

A design plan is used to document the design control process. The Design Plan is included as an exhibit in this subsection.

The first control point will be of the review of design inputs. The Designer of Record will assure that all necessary information is available to perform the required design work. The Designer of Record will also assure that expectations for design outputs are well defined.

Intermediate reviews will be carried out as indicated on the design control plan. The last review is the design output review.

A record of all reviews will be recorded on the Design Review form. A Design Review form exhibit is included in this subsection.

The President has appointed [DesignerRecordName] as the Designer of Record. [DesignerRecordName] will control the design process with specific quality responsibilities, duties, and the authority to carry them out.

DESIGN REVIEWS

DESIGN INPUT REQUIREMENTS REVIEW

The DQC Manager ensures that the information in design inputs clearly defines customer expectations and that the necessary details are provided to set requirements for design.

The DQC Manager obtains design specifications from the customer and conducts a customer design input review to ensure that:

- Customer design input requirements and specifications are complete
- Design process review milestones are specified when necessary
- Customer design output requirements and specifications are complete for review milestones as well as the completed design
- Customer design requirements and specifications are compatible with the relevant regulations, [CompanyName] quality standards, and Quality System requirements
- [CompanyName] has the capability to deliver the completed design in the time allotted

The DQC Manager identifies supplemental design specifications that supplement customer specifications when they are needed to ensure a quality design.

Before design work begins, the DQC Manager makes sure that all design requirements are clearly understood, all discrepancies are resolved, and all requirements are agreed upon. Once these requirements are met, the DQC Manager approves the design input.

The DQC Manager ensures that design input documents are verified by qualified personnel. The person responsible must verify:

- Design input specification are approved by a customer authority
- Design input specifications are complete
- Design input requirements and specifications are compatible with the relevant regulations, [CompanyName] quality standards, and Quality System requirements

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[CompanyName] Project Design Review Plan Version 20140915					
Project ID	Project Name	Preparer	Date		
[ProjectNumber]	[ProjectName]				
Design Appointments					
Designer of Record					
Designer(s)					
Design QC Reviewer					
Design Review Milestones					
	Ref#	Work Task	Output required for review	Scheduled date/milestone	Review participants
Design Input Review					
Work in Process Review:					
Work in Process Review:					
Final Design Review:					

I. DESIGN INSPECTION AND TEST PLAN

[CompanyName] identifies inspections and tests that will be performed during the project. A test report is completed for each test. The test reports are then used for monitoring compliance to the plan and tracking results.

If independent laboratories are required to perform tests or quality inspections, we ensure that the laboratories are certified by a nationally recognized testing accreditation organization as appropriate for the scope of the inspection or test.

The Quality Inspection and Test Plan form lists inspections and tests (other than work task inspections) that will be performed on this project.

Results of inspections and tests will be recorded on the Inspection and Test Form.

Form exhibits are included as an exhibit in this subsection.

CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT

Inspection, measuring, and test equipment that will be controlled, calibrated, and maintained.

The DQC Manager evaluates the project requirements and determines if there are measuring devices that require controls to assure quality results.

For each type of device the DQC Manager identifies:

- Restrictions for selection
- Limitations on use.
- Calibration requirements including the frequency of calibration. All calibrations must be traceable to national measurement standards.

When a measurement device is found not to conform to operating tolerances, the DQC Manager validates the accuracy of previous measurements.

Selected Pages

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[CompanyName] Quality Inspection and Test Plan											
Project ID			Project Name						CONTRACTOR		
[ProjectNumber]			[ProjectName]						[CompanyName]		
SPECIFICATION SECTION AND PARAGRAPH NUMBER	SCHEDULE ACTIVITY ID	TEST REQUIRED	ACCREDITED/ APPROVED LAB YES /NO	SAMPLED BY	TESTED BY	LOCATION OF TEST ON/OFF SITE/SITE	DATE COMPLETED	DATE FORWARDED TO CUSTOMER	REMARKS		

Selected Pages

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J. DESIGN WORK TASK QUALITY INSPECTIONS

[CompanyName] identifies a list of work tasks, phases of production, which will be quality controlled.

WORK TASKS SERIES OF INSPECTIONS

Each work Task is subject to a series of inspections; before, during, and after the work is complete. Each inspection verifies compliance with full scope of the relevant specifications; not limited to checkpoints for heightened awareness.

- The initial task-ready inspection occurs when crews are ready to start work and ensures that work begins only when it does not adversely impact quality results.
- Incoming material inspections verify that materials are as specified and meet all requirements necessary to assure quality results.
- Work-in-process inspections continuously verify that work conforms to project specifications and workmanship expectations. Work continues only when it does not adversely impact quality results.
- At completion of the Task an inspection verifies that work, materials, and tests have been completed in accordance with project quality requirements. When appropriate, functional tests are performed.

Inspection results are recoded and maintained as part of the project files.

SPECIAL PROCESS INSPECTIONS

The DQC Manager identifies special processes where the results cannot be verified by subsequent inspection or testing and determines if continuous work in process inspections are required. For these special processes, a qualified inspector continuously inspects the work process.

MATERIAL QUALITY INSPECTION AND TESTS

Material quality inspections and tests ensure that purchased materials meet purchase contract quantity and quality requirements.

DAILY QUALITY CONTROL REPORT

The Design Engineer records a summary of daily work activities. The report will include:

- Schedule Activities Completed
- General description of work activities in progress.
- Problems encountered, actions taken, problems, and delays
- Meetings held, participants, and decisions made
- Architect, Engineer, and Subcontractor and Company Crews on site
- Visitors and purpose
- General Remarks
- Improvement Ideas
- Weather conditions

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[CompanyName] Nonconformance Report <small>Version 20140915</small>		
Nonconformance Report Control ID	Project ID	Project Name
	[ProjectNumber]	[ProjectName]
Preparer Signature/ Submit Date		DQC Manager Signature / Disposition Date
Description of the requirement or specification		
Description of the nonconformance, location, affected area, and marking		
Disposition	<input type="checkbox"/> Replace <input type="checkbox"/> Repair <input type="checkbox"/> Rework <input type="checkbox"/> UseAs-is	
	Approval of disposition required by customer representative? Yes <input type="checkbox"/> No <input type="checkbox"/> Customer approval signature /date: _____	
Corrective Actions		
	<input type="checkbox"/> Corrective actions completed Name/Date: _____ Customer acceptance of corrective actions required? Yes <input type="checkbox"/> No <input type="checkbox"/> Name/Date: _____	
Preventive Actions		
	<input type="checkbox"/> Preventive actions completed Name/Date: _____	



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