



Electrical Essentials (Canadian Standards) QA/QC Plan Sample

Good for smaller projects and bid qualifications

Has All the Essential Elements of a well-founded Quality Control Plan

**Contact:
FirstTimeQuality
410-451-8006**

PROJECT-SPECIFIC ELECTRICAL QUALITY PLAN

TABLE OF CONTENTS

A. [CompanyName] Quality Policy	3
B. Key Elements of the Electrical Quality Plan	4
C. Project Quality Coordination and Communication.....	7
D. Project QC Personnel.....	11
Project QC Job Position Assignments	11
Duties, Responsibilities, and Authority of QC Personnel.....	11
Quality Responsibilities	11
Project QC Organization Chart	14
E. Personnel Qualifications	15
Personnel Certification Requirements	16
Training.....	16
F. Qualification of Third Party Inspection/Testing Companies and Subcontractors and Suppliers	18
Qualification of Testing Laboratories	18
G. Electrical Project Quality Specifications	20
Compliance with Industry Electrical Standards	21
H. Electrical Inspection and Test Plan.....	23
Inspection and Testing Electrical Standards.....	24
Control of Inspection, Measuring, and Test Equipment.....	24
I. Electrical Work Task Quality Inspections	27
Work Tasks Series of Inspections	27
Daily Quality Control Report.....	27
J. Quality Control of Corrections, Repairs, and Nonconformances	31
K. Project Completion Inspections	33
L. Quality Assurance Surveillance.....	35
M. Control of Quality Records and Documents.....	37
N. Servicing and Warranty	38

B. KEY ELEMENTS OF THE ELECTRICAL QUALITY PLAN

Key elements of the [CompanyName] Quality Assurance/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 Quality Manager, Superintendent, and Project 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 construction 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 Quality

COMPLIANCE WITH INDUSTRY ELECTRICAL STANDARDS

Codes that may apply to this project include those listed below.

Regulatory Codes and Industry Standards			
Division	Description	Reference Standard No.	Reference Standard Title
26	Splicing and general conductor installation	Z 462	National Electrical Code
26	Mounting height of wall-mounted outlet and switch boxes	CEC IEC 60364	Accessible and Usable Buildings and Facilities
26	Install Control devices and protective devices	Z 462	National Electrical Code
26,27,28	Grounding and bonding requirements	Z 462	National Electrical Code
26	Workmanship	Z 462	National Electrical Code
26	Telecommunications grounding	EIA	Commercial Building Standard for Telecommunications Pathways and Spaces
26	Telecommunications pathways	CEC	Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications
26	Warning Sign placement	CSA Z462	Standard for Electrical Safety in the Workplace
26	Lightning Protection installation	CSA C22	Standard for the Installation of Lightning Protection Systems
27	Grounding of systems	CSA C22	Recommended Practice for Grounding of Industrial and Commercial Power Systems

I. ELECTRICAL 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 Quality 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

J. QUALITY CONTROL OF CORRECTIONS, REPAIRS, AND NONCONFORMANCES

Should a problem occur in the quality of work, we systematically contain the issue and quickly make corrections. Our first action is to clearly mark the item by tape, tag, or other easily observable signal to prevent inadvertent cover-up.

Then we expedite a corrective action that brings the workmanship or material issue into conformance by repair, replacement, or rework. Previously completed work is reinspected for similar nonconformances. In the event that we cannot correct the item to meet contract specifications, the customer will be notified and customer approval of corrective actions is required before proceeding.

Fixing problems found is not sufficient. [CompanyName] systematically prevents recurrences to improve quality. First enhanced controls and management monitoring are put into place to assure work proceeds without incident. Then using a structured problem solving process, [CompanyName] identifies root causes and initiates solutions. Solutions may involve a combination of enhanced process controls, training, upgrading of personnel qualifications, improved processes, and/or the use of higher-grade materials. Follow-up ensures that a problem is completely resolved. If problems remain, the process is repeated.

Nonconformances and their resolution are recorded on a Nonconformance Report form. A Nonconformance Report form exhibit is included in this subsection.

Selected Pages

Questions? Call First Time Quality 410-451-8006

[CompanyName] Nonconformance Report <small>Version 20141006</small>		
Nonconformance Report Control ID	Project ID	Project Name
	[ProjectNumber]	[ProjectName]
Preparer Signature/ Submit Date		Quality 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"/> Use As-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: _____	

Selected Pages

Questions? Call First Time Quality 410-451-8006

LIST OF INCLUDED ELECTRICAL INSPECTION FORMS

Communications

- Cable Trays for Communications Systems 27.05.36
- Structured Cabling 27.10.00
- Communications Equipment Room Fittings 27.11.00
- Communications Backbone Cabling 27.13.00
- Audio-Video Communications 27.40.00

Electrical

- Conduit for Electrical Systems
- Electrical and Cathodic Protection
- Enclosed Bus Assemblies
- Exterior Lighting
- Grounding and Bonding for Electrical Systems
- Identification for Electrical Systems
- Interior Lighting
- Low-Voltage Circuit Protective Devices
- Low-Voltage Controllers
- Low-Voltage Electrical Power Conductors and Cables (<600V)
- Low-Voltage Electrical Service Entrance
- Low-Voltage Switchgear
- Low-Voltage Transformers
- Raceway and Boxes for Electrical Systems
- Switchboards and Panelboards

Electronic Safety and Security

- Commissioning of Electronic Safety and Security
- Conductors and Cables for Electronic Safety and Security
- Electronic Access Control and Intrusion Detection
- Electronic Surveillance
- Fire Detection and Alarm
- Mass Notification Systems
- Pathways for Electronic Safety and Security

Electrical - Conduit for Electrical Systems 26.05.33.13

Project:	Phase:	Contract#:	Subcontractor:	Crew:
----------	--------	------------	----------------	-------

Compliance Verification

- Compliance with initial job-ready requirements
- Compliance with material inspection and tests
- Compliance with work in process first article inspection requirements
- Compliance with work in process inspection requirements
- Compliance with Task completion inspection requirements
- Compliance with inspection and test plan
- Compliance with safety policies and procedures

Reported Nonconformances and incomplete items:

FTQ 2TQ Heightened Awareness Checkpoints

- Cuts for Conduits in structural members approved by ENGINEER
- Firestops installed at penetrations through fire partitions// fire walls// smoke partitions// or floors
- Penetrations through floor// exterior wall and roof sealed and made watertight
- Excess wiring// insulation// ties// etc. removed from Conduits
- Conduits secured to prevent movement and chafe
- Remaining snake lines labeled at both ends
- Conduit bends do not exceed minimum for size of Conduit used and are even
- Metal Conduits bonded and grounded
- Conduits are mechanically continuous
- Flexible connections to equipment subject to vibrations

FTQ Scores and Completion Sign-off

Field Mgmt.-91.45.01

Quality 5 4 3 2 1 *Notes:*

On-Time 5 4 3 2 1 *Notes:*

Safety 5 4 3 2 1 *Notes:*

Sign and date*: Cell # / ID #: _____ Signed: _____ Date: _____

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances and incomplete items reported above.

<u>Quality Score</u>	5 = 100% NO problems	4 = 1 minor problems	3 = Hotspot or 2-3 minor	2 = 6+ or major problems	1 = Excessive problems
<u>On-Time Score</u>	5 = On Time	4 = Late	3 = Late by 1 day	2 = Late by 2 days	1 = Late more than 2 days
<u>Safety Score</u>	5 = 100% NO problems	4 = 1 minor problem	3 = Hotspot or 2-3 minor	2 = 4+ or major problem	1 = Injury



**For More Information:
Contact: FirstTimeQuality**

410-451-8006

www.FirstTimeQuality.com

EdC@FirstTimeQuality.com