



Oversight Procedure 24 — Quality Assurance/Quality Control Review

1.0 PURPOSE

The purpose of this Oversight Procedure (OP) is to describe the review, analysis, and recommended procedures and reporting requirements that the Federal Transit Administration (FTA) expects from the Project Management Oversight Contractor (PMOC) with regards to the project sponsor's Quality Assurance and Quality Control (QA/QC) program, procedures, and implementation of such procedures.

While this OP focuses on Capital Investment Grant (CIG) projects, which have specific requirements by law, it also applies to all capital projects. FTA will issue Implementation Plans (IPs) to clarify the specific reviews and expected deliverables based on the project types.

2.0 BACKGROUND

The review and monitoring of a project sponsor's QA/QC program has been a primary function of the Project Management Oversight (PMO) Program since its inception.

Ensuring QA/QC is a cornerstone of the PMO Program. To a large degree, the successful implementation of a major capital project depends on the development and execution of a sound QA/QC program by the responsible project sponsor and its design and construction contractors.

Specifically, 49 U.S.C. 5327, Project Management Oversight, of the Federal Transit Act, states that a recipient's Project Management Plan (PMP) shall include, at a minimum, a QA/QC program that defines functions, procedures, and responsibilities for the design and construction of a major capital project. PMO Program contractors are charged with reviewing and monitoring a project sponsor's development and implementation of a PMP. A vital part of a project sponsor's PMP is the QA/QC program, which defines a process for assuring that a quality project is designed and constructed.

The FTA Quality Management System Guidelines (QMS) issued in December 2012 define and delineate QA/QC activities:

- **Quality Assurance** includes planning for quality management activities and confirming that those activities were carried out.
- **Quality Control** includes the actual implementation of quality management activities, inspecting to confirm that processes are performed correctly and completely, and the documentation thereof.

The FTA QMS Guidelines also recommend that a QA/QC program specify the organization, procedures, documentation, testing, and methods to be used to provide quality contract documents. More specifically, a typical QA/QC program should address, but not be limited to, the following elements:

- Management responsibility;
- Documented quality management system;

- Design control;
- Document control;
- Purchasing;
- Product identification and traceability;
- Process control;
- Inspection and testing;
- Inspection, measuring, and test equipment;
- Inspection and test status;
- Nonconformance;
- Corrective action;
- Quality records;
- Quality audits; and
- Training.

3.0 OBJECTIVES

The objective of this review is to assess and evaluate the adequacy and soundness of the project sponsor's QA/QC program and the project sponsor's implementation of the program over the course of the project.

4.0 REFERENCES

The PMOC shall become familiar with the following references to Federal legislation, regulation, and guidance before reviewing the project sponsor's work. These are the principal references, but this list is not exhaustive:

4.1 Legislative

- [Infrastructure and Investment Jobs Act \(IIJA\)](#), Public Law 117-58, effective November 15, 2021 (also known as the "Bipartisan Infrastructure Law")
- [49 U.S.C. Chapter 53](#)

4.2 Regulations

- [49 CFR Part 633](#), Project Management Oversight

4.3 FTA Circulars

- [C 5200.1A](#), Full-Funding Grant Agreements Guidance

4.4 Guidance

- [FTA Quality Management System Guidelines](#) (2019)

4.5 Oversight Procedures

- OP 01 Administrative Conditions and Requirements
- OP 20 Project Management Plan Review

5.0 PROJECT SPONSOR SUBMITTALS

The submittals the project sponsor provides to the PMOC should be relevant to the stage of project development. Such submittals include, but are not limited to, the following:

- QA/QC Program Plan (subplan of PMP);
- PMP; and
- Other subplans.

6.0 SCOPE OF WORK

The PMOC shall review the adequacy and soundness of the project sponsor's QA/QC Program Plan. This review will occur when the project sponsor requests entry into the engineering phase, and upon request for receipt of a Full Funding Grant Agreement (FFGA) or Small Starts Grant Agreement (SSGA) or at FTA requests.

Subsequent reviews may be required if updates or changes are made to the project sponsor's QA/QC Program Plan.

Appendix B contains a typical table of contents for a QA/QC Program Plan and the milestones for completion of the elements within this plan. Instructions for PMOC review of the project sponsor's internal cost, schedule, and risk control procedures are contained in other OPs.

6.1 Quality Management Program

The PMOC shall confirm that the project sponsor has established a documented Quality Management Program (QMP) of procedures and activities to support the entire organization, as well as the project.

The PMOC shall confirm that the program can ensure satisfaction of project quality objectives related to the control of documents, design, procurement, construction, start-up, and operations. Procedures and activities should include document configuration, change control, and design review.

Additionally, procedures may include, as relative to the project, soil and material inspection and material testing, among other activities.

Regarding quality assurance, the PMOC shall evaluate the project sponsor's plan for quality management activities, capabilities regarding the establishment of quality systems, identification and evaluation of quality problems, and provision of solutions. The PMOC will confirm that quality activities were carried out.

Regarding quality control, the PMOC will evaluate the project sponsor's actual implementation of quality management activities and the documentation thereof.

The PMOC shall confirm and assess that the project sponsor has adequately defined its quality policy and the quality responsibilities of the project team. The project sponsor is responsible for ensuring that the quality policy and program are being implemented and maintained at all levels of the project sponsor organization and project staff. The PMOC shall confirm that the project sponsor has assigned qualified personnel, independent of those having direct responsibility for the work being performed, to be responsible for QA/QC functions within the project. The

PMOC shall also confirm that such personnel are implementing and maintaining the project sponsor's quality policy.

The project sponsor shall also establish an internal audit process to ensure that the elements of the quality management program are functioning as intended. The PMOC shall review the project sponsor's QA/QC procedures and determine the adequacy of such procedures.

6.2 Document Control

The PMOC shall confirm that the project sponsor has an established document control program within its QA/QC Program Plan and shall assess the adequacy of such control and assurance procedures and requirements. During review of the project sponsor's document control procedures, the PMOC shall confirm that the project sponsor has specified a written document control procedure, which includes document review and document distribution and storage, and that incorporates the requirements and responsibilities of design consultants and various construction contractors. Further, the PMOC shall confirm that the project sponsor has in place adequate QA/QC procedures to ensure document controls are in place and being implemented.

6.3 Design Control

The PMOC shall confirm that the project sponsor has an established Design Control Plan within its QA/QC Program Plan and shall assess the adequacy of such QA/QC procedures and requirements. The PMOC shall confirm that the project sponsor has specified procedures for design verification and design review and shall assess the adequacy and efficacy of these control and assurance procedures. Design verification procedures shall include activities such as independent checks on design drawings and specifications or checklists documenting completeness, coordination, constructability, operability, maintainability, and design calculations for structural, mechanical, electrical, etc. elements and components. The PMOC shall confirm that the consultant(s) responsible for design have established procedures for controlling their design processes. The PMOC shall also confirm that the project sponsor has specified design review procedures for all design consultants and procedures for design or specification changes including signoff and documentation of changes. Further, the PMOC shall confirm that the project sponsor has documented procedures and requirements regarding "as-built" documents. Finally, the PMOC shall confirm that the project sponsor has adequate QA/QC procedures in place to ensure design control procedures are being implemented.

6.4 Procurement/Construction/Inspection

6.4.1 Procurement

The PMOC shall confirm that the project sponsor has written procedures in place that will ensure competition in the bidding by obtaining bids from a number of qualified contractors for desired services. The PMOC shall confirm that the project sponsor complies with the requirement to include in its procurement plan a statement of general requirements, which includes quality requirements and a requirement for any past demonstrated capability and performance of quality implementation. The PMOC shall review and assess the project sponsor's procedures for ensuring that QA/QC requirements are included within proposals or bids and formally communicated to potential consultants, contractors, or subcontractors.

The PMOC shall review the project sponsor's procedures for ensuring that procurement documents are reviewed and approved by a designated authority prior to release, with special

attention to the review of the project sponsor's construction contract documents including general and special conditions and QA/QC requirements.

The PMOC shall confirm that the project sponsor includes in contract documents, where appropriate, a requirement for equipment manufacturers or others supplying products for the project that clearly provides product identification and traceability. The PMOC shall also review and assess the adequacy of the project sponsor's requirements for product identification and traceability for products and materials turned over to the owner at project conclusion.

6.4.2 Construction/Inspection

The PMOC shall review and assess the adequacy of the project sponsor's requirements for a QA/QC inspection and testing program through all phases of the work including inspection and testing procedures for special processes and requirements for calibration and maintenance of inspection, measuring, or test equipment. The PMOC shall confirm that the project sponsor's QA/QC Program Plan adequately indicates and describes the types of inspection and testing required, the standards to be met, and reference to such testing and standards requirements within the project specifications. Further, the PMOC shall also confirm that the project sponsor has in place adequate QA/QC procedures to ensure successful implementation of the QA/QC program during construction of the works.

The PMOC shall review and assess the adequacy of the project sponsor's procedures for handling nonconforming work. The PMOC shall confirm that such procedures define responsibilities, conditions that would cause work to stop, and documentation procedures to record nonconforming work. Further, the PMOC shall review and assess the adequacy of the project sponsor's procedures for determining the root cause of the nonconforming work and taking corrective action to avoid recurrence.

6.5 Operations, Startup, and Training

The PMOC shall review and assess the adequacy of the project sponsor's control procedures for the testing of systems, vehicles, and service equipment, as well as the project sponsor's safety certification process and training procedures for operating and maintenance to ensure a smooth transition to operations. The PMOC shall also confirm that the project sponsor has adequate QA/QC procedures in place to ensure successful implementation of the training program.

7.0 REPORTS, PAPERS, PRESENTATION

The PMOC shall provide the COR/ACOR with a written report, formatted in compliance with OP 01, of their findings, analyses, recommendations, professional opinions, and description of the review activities undertaken, as well as other supporting information.

After the COR/ACOR has transmitted formal acceptance of the report, the PMOC should share the report with the project sponsor. If there are differences of opinion between the PMOC and the project sponsor regarding the PMOC's findings, the COR/ACOR may direct the PMOC to reconcile their findings with the project sponsor and provide the COR/ACOR with a report addendum covering the modifications agreed upon by the project sponsor and PMOC.

When directed by the COR/ACOR, the PMOC shall perform data analysis and develop data models that meet FTA requirements using Microsoft Office products, such as Excel and Word, and use FTA templates when provided.

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Upon approval by the COR/ACOR, the PMOC may add other software as required, but they should provide the COR/ACOR with documentation and report data when complete.



APPENDIX A: ACCEPTABLE QUALITY LEVEL

	Desired Outcome	Performance Requirement	Checklist	Acceptable Quality Level	Performance Measure	Monitoring Method
1	The PMOC shall assess and evaluate the adequacy and soundness of project sponsor's QA/QC program and implementation of it throughout the course of the project.	R1a. The PMOC shall develop and document a process for review and analysis of a project sponsor's QA/QC program.	<input type="checkbox"/>	Q1a. PMOC provides documentation of the process.	M1a. Review of the process documentation.	MM1a. Periodic review by FTA or its agent.
		R1b. The PMOC shall use their process and project management judgment to evaluate the adequacy, soundness, and implementation of the QA/QC program over the course of the project.	<input type="checkbox"/>	Q1b. The PMOC shall make an assessment and provide internal confirmation that the process has been followed.	M1b. Documented assessment of the QA/QC program and its implementation as an integral component of project sponsor's project management.	MM1b. Periodic review by FTA or its agent.
2	PMOC shall confirm that project sponsor has established a documented QMP of procedures and activities that fully support the project and the entire project	R2a. The PMOC shall provide FTA with their opinion as to the ability of project sponsor's QMP to satisfy project objectives related to documentation, design, procurement, construction, start-up, and operations.	<input type="checkbox"/>	Q2a. The PMOC shall provide their professional opinion of the soundness of project sponsor's QMP for the project phase.	M2a. Documented evidence of a thorough review by PMOC of soundness of project sponsor's QMP, supported by professional opinion.	MM2a. Periodic review by FTA or its agent.
		R2b. The PMOC shall provide FTA with an opinion as to project	<input type="checkbox"/>	Q2b. The PMOC shall provide their professional opinion of	M2b. Documented evidence of a thorough review of project	MM2b. Periodic review by

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	Desired Outcome	Performance Requirement	Checklist	Acceptable Quality Level	Performance Measure	Monitoring Method
	sponsor organization.	sponsor's implementation of its QA/QC Plan, including quality management activities, quality systems, problem solving, and confirmation that quality activities were carried out.		implementation of project sponsor's QA/QC Plan and confirmation that it was utilized throughout the project.	sponsor's implementation of its QA/QC Plan with confirmation that quality activities were carried out, supported by professional opinion.	FTA or its agent.
R2c. The PMOC shall provide FTA with an opinion as to project sponsor's implementation of their QA/QC Plan, including evaluation of the actual implementation of quality management activities and documentation of them by the project sponsor.		<input type="checkbox"/>	Q2c. The PMOC shall provide their professional opinion of implementation of project sponsor's QA/QC Plan throughout the project.	M2c. Documented evidence of a thorough review of the implementation of project sponsor's QA/QC Plan, supported by professional opinion.	MM2c. Periodic review by FTA or its agent.	
R2d. The PMOC will provide FTA with their opinion of the adequacy of project sponsor's QA/QC Plan with respect to document control procedures for review, distribution, and storage and content and that project documentation is		<input type="checkbox"/>	Q2d. The PMOC shall provide their professional opinion of QA/QC document control and its implementation on the project.	M2d. Documented evidence of a thorough review of the QA/QC Plan for document control and confirmation of its proper implementation, supported by professional opinion	MM2d. Periodic review by FTA or its agent.	

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	Desired Outcome	Performance Requirement	Checklist	Acceptable Quality Level	Performance Measure	Monitoring Method
		being maintained according to the plan.				
		R2e. The PMOC will provide FTA with its opinion of the adequacy of project sponsor's QA/QC Plan with respect to design control and design control procedures and confirm that those procedures are in place and being adhered to.	<input type="checkbox"/>	Q2e. The PMOC shall provide their professional opinion of QA/QC design control and its implementation on the project.	M2e. Documented evidence of a thorough review of the QA/QC Plan for design control and confirmation of its proper implementation, supported by professional opinion.	MM2e. Periodic review by FTA or its agent.
		R2f. The PMOC will provide FTA with its opinion of the adequacy of project sponsor's QA/QC Plan with respect to procurement, construction/inspection, testing, startup, and training and confirm that project sponsor has the necessary procedures in place to insure competition in bidding, appropriate construction inspection and testing, vehicle and system testing, and project startup.	<input type="checkbox"/>	Q2f. The PMOC shall provide their professional opinion of QA/QC procedures of procurement, construction/inspection, testing, startup, and training for the project.	M2f. Documented evidence of a thorough review of the QA/QC Plan for proper procedures in procurement, construction/inspection, testing, startup, and training, supported by professional opinion.	MM2f. Periodic review by FTA or its agent.
3	The PMOC will document its	R3. The PMOC shall present its findings,	<input type="checkbox"/>	Q3. Reports and presentations are	M3. PMOC's findings, conclusions,	MM3. Periodic

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	Desired Outcome	Performance Requirement	Checklist	Acceptable Quality Level	Performance Measure	Monitoring Method
	findings, professional opinions, and recommendations in a report to the FTA.	conclusions, and recommendations to FTA and reconcile other reports and those recommendations with the project sponsor to the extent possible.		professional, clear, concise, and well written. The findings and conclusions have been reconciled with other PMOC reports and have been reconciled with project sponsor to the extent possible.	recommendations, and presentation.	review by FTA or its agent.



APPENDIX B: SAMPLE TABLE OF CONTENTS – QUALITY ASSURANCE/QUALITY CONTROL PLAN

Symbol Legend	▲ Preliminary information required	● Element to be completed	○ Element to be modified or augmented with additional information as necessary
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Quality Assurance/Quality Control (QA/QC) Table of Contents	In PD and/or Requesting Entry to Engineering	In Engineering and/or Requesting FFGA/SSGA	In Bid/Award and/or Construction	Startup and Safety Certification
Quality Management Program				
Introduction	○			
Quality Policy	○			
Quality Objectives	○			
Quality Management Responsibility	○			
Quality Management Training Procedures	○			
Document Control Procedures and Activities				
Project Document Review, Distribution, Storage Procedures	○			
Quality Records Distribution, Maintenance, Storage Procedures	○			
Document Control Quality Assurance Procedures	○			
Design Control Procedures and Activities				
Design Verification Procedures	○			
Design Review Procedures for Drawings and Specifications	○			

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Quality Assurance/Quality Control (QA/QC) Table of Contents	In PD and/or Requesting Entry to Engineering	In Engineering and/or Requesting FFGA/SSGA	In Bid/Award and/or Construction	Startup and Safety Certification
Design Change Procedures	●	○		
Design Control Quality Assurance Procedures	○			
Procurement Procedures and Construction Procedures				
Construction Procurement Procedures, Identification of Contract Requirements	●	○		
Construction Contract Document Review Procedures including General and Supplementary Conditions	●	○		
Equipment and Vehicle Procurement Procedures	●	○		
Product Identification	●	○		
Product Identification Procedures	●	○		
Inventory Control Procedures	●	○		
Routing Documentation Procedures	●	○		
Special Process Procedures	●	○	○	
Construction Inspection Procedures (project site and fabrication site)	●	○	○	
Measuring and Test Equipment Quality Control Procedures	●	○	○	
Testing Procedures (soils, materials)	●	○	○	
Nonconformance Procedures	●	○	○	
Corrective Action Procedures	●	○	○	
Procurement/Construction Quality Assurance Procedures	●	○	○	

Quality Assurance/Quality Control (QA/QC) Table of Contents	In PD and/or Requesting Entry to Engineering	In Engineering and/or Requesting FFGA/SSGA	In Bid/Award and/or Construction	Startup and Safety Certification
Operations, Startup, and Training				
Testing Procedures for Systems, Vehicles, Service Equipment	●	○	○	○
Training Procedures	●	○	○	○
Operations, Startup, Training Quality Assurance Procedures	●	○	○	○



APPENDIX C: ACRONYMS

Acronym	Term
ACOR	Alternate Contracting Officer's Representative
ADA	The Americans with Disabilities Act
AGC	Associated General Contractors of America
ATC	Alternative Technical Concepts
AVS	Associate Value Specialist
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor and Statistics
BRF	Beta Range Factor
BY	Base Year
CATEX or CE or CX or Exclusion	Categorical Exclusion
CCIP	Contractor Controlled Insurance Program
CE	Categorical Exclusion
CER	Cost Estimating Relationship
CFR	Code of Federal Regulations
CIG	Capital Investment Grant
CLIN	Contract Line Item Number
CM	Construction Manager

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Acronym	Term
CM/GC	Construction Manager/General Contractor
CMAR	Construction Manager at Risk
COR	Contracting Officer's Representative
CPM	Critical Path Method
CPTED	Crime Prevention Through Environmental Design
CR	Constructability Review
CVS	Certified Value Specialists
DB	Design-Build
DBB	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DBF	Design-Build-Finance
DBFOM	Design-Build-Finance-Operate and Maintain
DBOM	Design-Build-Operate and Maintain
DEIS	Draft Environmental Impact Statement
DF	Designated Function
DHS	Department of Homeland Security
DTS	Department of Transportation Services
EA	Environmental Assessment
EIS	Environmental Impact Statement

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Acronym	Term
EMP	Emergency Management Plan
ENR	Engineering News-Record
EPCM	Engineering/Procurement/Construction Management
ESWA	Early Systems Work Agreement
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFGA	Full Funding Grant Agreement
FHWA	Federal Highway Administration
FLSSC	Fire/Life Safety and Security Committee
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GAO	Government Accountability Office
GC	General Contractor
GC/CM	General Contractor/Construction Manager
GMP	Guaranteed Maximum Price
HAZMAT	Hazardous Materials
IP	Implementation Plan
LONP	Letter of No Prejudice

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Acronym	Term
LPA	Locally Preferred Alternative
MBE	Minority Business Enterprise
MCC	Management Capacity and Capability
MDBF	Mean Distance Between Failures
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NTE	Not-to-Exceed
NTP	Notice to Proceed
O&M	Operation and Maintenance
OCIP	Owner Controlled Insurance Program
ODCs	Other Direct Costs
OHA	Operational Hazard Analysis
OIG	Office of Inspector General
OMP	Operations and Management Plan
OP	Oversight Procedure
P3	Public Private Partnership
PCMG	Project and Construction Management Guidelines
PD	Project Development
PDM	Project Delivery Method

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Acronym	Term
PHA	Preliminary Hazard Analysis
PMO	Project Management Oversight
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
POP	Project Oversight Plan
PTASP	Public Transportation Agency Safety Plan
QA/QC	Quality Assurance/Quality Control
R&D	Research and Development
RAMP	Real Estate Acquisition Management Plan
RAP	Rail Activation Plan
RCMP	Risk and Contingency Management Plan
RET	Risk Evaluation Tool
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Qualifications
ROD	Record of Decision
ROW	Right-of-Way
RSD	Revenue Service Date
S/DBE	Small/Disadvantaged Business Enterprises

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Acronym	Term
SABCE	Stripped and Adjusted Base Cost Estimate
SABS	Stripped and Adjusted Base Schedule
SAVE	Society of American Value Engineers
SCC	Standard Cost Category
SCIL	Safety Certifiable Items List
SGR	State of Good Repair
SIT	System Integration Testing
SITP	Systems Integration Test Plan
SOP	Standard Operating Procedure
SOW	Scope of Work
SSCVR	Safety Certification Verification Report
SSGA	Small Starts Grant Agreement
SSI	Sensitive Security Information
SSMP	Safety and Security Management Plan
STIP	Statewide Transportation Improvement Program
SYGA	Single Year Grant Agreement
TAR	Travel Authorization Request
TBM	Tunnel Boring Machine
TCC	FTA Office of the Chief Counsel

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Acronym	Term
TCRP	Transit Cooperative Research Program
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TOD	Transit-Oriented Development
TPE	FTA Office of Planning and Environment
TPM	FTA Office of Program Management
TRB	Transportation Research Board
TSA	Transportation Security Administration
TVA	Threat and Vulnerability Assessment
URA	Uniform Relocation Assistance and Real Property Acquisition Act
U.S.C.	United States Code
VE	Value Engineering
VECP	Value Engineering Change Proposals
WBE	Women Business Enterprise
WBS	Work Breakdown Structure
YOE	Year of Expenditure