

Bastian R. Parhusip, M.Pd



# Quality Control

PEDOMAN PENJAMINAN MUTU  
DAN PENGENDALIAN MUTU

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DAN PENGENDALIAN MUTU



## TENTANG PENULIS



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Penulis juga banyak menghasilkan penelitian kolaborasi dengan keilmuan lain yang dipublikasikan dalam jurnal Internasional dan Nasional. Penulis juga aktif dalam program-program kompetitif Nasional dalam bidang Pengabdian Masyarakat, Program KemdikbudRistek dalam bentuk program kampus mengajar dalam kegiatan Kampus Mengajar.



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# QUALITY CONTROL PEDOMAN PENJAMINAN MUTU DAN PENGENDALIAN MUTU

Bastian R. Parhusip, M.Pd.



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DAN PENGENDALIAN MUTU**

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## KATA PENGANTAR

Puji Syukur kehadiran Tuhan Yang Maha Esa atas rahmat dan Karunia-Nya, penulis dapat menyelesaikan Buku ini yang berjudul "**Quality Control Pedoman Penjaminan Mutu dan Pengendalian Mutu**" dengan tepat waktu. Buku ini disusun atas kerjasama dari berbagai pihak. Oleh karenanya, penulis menyampaikan terima kasih dan penghargaan kepada pihak-pihak yang telah mendukung penyusunan buku ini sehingga dapat terbit ke khalayak pembaca.

Buku ini berisi mengenai pengendalian Mutu mempelajari teknik serta metode pengendalian/pengawasan terhadap totalitas keistimewaan dan karakteristik suatu produk dan jasa yang berhubungan dengan kemampuan produk untuk memenuhi kebutuhan atau keinginan konsumen. Kepuasan konsumen dalam hal: Quality of Product, Quality of Cost, Quality of Delivery, Quality of Safety dan Quality of Morale. Maka dari itu, dalam buku ini berisi dijelaskan secara lengkap dalam setiap babnya. Berikut rinciannya:

BAB 1 Pendahuluan

BAB 2 Elemen Penting Sistem QA/QC

BAB 3 Organisasi Sistem Manajemen Kualitas

BAB 4 Mengembangkan Rencana Kualitas Proyek

Terima kasih atas kerjasama dalam penyusunan buku ini. Penulis sangat menyadari banyaknya keterbatasan kesempatan maupun hal lainnya untuk kesempurnaan penyusunan dan penulisan. Penulis berharap semoga buku ini dapat bermanfaat untuk semua kalangan, dan menambah pengetahuan bagi para pembaca. Terima kasih atas segala perhatiannya.

**Penulis**

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# BAB

# 1

# PENDAHULUAN

## A. Pendahuluan

### 1. Deskripsi Singkat

Pengendalian Mutu mempelajari teknik serta metode pengendalian/pengawasan terhadap totalitas keistimewaan dan karakteristik suatu produk dan jasa yang berhubungan dengan kemampuan produk untuk memenuhi kebutuhan atau keinginan konsumen. Kepuasan konsumen ini dalam hal: Quality of Product, Quality of Cost, Quality of Delivery, Quality of Safety dan Quality of Morale.

Pengendalian mutu didefinisikan sebagai suatu system verifikasi dan penjagaan suatu tingkatan mutu produk atau proses sesuai dengan yang dikehendaki dengan cara perencanaan yang seksama, pemakaian peralatan yang sesuai, inspeksi yang terus-menerus serta tindakan korektif bilamana diperlukan.

Pedoman Penjaminan Mutu dan Pengendalian Mutu adalah salah satu dari beberapa inisiatif yang dilakukan oleh FTA untuk meningkatkan pengelolaan proyek yang didanainya. Inisiatif tersebut mencakup panduan bagi penerima hibah tentang topik-topik seperti asuransi dan rekayasa nilai; penugasan Kontraktor Pengawasan Manajemen Proyek (PMOC) untuk memberikan dukungan teknis kepada FTA; dan pengembangan Proyek dan Panduan Manajemen Konstruksi.

Pedoman Manajemen Proyek dan Konstruksi mencakup penjelasan singkat tentang QA sebagai bagian

### 3. Tindak Lanjut

- a. Penilaian terhadap penguasaan materi diberi skor angka dari 1 s/d 5 berdasarkan evaluasi atau ujian akhir semester.
- b. Nilai kelulusan minimal adalah skor angka 2; apabila tidak mencapai angka ini maka mahasiswa diberi kesempatan untuk mempelajari kembali baik teori, praktek maupun dalam bentuk tugas, dan dilaksanakan dalam jangka waktu yang ditentukan. Setelah itu mahasiswa wajib kembali mengikuti evaluasi atau ujian perbaikan.

### D. Daftar Pustaka

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# BAB 2

## ELEMEN PENTING SISTEM QA/QC

### A. Pendahuluan

#### 1. Deskripsi Singkat

Bab ini membahas lima belas elemen yang menjadi dasar panduan FTA terkait QA/QC yang melibatkan desain, pengadaan, manufaktur, dan/atau konstruksi. Selain itu, bab ini memberikan beberapa panduan dalam menentukan elemen mana yang sesuai untuk berbagai proyek. Perhatikan bahwa setiap proyek memiliki ruang lingkup dan ukuran yang unik dan tidak semua elemen berlaku untuk semua proyek. Analisis proyek direkomendasikan untuk menentukan elemen apa yang dapat diterapkan dan prosedur jaminan. Bagian latar belakang menjelaskan asal-usul lima belas elemen, upaya lain untuk mengembangkan standar QA/QC yang berorientasi pada konstruksi, justifikasi untuk adaptasi FTA dari lima belas elemen, dan definisi organisasi yang diperlukan untuk memahami lima belas elemen.

Lima belas elemen kualitas adalah sebagai berikut dan harus dipertimbangkan dalam pengembangan prosedur kualitas yang rinci:

- a. Tanggung Jawab Manajemen
- b. Sistem Manajemen Mutu Terdokumentasi
- c. Kontrol Desain
- d. Pengendalian Dokumen
- e. Pembelian
- f. Identifikasi Produk dan Ketertelusuran
- g. Pengendalian Proses

## 2. Soal latihan

- a. sebutkan dan jelaskan alat yang berguna untuk melacak dokumen proyek
- b. Apa yang menjadi masalah utama dalam pengendalian proses
- c. Jelaskan prosedur pengujian yang digunakan dalam proyek.
- d. harus dilakukan selama semua fase produksi - mulai dari penerimaan bahan mentah, komponen, atau sub-rakitan melalui proses manufaktur, hingga pengiriman produk atau sistem akhir.
- e. Gambarkan skema pemeriksaan dan pengujian

## 3. Tindak Lanjut

- a. Penilaian terhadap penguasaan materi diberi skor angka dari 1 s/d 4 berdasarkan evaluasi atau ujian akhir semester.
- b. Nilai kelulusan minimal adalah skor angka 2; apabila tidak mencapai angka ini maka mahasiswa diberi kesempatan untuk mempelajari kembali baik teori, praktek maupun dalam bentuk tugas, dan dilaksanakan dalam jangka waktu yang ditentukan. Setelah itu mahasiswa wajib kembali mengikuti evaluasi atau ujian perbaikan.

## D. Daftar Pustaka

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# BAB 3 | ORGANISASI SISTEM MANAJEMEN KUALITAS

## A. Pendahuluan

### 1. Deskripsi Singkat

Penerima FTA menggunakan banyak struktur organisasi yang berbeda untuk melaksanakan proyek modal. Semua pekerjaan, termasuk desain, pengadaan, manajemen konstruksi, dan konstruksi dapat dilakukan sendiri atau oleh pemasok atau kontraktor luar. Pengorganisasian sistem manajemen kualitas penerima hibah juga dapat disusun dengan berbagai cara; Namun, semua elemen sistem manajemen mutu yang berlaku harus dimasukkan ke dalam aktivitas entitas organisasi yang terlibat dalam program. Langkah-langkah yang dilakukan harus memberikan pertimbangan serius untuk meminimalkan gangguan pada operasi penerima hibah yang berkelanjutan.

Penting untuk membedakan antara tanggung jawab atas kebijakan mutu dan tanggung jawab atas mutu proyek atau kegiatan. Setiap orang yang bertanggung jawab atas suatu proyek atau aktivitas juga bertanggung jawab atas kualitas proyek atau aktivitas tersebut. Di sisi lain, staf QA bertanggung jawab untuk berpartisipasi dalam proses kualitas dan memastikan bahwa proses ini berfungsi. Jika proses berjalan dengan baik dalam suatu proyek, ada lebih banyak kepastian bahwa sasaran mutu proyek akan tercapai.

#### **D. Daftar Pustaka**

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# BAB

# 4

## MENGEMBANGKAN RENCANA KUALITAS PROYEK

### A. Pendahuluan

#### 1. Deskripsi Singkat

Bagian berikut menjelaskan proses pengembangan dalam proses pengiriman proyek desain-tawaran-bangun. Ada juga varian antara desain-tawaran-bangun dan desain-bangun yang disorot di Bab 3. Dalam semua kasus, pemilik bertanggung jawab atas jaminan rencana kualitas.

#### 2. Relevansi

Bagian ini akan sangat membantu mahasiswa dalam pemahaman tentang cara dan teknik mengembangkan rencana kualitas proyek.

#### 3. Tujuan

- a. Siswa mengetahui dan memahami cara mengembangkan rencana kualitas proyek.
- b. Siswa mengetahui proses pengembangan dalam proses pengiriman proyek.

#### 4. Petunjuk Belajar

Untuk mengenal dan mengetahui materi, diperlukan metode pembelajaran dan ulasan singkat materi dengan memperhatikan media pembelajaran seperti papan tulis dan LCD (dengan menggunakan program power point). Dilakukan Tanya jawab dalam bentuk diskusi dengan memperhatikan materi yang disajikan oleh dosen kemudian dipaparkan oleh masing-masing kelompok atau individu.

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## DAFTAR AKRONIM

AA	: Alternatives Analysis
A2LA	: American Association for Laboratory Accreditation
ANSI	: American National Standards Institute
ASQC	: American Society of Quality Control
ASCE	: American Society of Civil Engineers
ASME	: American Society of Mechanical Engineers
CII	: Construction Industry Institute
CMC	: Construction Management Consultant
DB	: Design-Build
DCQI	: Design and Construction Quality Institute
DOD	: Department of Defense
FFGA	: Full Funding Grant Agreement
FHWA	: Federal Highway Administration
FTA	: Federal Transit Administration
ICBO ES	: International Council of Building Officials Evaluation Service Institute IEEE of Electrical and Electronics Engineers
ISO	: International Organization for Standardization
LAP	: Laboratory Accreditation Program
LIRR	: Long Island Rail Road
NACLA	: National Cooperation of Laboratory Accreditation
NIST	: National Institute of Standards and Technology
NVLAP	: National Voluntary Laboratory Accreditation Program
OSS	: Office of Standards Services
PE	: Preliminary Engineering
PMO	: Project Management Oversight
PMOC	: Project Management Oversight Contractor
PMP	: Project Management Plan
PM	: Project Manager
QA	: Quality Assurance
QC	: Quality Control

RCC	: Rail Construction Corporation
RE	: Resident Engineer
SEPTA	: Southeastern Pennsylvania Transportation Authority
	SPC Statistical Process Control
SWTP	: The Southwest Transit Project of the Chicago
DPW TQM	: Total Quality Management
TRB	: Transportation Research Board
VQS	: Vendor's Quality System
VSDP	: Vendor's Software Development Process
WMATA	: Washington Metropolitan Area Transit Authority

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