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ASQ CCQM

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QUESTION NO: 1

Which of the following is the most effective way for a construction quality manager to review an 'action' submittal to ensure alignment with the project's quality plan?

- A. Approve the submittal based on cost-effectiveness.
- B. Prioritize speed of approval to keep the project on schedule.
- C. Verify the submittal meets all specified standards and requirements.
- D. Involve subcontractors in the review process with regular oversight.

ANSWER: C

Explanation:

Verify the submittal meets all specified standards and requirements. An action submittal is one that requires a formal response before the related work proceeds, such as shop drawings, product data, samples, mix designs, or certifications. To align its review with the project quality plan, the construction quality manager should use the contract documents and approved quality-control procedures as the review criteria. This includes confirming conformance with drawings, specifications, approved materials, applicable codes, required test data, performance criteria, and documented interfaces with related work. The review should also identify deviations, substitutions, or omissions and ensure they are resolved through the project's established approval and change-control process before installation or procurement proceeds. A documented, requirements-based review creates objective evidence that the work is being controlled in accordance with the project quality plan and supports traceability for inspections, testing, and final acceptance. This approach is consistent with the U.S. Army Corps of Engineers' three-phase control process, which emphasizes reviewing submittals and confirming requirements before definable features of work begin. See the [USACE Construction Quality Management guidance](#) and the [Whole Building Design Guide UFGS resource](#).

QUESTION NO: 2

What is a key benefit of outsourcing quality control processes to third-party services?

- A. Reducing the need for internal training
- B. Gaining access to specialized expertise
- C. Reducing the responsibilities of the internal quality team
- D. Streamlining processes by minimizing oversight from internal quality teams

ANSWER: B

Explanation:

Gaining access to specialized expertise is a key benefit of outsourcing quality control processes. Third-party quality-control providers can supply qualified personnel, advanced inspection and testing capabilities, and experience with specialized methods that may not be practical for a construction organization to maintain internally for every project. For example, independent laboratories, nondestructive-testing firms, and specialty inspection agencies can provide technical competence in areas such as material testing, welding inspection, concrete testing, or code-specific verification. This access can improve the reliability and timeliness of quality-control activities, particularly when work requires uncommon equipment, accredited laboratory services, or personnel with narrowly focused credentials. The construction quality manager remains responsible for defining requirements, selecting competent providers, reviewing results, and ensuring that outsourced work is integrated into the project quality-management system. Outsourcing therefore extends the organization's available capabilities; it does not transfer accountability for meeting contractual, regulatory, or quality requirements. ASQ describes quality assurance as planned and systematic activities that provide confidence requirements will be fulfilled, an objective supported by competent specialist services when they are properly controlled. See [ASQ's overview of quality assurance and quality control](#) and the [ISO 9001:2015 standard page](#), which addresses control of externally provided processes, products, and services.

QUESTION NO: 3

How should the effectiveness of the post-occupancy care phase be evaluated in a construction project?

- A. By assessing the responsiveness and effectiveness of ongoing maintenance and support services in addressing occupant issues.
- B. By the number of follow-up meetings scheduled with the occupants to discuss building functionality and satisfaction.
- C. By correlating the increase in property value against the post-occupancy rate.
- D. By the level of occupant satisfaction with the building's aesthetics.

ANSWER: A

Explanation:

“By assessing the responsiveness and effectiveness of ongoing maintenance and support services in addressing occupant issues.” is the appropriate measure because post-occupancy care concerns how well the completed facility continues to perform for its users after handover. This phase includes receiving and resolving defects or service requests, maintaining building systems, supporting occupants, and using operational feedback to sustain safe, functional, and reliable conditions. Evaluation should therefore use meaningful service-performance evidence, such as response and resolution times, repeat issues, closure quality, maintenance completion, system uptime, and occupant feedback on whether reported problems were actually resolved. These measures show whether the owner’s facilities-management and support processes are meeting occupants’ needs in day-to-day use, rather than merely documenting activity. ISO 41001 frames facility management around supporting an organization’s objectives and delivering effective facility services, which makes service outcomes and user needs central to performance evaluation. The U.S. General Services Administration’s facilities standards likewise emphasize maintaining building performance and operational quality throughout a facility’s life cycle. See [ISO 41001:2018 Facility management systems](#) and [GSA P100 Facilities Standards](#).

QUESTION NO: 4

What is the primary objective of developing a quality management plan (QMP) for a project?

- A. To identify the quickest project path to completion
- B. To create standard operating procedures for each project task
- C. To define quality standards and procedures for the project
- D. To provide a detailed schedule for every project task

ANSWER: C

Explanation:

The primary objective of a quality management plan is **to define quality standards and procedures for the project**. A QMP establishes the framework by which project quality requirements will be identified, achieved, verified, documented, and improved throughout the project life cycle. In construction, this includes applicable contract requirements, codes, specifications, regulatory obligations, acceptance criteria, inspection and test activities, quality records, roles and responsibilities, and processes for addressing nonconformities and corrective actions.

Defining these requirements and methods early enables the project team to consistently deliver work that conforms to the owner’s expectations and technical requirements. The plan also aligns quality assurance activities, which focus on confidence in the processes used, with quality control activities, which verify that completed work meets specified acceptance criteria. It provides a common reference for contractors, subcontractors, inspectors, and project stakeholders, helping ensure quality is planned into the work rather than assessed only after defects occur.

This purpose is consistent with ISO 10005 guidance on establishing quality plans for meeting quality requirements and with ASQ’s description of quality planning as determining the quality standards relevant to a project and how those standards will be met. See [ISO 10005:2018—Guidelines for quality plans](#) and [ASQ’s Project Management quality resources](#).

QUESTION NO: 5

When analyzing change management strategies, how should adapting to global changes affecting the project be addressed?

- A. Ignore external changes and focus on internal dynamics
- B. Implement temporary fixes to adjust to global changes
- C. Evaluate how global trends and risks impact organizational operations
- D. Limit the adaptation to changes only in areas directly affected

ANSWER: C

Explanation:

Evaluate how global trends and risks impact organizational operations is correct because effective change management begins with understanding the project's external context and translating that understanding into informed organizational action. Construction projects are especially exposed to changing economic conditions, material availability, logistics disruptions, labor-market constraints, environmental conditions, technology developments, and government or regulatory requirements. These influences can affect scope, schedules, procurement plans, budgets, resource capacity, quality objectives, and stakeholder expectations.

A quality manager should ensure that relevant external changes are identified, assessed for risk and opportunity, communicated to decision-makers, and incorporated into planning and control processes. This supports timely revisions to risk registers, contingency plans, supplier strategies, change-control decisions, and quality plans. Assessing impacts at the organizational level also helps maintain alignment between individual project decisions and broader business objectives, compliance responsibilities, and long-term resilience.

This approach reflects risk-management practice: organizations should consider both the internal and external context when managing uncertainty. It also fits quality-management principles that require organizations to understand contextual issues that can affect intended results and to plan responses accordingly. See ASQ's overview of [risk management](#) and ISO's information on [ISO 31000 risk management](#).

QUESTION NO: 6

Which of the following steps is crucial for ensuring all relevant personnel understand their roles in a project?

- A. Increasing the frequency of performance appraisals
- B. Implementing comprehensive training and clear communication
- C. Frequently reassigning responsibilities among personnel
- D. Reducing the number of quality checks to meet project completion

ANSWER: B

Explanation:

Implementing comprehensive training and clear communication is crucial because personnel can perform their assigned project responsibilities consistently only when expectations, authority, interfaces, and applicable requirements are understood. In a construction quality-management context, this starts with defining the project organization, including who is responsible for quality planning, inspections, testing, documentation, corrective action, and approval decisions. Clear communication then makes those assignments visible and usable through role descriptions, organization charts, project quality plans, orientation, coordination meetings, and accessible procedures.

Training converts assigned responsibility into demonstrated capability. It should be relevant to each person's work and cover project specifications, applicable codes, inspection and test plans, quality-control procedures, safety requirements, reporting paths, and escalation authority. Communication and training should also be maintained when project conditions, personnel, scope, procedures, or requirements change. This approach supports accountability, reduces ambiguity at work interfaces,

and helps ensure quality activities are performed by personnel who understand both what is required and who has authority to act.

ASQ's construction quality-manager body of knowledge includes organizational structures, responsibilities, communication, training, and competency as core quality-management considerations. ISO's quality-management guidance likewise emphasizes that people must be competent on the basis of appropriate education, training, or experience and aware of relevant responsibilities. See the [ASQ Certified Construction Quality Manager](#) page and [ISO 9001:2015](#).

QUESTION NO: 7

A project has experienced several quality issues after emergency substitutions were made because specified materials were unavailable. Which preventive improvement would best strengthen the procurement and quality-management process for future disruptions?

- A. Establish a controlled substitution process that requires early risk assessment, technical review, approval, and revision of affected quality controls.
- B. Require field supervisors to select the most readily available equivalent material during shortages.
- C. Increase material inventories for all project items regardless of criticality or storage limitations.
- D. Defer evaluation of substitutions until the affected work is ready for final inspection.

ANSWER: A

Explanation:

Establish a controlled substitution process that requires early risk assessment, technical review, approval, and revision of affected quality controls. Material availability changes can affect compatibility, performance, installation methods, testing, warranties, and code compliance. A defined process enables the project team to evaluate these effects before procurement or installation decisions create nonconforming work.

The process should identify who may initiate a substitution, what supporting documentation is required, which design and quality stakeholders must review it, and how approved changes are communicated to procurement, field personnel, inspectors, and records. Maintaining larger inventories may reduce some shortages but does not ensure that substitutions are technically acceptable. Allowing field supervisors to select alternatives based on availability bypasses the necessary evaluation and approval controls.

QUESTION NO: 8

What is the most important criterion to evaluate the comprehensiveness of quality documentation in ensuring a design adheres to quality standards?

- A. The visual presentation of the documented materials
- B. The completeness of the records in capturing all decisions, changes, and activities
- C. The frequency with which the quality documentation is updated
- D. The number of stakeholders involved in reviewing and approving the documentation

ANSWER: B

Explanation:

The completeness of the records in capturing all decisions, changes, and activities is the key criterion because documentation can demonstrate design conformance only when it provides an end-to-end, traceable account of what requirements applied, how the design was reviewed and verified, what decisions were made, and how subsequent changes were controlled. Complete records establish objective evidence that quality requirements were addressed throughout the design process rather than assumed to have been met. In construction quality management, this includes maintained design inputs and outputs, review and verification results, approvals, revision histories, requests for information, nonconformance

records where applicable, and records showing the disposition of design changes. This traceability supports accountability, enables effective audits, and allows project personnel to confirm that the current issued design reflects approved requirements and resolutions. A documentation system is comprehensive when it preserves the information needed to reconstruct the design-quality history and show continuing compliance as the work evolves. ASQ describes quality management as a systematic approach supported by documented processes and objective evidence; document control and retained documented information are likewise central features of a quality management system. See [ASQ's Quality Management System resource](#) and [ISO 9001:2015 overview](#).

QUESTION NO: 9

What is the best approach to use when evaluating the impact of quality controls on the overall outcomes of a construction project?

- A. Reviewing deliverables against quality objectives and compliance requirements
- B. Focusing on the number of post-construction defects found
- C. Considering the final cost relative to the budget
- D. Assessing the speed of project completion

ANSWER: A

Explanation:

Reviewing deliverables against quality objectives and compliance requirements is the best approach because it directly evaluates whether the project's quality-control activities achieved their intended results. In construction, quality controls are applied to verify that completed work, materials, installations, records, and inspections conform to defined project specifications, acceptance criteria, codes, contract requirements, and applicable regulations. Comparing actual deliverables and documented verification results with these established requirements provides objective evidence of conformance and of the effectiveness of the controls used throughout the work.

This approach also connects quality performance to the project's intended outcomes rather than relying on an isolated project measure. A sound review can use inspection and test records, nonconformance trends, punch-list status, turnover documentation, and client acceptance evidence to determine whether requirements were consistently met and whether corrective actions produced lasting improvement. ASQ describes quality assurance and quality control as activities that provide confidence in, and verify, fulfillment of quality requirements; evaluating deliverables against those requirements is therefore the most direct measure of their impact. See ASQ's [Quality Assurance and Quality Control](#) resource and its [Quality Management System](#) overview.

QUESTION NO: 10

What is the most effective way for a Construction Quality Manager to use KPIs to evaluate the impact of improvements implemented in a construction project?

- A. Tracking as many KPIs as possible to gather extensive data.
- B. Focusing on cost-related KPIs as they are the most concrete indicators of success.
- C. Selecting KPIs that directly reflect the goals of the implemented improvements.
- D. Evaluating KPIs at the end of the project to see the final impact.

ANSWER: C

Explanation:

Selecting KPIs that directly reflect the goals of the implemented improvements is the most effective approach because a KPI is meaningful only when it measures the intended result of a specific change. A Construction Quality Manager should first define the improvement objective and its baseline performance, then select a small set of measurable indicators that

demonstrate whether the change produced the expected effect. For example, an improvement intended to strengthen first-time quality could be evaluated through rework rate, nonconformance frequency, inspection acceptance rate, or corrective-action closure time. Measurements should be collected consistently before and after implementation, reviewed at suitable intervals, and used to guide timely decisions and further improvement. This creates a clear connection between the improvement action, the evidence of its effect, and the project's quality objectives. ASQ describes performance measurement as the use of measures to assess progress toward organizational goals, which requires metrics to be aligned with those goals. The U.S. Department of Energy similarly notes that effective performance measures are linked to objectives and support management decision-making. See [ASQ's performance measurement resource](#) and the [U.S. Department of Energy Office of Project Management](#).

QUESTION NO: 11

What is the primary purpose of a change order directive in construction project management?

- A. Suggest optional changes that may be considered by the project team.
- B. Serve as a preliminary notice that does not require immediate action or acknowledgment.
- C. Informally discuss potential changes without creating any binding agreements.
- D. Formally authorize and document modifications to the original scope.

ANSWER: D

Explanation:

Formally authorize and document modifications to the original scope is correct because a change directive provides written contractual direction for work that differs from the originally agreed contract requirements. It creates a controlled record of the change, identifies the work to be performed, and establishes the basis for addressing associated adjustments to contract time and contract sum. This documentation is essential to configuration control on a construction project: the project team can trace what was changed, who had authority to direct it, and how the change will be administered under the contract.

In standard industry contract practice, a Construction Change Directive is particularly useful when changed work must proceed before the parties have reached full agreement on the price or time adjustment. The owner can authorize the change through the contract's designated administrator, while the final adjustment is determined using the contract's procedures. Thus, the directive is not merely project correspondence; it is a formal mechanism for implementing and recording an authorized scope modification while maintaining contractual accountability. The American Institute of Architects describes this mechanism in its [A201 General Conditions overview](#). See also the [Whole Building Design Guide's construction contract administration guidance](#) for the importance of documented contract changes.

QUESTION NO: 12

When nonconformities are identified in a construction project, how should a Construction Quality Manager evaluate the effectiveness of collaboration between technical authorities and engineering teams in resolving these issues?

- A. By assessing whether the resolution process followed documented quality protocols
- B. By evaluating the clarity and actionability of decisions made during collaborative discussions
- C. By the thoroughness of the root cause investigation and the solutions implemented
- D. By assessing how much project quality and safety standards were improved through collaborative efforts

ANSWER: C

Explanation:

"By the thoroughness of the root cause investigation and the solutions implemented" is the best measure because collaboration is effective only when it produces a technically sound, verified resolution to the nonconformity. Technical authorities and engineering teams should jointly establish the actual cause—not merely the visible defect or immediate

symptom—by reviewing applicable requirements, design information, materials, installation methods, inspection results, and relevant project conditions. A thorough investigation creates a defensible basis for selecting corrective action that addresses the cause and for identifying preventive measures where needed.

The quality manager should then confirm that the selected solution was implemented, communicated to affected work, and verified for effectiveness. Verification should provide objective evidence that the nonconformity has been corrected, the work conforms to requirements, and recurrence risk has been controlled. This focus evaluates the substantive output of the collaboration: accurate technical diagnosis, appropriate corrective action, and demonstrated effectiveness. Root-cause analysis is a recognized quality-management method for identifying underlying causes and supporting durable corrective action; see ASQ's [Root Cause Analysis resource](#). It also aligns with ISO's quality-management emphasis on addressing nonconformities and taking action to control their causes, described in the [ISO 9001 standard overview](#).

QUESTION NO: 13

What is the purpose of ' retainage ' in relation to billing methods?

- A. Cover unexpected project expenses
- B. Confirm work completion before final payment
- C. Manage project scope changes
- D. Finance future project initiation phases

ANSWER: B

Explanation:

Retainage is a contractual billing practice under which the owner withholds an agreed percentage from each progress payment otherwise due for satisfactorily completed work. Its purpose is to preserve an incentive and financial security for completion of the entire contract, including correction of deficient work and resolution of remaining closeout or punch-list items, before all funds are released. Therefore, "Confirm work completion before final payment" accurately expresses retainage's central purpose. Retainage is ordinarily established in the contract and administered through each payment application, rather than being an informal contingency. The specific retained percentage, conditions for reduction or release, and any legal limits are governed by the contract documents and applicable law. At substantial or final completion, release is typically conditioned on required inspections, completion documentation, lien-related requirements where applicable, and fulfillment of the contractor's contractual obligations. This arrangement gives the owner a limited amount of leverage to help ensure the delivered construction conforms to the agreed scope and quality requirements. The U.S. General Services Administration's construction contract clauses address retainage as an amount withheld from progress payments, and the Federal Acquisition Regulation similarly provides for retainage when a contractor's performance is unsatisfactory or completion is at issue. See [FAR 52.232-5, Payments Under Fixed-Price Construction Contracts](#) and [GSA Construction Contract Clauses](#).

QUESTION NO: 14

ACCQM is tasked with developing an evaluation system to ensure that resources allocated for inspections are effectively aligned with the established inspection and test plan in a construction project. Which factors should be prioritized in this evaluation system to support the plan's objectives?

- A. The expertise and availability of personnel, as well as the adequacy of tools and technology for performing inspections
- B. The ability to reduce overall resource usage while maintaining inspection schedules
- C. The cost-efficiency of inspection resources compared to the original project budget
- D. The absence of significant delays, even if inspection quality or outcomes need adjustment

ANSWER: A

Explanation:

The expertise and availability of personnel, as well as the adequacy of tools and technology for performing inspections, should be prioritized because an inspection and test plan can achieve its quality objectives only when inspection work is performed competently, at the required project stages, and with reliable measurement capability. Qualified personnel must understand applicable drawings, specifications, acceptance criteria, test methods, and documentation requirements. Their availability must also be sufficient to conduct required hold-point, witness-point, and routine inspections without disrupting planned work or allowing uncontrolled work to proceed.

Inspection and testing tools, equipment, and technology must be suitable for the required activity and maintained or calibrated when measurement accuracy is relevant. Adequate resources enable objective verification that work conforms to specified requirements, support timely identification and control of nonconforming work, and create dependable inspection records. This emphasis is consistent with ISO 10005 guidance that quality plans define the resources, responsibilities, controls, and documented information needed to meet quality requirements, and with ISO 9001's focus on competent persons and suitable monitoring and measuring resources. See [ISO 10005:2018—Guidelines for quality plans](#) and [ISO 9001:2015—Quality management systems](#).

QUESTION NO: 15

When evaluating the warranty program documentation during project turnover, it is crucial to verify that

- A. the warranty documentation is included in the project's final financial report
- B. the warranty information was reviewed during the last project audit
- C. the documentation provides clear instructions on filing claims and whom to contact for warranty issues
- D. all project managers have signed off on the warranty documents

ANSWER: C

Explanation:

The documentation provides clear instructions on filing claims and whom to contact for warranty issues is correct because warranty information must remain usable after the project team has completed turnover. The owner or facility operator needs an unambiguous process for recognizing a potential warrantable condition, notifying the responsible party within the required time, supplying required supporting information, and tracking the corrective action. Clear points of contact are particularly important because different installed systems may have separate manufacturers, installers, and warranty periods. Without current contact details and claim instructions, an otherwise valid warranty may be difficult to enforce or a notice deadline may be missed. Effective closeout records therefore organize warranty documents so that operating personnel can quickly identify the applicable coverage, duration, claim procedure, and responsible provider. This supports the central turnover objective of transferring complete, accessible information needed to operate and maintain the completed facility. The Whole Building Design Guide describes closeout as the process of delivering required project records, including warranties, to the owner, while the General Services Administration's facilities guidance emphasizes maintaining usable operations and maintenance information for building assets. See the [Whole Building Design Guide's construction-phase commissioning guidance](#) and [GSA project closeout guidance](#).

QUESTION NO: 16

Which of the following elements should be included in quality management training to maximize its effectiveness for new project team members?

- A. A review of both historic and current quality standards
- B. An in-depth explanation of quality management concepts
- C. General information applicable to a variety of industries
- D. A focus on requirements and quality goals

ANSWER: D

Explanation:

A focus on requirements and quality goals is the most effective foundation for quality-management training because it connects each new team member's daily work directly to the project's definition of acceptable performance. In construction, quality is not an abstract concept: it is demonstrated by meeting contract documents, drawings, specifications, codes, inspection and test requirements, and client acceptance criteria. Training should therefore establish the applicable requirements, the measurable quality objectives, each person's quality-related responsibilities and authority, and the processes for documenting, inspecting, reporting, and correcting work.

This focus also helps team members make sound decisions when conditions change. They can recognize whether completed work conforms to requirements, understand when to stop or escalate potentially nonconforming work, and use the project quality plan as the operational guide. Clear quality goals promote consistent execution across trades, suppliers, and project phases while supporting objective evidence of conformity. ISO 9001 emphasizes communicating quality policy, relevant objectives, and the importance of effective quality management, including conformity to requirements. The ASQ body of knowledge likewise treats quality planning and project-specific requirements as core construction quality-management activities. See [ISO 9001:2015 overview](#) and [ASQ Certified Construction Quality Manager](#).

QUESTION NO: 17

Which of the following contract types is typically used for small projects where the scope is clear and unlikely to change?

- A. Lump sum
- B. Subcontract
- C. Joint venture
- D. Purchase order

ANSWER: A**Explanation:**

Lump sum is the appropriate contract type when a project's scope is complete, clearly defined, and not expected to change materially. Under a lump-sum arrangement, the contractor agrees to perform the specified work for one stated total price. This gives the owner a high degree of cost predictability and allows the contractor to plan labor, materials, equipment, and overhead around a defined set of deliverables. For a small project, this format also tends to simplify administration because payment can be tied to agreed milestones or completion rather than to continuous reconciliation of reimbursable costs.

The essential condition is a sufficiently mature scope: drawings, specifications, quantities, site conditions, and performance requirements should be understood well enough for bidders to estimate the work reliably. When that condition exists, a lump-sum contract efficiently allocates responsibility for performing the defined work at the agreed price and supports straightforward monitoring of quality, schedule, and conformance to contract requirements. This use of a fixed-price approach is consistent with the Federal Acquisition Regulation's description of firm-fixed-price contracts, which place maximum risk and responsibility on the contractor for costs and provide a price that is not subject to adjustment based on the contractor's cost experience. See [FAR 16.202, Firm-Fixed-Price Contracts](#) and the [Whole Building Design Guide's Unified Facilities Guide Specifications](#).

QUESTION NO: 18

What is a primary benefit of applying value engineering during the design phase of a construction project?

- A. To achieve the best balance between cost, functionality, and quality
- B. To extend the project timeline by incorporating comprehensive reviews
- C. To focus on reducing the project budget at any cost
- D. To eliminate all non-essential design elements

ANSWER: A

Explanation:

To achieve the best balance between cost, functionality, and quality is the primary benefit of value engineering during design. Value engineering is a structured, function-oriented method for improving the value of a project: it examines what the facility must accomplish, then considers alternatives that provide the required performance, reliability, safety, and quality for the lowest life-cycle cost. Applying this process while the design is still being developed gives the project team the greatest practical ability to evaluate materials, systems, layouts, construction methods, and maintainability before those choices become costly to change. The goal is not merely a lower initial price; it is the best overall value while preserving the functions and outcomes the owner requires. This aligns directly with construction quality management because design decisions affect conformance to requirements, long-term performance, constructability, and the prevention of downstream rework. The U.S. General Services Administration describes value engineering as a systematic application of recognized techniques to identify the function of a product or service and develop alternatives that achieve essential functions at the lowest life-cycle cost consistent with required performance, reliability, quality, and safety. The Federal Highway Administration likewise emphasizes function analysis and the development of alternatives to improve project value. See [GSA Value Engineering](#) and [FHWA Value Engineering](#).