



Registration

● Guideline

■ Evaluation of Project and Construction Management Experience for Registration

PURPOSE

This document defines those activities in the Project Management and Construction Management fields that are acceptable engineering experience for the purpose of qualifying experience that fulfills APEGBC's Satisfactory Engineering Experience Requirements.

APEGBC intends this document to be used by both:

- the applicant to analyze their experience and whether it is acceptable engineering experience; and
- the Association to evaluate an applicant's experience and whether it is acceptable engineering experience.

CREATED

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GUIDELINE

Applicants whose sole experience has been in the field of project or construction management or supervision will be evaluated carefully to ascertain if the requirements for Application of Theory have been adequately met. It is possible for the Application of Theory requirement to be met solely by project or construction management work and the onus is on the applicant to demonstrate their meaningful application of theory. If professional competency guidelines exist for the Applicant's discipline, these will be used in the assessment. Such guidelines provide for a more fair and objective measure of the applicant's qualifications.

An applicant must have

- a minimum of 1 year of application of theory in his or her discipline; and
- a minimum of 3 years project or construction management experience that covers all of the requirements listed below, as well as all elements of the Satisfactory Engineering Experience Guideline.

Applicants MAY be advised to take a position for a period of time that involves application of theory and covers other Satisfactory Engineering Experience requirements.

Requirements

A Project or Construction manager has full comprehension of the project and is knowledgeable about the project at the level of the day-to-day tasks. A Project or Construction Manager liaises between the project and the project owners or sponsors. Project and Construction Managers are responsible for planning, implementing, executing and/or finalizing projects. Project and Construction Managers will scope and manage engineering projects and ensure that such things as timeliness, cost, quality and safety are effectively maintained to achieve outcomes as defined by the project owners or contract.

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Applicants must fulfill all requirements to demonstrate Satisfactory Project or Construction Management Experience.

- **Ensure Safety**
 - Conduct Job Hazard Analysis (JHA) for all scheduled activities
 - Produce safe job practices for JHA activities and manage prevention of accidents
 - Verify safety and environmental certifications
 - Demonstrate knowledge of safety and work-safe regulations
 - Conduct safety meetings regularly
 - Manage remedial action and reporting when accidents occur

- **Quality Control and Assurance**
 - Carry out design and shop drawing reviews
 - Produce quality control and quality inspection reports
 - Produce non-conformance and corrective action reports
 - Initiate quality control program to ensure outcomes are achieved to the required or specified standard
 - Arrange for and obtain performance tests, witnessing of said tests and other reviews as necessary to ensure that material and equipment meet quality and performance requirements
 - Ensure commissioning is done properly, approved and signed-off

- **Budget and Cost Management**
 - Have a thorough understanding and preparation of estimates and budget costs
 - Demonstrate understanding of the use of work breakdown structure to define the scope, estimate costs and organize schedules
 - Know the cost of labour, equipment, subsistence and construction or project set-up
 - Produce budget, cost coding and all adjustments and reviews
 - Review time sheets daily re: labour and equipment
 - Identify and track:
 - Production (daily);
 - Costs (daily);
 - All extra work performed (weekly); and/or
 - Equipment (owned and rented)
 - Monitor production of deliverables to ensure that cost trend deviations from budget are quickly identified and remedied

- **Risk Assessment and Management**
 - Identify risks and their potential impacts
 - Produce a risk minimization plan
 - Implement that risk minimization plan

- **Project Scope and Deliverables**
 - Collaborate with clients/project owners to define project scope and deliverables
 - Develop a project plan
 - Produce overall schedules prior to start of project Have a thorough understanding of scope of work, specifications and drawings
 - Have a thorough understanding of sub-contractor's work
 - Identify measurable outcomes to evaluate the project on completion

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- Review requested variations against contract terms and conditions, agree on project outcomes and variations in project requirements or conditions
- **Scheduling and Project Implementation**
 - Determine and implement a project program (timeline)
 - Draft, develop and implement an Inspection and Testing Plan
 - Produce or review custom design and specifications
 - Produce detailed designs and drawings when required
 - Installation Supervision
 - Commissioning of mechanical, electrical, water and/or sewage where appropriate
 - Commissioning of service equipment and special installations of functional, operational or architectural components where appropriate
 - Produce submittal logs
 - Monitor project progress
 - Compare progress to program/timeline and initiate remedial action where necessary
 - Produce next day planner – daily
 - Tracking of Project schedules – weekly
 - Produce two week schedules – bi-weekly
 - Update project schedules – monthly
 - Schedule sub-contractors' activities
 - Plan and manage the integration of the transition of each stage of the project cycle
- **Site Inspections**
 - Arrange for and/or carry out inspections at the vendors' place of manufacture, in the contractors' shops and on the site.
 - Review vendors' and contractors' drawings to ensure compatibility with other equipment and compliance with the contract documents (designs, drawings, specifications).
 - Ensure compliance with safety requirements including documented on-site safety inspections
 - Ensure compliance with quality control requirements
 - Ensure compliance by sub-contractors
- **Procurement and Resources Management**
 - Determine procurement requirements for the project in accordance with project budget
 - Produce materials logs
 - Procurement and expediting
 - Materials receiving
 - Inventory control for materials and tools
 - Purchase order administration and packing slips control
 - Order material deliveries
 - Develop resource, material conservation, recovery and waste management plans
 - Develop strategies to maintain the effective performance of the resources
 - Diagnose problems and identify requirements for appropriate testing

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- **Manage People**
 - Implement a people management plan
 - Monitor team and individual performance targets
 - Ensure the team has adequate skills and resources to achieve the project outcomes
 - Participate in selection of staff
 - Discuss project scope and objectives with those involved in the project
 - Delegate achievement of outcomes to ensure cost, time and material resources are appropriately allocated and applied
 - Ensure compliance with safety, risk, cost and environmental requirements
 - Provide performance feedback
 - Inform managers of relationship of project to other program outcomes
- **Information and Communication Management**
 - Manage communication across the project with all stakeholders
 - Design or agree upon documentation system across the project
 - Communicate with the project team, clients, stakeholders and regulators on project progress where appropriate
- **Contract and Tender Services**
 - Prepare and produce contract or tender documentation where appropriate
 - Respond to tender inquiries where appropriate
 - Perform contract or tender evaluation and analysis where appropriate
 - Prepare addenda
- **Finalize the Project**
 - Review and document the project outcomes against the project requirements
 - Establish the acceptance criteria for the project in consultation with the client
 - Plan the hand over of the project
- **Environmental and Sustainability and Regulatory Considerations**
 - Have regard to, develop and implement environmental and sustainability considerations from project inception and development stages through to project finalization
 - Identify and account for environmental and sustainability concerns and requirements within the project deliverables
 - Establish environmental and sustainability criteria for procurement of materials, equipment and services.
 - Understand, plan for and comply with legal and regulatory requirements of the project, including contracts, codes, labour law and other legislation
 - Understand, plan for, and comply with legal and regulatory requirements of the project, including contracts, codes, local and provincial legislation