

COAA EPCM CONTRACT PHILOSOPHY

COAA EPCM Contract Committee

1. Introduction

The COAA EPCM Contract Committee, consisting of owner, contractor and affiliate members, has developed a standard form EPCM Contract for use in industrial projects in Alberta. Together with the Stipulated Price Contract (2003) and the EPC Contract (2005), the EPCM Contract is freely available to the industry as there is no copyright attached to the COAA contracts.

The COAA Contract Committee's Guiding Principles (2005) were used as a basis for the EPCM Contract Philosophy. This philosophy document provides background and context on the key issues the Committee addressed in preparing the EPCM Contract and is not meant to be an exclusive or exhaustive philosophy of EPCM contracting.

Where possible, and for consistency, definitions used in the earlier Stipulated Price and EPC contracts have been incorporated into the EPCM Contract. The result is a generic and equitable agreement that can serve as a starting point for Owners and Contractors to tailor their own contract. To accommodate a variety of projects, project-specific information is intended to be contained in the Appendices to the EPCM Contract.

The EPCM Contract is intended to serve as a starting point for negotiations and can be modified by the parties with respect to a specific project. It is preferred that changes be made to the EPCM Contract by way of supplementary conditions so that the COAA form remains as a precedent. However, care must be taken in the modification or editing of specific clauses to avoid changing the intent of referring or subsequent clauses.

2. Contract Structure

In the EPCM Contract, the EPCM Contractor performs engineering, procurement and construction management services. The EPCM Contractor's services will commence well before construction starts and will continue through project close-out and sometimes through the construction warranty period. The actual construction work is performed by one or more "Works Contractors" under the direction of the EPCM Contractor.

The EPCM Contractor acts as agent of the Owner in both procurement and construction management activities. The EPCM Contract also recognizes that the Owner may also procure materials and equipment directly which will be incorporated into the Work. Consequently, the Works Contracts are usually entered into between the EPCM Contractor (as agent for the Owner) and the Works Contractor.



3. Risks in EPCM Contracting

The Committee views the EPCM model as one in which more risk is retained by the Owner relative to the EPC model. Owners can typically exercise more control over the EPCM Contractor and have more input into the work being performed than is available in the EPC model.

The EPCM model allows the Owner to be more involved in the project execution, including the design process, and this relationship needs to be addressed between the Owner and the EPCM Contractor prior to project commencement. The parties must ensure they have the resources to meet the requirements as set out in Appendix A – Owner's Requirements and Appendix B – Owner's Obligations.

The contracting strategy for the project, and the selection of Works Contractors, is ultimately the Owner's responsibility. However, the Owner and the EPCM Contractor work in a consultative mode to select the optimum strategy for the project. The EPCM Contractor will provide advice on work breakdown, contract types (lump sum, unit rates, cost reimbursable, etc.), and candidate Works Contractors. The Owner retains responsibility for the Works Contractors and the EPCM Contractor does not take responsibility for the project estimates or final completion schedules.

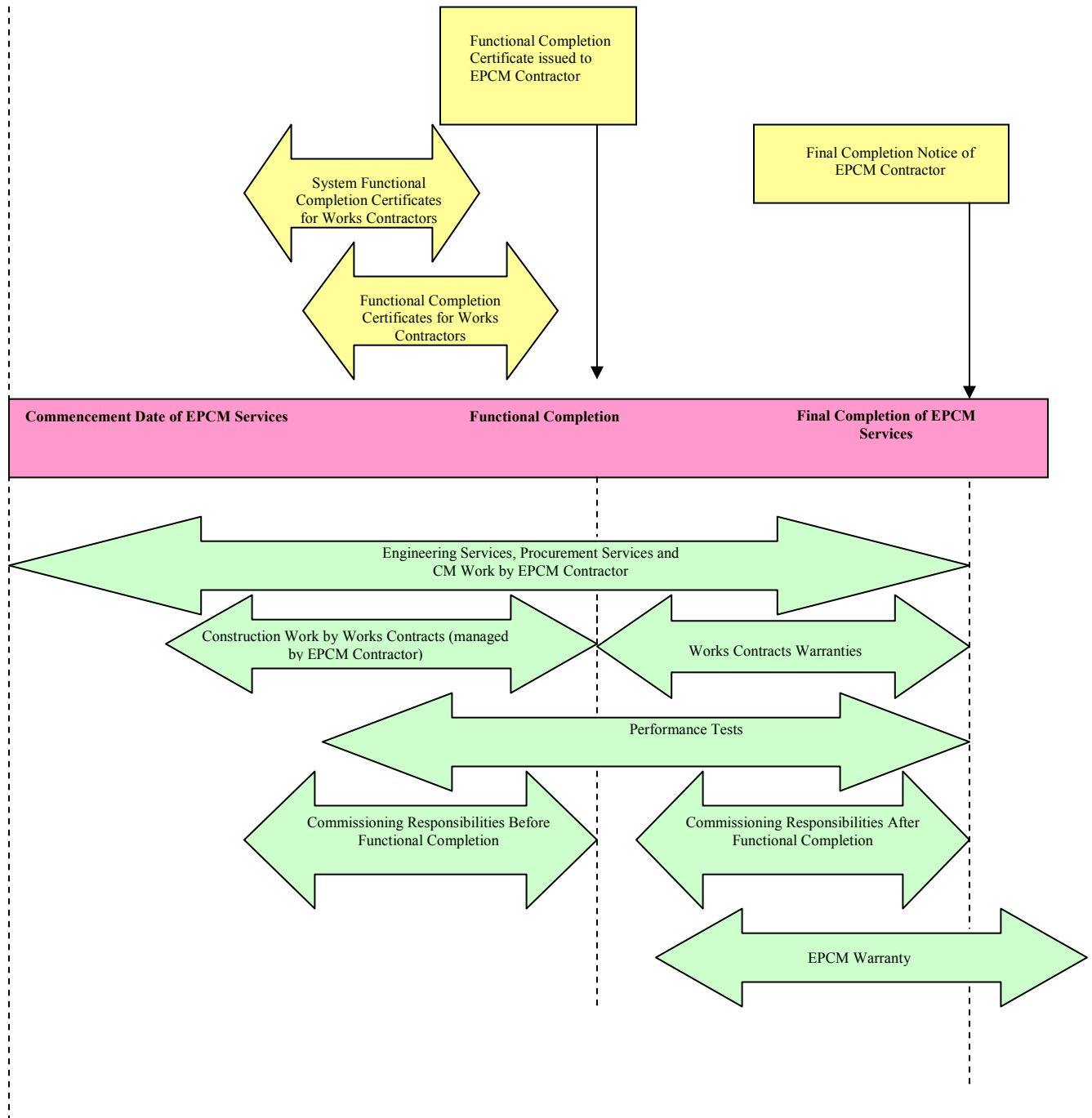
When an EPCM contract is entered into, the definition of the scope may be low though generally understood as the engineering has not yet been performed; yet the Owner is intending to proceed with construction. The fact that the definition of scope may be low increases the need for communication between the Owner and the EPCM Contractor so that, as the project develops, the appropriate choices and decisions can be made to ensure alignment with the Owner's vision.

EPCM contracts need to anticipate the potential for changes in scope and incorporate a well defined change management process for the purpose of cost and project control. Scope growth may be more difficult to control as the Owner team may be less resistant to change when working with an EPCM Contractor who is acting as agent on a reimbursable basis.

The Committee recognizes that the Owner will have more control over the outcome where the Owner uses an experienced team to work with the EPCM Contractor. This is especially important in EPCM contracting where the Owner has more project risk because of the Owner's direct exposure to the risks under the Works Contracts.

4. Timing of Activities Relative to Functional Completion and Final Completion

The timing of the major activities contemplated in the EPCM Contract are set out in the chart below:



5. Payment Terms

The EPCM Contract is structured to provide for compensation to the EPCM Contractor on a cost-reimbursable, plus a fee, basis. While the parties may also wish to include an incentive component (whether positive or negative), a standard approach or format is not provided or recommended by the Committee. Incentives were discussed at length by the Committee. Given the project-specific nature of incentive schemes, and the varying corporate philosophies with respect to incentives, incentives cannot be developed as an industry standard. In general, the intent of the payment terms is to motivate the EPCM Contractor to be rewarded for superior performance through fair risk and compensation provisions.

(a) Reimbursable Costs

Reimbursable Costs generally include all costs incurred by the EPCM Contractor directly as a result of performing the EPCM services. These should be summarized in the EPCM Contractor's regular invoice and supported with appropriate receipts or other documentation.

Some elements of cost are not easily attributable to the performance of a specific project-related task (examples: corporate finance, business development). These are usually reflected in a general cost allocation, such as "Overhead", and applied at a fixed rate per reimbursable hour. It is important that all such cost items, and the methods by which they will be quantified and reimbursed, are specified in the EPCM Contract. Appendix C – Reimbursable Costs and Fee provides a standard template of reimbursable costs and their calculation.

(b) Fee

The Fee includes all of the EPCM Contractor's entitlement (including profit) other than Reimbursable Costs and, if applicable, incentive payments. The amount of the Fee, its method of calculation, and the formula for calculating adjustments (if any) must be negotiated between the parties, clearly documented, and incorporated into the EPCM Contract. Where an adjustment of the Fee is contemplated during the life of the EPCM Contract, the parties must ensure that adequate administrative resources are available during project execution to track and verify the basis of the adjustment.

6. Communication

Effective communication between the Owner and the EPCM Contractor is crucial to the success of a project. The two organizations must remain aligned in all aspects of project execution: scope of work, technical specifications, change management, subcontracting and purchasing strategies, site access and use, HSE requirements, interfaces with ongoing operations, financial authorities, accounting procedures, progress reporting, public affairs, and so on. Direct communication between the EPCM Contractor's various functional departments and the Owner's counterparts is necessary – but certain protocols must be followed to ensure overall control of the project. In general, all communications dealing with issues that affect the project's cost, schedule, quality, safety, or reputation must be routed through the Owner's and EPCM Contractor's named representatives.

For procurement and construction management functions, the underlying relationship between the Owner and EPCM Contractor is one of agent and principal and in that relationship the EPCM Contractor needs to communicate project needs and the Owner must provide instructions. A communication plan is crucial to the success of an EPCM project and must include the following:

- key contacts on both sides for concerns regarding design, scope, schedule and cost;
- meeting frequency during the design and construction phases of the project;
- frequency of drawing reviews based on progress; and
- management of field queries from the Works Contractors to minimize cost and schedule impacts.

7. Change Management

Compared with other contract types, the EPCM form of contract facilitates a more rapid transition from front-end development into detailed engineering and construction. The contractual terms and conditions can be established early, allowing the EPCM Contractor to commence work - even though the detailed scope of work may still be in development. However, a robust change management process must be implemented in order to maintain control of cost and schedule, and to provide reasonably accurate forecasts of project results.

The parties must commit to open and regular communication generally, and, in particular, a formal change management procedure. All deviations from the project's basis documents (e.g. design basis memorandum, cost estimate, and construction schedule) must be documented with appropriate authorizations. This procedure should be included in Appendix E - Work Procedures, and the parties should ensure that they have sufficient project staff to meet the requirements of the procedure.

8. Safety

The Committee recognizes the importance of safety and, where possible, has incorporated the Best Practices relating to safety developed by the COAA. In addition, the EPCM Contract specifically recognizes the role of "prime contractor" under the *Occupational Health and Safety Act*. Whether the prime contractor responsibilities are carried out by the Owner, the EPCM Contractor or a Works Contractor, the EPCM Contract also recognizes that the party fulfilling this role must have the requisite control over safety to perform in the prime contractor function.

9. Warranty

The EPCM Contract contains a warranty from the EPCM Contractor relating to the engineering, procurement and construction and construction management services to the extent of re-work only.

The warranty relative to EPCM services commences at the start of the services and concludes at a specified time frame following Functional Completion. With regard to the actual construction work, the Owner relies on the warranty flowing from the Works Contractors.

10. Allocation of Risk and Consequential Damages

Following the EPC Contract model, the Committee has incorporated an exclusion of consequential damages. This exclusion applies both to the EPCM Contractor and the Owner.

Proposed Appendices

The Committee has developed templates for those Appendices it considers to be industry standards. Where a template is not possible, a checklist has been provided. In relation to those Appendices which are project-specific, the Committee has provided some points as to the proposed content. The following are the proposed Appendices:

(a) **Appendix A – Owner’s Requirements**

- See Checklist

(b) **Appendix B – Owner’s Obligations**

- Proposed Content:
 - (i) Scope of the Owner’s work (preferred suppliers, procurement, construction, etc.)
 - (ii) List of Owner’s Key Personnel
 - (iii) Communications Plan

(c) **Appendix C – Reimbursable Costs and Fee**

- See Template

(d) **Appendix D – Invoicing and Payment Procedures**

- Proposed Content:
 - (i) Payment of Invoices
 - (ii) Conditions for Withholding of Payment
 - (iii) Allowance for Changes in Rates
 - (iv) Cash management
 - (v) Right to Audit

(e) **Appendix E – Work Procedures**

- Proposed Content:
 - (i) Health, Safety and Environment
 - (ii) QA/QC
 - (iii) Change Management
 - (iv) Risk Management
 - (v) Document Management
 - (vi) Meeting and Reporting
 - (vii) Scheduling and Progressing

- (viii) Cost Trending and Forecasting
 - (ix) Contingency Management
 - (x) Construction Management
 - (xi) Contract Management
 - (xii) Handover – Functional Completion
 - (xiii) Project Close-Out
 - (xiv) Apprentice Employment Plan
 - (xv) Local Business Incorporation Plan
- (f) **Appendix F – Key Performance Indicators**
- See Template
- (g) **Appendix G – Policies and Guidelines**
- Proposed Content:
 - (i) Health, Safety and Environment
 - (ii) Labour Relations
 - (iii) Procurement Plan
 - (iv) COAA Canadian Model for Providing a Safe Workplace: Alcohol and Drug Guidelines and Work Rule
 - (v) COAA Workplace Respect Policy
- (h) **Appendix H – Forms**
- See Templates for (i), (v) and (vi):
 - (i) Key Employee Confidentiality, Intellectual Property and Consent Agreement
 - (ii) Change Order
 - (iii) Change Directive
 - (iv) Final Completion Notice
 - (v) Release and Certificate of Final Payment
 - (vi) Statutory Declaration
- (i) **Appendix I – Dispute Resolution Procedure**
- Attach project-specific document
- (j) **Appendix J –Key Personnel and Addresses for Notice**
- Attach project-specific document