

Engaging contractors: Partnership approaches to improving safety in the power industry

ENGAGING CONTRACTORS:
PARTNERSHIP APPROACHES TO IMPROVING SAFETY IN THE POWER INDUSTRY

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CONTENTS

| | Page |
|--|-----------|
| Foreword | 11 |
| Acknowledgements | 12 |
| 1 Introduction | 13 |
| 1.1 Aims | 13 |
| 1.2 Scope and purpose of this publication | 13 |
| 1.3 Intended audience | 14 |
| 1.4 Contracting life cycle model | 14 |
| 1.4.1 Contract life cycle | 14 |
| 2 Project brief | 18 |
| 2.1 Scope | 18 |
| 2.2 Determining contract requirements: conception | 18 |
| 2.3 Safety requirements: risk profile | 18 |
| 2.3.1 Risk profile | 18 |
| 2.3.2 Planned maintenance | 19 |
| 2.3.3 Major projects | 19 |
| 2.4 Specifying a contracting model | 20 |
| 2.4.1 Contractor engagement policy | 20 |
| 2.4.2 Enduring relationships | 20 |
| 2.4.3 Visibility of long-term workload | 21 |
| 2.4.4 Case studies of collaborative working | 21 |
| 2.4.5 ISO 44001 Collaborative business relationship | 23 |
| 2.4.6 IOGP <i>HSE management – guidelines for working together in a contract environment</i> | 24 |
| 2.5 Intelligent customer requirements | 26 |
| 3 Pre-construction | 27 |
| 3.1 Introduction | 27 |
| 3.2 Define roles and responsibilities | 27 |
| 3.3 Define expected standards | 29 |
| 3.3.1 Overview | 29 |
| 3.3.2 Setting safety performance objectives | 29 |
| 3.3.3 Project safety meetings | 30 |
| 3.4 Assemble project team | 32 |
| 3.4.1 Tendering good practice: tier 1 | 32 |
| 3.4.2 Appoint PRINCIPAL designer and contractor | 33 |
| 3.4.3 Competence and capability | 35 |
| 3.4.4 Language | 35 |
| 3.4.5 Organisational cultural evaluation | 36 |
| 3.4.6 Approved contractors | 38 |
| 3.4.7 Good practice for employing foreign companies | 38 |
| 3.4.8 Managing with a limited pool of contractors | 39 |
| 3.5 Pre-construction information | 40 |
| 3.5.1 Communication provided to contractors | 40 |
| 3.5.2 Communication required from contractors | 40 |

Contents continued

| | Page |
|--|-------------|
| 3.6 Construction phase plan | 41 |
| 3.6.1 Planning guidance | 41 |
| 3.6.2 Planning tips | 42 |
| 3.7 Health and safety file. | 43 |
| 3.7.1 The file. | 43 |
| 3.7.2 Safety critical task analysis | 44 |
| 3.8 Notification | 44 |
| | |
| 4 Design and planning | 45 |
| 4.1 Introduction | 45 |
| 4.2 Liaising with client. | 46 |
| 4.2.1 Language. | 46 |
| 4.2.2 Safety culture. | 46 |
| 4.2.3 Communication required from contractors. | 46 |
| 4.2.4 Appointments | 47 |
| 4.3 Manage and coordinate pre-construction activities | 48 |
| 4.3.1 Communication to contractors. | 48 |
| 4.3.2 Hazard identification and risk assessment. | 48 |
| 4.3.3 Design risk assessment. | 50 |
| 4.3.4 Project risk assessment. | 50 |
| 4.3.5 Residual hazard list. | 51 |
| | |
| 5 Procurement | 52 |
| 5.1 Introduction | 52 |
| 5.2 Intelligent customer capability and risk management. | 52 |
| 5.2.1 Managing reliance on contractors | 52 |
| 5.2.2 Intelligent customer role and capability. | 53 |
| 5.2.3 Contingency arrangements for contractor failure | 53 |
| 5.3 Appointing contractors | 54 |
| 5.3.1 Raising internal contract management competence | 54 |
| 5.3.2 Ensuring a competent tendering process | 55 |
| 5.3.3 Pre-qualification and approved suppliers. | 56 |
| 5.3.4 Investigation of competency during tender and mobilisation | 57 |
| 5.3.5 Organisational cultural evaluation | 59 |
| 5.3.6 Post award review | 60 |
| 5.4 Case study of working with contractors. | 60 |
| | |
| 6 Construction | 64 |
| 6.1 Introduction | 64 |
| 6.2 Management of change and variation instructions. | 64 |
| 6.2.1 Overview | 64 |
| 6.2.2 Principles of effective change management | 65 |
| 6.2.3 Key features of the MoC process | 66 |
| 6.2.4 Operational re-enforcement of the MoC process | 68 |
| 6.2.5 Managing contract variations. | 69 |
| 6.3 Working with subcontractors. | 70 |
| 6.3.1 Overview | 70 |
| 6.3.2 Controlling subcontract arrangements before they occur | 70 |

Contents continued

| | Page |
|---|-------------|
| 6.3.3 Subcontractor competences requirements, verification and pre-assessment | 72 |
| 6.3.4 Briefing and information | 72 |
| 6.4 Safety leadership | 73 |
| 6.4.1 The role of leadership | 73 |
| 6.4.2 Formal safety days and behavioural safety events | 75 |
| 6.4.3 Safety walks and safety reviews | 77 |
| 6.4.4 Leadership visibility and messaging | 78 |
| 6.4.5 Incentives | 79 |
| 6.5 Induction, information and training | 80 |
| 6.5.1 Site/project inductions | 80 |
| 6.5.2 Basic operative safety training | 81 |
| 6.5.3 Major projects | 82 |
| 6.5.4 Planned maintenance | 82 |
| 6.5.5 Contractor competency assurance once on site | 83 |
| 6.5.6 Permit to work | 83 |
| 6.5.7 Training | 84 |
| 6.5.8 Staff embedment | 84 |
| 6.5.9 Coaching and mentoring | 84 |
| 6.5.10 Organise and coordinate contractors | 84 |
| 6.5.11 Supervision | 85 |
| 6.6 Communications | 87 |
| 6.6.1 Communicating plans | 87 |
| 6.6.2 Toolbox talks | 87 |
| 6.6.3 Additional provisions for personnel not speaking the working language | 87 |
| 6.6.4 Message boards | 88 |
| 6.6.5 Engagement and communications mechanisms | 88 |
| 6.6.6 An environment for good communication | 89 |
| 6.6.7 Rules and standards | 89 |
| 6.6.8 Facilities for communication | 89 |
| 6.6.9 Uniform | 89 |
| 6.6.10 Communicating safety messages | 90 |
| 6.6.11 Regular coordination and health, safety and environment meetings | 90 |
| 6.6.12 Engaging in safety conversations | 92 |
| 6.7 Managing fatigue | 93 |
| 6.8 Managing travel | 96 |
| 6.9 Transient labour | 97 |
| 6.10 Managing multicultural workforces | 99 |
| 6.10.1 Language and other cultural differences | 99 |
| 6.10.2 Potential cultural behaviours | 99 |
| 6.10.3 Multicultural working collaborative approach | 100 |
| 6.11 Managing diverse languages | 101 |
| 6.12 Managing an ageing workforce | 101 |
| 6.13 Process safety | 102 |
| 6.13.1 Awareness of process safety risk | 102 |
| 6.13.2 Process safety management system | 102 |
| 6.13.3 Risk management techniques | 103 |
| 6.13.4 Safety critical assets | 106 |
| 6.13.5 Maintenance | 107 |

Contents continued

| | Page |
|--------------------|---|
| 6.13.6 | Process safety steering group 107 |
| 6.13.7 | Simultaneous operations (SIMOPs) 107 |
| 6.13.8 | High hazard operations and emergency response 108 |
| 6.14 | Monitoring and surveillance 110 |
| 6.14.1 | Targeted surveillance 110 |
| 6.14.2 | Real time contractor performance monitoring, audit and review 112 |
| 6.15 | Corrective action 113 |
| 6.16 | Incident and near miss investigation 113 |
| 6.16.1 | Leadership 113 |
| 6.16.2 | Reporting system or database 114 |
| 6.16.3 | Safety monitoring 114 |
| 6.16.4 | Capturing information 114 |
| 6.16.5 | Communicating lessons learned 114 |
| 6.17 | Accident investigation 115 |
| 6.17.1 | Liaise with client and designer 115 |
| 6.17.2 | When to investigate 115 |
| 6.17.3 | Accident investigation techniques 116 |
| 6.17.4 | Accident/incident database 120 |
| 6.18 | Performance monitoring and review 122 |
| 6.18.1 | Performance reviews 122 |
| 6.18.2 | Active monitoring 123 |
| 6.18.3 | Active monitoring techniques 124 |
| 6.18.4 | Safety sampling 124 |
| 6.18.5 | Safety tours 125 |
| 6.18.6 | Safety observations 126 |
| 6.18.7 | Document review 126 |
| 6.18.8 | Reactive monitoring 126 |
| 6.18.9 | Provisions for non-working language speaking personnel 127 |
| 6.18.10 | Generating a safety performance score 128 |
| 6.19 | KPIs 129 |
| 6.19.1 | KPIs and performance management 129 |
| 6.19.2 | Leading and lagging safety indicators 130 |
| 6.19.3 | Lagging indicators 130 |
| 6.19.4 | Leading indicators 131 |
| 6.19.5 | Organisational learning 133 |
| 7 | End of project 134 |
| 7.1 | Project close-out and review 134 |
| 7.2 | Hand-over 134 |
| 7.3 | Closing out a contract, evaluation and exit strategy 136 |
| 7.3.1 | Knowledge management and hand-over 136 |
| 7.3.2 | Learning from contracting experience 136 |
| Annexes | |
| Annex A | United Kingdom legal requirements 139 |
| A.1 | UK health and safety law 139 |
| A.2 | The Health and Safety at Work Act (HSWA) 139 |
| A.3 | Management of Health and Safety at Work Regulations 140 |
| A.4 | The Construction (Design and Management) Regulations 140 |

Contents continued

| | Page |
|---|-------------|
| A.5 The Control of Major Accident Hazards Regulations | 141 |
| A.6 Housing Grants, Construction And Regeneration Act (HGRA). | 141 |
| Annex B Tools | 142 |
| B.1 Contractor culture assessment | 142 |
| B.2 Example KPIs | 144 |
| Annex C Glossary. | 145 |
| C.1 Terms. | 145 |
| C.2 Acronyms. | 146 |
| Annex D References. | 149 |

LIST OF FIGURES AND TABLES

| | Page |
|----------------|---|
| Figures | |
| Figure 1 | Main activities associated with each stage in the UK CDM:2015 project life cycle 17 |
| Figure 2 | Major project and maintenance steps 18 |
| Figure 3 | IOGP contract life cycle 25 |
| Figure 4 | Good practice for employing foreign companies 38 |
| Figure 5 | Construction phase plan guide 42 |
| Figure 6 | Design and planning good practice 45 |
| Figure 7 | Project and maintenance steps 49 |
| Figure 8 | Competence assurance good practice 57 |
| Figure 9 | Example safety critical task competency interview 62 |
| Figure 10 | Principles of effective change management 65 |
| Figure 11 | Subcontractor arrangement good practice. 71 |
| Figure 12 | Construction good practice 73 |
| Figure 13 | Safety leadership values. 74 |
| Figure 14 | Leadership visibility good practice 79 |
| Figure 15 | Core operative safety training 82 |
| Figure 16 | Contractor competency assurance. 83 |
| Figure 17 | Example of a bow-tie. 105 |
| Figure 18 | Potential investigator. 117 |
| Figure 19 | What to do at scene 118 |
| Figure 20 | Incident information 119 |
| Figure 21 | Accident/incident report necessary information 120 |
| Figure 22 | Requisite information 121 |
| Figure 23 | Active monitoring 123 |
| Figure 24 | Lagging indicators. 131 |
| Figure 25 | Leading indicators. 132 |
| Figure 26 | Commission and hand-over good practice. 135 |
| Figure 27 | Post-completion good practice 137 |
| Figure 28 | Safety review evidence 138 |
| Figure 29 | Review report details. 138 |
| Figure B.1 | Safety cultural maturity matrix. 142 |
| Figure B.2 | EI hearts and minds cultural maturity ladder 143 |
| Tables | |
| Table 1 | Selected life cycles for construction, engineering and projects 14 |
| Table 2 | Risk profile considerations 19 |
| Table 3 | Case study for procurer/contractor partnership questionnaire 22 |
| Table 4 | Collaborative working: critical success factors 22 |
| Table 5 | Case study. 23 |
| Table 6 | Collaborative working case study. 23 |
| Table 7 | ISO 44001 case studies 24 |
| Table 8 | Case study for working together in contract environment 25 |
| Table 9 | Case study intelligent customer needs. 26 |
| Table 10 | Overview of roles and accountabilities. 28 |
| Table 11 | Safety meeting guidance 31 |
| Table 12 | Tendering good practice 33 |

List of Figures and Tables (continued)

| | Page |
|----------|---|
| Table 13 | External appointments. 34 |
| Table 14 | Safety culture training 37 |
| Table 15 | Australian Ministry of Defence contractor cultural fit and collaborative contracting 37 |
| Table 16 | Good practice case study: managing a limited pool of contractors 40 |
| Table 17 | External appointments. 47 |
| Table 18 | Hazards to assess in project risk assessment. 51 |
| Table 19 | A failure of intelligent customer risk management. 52 |
| Table 20 | Successful intelligent customer managing risk 53 |
| Table 21 | Intelligent customer contingency. 54 |
| Table 22 | Utility contract manager training 55 |
| Table 23 | Competency assurance good practice 55 |
| Table 24 | Competence assurance critical success factors 56 |
| Table 25 | Training database case study 58 |
| Table 26 | CONCOM case study. 58 |
| Table 27 | UK competency validation schemes 59 |
| Table 28 | Subcontractor cultural fit assessment: case study. 60 |
| Table 29 | Management of change critical success factors 65 |
| Table 30 | CII recommended good practice 66 |
| Table 31 | MoC good practice 69 |
| Table 32 | Working with subcontractors – critical success factors 70 |
| Table 33 | Safety leadership: critical success factors 74 |
| Table 34 | Safety team case study 74 |
| Table 35 | Utility safety programme case study. 75 |
| Table 36 | Safety days case study. 76 |
| Table 37 | Safety walk and review good practice 78 |
| Table 38 | Surveillance case study 78 |
| Table 39 | Contract safety plan 80 |
| Table 40 | Induction – culture and language provisions case study 81 |
| Table 41 | Familiarity training case study 83 |
| Table 42 | Internal engineering capability case study 84 |
| Table 43 | Coordinating with contractors' good practice 85 |
| Table 44 | Health, safety and environmental committee 86 |
| Table 45 | Director safety meeting 86 |
| Table 46 | Local ownership 86 |
| Table 47 | Communications: critical success factors 89 |
| Table 48 | Coordination and meeting good practice. 91 |
| Table 49 | Critical task analysis. 93 |
| Table 50 | Transient contractor maturity matrix 98 |
| Table 51 | Discrepancies in phrasing. 99 |
| Table 52 | Process safety management: critical success factors 103 |
| Table 53 | HAZID case study. 104 |
| Table 54 | Bow-tie case study. 105 |
| Table 55 | Risk assessment tool case study 106 |
| Table 56 | Safety model case study 106 |
| Table 57 | Safety conference case study 107 |
| Table 58 | SIMOPs good practice 108 |
| Table 59 | SIMOPs case study. 108 |
| Table 60 | Quality inspection case study 109 |
| Table 61 | Hazard and emergency good practice 109 |

List of Figures and Tables (continued)

| | Page |
|-----------|--|
| Table 62 | Outage coordination case study 110 |
| Table 63 | Good practice targeted surveillance 111 |
| Table 64 | Good practice for real time contractor performance 112 |
| Table 65 | Surveillance team case study 112 |
| Table 66 | Good practice performance monitoring 122 |
| Table 67 | Safety sampling 125 |
| Table 68 | Response scores 129 |
| Table 69 | KPIs – critical success factors 129 |
| Table 70 | Project and maintenance steps 134 |
| Table B.1 | Example of contractor KPIs 144 |

FOREWORD

This publication was developed in response to demand from operators and contractors within the power generation sector, recognising that the safe and effective engagement of contractor resources represents a substantial responsibility for everyone in the industry.

The intent of this publication is not to comprehensively document all the relevant legislation and industrywide standard practices, but instead to focus on the greatest challenges whilst sharing existing or emerging good practice.

This second edition merges the good practices covered in the first edition (taken from workshop discussions and industry case studies) with the guidance covered in Energy Institute (EI) *Managing contractors: A guide for the energy industry*. As such, this guide supersedes both the 2014 edition, and *Managing contractors: A guide for the energy industry*, to provide a much more comprehensive guide on contractor engagement and management.

This publication provides guidance on how clients' companies can engage (manage and work with) contractors in a safe and effective way. While not specific to any national legislation, its structure is aligned with the UK's *The Construction (Design and Management) Regulations 2015* (CDM), which is the typical way construction-type projects (including outages) are conducted in the power sector. As such, it covers the main phases of a construction-type project, from contractor selection to construction and project hand-over. This second edition also includes new material on managing fatigue, ageing workforce, diverse workforces and travel, as well as new content on safety critical task analysis and collaborative contracting.

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Management of the project and technical editing was carried out by Stuart King.

1 INTRODUCTION

1.1 AIMS

National legislation sets out minimum standards for health and safety. Examples of such legislation include European Union *Directive 92/57/EEC – temporary or mobile construction sites*, the United Kingdom's Construction (Design and Management) Regulations 2015 and the United States Safety and Health Regulations for Construction.

While there may have been various changes to national legislation since the last edition of this guide was published (for example, updating of the United Kingdom's Construction (Design and Management) Regulations in 2015) it is not the intention of this publication to exhaustively update earlier guidance for changes to legislation. The approach adopted in this document differs in its focus.

The aim is to offer an *aide-mémoire* to competent practitioners generally familiar with the relevant legislation and their associated obligations. It seeks to distil the lessons that organisations (themselves generally competent, familiar and practised in their various obligations and responsibilities) have found to have worked particularly well and, occasionally, what singularly has not. The purpose is not to summarise or interpret legislation, but to share experience and insight about what actually works well among industry practitioners. Hence, it concentrates on exploring the key risk areas commonly experienced, and dives deeply into how organisations have sought to manage these risks most effectively.

The content is not intended to be implemented in its entirety, as more than one solution is provided in some cases and some contracting strategies will not support all of the options described. It is designed to demonstrate some of the good practices that have been applied within the sector and provide details of specific strategies that have added value.

1.2 SCOPE AND PURPOSE OF THIS PUBLICATION

The intent of this publication is not to comprehensively document all the relevant legislation and industry-wide standard practices, but instead to focus on the greatest challenges whilst sharing existing or emerging good practice. Workshop-based discussions between members of the Energy Institute's (EI's) then Power Utility Committee (PUC) and contractors (detailed in the first edition) highlighted the following priority areas where good practices are sought:

- safety leadership;
- addressing both occupational and process safety;
- working with subcontractors;
- competence assurance;
- management of change (MoC) and variation instructions;
- engagement and communications mechanisms, and
- key performance indicators (KPIs) and performance management.

This publication provides a risk-based view of good practice but does not seek to provide comprehensive end-to-end instruction. This publication focuses on outages, the associated contract works (and also service contracts), rather than major construction projects.

Other useful EI guidance includes:

- *Transient contractor and supply risk management and assurance during shutdowns, outages and turnarounds;*
- *Guidance on human factors safety critical task analysis;*
- *Managing fatigue using a fatigue risk management plan, and*
- *Approaches to managing and assuring contractor competence.*

1.3 INTENDED AUDIENCE

The intended users include power generation companies and the contractors that provide services and resources within the power generation sector. This guide applies to all forms of power generation, including renewable (biomass, hydro, wind, solar, geothermal), fossil fuels (gas, petroleum and coal) and nuclear. The guidance should be equally applicable for other sectors.

1.4 CONTRACTING LIFE CYCLE MODEL

1.4.1 Contract life cycle

Table 1 cites a selection of contract life cycle models relevant to engineering. Product development life cycles have not been included. The models have been categorised according to the activity they represent. Some models focus on contracting, some on construction and some on cross-cutting aspects of management, such as safety.

Table 1: Selected life cycles for construction, engineering and projects

| Source | Stages | Comments |
|--|--|-----------------------------|
| Managing contractors: A guide for the energy industry (2006) | Concept and feasibility Design and planning Tender and selection Construction Commissioning and hand-over | Construction life cycle |
| Campbell Institute: Best Practices in contractor management | Pre-qualification Pre-job task and risk assessment Contractor training and orientation Monitoring of the job Post-job evaluation | A contract life cycle model |

Table 1: Selected life cycles for construction, engineering and projects (continued)

| Source | Stages | Comments |
|--|--|---|
| International Association of Oil and Gas Producers (IOGP) <i>Health Safety and Environment (HSE) management – guidelines for working together in a contract environment</i> . Report 423, April 2017 | Planning Sourcing/capability assessment Tender and award Pre-mobilisation Mobilisation Execution De-mobilisation Final evaluation and close out | A contract life cycle model |
| International Organization for Standardization (ISO)440001. The International Standard for Collaborative Business Relationships | Operational stages Stage 1 – Operational awareness Stage 2 – Knowledge Stage 3 – Internal assessment Stage 4 – Partner selection Stage 5 – Working together Stage 6 – Value creation Stage 7 – Staying together Stage 8 – Exit strategy activation performance and auditing | Management arrangements for collaborative working |
| The International Association for Contract and Commercial Management ¹ | Evaluate Approve Draft Negotiate Implement Manage Close | A contract life cycle model |
| Projects IN Controlled Environments (PRINCE2) ² | Starting up a project Directing a project Controlling a stage Managing a stage boundary Closing a project | Generic project life cycle |

¹ <https://www.iaccm.com/>

² <https://www.prince2.com/uk/what-is-prince2>

Table 1: Selected life cycles for construction, engineering and projects (continued)

| Source | Stages | Comments |
|---|--|-----------------------|
| Royal Institute of British Architects (RIBA) ³ | 0 – Strategic definition 1 – Preparation and brief 2 – Concept design 3 – Developed design 4 – Technical design 5 – Construction 6 – Hand-over and close out 7 – In use | Construction contract |

In order to help organise the guidance in this publication, a single contracting life cycle has been adopted – this being based on the United Kingdom's Construction, Design, Management (CDM) model, the most recent version of which is captured in Figure 1. The remainder of this publication is organised with section headings corresponding to the different stages in the CDM life cycle model.

Safety should not become a paperwork exercise and that, while correct documentation is a necessary element, it is not by itself sufficient. Safety should be an engagement activity throughout the project and its participants.

³ <https://architectureforlondon.com/news/the-riba-plan-of-work/>

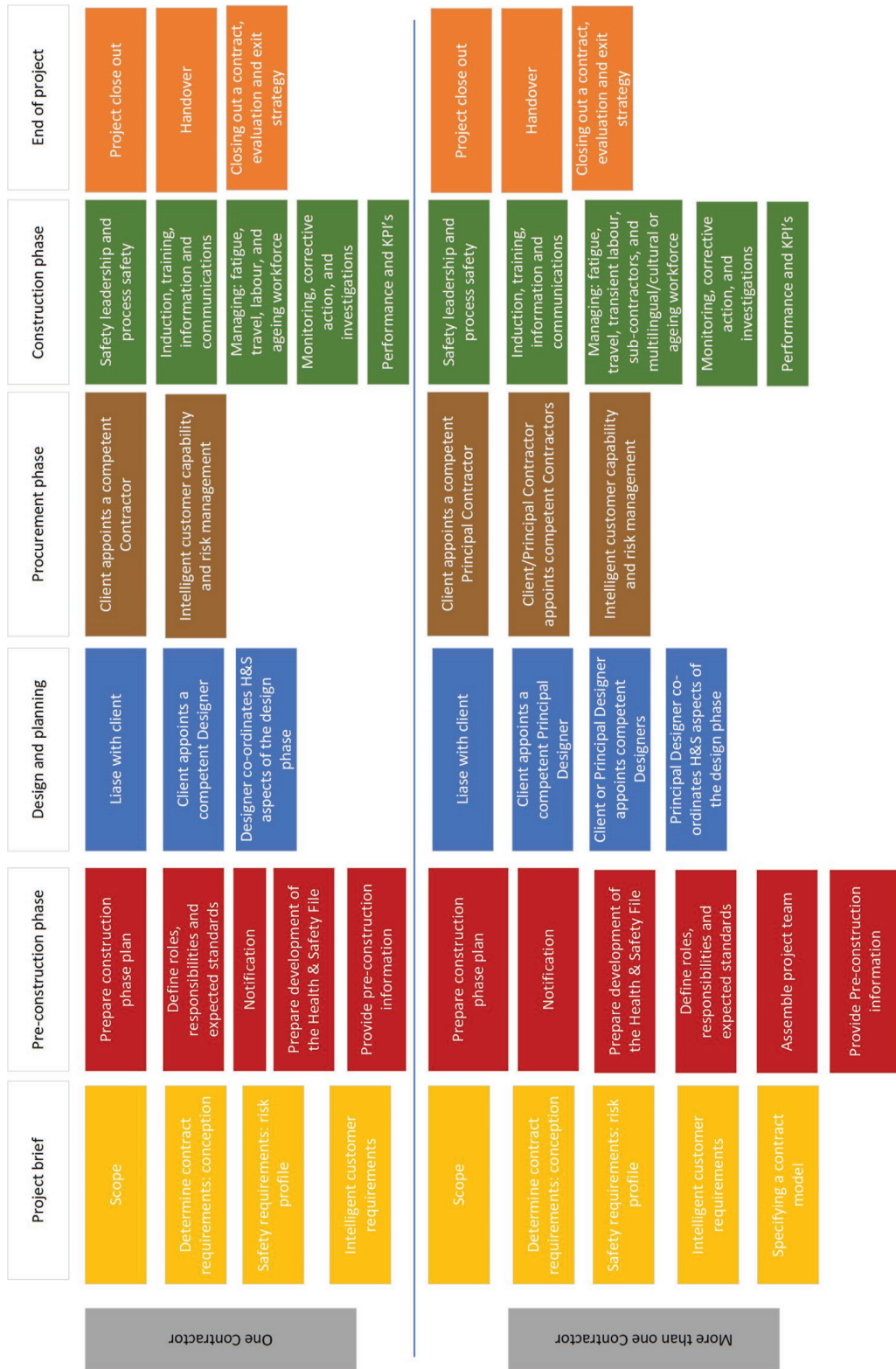


Figure 1: Main activities associated with each stage in the UK CDM:2015 project life cycle