MAKING BUILDINGS WORK

TRAINING & CAREER DEVELOPMENT HANDBOOK

Proficient
Professional
Commissioning

2023 EDITION

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Introduction to the TRAINING & CAREER DEVELOPMENT handbook

The CSA has developed a fully structured Path of Development and Career Progression to encourage commissioning engineers, commissioning managers (and any other staff involved in the commissioning process) to follow a definitive course of study which will develop their theoretical knowledge and practical skills and ensure that they are able to fully realise their potential in the commissioning world.

The aim of this handbook is to show how this system works and how each applicant may achieve the best results. The objective is to ensure that all commissioning staff have the necessary knowledge to be able to carry out their work to the best of their ability. This has two main benefits. Firstly, it ensures that staff provide a consistently good standard of work. Secondly it ensures that commissioning companies provide their clients with a consistently good standard of commissioning service. Both of these combine to ensure that CSA Members, both company and individual, are assured of a reputation for good work. This can benefit them over the long term in repeat business from satisfied clients.

The following pages comprise an outline of the career path, the various job descriptions for the different grades of commissioning personnel and the qualifications available:

The **Job Descriptions** identify the scope of the duties for each of the six engineering grades and three management grades and allows each person to carry out an appraisal of their own capabilities and potential against the requirements.

The page on **Distance Learning Courses** describes what the distance learning courses are, and what the pupils have to do.

The **Distance Learning Course Outline Chart** provides an easy reference "flow chart" of how the system operates.

An index is provided of all three parts of the Distance Learning Courses, identifying the module headings and thus providing an outline syllabus.

The six pages following the DLC index provide information on how a commissioning engineer can attain the senior grades - **Grade 4, (Commissioning Engineer); Grade 5 (Senior Commissioning Engineer) & Grade 6 (Commissioning Manager); CM1 (CSA Commissioning Manager); CM2 (CSA Senior Commissioning Manager) & CM3 (CSA Commissioning Project manager)** - and detail the requirements for each grade and the criteria against which each candidate is assessed. The Path of Development identifies the different stages of CSA study & qualification.

The Path of Development identifies the different stages of CSA study & qualification.

Our Commissioning Management pathway holds 3 different positions –

- Commissioning Managers (Grade 6/CM1)
- Senior Commissioning Managers - CM2
- Project Commissioning Managers -CM3

Job Descriptions - Grade Trainee (T)

Grade = Trainee (T)

Overview of the role:

An employee in this occupation will be responsible for supporting commissioning engineers with pre-commissioning and commissioning works of HVAC systems.

Typical job titles include:

Trainee commissioning engineer, Apprentice commissioning engineer, Assistant commissioning engineer.

Job Grade:

Grade T

Red SKILLcard

Experience:

None required, new starter.

Occupation summary:

A Trainee Commissioning Engineer is an individual who is starting their career in the field of commissioning engineering and is in the process of developing the skills and knowledge necessary to become a Commissioning Engineer.

Trainee Commissioning Engineer aims are to gain hands-on experience in the commissioning of building systems. They should be highly motivated, eager to learn, and possess excellent communication, organizational, and problem-solving skills. The goal of a Trainee Commissioning Engineer is to develop the skills and knowledge necessary to become a successful Commissioning Engineer, this occupation is found in and throughout the built environment sector, via supply chain MEP contractors and commissioning subcontractors.

Trainee commissioning engineers operate in a range of settings including the checking of air and water measurement equipment to be used on the projects, the ability to learn and understand how the measuring equipment is used on the projects, understand the principal of pre-commissioning and the basics of commissioning systems.

Key responsibilities of a Trainee Commissioning Engineer may include:

- Assisting senior Commissioning Engineers in conducting start-up and functional testing of HVAC systems and other building systems.
- Learning about the commissioning process and gaining experience with various commissioning tools and techniques.
- Participating in training sessions and workshops to develop technical knowledge and skills.
- Assisting in the preparation of commissioning reports and other documentation.
- Observing and learning from more senior Commissioning Engineers to develop an understanding of how to troubleshoot problems and resolve issues with building systems.

Site and office environments include industrial, commercial, residential, refurbishment, heritage, retail and public sector projects.

The broad purpose of the occupation is working in an exciting and dynamic environment which could be in an office or on a construction site at the heart of the organisations including versatile activities using digital processes to input test data.

Trainee commissioning engineers within this specific career area are engaged to interpret, analyse, contribute and directly assist commissioning engineers working with a wide range of project resources and documentation.

Trainee commissioning engineers will develop a range of highly transferable knowledge, skills and behaviours that can be applied across a range of large and small MEP systems. Effectively recognising site hazards and safe working practices with thorough knowledge of relevant health, safety and environmental legislation to ensure compliance with company site procedures and processes.

Duties:

1	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Operatives or BESA Health & Safety Environment Course And Test
1.2	Internal company H&S induction (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep their company informed of any damaged PPE
1.5	Review RAMS for each project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.6	Working at Heights training completed by candidates' company
1.7	Manual Handling training completed by candidates' company
1.8	Asbestos Awareness training completed by candidates' company
2	**Site Equipment Tools and Materials**
2.1	Air Balancing Equipment
2.1.2	Must be able to carry, set up and handle air measuring equipment safely and gently.
2.2	Water Balancing Equipment
2.2.1	Must be able to set up and use U tube Manometer & digital water manometer
5	**Site Activities and Performance**
5.1	Must follow site procedures for Entry & Exit to Site
5.2	Must report to client team daily, on arrival and before exiting site

Development Aim:

Aim	To participate fully in the Company and CSA training schemes with a view to completing Parts A-C of the Distance Learning Course of the Commissioning Specialists Association. To know the basics regarding company test equipment and Health and Safety & Environmental needs
CSA Training Route	There is no formal CSA training for the entry level grade. Candidate is encouraged into to completing Parts A-C of the Distance Learning Course of the Commissioning Specialists Association as part of longer-term training plans.
End Point Assessment	N/A as this is the entry level CSA position.
EPA Award	Open award

Job Descriptions - Grade 1

Overview of the role:

Commissioning HVAC Systems on construction sites or other client buildings.

Typical job titles include:

Trainee commissioning engineer, Apprentice commissioning engineer, Assistant commissioning engineer.

Job Grade:

Grade 1

Red SKILLcard

Experience:

Minimum 12 months proven commissioning experience with a recognised company/organisation and completion of DLC A and Grade 1 Online Exam. Or relevant NVQ level 1 in Building or Allied Services with minimum of 18 months commissioning experience. Must comply with Grade 1 job description.

Occupation summary:

Grade 1 Commissioning Engineer is an individual who is within their first year of their career in the field of commissioning engineering and is in the process of developing the skills and knowledge necessary to become a Commissioning Engineer.

Grade 1 Commissioning Engineers aims are to gain hands-on experience in the commissioning of building systems. They should be highly motivated, eager to learn, and possess excellent communication, organizational, and problem-solving skills. The goal of a Trainee Commissioning Engineer is to develop the skills and knowledge necessary to become a successful Commissioning Engineer, this occupation is found in and throughout the built environment sector, via supply chain MEP contractors and commissioning subcontractors.

Grade 1 Trainee commissioning engineers operate in a range of settings including the checking air and water measurement equipment to be used on the projects, the ability to learn and understand how the measuring equipment is used on the projects, understand the principal of pre-commissioning and the basics of commissioning systems. Site and office environments include industrial, commercial, residential, refurbishment, heritage, retail and public sector projects.

Key responsibilities of a Grade 1 Commissioning Engineer may include:

- Assisting senior Commissioning Engineers in conducting start-up and functional testing of HVAC systems and other building systems.
- Learning about the commissioning process and gaining experience with various commissioning tools and techniques.
- Participating in training sessions and workshops to develop technical knowledge and skills.
- Assisting in the preparation of commissioning reports and other documentation.
- Observing and learning from more senior Commissioning Engineers to develop an understanding of how to troubleshoot problems and resolve issues with building systems.

They may be employed by commissioning contracting companies, as well as a significant number of small and medium sized MEP/HVAC contractors and subcontractors such as building services companies, together with a host of other specialised construction areas such as Labs & Cleanrooms.

The broad purpose of the occupation is working in an exciting and dynamic environment which could be in an office or on a construction site at the heart of the organisations including versatile activities using digital processes to input test data. Grade 1 Trainee commissioning engineers within this specific career area are engaged to interpret, analyse, contribute, and directly assist commissioning engineers working with a wide range of project resources and documentation regularly interacting with internal and external customers.

Garde 1 Trainee commissioning engineers will develop a range of highly transferable knowledge, skills and behaviours that can be applied across a range of large and small MEP systems. In their daily work, an employee in this occupation interacts with professional and technical teams across different parts of the organisation, potentially on a range of sites or in an office environment.

Grade 1 Trainee commissioning engineers are responsible for supporting commissioning teams with pre-commissioning and commissioning works of HVAC systems including following engineer's instructions on adjustment of dampers and checking of index grilles, follow senior commissioning engineer's instructions on adjustment of valves, PICV settings and checking of index valves, assist with pre-commissioning of air systems and assist with pre-commissioning of water systems. Effectively recognising site hazards and safe working practices with thorough knowledge of relevant health, safety and environmental legislation to ensure compliance with company site procedures and processes.

Duties:

1	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Operatives or BESA Health & Safety Environment Course and Test
1.2	Internal company H&S induction (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep their company informed of any damaged PPE
1.5	Review RAMS for each project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.6	Working at Heights training completed by candidates' company
1.7	Manual Handling training completed by candidates' company
1.8	Asbestos Awareness training completed by candidates' company
2	**Site Equipment Tools and Materials**
2.1	Air Balancing Equipment
2.1.2	Must be able to carry, set up and handle equipment safely and gently
2.1.3	Must be able to set out a pitot tube rings and be able to drill traverse points at the appropriate locations and appropriate holes as per BSRIA BG49 Commissioning Air Systems
2.2	Water Balancing Equipment
2.2.1	Must be able to set up digital manometer & Ultrasonic Meter as per the manufacturers recommendations
2.2.2	Must be able to understand readings given by equipment such as: U tube Manometer, digital manometer, Ultrasonic Meter
4	Off-site Performance
4.1	Must be able to assist with documentation building i.e preparation of proforma test documentation.
5	**Site Activities and Performance**
5.1	Must follow site procedures for Entry & Exit to Site
5.2	Must report to client team daily, on arrival and before exiting site
5.3	Must be able to follow engineers' instructions on adjustment of dampers and checking of index grilles and open ends
5.4	Must be able to follow engineers' instructions on adjustment of valves, PICV settings and checking of index valves
5.5	Must be able to follow engineers' instructions on setting up and valves on any given system to suit the current PCC ready state (Backflush/forward flush)

5.6	Must be able to assist with pre-commissioning of air systems
5.7	Must be able to assist with pre-commissioning of water systems

Development Aim:

Aim	To participate fully in the Company and CSA training schemes with a view to completing Parts A of the Distance Learning Course of the Commissioning Specialists Association.
CSA Training Route	Via Specific DLC A Training Modules - with continual marking exercises for each individual module
End Point Assessment	Takes form of a Distance Learning Course Test. This sets the minimum standard of the Grade 1. Each candidate sits an invigilated exam.
EPA Award	Outcome of tests are Fail or Pass. Any candidate that fails exam is required to re-sit test within 3 months. **Only** those with Pass/Merit/Distinction and complying with PoD will be awarded Grade 1

Job Descriptions - Grade 2

Overview of the role:

Commissioning HVAC Systems on construction sites or other client buildings.

Typical job titles include:

Intermediate Commissioning engineer/Balancing Technician

Job Grade:

Grade 2

Red SKILLcard

Experience:

Minimum 2 years proven commissioning experience with a recognised company/organisation and completion of DLC B and Grade 2 online exam. Or relevant NVQ Level 2 in Building or Allied Services with a minimum 3 years proven commissioning experience. Must comply with grade 2 job description.

Occupation summary:

This occupation is found in and throughout the built environment sector, via supply chain MEP contractors and commissioning subcontractors.

Grade 2 intermediate commissioning engineers operate in a range of settings including the commissioning/balancing of air and water HVAC systems, authoring detailed commissioning reports, reviewing project plans, checking calibration of equipment being used, creating defect reports while following the guidance of the senior commissioning engineer.

Garde 2 intermediate commissioning engineers will develop a range of highly transferable knowledge, skills and behaviours that can be applied across a range of large and small MEP systems. In their daily work, an employee in this occupation interacts with professional and technical teams across different parts of the organisation, potentially on a range of sites or in an office environment.

Grade 2 intermediate commissioning engineers are responsible for undertaking pre-commissioning and commissioning works of HVAC systems following the senior engineers' instructions to successfully pre-commissioning a HVAC system from the development of the system test packs, understanding the design data and assisting with the witnessing of commissioned systems to the clients' team.

Site and office environments include industrial, commercial, residential, refurbishment, heritage, retail, and public sector projects.

They may be employed by commissioning contracting companies, as well as a significant number of small and medium sized MEP/HVAC contractors and subcontractors such as building services companies, together with a host of other specialised construction areas such as Labs & Cleanrooms.

The broad purpose of the occupation is working in an exciting and dynamic environment which could be in an office or on a construction site at the heart of the organisations including versatile activities using digital processes to input test data. Grade 2 intermediate commissioning engineers within this specific career area are engaged to interpret, analyse, contribute, and directly assist senior commissioning engineers working with a wide range of project resources and documentation regularly interacting with internal and external customers.

Effectively recognising site hazards and safe working practices with thorough knowledge of relevant health, safety and environmental legislation to ensure compliance with company site procedures and processes.

Duties:

1	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Operatives or BESA Health & Safety Environment Course and Test
1.2	Internal company H&S induction - office (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep their company informed of any damaged PPE
1.4	Review RAMS for each project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.5	Working at Heights training completed by candidates' company
1.6	Manual Handling training completed by candidates' company
1.7	Asbestos Awareness training completed by candidates' company
1.8	MWEP & PASMA as required for duties on particular projects
2	**Site Equipment Tools and Materials**
2.1	Air Balancing Equipment
2.1.2	Must be able to carry, set up and handle equipment safely and gently
2.2	Water Balancing Equipment
2.21	Must be able to set up digital manometer & Ultrasonic Meter as per the manufacturer's recommendations
2.2.2	Must be able to set up and use U tube Manometer, digital manometer, Ultrasonic Meter
3	**Test Sheets, Daily Report Sheets – Software**
3.1	Must be able to use Excel & word documents proficiently in terms of Test Sheets and Daily Report Sheets
3.2	Must be proficient in creating site audit reports
4	Off-site Performance
4.1	Must be able to assist with documentation building
4.2	Must be able to create Air Balance Test Packs and cross reference to latest Schedules
4.3	Must be able to create Water Balance Test Packs and cross reference to latest Schedules
4.4	Must be able to draw schematics of system layout
4.6	Review & Plan Project requirements based on our scope of works
4.7	Ensure all test equipment being held has the 2-week Calibration Buffer
4.8	Ensure any new or exchanged test equipment is updated on the Master Equipment Register
5	**Site Activities and Performance**
5.1	Must follow site procedures for Entry & Exit to Site
5.2	Must report to client team daily, on arrival and before exiting site
5.3	Must be able to follow engineers' instructions on adjustment of dampers and checking of index grilles and open ends
5.4	Must be able to follow engineers' instructions on adjustment of valves, PICV settings and checking of index valves
5.5	Must be able to follow engineers' instructions on setting up and valves on any given system
5.6	Must be able to assist with pre-commissioning of air systems
5.7	Must be able to assist with pre-commissioning of water systems
5.8	Must have an understanding of the pre-commissioning clean water treatment process.
5.9	Must be able to create site defect report and issue internally to Engineer

5.10	Must be able to commission standard air systems (no VAV's) with guidance/supervision
5.11	Must be able to commission all air systems (CAV and VAV's) with guidance/supervision
5.12	Must be able to commission traditional water systems (no PICVS or DPCVs) with guidance/supervision
5.13	Must be able to commission all types of water systems (Including PICVS/ DPCVs) with guidance/supervision
5.14	Must be able to perform site survey of installed equipment in relation to scope of works - quantities of each system
5.15	Must be aware of Commissioning Programme for related scope of works
5.16	Undertake site surveys and review programme of works to identify any systems or additional works that is not included in the commissioning scope of works. Create a bullet point list and issue internally to Engineer
5.17	Must be able to fully complete Water Balancing Test Packs - Digital Based
5.18	Must be able to fully complete Air Balancing Test Packs - Digital Based
5.19	Must be able to fully complete Pre-Commissioning Test Packs - Digital Based
5.20	Must follow site instructions in accordance in line with Contractual Chain of Command
5.21	Must be able to demonstrate Water Balancing to client/client's representative/relevant authorities
6	Misc.
6.1	Must be able to carry out additional performance tests at site including Filter and coil performance testing.

Development Aim:

Aim	To participate fully in the Company and CSA training schemes with a view to completing Parts B of the Distance Learning Course and end off assessment Grade 2 online exam via the Commissioning Specialists Association.
CSA Training Route	Via Specific DLC B Training Modules - with continual marking exercises for each individual module
End Point Assessment	Takes form of a Distance Learning Course exam. This sets the minimum standard of the Grade 2. Each candidate sits an invigilated exam.
EPA Award	Outcome of tests are Fail or Pass. Any candidate that fails exam is required to re-sit test within 3 months. **Only** those with Pass/Merit/Distinction and complying with PoD will be awarded Grade 2

Job Descriptions - Grade 3

Overview of the role:

Commissioning HVAC Systems on construction sites or other client buildings.

Typical job titles include:

Commissioning Technician

Job Grade:

Grade 3

Blue SKILLcard

Experience:

Minimum 3.5 years proven commissioning experience with a recognised company/organisation, completion of DLC C and Grade 3 online exam. Or Relevant NVQ level 3 in Building or Allied Services with a minimum of 5 years commissioning experience and comply with grade 3 job description.

Occupation summary: This occupation is found in and throughout the built environment sector, via supply chain MEP contractors and commissioning subcontractors.

Grade 3 commissioning technicians operate in a range of settings including complete project control of commissioning HVAC systems from the development of the initial test pack, reviewing design data, schedules, technical submittals, developing the associated RAMS, authoring detailed commissioning reports, reviewing project plans, checking calibration of equipment being used, creating defect reports, a grade 3 commissioning engineer must also assist in training and motivation of Trainees on site (those under your supervision), Trainees, Grades 1 & 2 and having the ability to demonstrate Air/Water Balancing to client/client's representative/relevant authorities.

Grade 3 commissioning technicians within this specific career area are engaged to interpret, analyse, contribute, and directly assist their clients in successfully commissioning the building services in line with the relevant codes of practice while complying with the employers requirements.
Garde 3 commissioning technicians will develop a range of highly transferable knowledge, skills and behaviours that can be applied across a range of large and small MEP systems. In their daily work, an employee in this occupation interacts with professional and technical teams across different parts of the organisation, potentially on a range of sites or in an office environment.

They may be employed by commissioning contracting companies, as well as a significant number of small and medium sized MEP/HVAC contractors and subcontractors such as building services companies, together with a host of other specialised construction areas such as Labs & Cleanrooms.
Site and office environments include industrial, commercial, residential, refurbishment, heritage, retail, and public sector projects.

The broad purpose of the occupation is working in an exciting and dynamic environment which could be in an office or on a construction site at the heart of the organisations including versatile activities using digital processes to input test data. Effectively recognising site hazards and safe working practices with thorough knowledge of relevant health, safety, and environmental legislation to ensure compliance with company site procedures and processes.

Duties:

1	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Operatives or BESA Health & Safety Environment Course and Test
1.2	Internal company H&S induction - office (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep their company informed of any damaged PPE
1.4	Review RAMS for each project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.5	Working at Heights training completed by candidates' company
1.6	Manual Handling training completed by candidates' company
1.7	Asbestos Awareness training completed by candidates' company
1.8	MWEP & PASMA as required for duties on projects
2	**Site Equipment Tools and Materials**
2.1	Air Balancing Equipment
2.1.2	Must be able to carry, set up and handle equipment safely and gently
2.2	Water Balancing Equipment
2.2.1	Must be able to set up digital manometer & Ultrasonic Meter as per the manufacturers recommendations
2.2.2	Must be able to set up and use U tube Manometer, digital manometer, Ultrasonic Meter
3	**Test Sheets, Daily Report Sheets - Software**
3.1	Must be able to use Excel & word documents proficiently in terms of Test Sheets and Daily Report Sheets
3.4	Must be proficient in creating Site Audit Reports and storing them online and offline
4	Off-site Performance
4.1	Must be able to assist with documentation building
4.2	Must be able to create Air Balance Test Packs and cross reference to latest Schedules
4.3	Must be able to create Water Balance Test Packs and cross reference to latest Schedules
4.4	Must be able to draw HVAC schematics of system layout
4.6	Review & Plan Project requirements based on our scope of works
4.7	Ensure all test equipment being held has the 2-week Calibration Buffer
4.8	Ensure any new or exchanged test equipment is updated on the Master Equipment Register
5	**Site Activities and Performance**
5.1	Must follow site procedures for Entry & Exit to Site
5.2	Must report to client team daily, on arrival and before exiting site
5.3	Must be able to follow engineers' instructions on adjustment of dampers and checking of index grilles and open ends
5.4	Must be able to follow engineers' instructions on adjustment of valves, PICV settings and checking of index valves
5.5	Must be able to follow engineers' instructions on setting up and valves on any given system to suit the current PCC ready state (Backflush/forward flush)
5.6	Must fill in site diary daily. This diary should include progress reports and record of Site Instructions references for deviations or additions to contracted scope of works.
5.7	Must be able to assist with pre-commissioning of air systems
5.8	Must be able to assist with pre-commissioning of water systems
5.9	Must have an understanding of the pre commissioning clean water treatment process
5.10	Must be able to create site defect report and issue internally to Engineer
5.11	Must be able to create site defect report and issue to Client
5.12	Must be able to commission standard air systems (no VAV's) - no guidance/supervision
5.13	Must be able to assist full AHU TESTING (Start-up/Duty/Standby/Optimisation/Dirty Filter Simulation)

5.14	Must be able to commission all air systems (CAV and VAV's) no guidance/supervision
5.15	Must be able to commission traditional water systems (no PICVS or DPCVs) - no guidance/supervision
5.16	Must be able to commission all types of water systems (Including PICVS/ DPCVs) - no guidance/supervision
5.17	Must be able to assist full PUMP TESTING (Start-up/Duty/Standby/Closed Head Testing/Optimisation)
5.18	Must be able to perform site survey of installed equipment in relation to scope of works - quantities of each system
5.19	Must be able to perform site survey of installed equipment in relation to scope of works - Commissionability of each system
5.20	Must be aware of Commissioning Programme for related scope of works
5.21	Undertake site surveys and review programme of works to identify any systems or additional works that is not included in the commissioning scope of works. Create a bullet point list and issue internally to Engineer
5.22	Must be able to fully complete Water Balancing Test Packs - Digital Based
5.23	Must be able to fully complete Air Balancing Test Packs - Digital based
5.24	Must follow site instructions in accordance in line with Contractual Chain of Command
5.25	Must be able to demonstrate Water Balancing to client/client's representative/relevant authorities
6	Misc.
6.1	Assist in training and motivation of Trainees on site (those under your supervision), Trainees, Grades 1 & 2
6.2	To liaise directly with the client and or client's representative
6.3	Liaise with Head Office daily on-site progress
6.4	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
6.5	Must be fully aware of latest electrical regulations
6.6	Must be able to carry out additional performance tests site including Filter and coil performance testing, room temperature checks, ventilation temperature and pressure mapping.
6.7	Setting up and obtaining information form data loggers, including exporting graphs within specific date ranges.

Development Aim:

Aim	To participate fully in the Company and CSA training schemes with a view to completing Parts C of the Distance Learning Course of the Commissioning Specialists Association.
CSA Training Route	Via Specific DLC C Training Modules - with continual marking exercises for each individual module
End Point Assessment	Takes form of a Distance Learning Course Test. This sets the minimum standard of the Grade 3. Each candidate sits an invigilated exam.
EPA Award	Outcome of tests are Fail or Pass. Any candidate that fails exam is required to re-sit test within 3 months. **Only** those with Pass/Merit/Distinction and complying with PoD will be awarded Grade 3

Job Descriptions - Grade 4

Overview of the role:

Commissioning HVAC Systems on construction sites or other client buildings.

Typical job titles include:

Commissioning Engineer

Job Grade:

Grade 4

Blue SKILLcard

Experience:

Minimum of 5 years proven commissioning experience with a recognised company/organisation, pass the grade 4 technical and theory examination and comply with grade 4 job description. Or NVQ 4 in Building and Allied Services with a minimum of 7 years proven commissioning experience, must pass grade 4 technical and theory examination and comply with grade 4 description.

Occupation summary:

This occupation is found in and throughout the built environment sector, via supply chain MEP contractors and commissioning subcontractors.

The Commissioning Engineer is responsible for ensuring that mechanical systems in buildings and industrial facilities are designed, installed, and tested to meet specific requirements and perform effectively. They play a crucial role in ensuring the proper functioning of HVAC systems, electrical systems, and other building systems.

Key responsibilities of a Commissioning Engineer include:

Reviewing design drawings, specifications, and equipment schedules to ensure that the systems are installed and configured according to the design.

Conducting start-up and functional testing of each component of the systems to ensure that they operate properly and meet the design specifications.

Measuring the actual performance of the systems under various conditions to ensure that they meet the design requirements and energy-efficiency standards.

Preparing commissioning reports that summarize the results of the commissioning process and recommend any necessary improvements or modifications to the systems.

Collaborating with design engineers, contractors, and facility managers to ensure that commissioning objectives are met and any issues are resolved.

Grade 4 Commissioning Engineer shall have several years of experience in the commissioning of building systems. They should have a strong understanding of HVAC and an understanding of electrical systems, as well as industry standards and regulations. Additionally, they should possess excellent problem-solving, communication, and organizational skills.

Grade 4 commissioning engineers operate in a range of settings including complete project control of commissioning HVAC systems from the development of the initial test pack, reviewing design data, schedules, technical submittals, developing the associated RAMS, authoring detailed commissioning reports, reviewing project plans, checking calibration of equipment being used, creating defect reports, a grade 4 commissioning engineer must also assist in training and motivation of Trainees on site (those under your supervision), Trainees, Grades 1 - 3 and having the ability to demonstrate Air/Water Balancing to client/client's representative/relevant authorities.

Grade 4 commissioning engineers within this specific career area are engaged to interpret, analyse, contribute, and directly assist their clients in successfully commissioning the building services in line with the relevant codes of practice while complying with the employers' requirements.

Garde 4 commissioning engineers will develop a range of highly transferable knowledge, skills and behaviours that can be applied across a range of large and small MEP systems. In their daily work, an employee in this occupation interacts with professional and technical teams across different parts of the organisation, potentially on a range of sites or in an office environment.

They may be employed by commissioning contracting companies, as well as a significant number of small and medium sized MEP/HVAC contractors and subcontractors such as building services companies, together with a host of other specialised construction areas such as Labs & Cleanrooms.

Site and office environments include industrial, commercial, residential, refurbishment, heritage, retail, and public sector projects.

The broad purpose of the occupation is working in an exciting and dynamic environment which could be in an office or on a construction site at the heart of the organisations including versatile activities using digital processes to input test data. Effectively recognising site hazards and safe working practices with thorough knowledge of relevant health, safety and environmental legislation to ensure compliance with company site procedures and processes.

Duties:

1	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Operatives or BESA Health & Safety Environment Course and Test
1.2	Internal H&S induction - office (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep company informed of any damaged PPE
1.5	Review RAMS for Each Project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.5	Working at Heights training completed by candidates' company
1.6	Manual Handling training completed by candidates' company
1.7	Asbestos Awareness training completed by candidates' company
1.8	Carry out site walkdown of new projects and carry out risk assessment for all systems under the company's scope of work. Distribute this to form the latest RA part of the RAMS.
1.9	Perform toolbox talks every week on projects
2	**Site Equipment Tools and Materials**
2.1	Air Balancing Equipment
2.1.1	Must be competent in the use of all air measuring equipment used to commission ventilation systems
2.2	Water Balancing Equipment
2.2.1	Must be competent in the use of all water measuring equipment used to commission wet systems
3	**Test Sheets , Daily Report Sheets – Software**

3.1	Must be able to use Excel & word documents proficiently in terms of Test Sheets and Daily Report Sheets
3.2	Must be able to use PDF documentation
3.3	Must be able to navigate remotely for project information using Online Platforms
3.4	Must be proficient in creating site audit reports and storing them online and offline
4	Off-site Performance
4.1	Must be able to assist with documentation building
4.2	Must be able to create Air Balance Test Packs and cross reference to latest Schedules
4.3	Must be able to create Water Balance Test Packs and cross reference to latest Schedules
4.4	Must be able to draw schematics of system layout
4.6	Review & Plan Project requirements based on our scope of works
4.7	Ensure all test equipment being held has the 2-week Calibration Buffer
4.8	Ensure any new or exchanged test equipment is updated on the Master Equipment Register
5	**Site Activities and Performance**
5.1	Must follow site procedures for Entry & Exit to Site
5.2	Must report to client team daily, on arrival and before exiting site
5.2	Must be able to digest Off-site "Review & Plan Project requirements based on our scope of works" and ensure you have adequate resources and equipment to meet the commissioning programme
5.3	Must inform line manager/supervisor of any significant changes to the programme to allow sufficient time to increase/decrease resource requirements
5.4	Assist company management to achieve successful project completion
5.5	Must be able to follow engineers' instructions on adjustment of dampers and checking of index grilles and open ends
5.6	Must be able to follow engineers' instructions on adjustment of valves, PICV settings and checking of index valves
5.7	Must be able to follow engineers' instructions on setting up and valves on any given system to suit the current PCC ready state (Backflush/forward flush)
5.8	Must fill in site diary daily. This diary should include progress reports and record of Site Instructions references for deviations or additions to contracted scope of works.
5.9	Must be able to assist with pre-commissioning of air systems
5.10	Must be able to assist with pre-commissioning of water systems
5.11	Must be able to assist with PCC systems
5.12	Must be able to create site defect report and issue internally to Engineer
5.13	Must be able to create site defect report and issue to Client
5.14	Must be able to commission standard air systems (no VAV's)
5.15	Must be able to perform full AHU TESTING (Start-up/Duty/Standby/Optimisation/Dirty Filter Simulation)
5.16	Must be able to commission all air systems (CAV and VAV's)
5.17	Must be able to commission traditional water systems (no PICVS or DPCVs)
5.18	Must be able to commission all types of water systems (Including PICVS/ DPCVs)
5.19	Must be able to assist full PUMP TESTING (Start-up/Duty/Standby/Closed Head Testing/Optimisation)
5.20	Must be able to perform site survey of installed equipment in relation to scope of works - quantities of each system
5.21	Must be able to perform site survey of installed equipment in relation to scope of works - Commissionability of each system
5.22	Must be aware of Commissioning Programme for related scope of works

5.23	Undertake site surveys and review programme of works to identify any systems or additional works that is not included in the commissioning scope of works. Create a bullet point list and issue to client
5.24	Must be able to fully complete Water Balancing Test Packs - Digital Based
5.25	Must be able to fully complete Air Balancing Test Packs - Digital Based
5.26	Must be able to fully complete Pre Commission Clean Test Packs - Digital Based
5.27	Must follow site instructions in accordance & in line with Contractual Chain of Command
5.28	Must be able to demonstrate Water Balancing to client/client's representative/relevant authorities
5.29	Must be able to liaise with specialist companies and other trades at site in relation to access and system availability
5.30	To witness test Static completion certs (from specialist installer) and create completion certificate at the end of system commissioning including handover/sign-off for each individual system
5.31	Must be able to delegate the commissioning of HVAC systems to G1 to G3's engineers in line with their abilities and skillset
5.32	To fully understand the Project Management Structure
6	Misc.
6.1	Assist in training and motivation of Trainees on site (those under your supervision), Trainees, Grades 1 - 3
6.2	Actively encourage Grade 1-3's and motivate and assist their development and training
6.3	To liaise directly with the client and or client's representative
6.4	Liaise with Head Office daily on-site progress
6.5	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
6.6	Must be fully aware of latest electrical regulations
7.0	Must be able to carry out additional performance tests site including:
7.1	Room temperature checks.
7.2	Ventilation temperature and pressure mapping.
7.3	Setting up and obtaining information form data loggers, including exporting graphs within specific date ranges.

Development Aim:

Aim	To be aware of and research changes within the industry. Develop and promote good working practices, and man management skills. To undertake continual professional development and be competent at commissioning all aspects of building services.
CSA Training Route	Via a combination of Distance Learning Courses A, B & C and Professional Development on and off site
End Point Assessment	Via the Grade 4 Technical and Theoretical Examination. This sets the minimum standard of the Grade 4. Each candidate sits an invigilated exam.
EPA Award	Outcome of tests are Fail or Pass. **Only** those candidates that pass both the theroretcial and technical exam with a Pass and complying with PoD will be awarded Grade 4

Job Descriptions - Grade 5

Overview of the role:

Commissioning HVAC Systems on construction sites or other client buildings.

Typical job titles include:

Senior Commissioning Engineer

Job Grade:

Grade 5

Gold SKILLcard

Experience:

Minimum 8 years proven commissioning experience with a recognised company/organisation, must have passed grade 4 technical and theory examination, must submit grade 5 synopsis and thesis, and comply with grade 5 job description.

Occupation summary:

This occupation is found in and throughout the built environment sector, via supply chain MEP contractors and commissioning subcontractors.

Grade 5 senior commissioning engineers operate in a range of settings including complete project control of commissioning HVAC systems from the development of the initial test pack, reviewing design data, schedules, technical submittals, developing the associated RAMS, authoring detailed commissioning reports, reviewing project plans, checking calibration of equipment being used, creating defect reports, a grade 5 commissioning engineer must also assist in training and motivation of trainees on site (those under your supervision), (Trainees, Grades 1 – 4) and having the ability to attend client commissioning meetings with a full understanding of the required commissioning codes.

Grade 5 senior commissioning engineers within this specific career area are engaged to interpret, analyse, contribute, and directly assist their clients in successfully commissioning the building services inline with the relevant codes of practice while complying with the employers requirements.

Garde 5 senior commissioning engineers will develop a range of highly transferable knowledge, skills and behaviours that can be applied across a range of large and small MEP systems. In their daily work, an employee in this occupation interacts with professional and technical teams across different parts of the organisation, potentially on a range of sites or in an office environment.

They may be employed by commissioning contracting companies, as well as a significant number of small and medium sized MEP/HVAC contractors and subcontractors such as building services companies, together with a host of other specialised construction areas such as Labs & Cleanrooms.

Site and office environments include industrial, commercial, residential, refurbishment, heritage, retail and public sector projects.

The broad purpose of the occupation is working in an exciting and dynamic environment which could be in an office or on a construction site at the heart of the organisations including versatile activities using digital processes to input test data.

Effectively recognising site hazards and safe working practices with thorough knowledge of relevant health, safety and environmental legislation to ensure compliance with company site procedures and processes.

Duties:

1	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Managers and Professionals or CITB Supervisory HSE test
1.2	Internal H&S induction - office (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep company informed of any damaged PPE
1.5	Review RAMS for Each Project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.6	Carry out site walkdown of new projects and carry out risk assessment for all systems under the company's scope of work. Distribute this to form the latest RA part of the RAMS.
1.7	Working at Heights training completed by candidates' company
1.8	Manual Handling training completed by candidates' company
1.9	Asbestos Awareness training completed by candidates' company
1.10	Follow-up with RAMS submission and obtain all necessary approvals using the projects document management system
1.11	Perform toolbox talks every week on projects
2	**Site Equipment Tools and Materials**
2.1	Air Balancing Equipment
2.2	Must be competent in the use of all air measuring equipment used to commission ventilation systems
2.3	Water Balancing Equipment
2.4	Must be competent in the use of all water measuring equipment used to commission wet systems
3	**Test Sheets, Daily Report Sheets - Office Software**
3.1	Must be able to use Excel & word documents proficiently in terms of Test Sheets and Daily Report Sheets
3.2	Must be able to use PDF documentation
3.3	Must be able to navigate to/from server remotely for project information using Online Platforms
3.4	Must be proficient in creating Site-Audit Pro Reports and storing them online and offline
3.5	Must be able to use Excel proficiently in terms of our Commissioning Programme - Being able to create, maintain and forecast performance and be able import/export dates from and to the main construction programme
4	Off-site Performance
4.1	Must be able to assist with documentation building
4.2	Must be able to create Air Balance Test Packs and cross reference to latest Schedules
4.3	Must be able to create Water Balance Test Packs and cross reference to latest Schedules
4.4	Must be able to draw schematics of system layout
4.5	Must fully understand drawings, specifications, and contractual commitments for the project
4.6	Review & Plan Project requirements based on our scope of works
4.7	Ensure all test equipment being held has the 2-week Calibration Buffer
4.8	Ensure any new or exchanged test equipment is updated on the Master Equipment Register at HO
4.9	Must be able to perform Commissionability PoV of each system installed on project, including producing a technical report, holding discussions with design teams and obtaining approvals of the same
5	**Site Activities and Performance**
5.1	Must follow site procedures for Entry & Exit to Site
5.2	Must report to client team daily, on arrival and before exiting site

5.3	Must be able to set-up site facilities for all G1-G4's security and general tidiness and preparation of all site reports - including site storage boxes and temporary office area
5.4	Must be able to digest Off-site "Review & Plan Project requirements based on our scope of works" and ensure you have adequate resources and equipment to meet the commissioning programme
5.5	Must inform manager/supervisor of any significant changes to the programme to allow sufficient time to increase/decrease resource requirements
5.6	Must understand and apply the requirements for correct instrumentation in checking and witnessing specialists work
5.7	Must be familiar with refrigeration, electrical and control disciplines in order to discuss, control, inspect, witness, and accept the works of these specialists on behalf of your employer when required
5.8	Must be able to evaluate the technical aspects of method statements for specialists within your control
5.9	Assist company management to achieve successful project completion
5.10	Must fill in site diary daily & issue at end of each day a copy to Client, to Office and to Accounts Dept. This diary should include progress reports and record of Site Instructions references for deviations or additions to contracted scope of works.
5.11	Must be able to create site defect report and issue to Client
5.12	Must be able to perform full AHU TESTING (Start-up/Duty/Standby/Optimisation/Dirty Filter Simulation)
5.13	Must be able to commission all air systems (CAV and VAV's)
5.14	Must be able to commission all types of water systems (Including PICVS/ DPCVs)
5.16	Must be able to assist full PUMP TESTING (Start-up/Duty/Standby/Closed Head Testing/Optimisation)
5.17	Must be able to perform full PUMP TESTING (Start-up/Duty/Standby/Closed Head Testing/Optimisation)
5.18	Must be able to perform site survey of installed equipment in relation to scope of works - quantities of each system
5.19	Must be able to perform site survey of installed equipment in relation to scope of works - Commissionability PoV of each system
5.20	Must be aware of Comm Programme for related scope of works
5.21	Must monitor and record progress of commissioning activities and record any delays accordingly. Also to record progress of electrical progress and installation progress that may impact on commissioning progress.
5.22	Must ensure the correct commissioning procedures (and site procedures) are being followed for at all times
5.23	Must be able to fully complete Water Balancing Test Packs - Digital Based
5.24	Must be able to fully complete Air Balancing Test Packs - Digital Based
5.25	Must follow site instructions in accordance in line with Contractual Chain of Command
5.26	Must be able to demonstrate Water Balancing to client/client's representative/relevant authorities
5.27	Must be able to liaise with specialist companies and other trades at site in relation to access and system availability
5.28	To witness test Static completion certs (from specialist installer or client to us) and create completion certificate at the end of system commissioning including handover/sign-off for each individual system
5.29	Must be able to delegate systems to G1 to G3's in line with their abilities and skillset
5.30	To fully understand the Project Management Structure
6	Misc.
6.1	Must have good verbal skills - client discussions and site meetings
6.2	Must have good day-to-day management skills
6.3	Must have good report writing skills (technical)
6.4	Must have good planning skills

6.5	Assist in training and motivation of Trainees on site (those under your supervision), Trainees, Grades 1 & 2
6.6	Actively encourage Grade 1-3's and motivate and assist their development and training
6.7	To liaise directly with the client and or client's representative
6.8	Liaise with Head Office daily on site progress
6.9	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
6.10	Must be fully aware of latest electrical regulations
7.0	Must be able to carry out additional performance tests site including
7.1	room temperature checks,
7.2	ventilation temperature and pressure mapping,
7.3	setting up and obtaining information form data loggers, including exporting graphs within specific date ranges
7.4	Must have detailed working knowledge of all specialist activities in commissioning - including pressure control, air change rates, pressure cascades, BEMS.

Development Aim:

Aim	To be aware of and research changes within the industry. Develop and promote good working practices and man management skills. To undertake continual professional development and be competent at commissioning all aspects of building services. To be capable of developing and presenting a thesis to meet the requirements for progression to Commissioning Specialists Association Grade 5.
CSA Training Route	Via previous Grade 4 exam, Professional Development on and off site
End Point Assessment	Via the Grade 5 Thesis. Candidate must demonstrate professional understanding, technical knowledge and writing skills. This sets the minimum standard of the Grade 5. Each candidate must submit a Grade 5 Thesis.
EPA Award	Outcome of tests are Fail & Rewrite, Pass with Comment or Pass with recommendation for consideration for website display. **Only** those candidates that meet all markers criteria will be awarded Grade 5

Job Descriptions - Grade 6

Overview of the role:

Commissioning management of MEP Systems on construction sites or other client buildings.

Typical job titles include:

Commissioning Manager

Job Grade:

Grade 6

Black SKILLcard

Experience:

Minimum 12 years within recognised company/organisation. Must have completed a minimum of 1 commissioning management project and provide CV and references from 2 clients.

Must have completed Grade 5 including having submitted and has the 2500 Thesis approved before applying for Grade 6.

Attend 2-day Introduction to Commissioning management Course.

- Strong technical knowledge of building services systems, including HVAC, plumbing, fire protection, and electrical systems.
- Basic understanding of project management principles and the commissioning process.
- Strong communication and interpersonal skills, with the ability to work effectively as part of a team.
- A commitment to health and safety, with a thorough understanding of relevant regulations and best practices.
- Ability to work independently and in a team-oriented, collaborative environment.
- Strong analytical and problem-solving skills, with the ability to learn quickly and take initiative.

Occupation summary:

The Grade 6 Commissioning Manager will be responsible for supporting the commissioning process of projects to ensure the successful delivery of high-quality, safe, and efficient systems to clients. A successful Grade 6 Commissioning Manager will have a strong technical background and an understanding of project management principles and will be responsible for ensuring that commissioning activities are carried out in accordance with relevant codes, standards, and project specifications.

Key Responsibilities:

- Support the commissioning team in the development and implementation of commissioning plans and procedures.
- Assist with the witness testing and commissioning of mechanical, electrical, and plumbing systems to ensure compliance with relevant codes, standards, and project specifications.
- Prepare and maintain commissioning documentation, including test plans, commissioning reports, and as-built drawings.
- Work with project managers, engineers, contractors, and clients to ensure project timelines and budgets are met.

- Ensure that safety is a top priority and that all commissioning activities are carried out in accordance with relevant health and safety regulations.
- Participate in continuous improvement initiatives to ensure the delivery of high-quality, efficient systems.
- Attend site meetings and report back to the client.
- Undertake any other duties as assigned by the CM2 Senior Commissioning Manager/ CM3 Project Commissioning Manager.
- To manage and oversee projects in terms of Commissioning Management / Verification.
- To ensure projects meet the client's expectations in terms of project programme, compliance, quality, and safety.

Experience required in

- Reviewing MEP design and producing an associated Commissionability report
- Production of commissioning plans and strategies
- Chairing of commissioning meetings with associated minutes
- Production and management of commissioning programmes
- Reviewing and commenting on M&E commissioning method statements
- Production and management of progress of tracking schedules
- Production and issuing of progress reports.
- Management and witnessing of Mechanical and Electrical static testing.
- Management and witnessing of Mechanical and Electrical functional testing.
- Management and coordination of cause and effect and integrated system testing
- Management of project handover
- Producing commissioning completion reports
- Competent level of computer skills including Microsoft suite of products used throughout the industry.

Duties:

1.0	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Managers and Professionals or CITB Supervisory HSE test
1.2	Complete internal H&S induction (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep company informed of any damaged PPE
1.5	Review RAMS for Each Project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.6	Carry out site walkdown of new projects and carry out risk assessment for all systems under the company's scope of work. Distribute this to form the latest RA part of the RAMS.
1.7	Working at Heights training completed by candidates' company
1.8	Asbestos Awareness training completed by candidates' company
1.9	Follow-up with RAMS submission and obtain all necessary approvals using the projects document management system
2.0	**Preparation and Briefing Stage**
2.1	Review and understand the Project brief / specifications concerning commissioning
2.2	Identify the performance outcomes required by the client and ultimate end- users.
2.3	Produce a client brief document that clearly describes the performance outcomes expected for the project
2.4	Determine the commissioning scope and budget

2.5	Review commissioning related tenders and provide feedback on the included scope/budget
2.6	Have a full understanding of CIBSE Code M 2021
3.0	Design Stage
3.1	Led by a CM2 or CM3 commissioning manager, form a commissioning team appropriate to the size and complexity of the project being undertaken. CM1 & Grade 6 to assist senior commissioning managers
3.2	Produce a Roles and Responsibilities matrix for the commissioning team and systems to be commissioned
3.3	Review commissioning lessons learned from past similar projects / clients' lessons learned
3.4	Produce the design-stage Commissioning Plan
3.5	In accordance with the Building Regulations 2010, ensure the Commissioning Plan is issued to the Project Manager/Main Contractor and the Building Control Body (BCB)
3.6	Create the Commissioning Specification
3.7	Produce a Commissioning Cost Plan (CM3 Only) Grade 6 to assist senior commissioning managers.
3.8	Programme commissioning activities - The programming of commissioning requires an understanding of overall project commissioning scope and logic, the detailed sequences of specific commissioning works and the time required to execute commissioning activities to the required standard.
3.9	Create more detailed commissioning logic diagrams and programmes for specific elements and systems, for procedures such as integrated systems tests (ISTs), system continuous operational performance (SCOP) tests and seasonal tests. (CM2&3 Only) Grade 6 to assist senior commissioning managers
3.10	Undertake a commissionability review of HVAC Systems
3.11	Undertake a commissionability review of Electrical Systems (CM2/CM3, Grade 6 assist)
3.12	Undertake a commissionability review of specialist Systems i.e Life Safety Systems (CM2/CM3, Grade 6 assist)
3.13	Define commissioning requirements in contract documentation
4.0	Pre-construction
4.1	Close out design commissioning reviews
4.2	Hold commissioning workshops
4.3	Attend, Report and Witness Factory acceptance testing (CM2/CM3, CM1 assist)
4.4	Create project commissioning tracking schedules
4.5	Update the commissioning plan
5.0	On Site Stages
5.1	Produce the construction-stage Commissioning Plan
5.2	Chair commissioning meetings
5.3	Finalise detailed commissioning programme
5.4	Assist in any commissioning Mock-up Tests, including producing Mock-up test plans (CM2/CM3, Grade 6 assist)
5.5	Produce Commissioning Methodologies for specialist integrated testing i.e IST, SCOP. (CM2/CM3, Grade 6 assist)
5.6.1	Review and approve Commissioning Methodologies for HVAC Systems
5.6.2	Review and approve Commissioning Methodologies for Electrical Systems (CM2/CM3, Grade 6 assist)
5.6.3	Review and approve Commissioning Methodologies for Specialist Systems (CM2/CM3, Grade 6 assist)
5.7	Review commissioning checklists and proforma commissioning documentation
5.8	Hold commissioning workshops for all systems
5.9	Arrange Factory acceptance testing including travel arrangements, scope, methodology, acceptance criteria (CM2/CM3, Grade 6 assist)
5.10	Sample MEP installation inspections
5.11	Manage MEP Pre-functional tests including Static testing, pressure testing, dead testing

5.12	Witness MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.13	Manage MEP Functional performance tests of individual building services systems in their own right
5.14	Witness MEP Functional performance tests
5.15	Manage / Witness water treatment as per BSRIA BG29/2020
5.16	Manage / Witness electrical testing
5.17	Manage / Witness plant start up
5.18	Manage / Witness commissioning and balancing of HVAC systems
5.19	Manage / Witness commissioning of BMS systems (CM2/3, Grade 6 Assist/Train as required)
5.20	Manage / Witness Life Safety system testing (CM2/3, Grade 6 Assist/Train as required)
5.21	Manage / Witness Integrated Systems Testing (IST) (CM2/3, Grade 6 Assist/Train as required)
5.22	Undertake detailed Progress and Issue Reporting of all commissioning activities and present to the clients' teams.
5.23	Manage / Witness System continuous operational performance (SCOP) tests. (CM2/3 lead, Grade 6 Assist/Train as required)
5.24	Train users and operators. (CM2/3, Grade 6 Assist/Train as required)
5.25	Hand over commissioning-related documentation
5.26	Produce Practical and Sectional Handover letters (CM2/3, Grade 6 Assist/Train as required)
6.0	In-use Stage
6.1	Review commissioning of the project (CM3 Only, Train CM2 and Grade 6)
6.2	Fine tuning and seasonal testing (CM2/3, Grade 6 Assist/Train as required)
6.3	Post-project review (CM3 Only, Train CM2/ Grade 6)
6.4	Produce detailed commissioning close out reports (CM2/3, Grade 6 Assist/Train as required)
6.5	Spotting, responding, and helping to deal with issues that emerge during initial occupation
6.6	Introducing users to how their new building operates
6.7	Introducing users to local controls
6.8	Helping the facilities management team with initial operation of the building, including the use of energy meters and monitoring systems
6.9	Using initial feedback to undertake any fine-tuning and debugging that may be required (CM2/3, Grade 6 Assist/Train as required)
6.10	Producing a lessons-learned report on the commissioning process. (CM2/3, Grade 6 Assist/Train as required)
7.0	**Post-occupancy aftercare**
7.1	Resolution of commissioning defects during the 12-month defects liability period and closure of this element of the contract with the client. (CM2/3, Grade 6 Assist/Train as required)
7.2	Assessment of the new facility to establish its fitness for purpose and whether the client's commissioning requirements have been satisfied (CM2/3, Grade 6 Assist/Train as required)
7.3	Seasonal Commissioning – Undertake systematic and structured monitoring and measurement of building performance.
8.0	**Misc**
8.1	Must be able to take full responsibility of one or more commissioning management projects and be responsible to your employer (CM2/CM3)
8.2	Must be responsible on behalf of your employer to their client for all site activities and events within the Commissioning Management scope of the contract
8.3	Must be able to agree documentation requirements and standards for each activity within the Commissioning Management scope
8.4	Must be able to review upcoming and ongoing commissioning programme in terms of labour requirements
8.5	Must have good verbal skills - client discussions and site meetings

8.6	Must have good day-to-day management skills
8.7	Must have good report writing skills (technical)
8.8	Must have good planning skills
8.9	To actively encourage, motivate and assist with the development and training of all personnel under your supervision
8.10	To liaise directly with the client and or client's representative
8.11	Liaise with Head Office daily on-site progress
8.12	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
8.13	Must be fully aware of latest electrical regulations (CM3 Only)
8.14	To know your own limitations. Recognize when to call for assistance when dealing with items or specialist systems beyond your own experience

Development Aim:

Aim	To be aware of and research changes within the industry. To undertake continual professional development and be capable of satisfying the Committee of the CSA as to your suitability as a CM1 commissioning manager.
CSA Training Route	Via our Specific 2-day Introduction to Commissioning Management Training Course (ITCM) completed within 1 year of applying to be a CSA CM1 Commissioning Manager
End Point Assessment	Each candidate must attend and pass the 2-day Introduction to Commissioning Management Training Course (ITCM) and pass the 3 Stage Commissioning Management Process
EPA Award	1 to 3 years Commissioning Management experience with a recognised company/organisation –Pass 3 Stage Commissioning Management interview, and attend 2-day Introduction to Commissioning management Course within 1 year of applying to be a Grade 6 commissioning manager.

Job Descriptions – CSA Commissioning Manager - CM1

Overview of the role:

Commissioning management of MEP Systems on construction sites or other client buildings.

Typical job titles include:

Commissioning Manager, CSA CM1 Commissioning Manager

Job Grade:

CM1

Black SKILLcard

Experience:

1 to 3 years Commissioning Management experience with a recognised company/organisation. Must have completed a minimum of 1 commissioning management project and provide CV and references from 2 clients.

Complete all 3 Stages of the Commissioning Management Grading Structure.

Stage 1 - Project CV specifically focused on their Commissioning Management experience.
Stage 2 - Create/submit 2000–2500-word commissioning management dissertation report with supporting evidence.
Stage 3 - CSA Commissioning Management Interview with Assessment Panel

Mandatory: Attend 2-day Introduction to Commissioning management Course.

Candidates completing all 3 stages & successfully completing ITCM 2-day Training Course will be awarded the CM grade. The candidate must have:

- Bachelor's degree in mechanical, electrical, or building services engineering or a related field. (Optional)
- A minimum of 1-3 years of experience in the building services industry, with a focus on M&E commissioning.
- Strong technical knowledge of building services systems, including HVAC, plumbing, fire protection, and electrical systems.
- Basic understanding of project management principles and the commissioning process.
- Strong communication and interpersonal skills, with the ability to work effectively as part of a team.
- A commitment to health and safety, with a thorough understanding of relevant regulations and best practices.
- Ability to work independently and in a team-oriented, collaborative environment.
- Strong analytical and problem-solving skills, with the ability to learn quickly and take initiative.

Occupation summary:

The CM1 Commissioning Manager will be responsible for supporting the commissioning process of projects to ensure the successful delivery of high-quality, safe, and efficient systems to clients. A successful CM1 Commissioning Manager will have a strong technical background and an understanding of project management principles and will be responsible for ensuring that commissioning activities are carried out in accordance with relevant codes, standards, and project specifications.

Key Responsibilities:

- Support the commissioning team in the development and implementation of commissioning plans and procedures.
- Assist with the witness testing and commissioning of mechanical, electrical, and plumbing systems to ensure compliance with relevant codes, standards, and project specifications.
- Prepare and maintain commissioning documentation, including test plans, commissioning reports, and as-built drawings.
- Work with project managers, engineers, contractors, and clients to ensure project timelines and budgets are met.
- Ensure that safety is a top priority and that all commissioning activities are carried out in accordance with relevant health and safety regulations.
- Participate in continuous improvement initiatives to ensure the delivery of high-quality, efficient systems.
- Attend site meetings and report back to the client.
- Undertake any other duties as assigned by the CM2 Senior Commissioning Manager/ CM3 Project Commissioning Manager.
- To manage and oversee projects in terms of Commissioning Management / Verification.
- To ensure projects meet the client's expectations in terms of project programme, compliance, quality, and safety.

Experience required in..

- Reviewing MEP design and producing an associated Commissionability report
- Production of commissioning plans and strategies
- Chairing of commissioning meetings with associated minutes
- Production and management of commissioning programmes
- Reviewing and commenting on M&E commissioning method statements
- Production and management of progress of tracking schedules
- Production and issuing of progress reports
- Management and witnessing of Mechanical and Electrical static testing
- Management and witnessing of Mechanical and Electrical functional testing
- Management and coordination of cause and effect and integrated system testing
- Management of project handover
- Producing commissioning completion reports
- Competent level of computer skills including Microsoft suite of products used throughout the industry

Duties:

1.0	Health & Safety
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Managers and Professionals or CITB Supervisory HSE test
1.2	Complete internal H&S induction (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep company informed of any damaged PPE
1.5	Review RAMS for Each Project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood

1.6	Carry out site walkdown of new projects and carry out risk assessment for all systems under the company's scope of work. Distribute this to form the latest RA part of the RAMS.
1.7	Working at Heights training completed by candidates' company
1.8	Asbestos Awareness training completed by candidates' company
1.9	Follow-up with RAMS submission and obtain all necessary approvals using the projects document management system
1.10	Perform toolbox talks relating to the commissioning that is being undertaken on the project, delivering to project team members and commissioning staff under their control (CM2 & 3 Only)
2.0	**Preparation and Briefing Stage**
2.1	Review and understand the Project brief / specifications concerning commissioning
2.2	Identify the performance outcomes required by the client and ultimate end- users.
2.3	Produce a client brief document that clearly describes the performance outcomes expected for the project
2.4	Determine the commissioning scope and budget
2.5	Review commissioning related tenders and provide feedback on the included scope/budget
2.6	Have a full understanding of CIBSE Code M 2021
3.0	**Design Stage**
3.1	Led by a CM2 or CM3 commissioning manager, form a commissioning team appropriate to the size and complexity of the project being undertaken. CM1 to assist senior commissioning managers
3.2	Produce a Roles and Responsibilities matrix for the commissioning team and systems to be commissioned
3.3	Review commissioning lessons learned from past similar projects / clients' lessons learned
3.4	Produce the design-stage Commissioning Plan
3.5	In accordance with the Building Regulations 2010, ensure the Commissioning Plan is issued to the Project Manager/Main Contractor and the Building Control Body (BCB)
3.6	Create the Commissioning Specification
3.7	Produce a Commissioning Cost Plan (CM3 Only) CM1/2 to assist senior commissioning managers.
3.8	Programme commissioning activities - The programming of commissioning requires an understanding of overall project commissioning scope and logic, the detailed sequences of specific commissioning works and the time required to execute commissioning activities to the required standard.
3.9	Create more detailed commissioning logic diagrams and programmes for specific elements and systems, for procedures such as integrated systems tests (ISTs), system continuous operational performance (SCOP) tests and seasonal tests. (CM2&3 Only) CM1 to assist senior commissioning managers
3.10	Undertake a commissionability review of HVAC Systems
3.11	Undertake a commissionability review of Electrical Systems (CM2/CM3, CM1 assist)
3.12	Undertake a commissionability review of specialist Systems i.e Life Safety Systems (CM2/CM3, CM1 assist)
3.13	Define commissioning requirements in contract documentation
3.14	Review / Appoint commissioning-competent contractors (CM3 Only) CM1/2 to assist senior commissioning managers.
4.0	**Pre-construction**
4.1	Close out design commissioning reviews
4.2	Hold commissioning workshops
4.3	Attend, Report and Witness Factory acceptance testing (CM2/CM3, CM1 assist)
4.4	Create project commissioning tracking schedules
4.5	Update the commissioning plan
5.0	**On Site Stages**
5.1	Produce the construction-stage Commissioning Plan

5.2	Chair commissioning meetings
5.3	Finalise detailed commissioning programme
5.4	Assist in any commissioning Mock-up Tests, including producing Mock-up test plans (CM2/CM3, CM1 assist)
5.5	Produce Commissioning Methodologies for specialist integrated testing i.e IST, SCOP. (CM2/CM3, CM1 assist)
5.6.1	Review and approve Commissioning Methodologies for HVAC Systems
5.6.2	Review and approve Commissioning Methodologies for Electrical Systems (CM2/CM3, CM1 assist)
5.6.3	Review and approve Commissioning Methodologies for Specialist Systems (CM2/CM3, CM1 assist)
5.7	Review commissioning checklists and proforma commissioning documentation
5.8	Hold commissioning workshops for all systems
5.9	Arrange Factory acceptance testing including travel arrangements, scope, methodology, acceptance criteria (CM2/CM3, CM1 assist)
5.10	Sample MEP installation inspections
5.11	Manage MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.12	Witness MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.13	Manage MEP Functional performance tests of individual building services systems in their own right
5.14	Witness MEP Functional performance tests
5.15	Manage / Witness water treatment as per BSRIA BG29/2020
5.16	Manage / Witness electrical testing
5.17	Manage / Witness plant start up
5.18	Manage / Witness commissioning and balancing of HVAC systems
5.19	Manage / Witness commissioning of BMS systems (CM2/3, CM1 Assist/Train as required)
5.20	Manage / Witness Life Safety system testing (CM2/3, CM1 Assist/Train as required)
5.21	Manage / Witness Integrated Systems Testing (IST) (CM2/3, CM1 Assist/Train as required)
5.22	Undertake detailed Progress and Issue Reporting of all commissioning activities and present to the clients' teams.
5.23	Manage / Witness System continuous operational performance (SCOP) tests. (CM2/3, CM1 Assist/Train as required)
5.24	Train users and operators. (CM2/3, CM1 Assist/Train as required)
5.25	Hand over commissioning-related documentation
5.26	Produce Practical and Sectional Handover letters (CM2/3, CM1 Assist/Train as required)
6.0	**In-use Stage**
6.1	Review commissioning of the project (CM3 Only, Train CM2/1)
6.2	Fine tuning and seasonal testing (CM2/3, CM1 Assist/Train as required)
6.3	Post-project review (CM3 Only, Train CM2/1)
6.4	Produce detailed commissioning close out reports (CM2/3, CM1 Assist/Train as required)
6.5	Spotting, responding, and helping to deal with issues that emerge during initial occupation
6.6	Introducing users to how their new building operates
6.7	Introducing users to local controls
6.8	Helping the facilities management team with initial operation of the building, including the use of energy meters and monitoring systems
6.9	Using initial feedback to undertake any fine-tuning and debugging that may be required (CM2/3, CM1 Assist/Train as required)
6.10	Producing a lessons-learned report on the commissioning process. (CM2/3, CM1 Assist/Train as required)
7.0	**Post-occupancy aftercare**

7.1	Resolution of commissioning defects during the 12-month defects liability period and closure of this element of the contract with the client. (CM2/3, CM1 Assist/Train as required)
7.2	Assessment of the new facility to establish its fitness for purpose and whether the client's commissioning requirements have been satisfied (CM2/3, CM1 Assist/Train as required)
7.3	Seasonal Commissioning – Undertake systematic and structured monitoring and measurement of building performance.
8.0	**Misc**
8.1	Must be able to take full responsibility of one or more commissioning management projects and be responsible to your employer (CM2/CM3)
8.2	Must be responsible on behalf of your employer to their client for all site activities and events within the Commissioning Management scope of the contract
8.3	Must be able to agree documentation requirements and standards for each activity within the Commissioning Management scope
8.4	Must be able to review upcoming and ongoing commissioning programme in terms of labour requirements
8.5	Must have good verbal skills - client discussions and site meetings
8.6	Must have good day-to-day management skills
8.7	Must have good report writing skills (technical)
8.8	Must have good planning skills
8.9	To actively encourage, motivate and assist with the development and training of all personnel under your supervision
8.10	To liaise directly with the client and or client's representative
8.11	Liaise with Head Office daily on-site progress
8.12	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
8.13	Must be fully aware of latest electrical regulations (CM3 Only)
8.14	To know your own limitations. Recognize when to call for assistance when dealing with items or specialist systems beyond your own experience

Development Aim:

Aim	To be aware of and research changes within the industry. To undertake continual professional development and be capable of satisfying the Committee of the CSA as to your suitability as a CM1 commissioning manager.
CSA Training Route	Via our Specific 2-day Introduction to Commissioning Management Training Course (ITCM) completed within 1 year of applying to be a CSA CM1 Commissioning Manager
End Point Assessment	Each candidate must attend and pass the 2-day Introduction to Commissioning Management Training Course (ITCM) and pass the 3 Stage Commissioning Management Process
EPA Award	1 to 3 years Commissioning Management experience with a recognised company/organisation. Must have completed a minimum of 1 commissioning management project and provide CV and references from 2 clients. Submit a (2000-2005) word commissioning management dissertation report, sit an online interview, and attend 2-day Introduction to Commissioning management Course within 1 year of applying to be a CM1 commissioning manager.

Job Descriptions – CSA Senior Commissioning Manager - CM2

Overview of the role:

Commissioning management (CxM) of MEP Systems on construction sites or other client buildings.

Typical job titles include:

Senior Commissioning Manager, CSA CM2 Senior Commissioning Manager

Job Grade:

CM2

Black SKILLcard

Experience:

4 to 10 years Commissioning Management experience with a recognised company/organisation. Must have completed a minimum of 1 commissioning management project and provide CV and references from 2 clients.

Complete all 3 Stages of the Commissioning Management Grading Structure.

Stage 1 - Project CV specifically focused on their Commissioning Management experience.
Stage 2 - Create/submit 2500–3000-word commissioning management dissertation report with supporting evidence.
Stage 3 - CSA Commissioning Management Interview with Assessment Panel

Mandatory: Attend 2-day Introduction to Commissioning management Course.

Candidates completing all 3 stages & successfully completing ITCM 2-day Training Course will be awarded the CM grade. The candidate must have:

- Bachelor's degree in mechanical, electrical, or building services engineering or a related field. (Optional)
- A minimum of 1-3 years of experience in the building services industry, with a focus on M&E commissioning.
- Strong technical knowledge of building services systems, including HVAC, plumbing, fire protection, and electrical systems.
- Basic understanding of project management principles and the commissioning process.
- Strong communication and interpersonal skills, with the ability to work effectively as part of a team.
- A commitment to health and safety, with a thorough understanding of relevant regulations and best practices.
- Ability to work independently and in a team-oriented, collaborative environment.
- Strong analytical and problem-solving skills, with the ability to learn quickly and take initiative.

Occupation summary:

The CM2 Senior Commissioning Manager is responsible for overseeing the commissioning process of a building, which involves ensuring that the systems and equipment are installed, tested, and operated correctly. Their duties may include:

Developing commissioning plans and schedules: The CM2 Senior Commissioning Manager is responsible for creating a comprehensive commissioning plan that outlines the activities and responsibilities of all parties involved in the commissioning process.

Coordinating commissioning activities: The CM2 Senior Commissioning Manager coordinates the commissioning activities, including functional testing and system start-up, to ensure that the systems and equipment are installed, tested, and operated correctly.

Reviewing design documents: The CM2 Senior Commissioning Manager reviews design documents, such as drawings, specifications, and test procedures, to ensure that they meet the requirements for commissioning and that the commissioning plan is being followed.

Monitoring construction activities: The CM2 Senior Commissioning Manager monitors the construction activities to ensure that the systems and equipment are being installed correctly and in accordance with the design documents and commissioning plan.

Conducting functional testing: The CM2 Senior Commissioning Manager is responsible for conducting functional testing of the systems and equipment to ensure that they are functioning as intended.

Documenting commissioning activities: The CM2 Senior Commissioning Manager documents all commissioning activities, including test results, and maintains records of all commissioning-related activities.

Assisting with training and handover: The CM2 Senior Commissioning Manager assists with training the facility's operations and maintenance personnel on the systems and equipment and provides support during the handover of the facility to the owner or operator.

Overall, the CM2 Senior Commissioning Manager plays a crucial role in ensuring that a building's systems and equipment are installed, tested, and operated correctly, and that the building meets the design and performance requirements of the owner or operator.

Duties:

1.0	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Managers and Professionals or CITB Supervisory HSE test
1.2	Complete internal H&S induction (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep company informed of any damaged PPE
1.5	Review RAMS for Each Project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.6	Carry out site walkdown of new projects and carry out risk assessment for all systems under the company's scope of work. Distribute this to form the latest RA part of the RAMS.
1.7	Working at Heights training completed by candidates' company
1.8	Asbestos Awareness training completed by candidates' company
1.9	Follow-up with RAMS submission and obtain all necessary approvals using the projects document management system
1.10	Perform toolbox talks relating to the commissioning that is being undertaken on the project, delivering to project team members and commissioning staff under their control (CM2 & 3 Only)
2.0	**Preparation and Briefing Stage**
2.1	Review and understand the Project brief / specifications concerning commissioning
2.2	Identify the performance outcomes required by the client and ultimate end- users.
2.3	Produce a client brief document that clearly describes the performance outcomes expected for the project

2.4	Determine the commissioning scope and budget
2.5	Review commissioning related tenders and provide feedback on the included scope/budget
2.6	Have a full understanding of CIBSE Code M 2021
3.0	**Design Stage**
3.1	Led by a CM2 or CM3 commissioning manager, form a commissioning team appropriate to the size and complexity of the project being undertaken. CM1 to assist senior commissioning managers
3.2	Produce a Roles and Responsibilities matrix for the commissioning team and systems to be commissioned
3.3	Review commissioning lessons learned from past similar projects / clients' lessons learned
3.4	Produce the design-stage Commissioning Plan
3.5	In accordance with the Building Regulations 2010, ensure the Commissioning Plan is issued to the Project Manager/Main Contractor and the Building Control Body (BCB)
3.6	Create the Commissioning Specification
3.7	Produce a Commissioning Cost Plan (CM3 Only) CM1/2 to assist senior commissioning managers.
3.8	Programme commissioning activities - The programming of commissioning requires an understanding of overall project commissioning scope and logic, the detailed sequences of specific commissioning works and the time required to execute commissioning activities to the required standard.
3.9	Create more detailed commissioning logic diagrams and programmes for specific elements and systems, for procedures such as integrated systems tests (ISTs), system continuous operational performance (SCOP) tests and seasonal tests. (CM2&3 Only) CM1 to assist senior commissioning managers
3.10	Undertake a commissionability review of HVAC Systems
3.11	Undertake a commissionability review of Electrical Systems (CM2/CM3, CM1 assist)
3.12	Undertake a commissionability review of specialist Systems i.e Life Safety Systems (CM2/CM3, CM1 assist)
3.13	Define commissioning requirements in contract documentation
3.14	Review / Appoint commissioning-competent contractors (CM3 Only) CM1/2 to assist senior commissioning managers.
4.0	**Pre-construction**
4.1	Close out design commissioning reviews
4.2	Hold commissioning workshops
4.3	Attend, Report and Witness Factory acceptance testing (CM2/CM3, CM1 assist)
4.4	Create project commissioning tracking schedules
4.5	Update the commissioning plan
5.0	**On Site Stages**
5.1	Produce the construction-stage Commissioning Plan
5.2	Chair commissioning meetings
5.3	Finalise detailed commissioning programme
5.4	Assist in any commissioning Mock-up Tests, including producing Mock-up test plans (CM2/CM3, CM1 assist)
5.5	Produce Commissioning Methodologies for specialist integrated testing i.e IST, SCOP. (CM2/CM3, CM1 assist)
5.6.1	Review and approve Commissioning Methodologies for HVAC Systems
5.6.2	Review and approve Commissioning Methodologies for Electrical Systems (CM2/CM3, CM1 assist)
5.6.3	Review and approve Commissioning Methodologies for Specialist Systems (CM2/CM3, CM1 assist)
5.7	Review commissioning checklists and proforma commissioning documentation
5.8	Hold commissioning workshops for all systems
5.9	Arrange Factory acceptance testing including travel arrangements, scope, methodology, acceptance criteria (CM2/CM3, CM1 assist)

5.10	Sample MEP installation inspections
5.11	Manage MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.12	Witness MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.13	Manage MEP Functional performance tests of individual building services systems in their own right
5.14	Witness MEP Functional performance tests
5.15	Manage / Witness water treatment as per BSRIA BG29/2020
5.16	Manage / Witness electrical testing
5.17	Manage / Witness plant start up
5.18	Manage / Witness commissioning and balancing of HVAC systems
5.19	Manage / Witness commissioning of BMS systems (CM2/3, CM1 Assist/Train as required)
5.20	Manage / Witness Life Safety system testing (CM2/3, CM1 Assist/Train as required)
5.21	Manage / Witness Integrated Systems Testing (IST) (CM2/3, CM1 Assist/Train as required)
5.22	Undertake detailed Progress and Issue Reporting of all commissioning activities and present to the clients' teams.
5.23	Manage / Witness System continuous operational performance (SCOP) tests. (CM2/3, CM1 Assist/Train as required)
5.24	Train users and operators. (CM2/3, CM1 Assist/Train as required)
5.25	Hand over commissioning-related documentation
5.26	Produce Practical and Sectional Handover letters (CM2/3, CM1 Assist/Train as required)
6.0	**In-use Stage**
6.1	Review commissioning of the project (CM3 Only, Train CM2/1)
6.2	Fine tuning and seasonal testing (CM2/3, CM1 Assist/Train as required)
6.3	Post-project review (CM3 Only, Train CM2/1)
6.4	Produce detailed commissioning close out reports (CM2/3, CM1 Assist/Train as required)
6.5	Spotting, responding, and helping to deal with issues that emerge during initial occupation
6.6	Introducing users to how their new building operates
6.7	Introducing users to local controls
6.8	Helping the facilities management team with initial operation of the building, including the use of energy meters and monitoring systems
6.9	Using initial feedback to undertake any fine-tuning and debugging that may be required (CM2/3, CM1 Assist/Train as required)
6.10	Producing a lessons-learned report on the commissioning process. (CM2/3, CM1 Assist/Train as required)
7.0	**Post-occupancy aftercare**
7.1	Resolution of commissioning defects during the 12-month defects liability period and closure of this element of the contract with the client. (CM2/3, CM1 Assist/Train as required)
7.2	Assessment of the new facility to establish its fitness for purpose and whether the client's commissioning requirements have been satisfied (CM2/3, CM1 Assist/Train as required)
7.3	Seasonal Commissioning – Undertake systematic and structured monitoring and measurement of building performance.
8.0	**Misc**
8.1	Must be able to take full responsibility of one or more commissioning management projects and be responsible to your employer (CM2/CM3)
8.2	Must be responsible on behalf of your employer to their client for all site activities and events within the Commissioning Management scope of the contract
8.3	Must be able to agree documentation requirements and standards for each activity within the Commissioning Management scope

8.4	Must be able to review upcoming and ongoing commissioning programme in terms of labour requirements
8.5	Must have good verbal skills - client discussions and site meetings
8.6	Must have good day-to-day management skills
8.7	Must have good report writing skills (technical)
8.8	Must have good planning skills
8.9	To actively encourage, motivate and assist with the development and training of all personnel under your supervision
8.10	To liaise directly with the client and or client's representative
8.11	Liaise with Head Office daily on-site progress
8.12	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
8.13	Must be fully aware of latest electrical regulations (CM3 Only)
8.14	To know your own limitations. Recognize when to call for assistance when dealing with items or specialist systems beyond your own experience

Development Aim:

Aim	To be aware of and research changes within the industry. To undertake continual professional development and be capable of satisfying the Committee of the CSA as to your suitability as a CM2 Senior commissioning manager.
CSA Training Route	Via our Specific 2-day Introduction to Commissioning Management Training Course (ITCM)
End Point Assessment	Each candidate must attend and pass the 2-day Introduction to Commissioning Management Training Course (ITCM) and pass the 3 Stage Commissioning Management Process
EPA Award	By Submitting a (2500-3000) word commissioning management dissertation report, sit an online interview with the CSA CxM accreditation panel and attended the 2-day Introduction to Commissioning Management Course.

Job Descriptions – CSA Senior Commissioning Manager - CM3

Overview of the role:

Commissioning management (CxM) of MEP Systems on construction sites or other client buildings.

Typical job titles include:

Project Commissioning Manager, CSA CM3 Project Commissioning Manager

Job Grade:

CM3

Black SKILLcard

Experience:

10 years+ Commissioning Management experience with a recognised company/organisation. Must have completed a minimum of 1 commissioning management project and provide CV and references from 2 clients.

Complete all 3 Stages of the Commissioning Management Grading Structure.

Stage 1 - Project CV specifically focused on their Commissioning Management experience.
Stage 2 - Create/submit 3000–3500-word commissioning management dissertation report with supporting evidence.
Stage 3 - CSA Commissioning Management Interview with Assessment Panel

Mandatory: Attend 2-day Advanced Commissioning Management Course.

Candidates completing all 3 stages & successfully completing ITCM 2-day Training Course will be awarded the CM grade.

Must have worked on a minimum of 5 large commissioning management projects and provide CV and references from 4 clients. The candidate must have:

- Bachelor's degree in mechanical, electrical, or building services engineering or a related field. (Optional)
- A minimum of 10 years+ of experience in the building services industry, with a focus on M&E commissioning.
- Strong technical knowledge of building services systems, including HVAC, plumbing, fire protection, and electrical systems.
- Strong understanding of project management principles and the commissioning process.
- Strong communication and interpersonal skills, with the ability to work effectively as part of a team.
- Strong commitment to health and safety, with a thorough understanding of relevant regulations and best practices.
- Fully flexible to work independently and in a team-oriented, collaborative environment.
- Strong analytical and problem-solving skills, with the ability lead a commissioning team throughout one major project or across multiple projects.

Occupation summary:

A CM3 project commissioning manager is a highly experienced professional in the field of project commissioning, with a deep understanding of complex building services and processes. They lead and manage a team of commissioning managers and engineers, overseeing the planning, execution, and delivery of large-scale projects.

They have extensive knowledge of relevant regulations and standards and ensure that all commissioning activities are carried out safely and efficiently. In addition, CM3 project commissioning managers provide strategic guidance and advice to clients and stakeholders and play a key role in business development and client relationship management. They may also participate in research and development of new technologies and methods to improve commissioning practices. Strong leadership, project management, and technical skills are essential for success in this role.

Key Duties include:

- To manage the commissioning process ensuring all parties are working together to achieve the commissioning requirements.
- Overseeing the complete building commissioning process from start to finish.
- Developing commissioning plans, schedules, reports, checklists, and test scripts
- Documenting commissioning and installation progress
- Understanding the specific details and demands of our project briefs.
- Conducting and documenting the results of inspections and tests
- Managing and arranging testing requirements
- Financial control including working within our resource allowance.
- Working to project timescales and deadlines
- Collaborating closely with the general contractor's team to devise commissioning strategies and processes that align with project timelines and objectives.
- Participating in project meetings as necessary
- Providing technical support during client discussions
- Working collaboratively with both internal and external team members
- Reporting delays and obtaining site instructions with signed work record sheets
- Supplying ongoing progress reports and producing final project report
- Conducting technical evaluations of project schedules, drawings, and technical submissions
- Managing and documenting results from offsite factory tests
- Facilitating third party approval and relevant sign off

Experience required in.

- Reviewing the Mechanical, Electrical and Public health design and producing an associated Commissionability report
- Production of commissioning plans and strategies
- Production of commissioning specifications
- Chairing of commissioning meetings with associated minutes
- Factory acceptance testing
- Production and management of commissioning programmes
- Reviewing and commenting on M&E commissioning method statements
- Production and management of progress of tracking schedules
- Management of Mechanical and Electrical off-site testing
- Production and issuing of progress reports.
- Management and witnessing of Mechanical and Electrical static testing.
- Management and witnessing of Mechanical and Electrical functional testing.
- Management and coordination of cause and effect and integrated system testing
- Management of project handover
- Post-handover requirements such as seasonal testing and soft landings
- Being responsible for all aspects of site safety for yourself and others including risk assessments and toolbox talks
- Evaluating labour requirements against the programme and tender submissions
- Producing commissioning completion reports
- Knowledge of BREEAM and LEED

Duties:

1.0	**Health & Safety**
1.1	Candidate must pass the CITB Health, safety and environment (HS&E) test – Managers and Professionals or CITB Supervisory HSE test
1.2	Complete internal H&S induction (HS&E Policy, Employees Handbook)
1.3	Must review PPE and keep company informed of any damaged PPE
1.5	Review RAMS for Each Project and only sign once the methodology procedures and associated safeguards and Specialist Protections or working conditions are fully understood
1.6	Carry out site walkdown of new projects and carry out risk assessment for all systems under the company's scope of work. Distribute this to form the latest RA part of the RAMS.
1.7	Working at Heights training completed by candidates' company
1.8	Asbestos Awareness training completed by candidates' company
1.9	Follow-up with RAMS submission and obtain all necessary approvals using the projects document management system
1.10	Perform toolbox talks relating to the commissioning that is being undertaken on the project, delivering to project team members and commissioning staff under their control (CM2 & 3 Only)
2.0	**Preparation and Briefing Stage**
2.1	Review and understand the Project brief / specifications concerning commissioning
2.2	Identify the performance outcomes required by the client and ultimate end- users.
2.3	Produce a client brief document that clearly describes the performance outcomes expected for the project
2.4	Determine the commissioning scope and budget
2.5	Review commissioning related tenders and provide feedback on the included scope/budget
2.6	Have a full understanding of CIBSE Code M 2021
3.0	**Design Stage**
3.1	Led by a CM2 or CM3 commissioning manager, form a commissioning team appropriate to the size and complexity of the project being undertaken. CM1 to assist senior commissioning managers
3.2	Produce a Roles and Responsibilities matrix for the commissioning team and systems to be commissioned
3.3	Review commissioning lessons learned from past similar projects / clients' lessons learned
3.4	Produce the design-stage Commissioning Plan
3.5	In accordance with the Building Regulations 2010, ensure the Commissioning Plan is issued to the Project Manager/Main Contractor and the Building Control Body (BCB)
3.6	Create the Commissioning Specification
3.7	Produce a Commissioning Cost Plan (CM3 Only) CM1/2 to assist senior commissioning managers.
3.8	Programme commissioning activities - The programming of commissioning requires an understanding of overall project commissioning scope and logic, the detailed sequences of specific commissioning works and the time required to execute commissioning activities to the required standard.
3.9	Create more detailed commissioning logic diagrams and programmes for specific elements and systems, for procedures such as integrated systems tests (ISTs), system continuous operational performance (SCOP) tests and seasonal tests. (CM2&3 Only) CM1 to assist senior commissioning managers
3.10	Undertake a commissionability review of HVAC Systems
3.11	Undertake a commissionability review of Electrical Systems (CM2/CM3, CM1 assist)
3.12	Undertake a commissionability review of specialist Systems i.e Life Safety Systems (CM2/CM3, CM1 assist)
3.13	Define commissioning requirements in contract documentation
3.14	Review / Appoint commissioning-competent contractors (CM3 Only) CM1/2 to assist senior commissioning managers.
4.0	**Pre-construction**

4.1	Close out design commissioning reviews
4.2	Hold commissioning workshops
4.3	Attend, Report and Witness Factory acceptance testing (CM2/CM3, CM1 assist)
4.4	Create project commissioning tracking schedules
4.5	Update the commissioning plan
5.0	**On Site Stages**
5.1	Produce the construction-stage Commissioning Plan
5.2	Chair commissioning meetings
5.3	Finalise detailed commissioning programme
5.4	Assist in any commissioning Mock-up Tests, including producing Mock-up test plans (CM2/CM3, CM1 assist)
5.5	Produce Commissioning Methodologies for specialist integrated testing i.e IST, SCOP. (CM2/CM3, CM1 assist)
5.6.1	Review and approve Commissioning Methodologies for HVAC Systems
5.6.2	Review and approve Commissioning Methodologies for Electrical Systems (CM2/CM3, CM1 assist)
5.6.3	Review and approve Commissioning Methodologies for Specialist Systems (CM2/CM3, CM1 assist)
5.7	Review commissioning checklists and proforma commissioning documentation
5.8	Hold commissioning workshops for all systems
5.9	Arrange Factory acceptance testing including travel arrangements, scope, methodology, acceptance criteria (CM2/CM3, CM1 assist)
5.10	Sample MEP installation inspections
5.11	Manage MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.12	Witness MEP Pre-functional tests including Static testing, pressure testing, dead testing
5.13	Manage MEP Functional performance tests of individual building services systems in their own right
5.14	Witness MEP Functional performance tests
5.15	Manage / Witness water treatment as per BSRIA BG29/2020
5.16	Manage / Witness electrical testing
5.17	Manage / Witness plant start up
5.18	Manage / Witness commissioning and balancing of HVAC systems
5.19	Manage / Witness commissioning of BMS systems (CM2/3, CM1 Assist/Train as required)
5.20	Manage / Witness Life Safety system testing (CM2/3, CM1 Assist/Train as required)
5.21	Manage / Witness Integrated Systems Testing (IST) (CM2/3, CM1 Assist/Train as required)
5.22	Undertake detailed Progress and Issue Reporting of all commissioning activities and present to the clients' teams.
5.23	Manage / Witness System continuous operational performance (SCOP) tests. (CM2/3, CM1 Assist/Train as required)
5.24	Train users and operators. (CM2/3, CM1 Assist/Train as required)
5.25	Hand over commissioning-related documentation
5.26	Produce Practical and Sectional Handover letters (CM2/3, CM1 Assist/Train as required)
6.0	**In-use Stage**
6.1	Review commissioning of the project (CM3 Only, Train CM2/1)
6.2	Fine tuning and seasonal testing (CM2/3, CM1 Assist/Train as required)
6.3	Post-project review (CM3 Only, Train CM2/1)
6.4	Produce detailed commissioning close out reports (CM2/3, CM1 Assist/Train as required)
6.5	Spotting, responding, and helping to deal with issues that emerge during initial occupation
6.6	Introducing users to how their new building operates

6.7	Introducing users to local controls
6.8	Helping the facilities management team with initial operation of the building, including the use of energy meters and monitoring systems
6.9	Using initial feedback to undertake any fine-tuning and debugging that may be required (CM2/3, CM1 Assist/Train as required)
6.10	Producing a lessons-learned report on the commissioning process. (CM2/3, CM1 Assist/Train as required)
7.0	**Post-occupancy aftercare**
7.1	Resolution of commissioning defects during the 12-month defects liability period and closure of this element of the contract with the client. (CM2/3, CM1 Assist/Train as required)
7.2	Assessment of the new facility to establish its fitness for purpose and whether the client's commissioning requirements have been satisfied (CM2/3, CM1 Assist/Train as required)
7.3	Seasonal Commissioning – Undertake systematic and structured monitoring and measurement of building performance.
8.0	**Misc**
8.1	Must be able to take full responsibility of one or more commissioning management projects and be responsible to your employer (CM2/CM3)
8.2	Must be responsible on behalf of your employer to their client for all site activities and events within the Commissioning Management scope of the contract
8.3	Must be able to agree documentation requirements and standards for each activity within the Commissioning Management scope
8.4	Must be able to review upcoming and ongoing commissioning programme in terms of labour requirements
8.5	Must have good verbal skills - client discussions and site meetings
8.6	Must have good day-to-day management skills
8.7	Must have good report writing skills (technical)
8.8	Must have good planning skills
8.9	To actively encourage, motivate and assist with the development and training of all personnel under your supervision
8.10	To liaise directly with the client and or client's representative
8.11	Liaise with Head Office daily on-site progress
8.12	To be competent to work on site without supervision and take charge of other site personnel in relation to commissioning systems
8.13	Must be fully aware of latest electrical regulations (CM3 Only)
8.14	To know your own limitations. Recognize when to call for assistance when dealing with items or specialist systems beyond your own experience

Development Aim:

Aim	To be aware of and research changes within the industry. To undertake continual professional development and be capable of satisfying the Committee of the CSA as to your suitability as a CM3 project commissioning manager.
CSA Training Route	Via our Specific 2-day Introduction to Commissioning Management Training Course (ITCM) and 2-Day Advance Commissioning Management Training Course (ACM)
End Point Assessment	Each candidate must attend and pass the 2-Day Advance Commissioning Management Training Course (ACM) and pass the 3 Stage Commissioning Management Process
EPA Award	By Submitting (3000-3500) word commissioning management dissertation report, sit an online interview with the CSA CxM accreditation panel, attended the 2-day Advanced Commissioning Management course.

DISTANCE LEARNING COURSES

The COMMISSIONING SPECIALISTS' ASSOCIATION is committed to the concept of training of commissioning technicians and engineers and to overseeing and arranging learning courses uniquely designed to meet their needs.

Within the overall framework of Grades 1 to 6, training courses covering the technical theory and knowledge required for Grades 1 to 3 have been developed over the course of the last 23 years They are available to students as a DISTANCE LEARNING COURSE. There are three self-contained Parts, each incorporating a number of Modules.

The following format has been developed for the DLC's:

- The student, or the company employing that student, enrols and pays a fee to the CSA for the relevant part of the course to be taken. Application forms and further instructions are available for download from www.csa.org.uk

- Once the student has enrolled, they will be supplied with a Starter Pack via email. This consists of a welcome letter with their allocated tutors' details, a header sheet in case they want to print it off and put in a folder, full course instructions and the module list of the relevant course. They are also sent the first 3 modules of the course and the homework sheets for those modules. The homework sheets are separate from the modules and left as word docs so that the student can either write or type their answers on them and email them back to the CSA for marking. Some modules will require drawings or additional reports or paperwork to be sent in and these can be emailed also.

- Homework is emailed where possible into the CSA office and sent to the relevant tutor for marking and comment. On receipt of a student's homework, the next set of modules and homework are emailed back out to them . Each module will give much of the information needed for the work, but the student will need to refer to standard reference books (e.g. BSRIA Guides and CIBSE Codes) during the course.

- Each student is assigned a tutor, who will monitor their progress and be available to give assistance and guidance where needed. A tutor will be appointed from the CSA Training sub-committee or other suitable person.

- Each module contains "homework" to be assessed, marked and commented on by the tutor. Communication between student and tutor may be direct or may be via the CSA office.

- When the student has completed a course of modules, i.e. one Part, they will be expected to take a completion test in a controlled environment, i.e. in an office with an invigilator appointed by the CSA or at a college in controlled academic conditions. A certificate is then issued for the Part of the course competed. Progression is intended to be from Part A upwards. Each Part must be completed successfully before a student starts the next stage.

Training & Career Development Handbook

OUTLINE PROCEDURE FOR DISTANCE LEARNING COURSES

STUDENT / COMPANY ENROLS

Student receives up to 3 Modules of Course Notes

Tutor appointed

Student completes Modules & requests further Course Notes

Continuous assessment. Homework is marked by Tutor and returned. Further Modules are sent out by the CSA office.

Student takes assessment test after completion of a number of Modules within a Part of the Distance Learning Course

Tutorials arranged for student as necessary

Student takes final invigilated test after completing all Modules within Parts A, B or C of the DLC.

Certificate of achievement given by CSA for passing the Course

Student progresses to next Part of the Course (where applicable)

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BREAKDOWN OF EACH CSA DISTANCE LEARNING COURSE MODULES

PART A:
A/1 Health & Safety
A/2 S.I. Units
A/3 Drawing & Notation
A/4 Basic Water Systems
A/5 Basic Air Systems
A/6 Types of Pumps & Fans
A/7 Basic Flow Measurements & Types of Instruments
A/8 Codes of Practice
A/9 Basic Flow Regulation
A/10 Documentation & Reports
A/11 Quality Assurance Outlines

PART B:
B/1 Reporting & Contractual Awareness
B/2 Heat
B/3 Heat Transmission
B/4 Flowrate & Circulation
B/5 Air & Water Design Concepts
B/6 Electrical Theory
B/7 Airflow Regulation
B/8 Water Flow Regulation
B/9 Advanced Air Systems
B/10 Advanced Water Systems
B/11 Filtration
B/12 Variable Volume Water Systems

PART C:
C/1 Instrument Calibration
C/2 Duct Sizing
C/3 Pipe Sizing
C/4 Heat Exchangers
C/5 Fans & Pumps
C/6 Duty Calculations
C/7 Water Treatment, Flushing & Venting
C/8 Advanced Water Flow Regulation
C/9 Advanced Air Commissioning

GRADE 4 EXAMINATION

The Examination consists of two elements:
Element 1. Technical Examination.
The technical paper is designed to test the candidate's knowledge of commissioning activities and covers the following areas:

- Duct sizing - calculating areas, resistances,
- Locating water flow metering stations
- Fan/Pump laws, static pressure relationships
- Coil duties
- Mixing airflows, temperature relationships
- Psychrometrics - interpretation of charts, derivation of variables from given data
- Electric motors, overloads, full load currents
- VAV systems - commissioning methods
- Refrigeration - basic system arrangements
- S.I. units & derivations
- Problem solving - over volume systems, branch/main valve discrepancies, motorised control valves.

The paper contains 20-25 questions, which are answered on the paper itself. It is important to show all calculations and workings –out as marks may be awarded for method even in the final answer is wrong. This is a "closed book" examination of approximately 2 hours duration and must be undertaken under suitable independent invigilation.

Element 2. Theory Examination

Normally framed around a hypothetical site situation containing several scenarios that are often found in the commissioning environment. The question paper may examine the candidate's understanding of either or both technical and contractual procedures and his/ her ability to communicate this to various levels of personnel within the industry.

The question paper is a "closed book" examination of approximately 1 hour duration and must be undertaken under suitable independent invigilation.

GRADE 5 THESIS

The basis of the upgrade from Grade 4 (Commissioning Engineer) to Grade 5 (Senior Commissioning Engineer) is a 2500 - 3000 word (approx.) thesis on a subject allied to commissioning.

The choice of subject is left open to the candidate and can be directly or indirectly connected to commissioning. This open choice is deliberate, in that the CSA wishes to give candidates as much scope as possible to pick a subject with which they are both comfortable with and have the opportunity to carry out research.

The subjects can thus be chosen from areas as diverse as the personal development of staff (one early submission examined the transition from "hands on" commissioning to commissioning management) or a detailed technical treatise (a recent example being the comparison of ice storage and conventional chilled water systems).

The criteria that are used to judge the standard of the thesis are as follows:

- Does the candidate exhibit a detailed knowledge of the chosen subject?
- Does the thesis show clear evidence of personal research?
- Are the arguments clearly presented in a logical manner? Are both pros and cons considered (i.e. does it have rigour)?
- Is there a definitive conclusion? Is this fully supported by the arguments?
- Is the thesis well written and presented?

The thesis must therefore show personal development/ technical knowledge and the ability to examine a subject objectively and to seek out and present arguments for and against a case.

The thesis must also show that a candidate has the necessary report writing skills. Any thesis submitted is initially examined by the CSA Training Sub-Committee. It is then usual for the candidate to be invited to give a short presentation to two or three members of this sub-committee. This is to ensure that candidates have in fact considered all aspects of the chosen subject and have not, for instance, merely picked a conclusion which mirrors their own belief and selected the evidence to suit.

Once the Training Sub-Committee are agreed that the candidate and thesis satisfy the criteria, a recommendation is made to the CSA Main Committee that an upgrade be awarded. Candidates wishing to submit a thesis are encouraged to contact the Secretary in the first instance, who will discuss their proposed subject with them and give any necessary guidance on the degree of research required and the focus that the thesis might be given. This is to ensure that candidates prepare their work to the required standard and to ensure that they select their subject so as not to cover too wide an area - a common fault is to define a subject area which leads to so many side issues that the primary thrust of the work is lost.

To aid with this initial examination a one-page synopsis of the proposed thesis is helpful. From initial request to upgrade to a Grade 5, to the completion and acceptance of the thesis there is a time limit of one year. To see some previous successful Grade 5 thesis, go to the CSA web site www.csa.org.uk

PROCEDURE FOR UPGRADE TO A GRADE 6

A detailed C.V. will be submitted to the CSA office along with confirmation that the CSA ITCM 2 days course has been completed.

The C.V. will be immediately circulated to the Membership Committee.
Committee Members will examine the C.V. and pose any questions raised by the C.V. to the CSA.
Committee Members are especially asked to examine the projects indicated that the applicant had a senior involvement showing Grade 6 potential or expertise, and to make any necessary enquiries.

It is anticipated that the result of the upgrade request will be made known to the applicant unless special circumstances dictate otherwise.

The CSA will then confirm this in writing to the applicant and enclose the appropriately amended CSA membership card and certificate.

Note: The information gathered for this exercise will of course be confidential and limited to the CSA and Committee Members.

Grade 6 and CM1 – Commissioning Managers

Those who have been in the commissioning industry for 12+ years on the traditional Pathway of Development who hold a current Grade 5 can continue onto the Commissioning Manager level – Grade 6. This is recognized on the traditional pathway.

Those new to Commissioning or having held Commissioning Management experience from 1 to 3 years can apply for a CM1 via the Academic Pathway on the Management Pathway of Development.

What's the difference between a Grade 6 and a CM1 – Commissioning Manager?

T he job duties and responsibilities appear to be identical? They are identica!.

The 2 different Commissioning Manager routes CM1 & Grade 6 are in reference to the different **entry requirements** for the respective Grade.

The output from the Commissioning Manager should be identical!

CM1 or Grade 6 – both are entitled **Commissioning Manager** and both have the same job duties and responsibilities!

CSA pathway of Development Trainee to Grade 6

Aug 2023

MAKING BUILDINGS WORK

Rev: TPD

CSA Pathway of Development Trainee to Grade 6

Continued progress via the CSA Management Pathway of Development

GRADE 6 Commissioning Manager

- Grade 6 awarded
- Assessment Review Panel
- Apply for Grade 6
  - Minimum 12 years proven commissioning experience with a recognised company & comply with Grade 6 Job Description
  - Successfully complete Introduction to Commissioning Management (ITCM) course
  - Minimum 12 years proven commissioning experience with a recognised company & comply with Grade 6 Job Description
  - Successfully complete Introduction to Commissioning Management (ITCM) course

GRADE 5 Senior Commissioning Engineer

- Grade 5 awarded
- Assessment Review Panel
- Apply for Grade 5
  - Minimum 8 years proven commissioning experience with a recognised company & comply with Grade 5 Job Description
  - Pass both Grade 5 Thesis Synopsis & 2500-3000-word Thesis
  - Minimum 8 years proven commissioning experience with a recognised company & comply with Grade 5 Job Description
  - Pass both Grade 5 Thesis Synopsis & 2500–3000-word Thesis

GRADE 4 Commissioning Engineer

- Grade 4 awarded
- Assessment Review Panel
- Apply for Grade 4
  - Minimum 5 years proven commissioning experience with a recognised company & comply with Grade 4 Job Description
  - Pass both Grade 4 Technical & Theory Invigilated Exams
  - Relevant City & Guilds – full certificate or NVQ level 4 in Building or Allied Services. A minimum 7 years proven commissioning experience with a recognised company & comply with Grade 4 Job Description
  - Pass both Grade 4 Technical & Theory Invigilated Exams

GRADE 3 Commissioning Technician

- Grade 3 awarded
- Assessment Review Panel
- Apply for Grade 3
  - Minimum 3.5 years proven commissioning experience with a recognised company & comply with Grade 3 Job Description
  - Completed DLC C & pass the DLC C Test
  - Relevant City & Guilds level 3 or 3rd year ONC/OND, or NVQ level 3 in Building or Allied Services. A minimum 5 years proven commissioning experience with a recognised company & comply with Grade 3 Job Description

GRADE 2 Intermediate Commissioning Engineer

- Grade 2 awarded
- Assessment Review Panel
- Apply for Grade 2
  - Minimum 2 years proven commissioning experience with a recognised company & comply with Grade 2 Job Description
  - Completed DLC B & pass the DLC B Test
  - Relevant City & Guilds level 2 or 2nd year ONC/OND, or NVQ level 2 in Building or Allied Services. A minimum 3 years proven commissioning experience with a recognised company & comply with Grade 2 Job Description

GRADE 1 Assistant Commissioning Engineer

- Grade 1 awarded
- Assessment Review Panel
- Apply for Grade 1
  - Minimum 12 months proven commissioning experience with a recognised company & comply with Grade 1 Job Description
  - Completed DLC A & pass the DLC A Test
  - Relevant City & Guilds level 1 or 1st year ONC/OND, or NVQ level 1 in Building or Allied Services. A minimum 18 months proven commissioning experience with a recognised company & comply with Grade 1 Job Description

TRAINEE

- Trainee Grade awarded
- Assessment Review Panel
- Apply for Trainee Grade
  - DLC Pathway
  - Academic Pathway

LEGEND KEY

GRADE 1 → CSA Grading

Outline colour = SKILLcard Colour

SYMBOL KEY

DLC Entrance Point

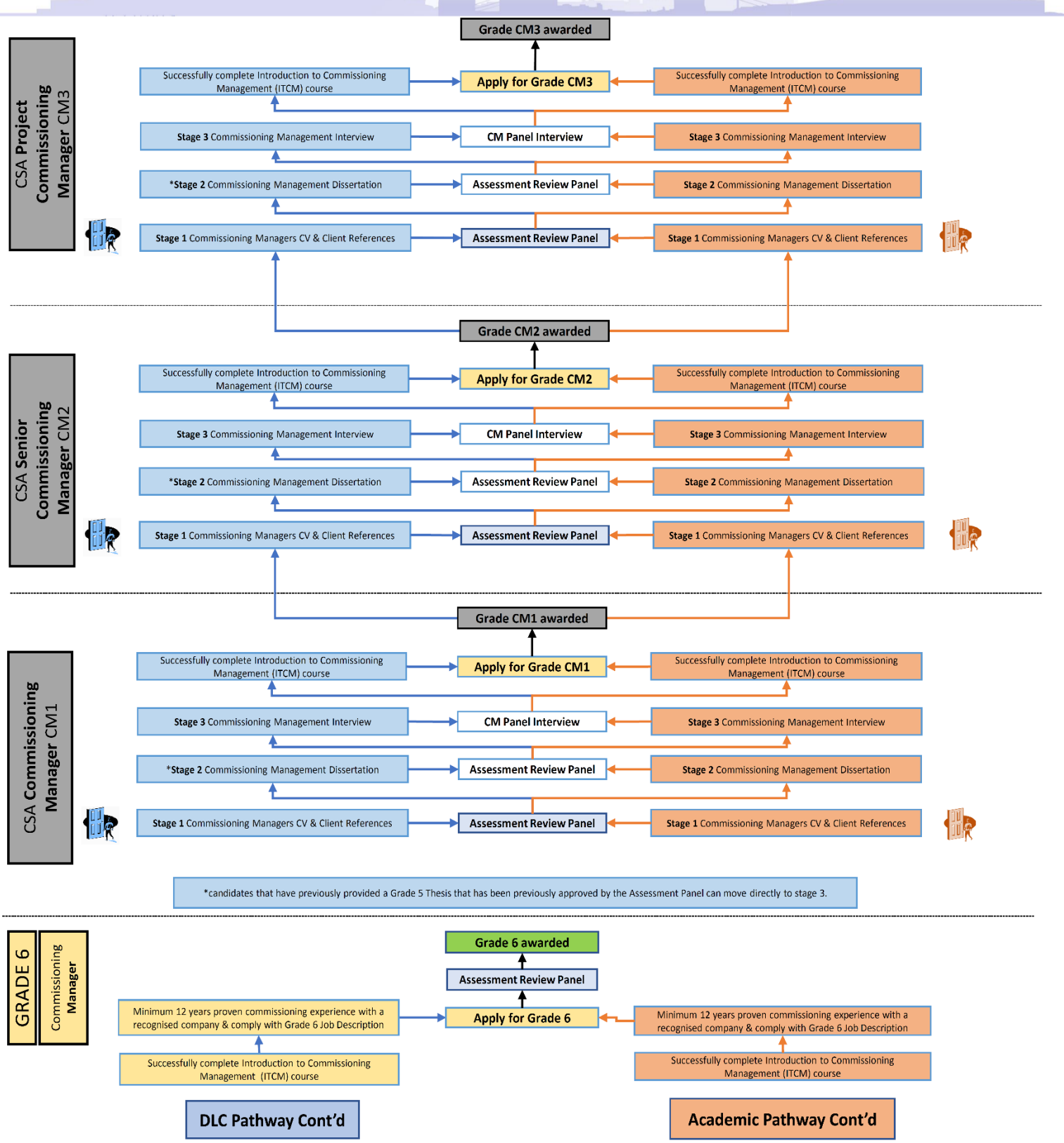
ACADEMIC Entrance Point

CSA Management Pathway of Development

Aug 2023

MAKING BUILDINGS WORK

Rev: 3CM



*candidates that have previously provided a Grade 5 Thesis that has been previously approved by the Assessment Panel can move directly to stage 3.

This is a simplified illustration of the CSA Commissioning Management Structure. For full details and breakdown refer to the latest version of the CM Grading System & Application Process available from *here*.

LEGEND KEY

ALL CSA Commissioning Management Grades are rated at Black SKILLcard level

CSA Management Pathway of Development

SYMBOL KEY

DLC Entrance Point

ACADEMIC Entrance Point