

Competency Report to Support Application for ACIBSE

Introduction

In 2001 I started my engineering career by joining the [REDACTED] as an engineering apprentice. During my engineering apprenticeship I learnt many theoretical and practical skills predominantly in the field of marine engineering, these skills are also applicable to building services engineering. The apprenticeship consisted of six months initial training, twelve months practical training and an intensive thirty month full time education course. From this apprenticeship I received a foundation degree in Marine systems engineering.

In 2006 I was given the role of hydraulic and lifting gear section manager of [REDACTED]. It was my responsibility to manage the heavy hydraulics and powered lifting equipment section. The primary role was to manage all maintenance of equipment ranging from large overhead cranes, cargo/goods lifts and large hydraulically operated doors to small food lifts. A secondary role was to manage the fleet maintenance of eight landing craft prioritising defects in order to provide vehicles to the customer and minimising down time.

I was moved during the usual ship/shore rotation to the [REDACTED] [REDACTED] in January 2009 as an instructor of diesel engines, predominantly generators. The main role was the teaching of subject matter to students of all abilities. A secondary role was managing the small diesel engine section. This was an involved building services engineering role, managing compliance and all aspects of maintenance on engines, general fixtures and fittings and the building fabric.

During my next rotation I joined [REDACTED] in December 2009 as the generation and fluids section manager. This was a very involved role, as the ship was the first of its type. Maintenance regimes had to be instigated I used various techniques to achieve this aim.

Between 2009 and 2011 I undertook a course of study with Portsmouth University via distance learning, and attained a BEng (Hons) in Mechanical and Manufacturing Engineering.

In 2013 I took up my next role as the Building Services Team Manager at [REDACTED]. The primary role was based in the [REDACTED]. The [REDACTED] is a below ground complex of command and control buildings. The complex is capable of being isolated from outside services for prolonged periods of time. It has integrated UPS, generation, HVAC and water services. These are independent of external influences and redundancy is provided for all plant. The role was providing contractor management with respect to all building maintenance.

In March 2014 I left the [REDACTED] and gained employment at [REDACTED] [REDACTED] provides ICT services to public and private sectors and has a large customer base in the UK + Ireland. As such it has approximately fifty buildings and six data centres totalling 250,000 square metres of space throughout the British Isles. The group properties engineering team is responsible for all building services engineering throughout the estate. The team conduct management of the maintenance contractors, conducting periodic audits and day-to-day contract management.

Career Episode	ACIBSE Competence Objective
<p>During 2009 in my role as an instructor I found that some of my base engineering knowledge was lacking. To rectify this I enrolled myself on a course of study to attain my BEng degree. I applied the theoretical knowledge learnt to my future career.</p> <p>In 2013 while in the process of leaving the [REDACTED] I embarked upon courses of study with various providers to further improve my knowledge and skills for the building services industry, this included the IET 17th edition wiring regulations and a Licentiateship of the City & Guilds Institute for engineering management.</p> <p>Within my current role I have found I was lacking in knowledge of LED lighting products, in order to rectify this I have undertaken some of the online courses provided by Philips Lighting University.</p>	<p>Maintain and extend a sound theoretical approach to the application of technology in engineering practice.</p> <p>A1</p>
<p>Within my role on [REDACTED] standard operating procedures and maintenance regimes needed to be instigated. This involved reliability centred maintenance studies for each piece of equipment under my control, followed by a peer review and a top level review. Within the review stages value engineering studies were conducted in order to reduce maintenance costs. Periodic reviews were conducted employing the Deming cycle (Plan-Do-Check-Act) to encourage a culture of continuous improvement.</p>	<p>Use a sound evidence-based approach to problem solving and contribute to continuous improvement.</p> <p>A2</p>
<p>While conducting fleet management of landing craft a new system of prioritising reactive maintenance was devised. I devised this by having to defect indicators, the first was the severity of the defect and the second was an estimation of duration until repair. Operating hours of the failed components was also calculated. This information could be used to create a full fault mode and effects analysis of the whole asset. Using this form of analysis a reliability centred maintenance regime could be optimised to reduce down time. Mean time to failure was calculated for each major component and maintenance periodicity was changed to suit this.</p> <p>At [REDACTED] I am responsible for writing detailed output specifications in order to involve specialist consultants on large and often complex capital projects. Within the specifications I define the problem and outline the preferred solution in order for the consultant's to formulate detailed design proposals.</p>	<p>Identify, review and select techniques, procedures and methods to undertake engineering tasks.</p> <p>B1</p>
<p>I had a large input into a project conducted on [REDACTED]. The project was to replace a large defunct gantry crane. I was a key stakeholder from project inception. During the design phase I was involved in the maintenance analysis, life cycle cost analysis and the accessibility and ergonomics analysis of the various design proposals. During the various design analyses I contributed considerably in the role of end user. Prior to the installation phase I was instrumental in planning the installation and commissioning of the crane, acting as the liaison between prime contractor and the ship.</p> <p>Whilst in my position at [REDACTED] I was again a key stakeholder, this</p>	<p>Contribute to the design and development of engineering solutions.</p> <p>B2</p> <p>Implement design solutions and contribute to their evaluation.</p> <p>B3</p>

<p>time in a chiller replacement project. Removal of existing and installation of the new chillers were key constraints during the design and planning stages, due to the chillers being three storeys underground with restricted access and that hot works were not permitted in the area. Planning liaison with the contractor was key at this stage analysing the size and weight of component parts and approving bespoke engineered solutions to overcome the access problem.</p>	
<p>A project that I instigated whilst at [REDACTED] was to change a number of aging diesel engines for new ones. I project managed the whole process from planning to commissioning the new engines. The programme was calculated to take place in a two week window. Project completion date was critical due to students requiring to use the area. The critical path was identified prior to project implementation. Human resource was obtained from a central pool using pre-prepared personnel specifications and selected by myself. Financial resource was estimated and the required budget secured and was managed throughout. All documentation was prepared in house including PID, programme plan documents and handover documentation. Handover documentation included full O+M manuals and detailed risk assessments for future use.</p> <p>During the [REDACTED] gantry crane project, I attended the factory acceptance tests alongside a Lloyds register engineer surveyor and liaising with them to ensure full compliance of the product.</p> <p>Whilst at [REDACTED] I have attended the factory acceptance test of a full HV switchboard at the manufacturer's premises. The product consists of two incomers, a bus-coupler and four transformer feeders, it also includes all metering equipment. This FAT was also attended by a representative of the DNO once again I sought their expertise to ensure equipment compliance.</p>	<p>Plan for effective project implementation.</p> <p>C1</p> <p>Manage the planning, budgeting and organisation of tasks, people and resources.</p> <p>C2</p>
<p>Between 2006 and 2009 I fulfilled a rank in the [REDACTED] judged to be middle management. From 2009 onwards with a promotion I would now regard myself as senior-middle management. From 2006 I have had managerial responsibility for a large number of subordinates. This has included managing their personal and technical development also providing a coaching and mentoring environment to ensure their professional growth. Within the [REDACTED] I had key input into the appraisal process of approximately twelve subordinates. During this time I was allocated a team of five to six engineering technicians to supervise, they would conduct day to day planned and reactive maintenance. I would manage my personnel pool based upon technical skill and mentor more junior engineers that required extra training.</p>	<p>Manage teams and develop staff to meet changing technical and managerial needs.</p> <p>C3</p>

<p>As previously stated, new maintenance regimes were always subject to periodic quality reviews. The quality review agenda followed the Deming cycle of continuous improvement, 'Plan-Do-Check-Act'.</p> <p>During the closing of M+E projects at [REDACTED] I am a key stakeholder in conducting quality reviews. I will compare the quality of the finished product with quality expectations required by corporate standards or specific quality requirements within the project specifications. I will recommend project closure based upon my report.</p>	<p>Manage continuous quality improvement. C4</p>
<p>Throughout my career I have delivered presentations to all levels. Whilst instructing at DCEME I delivered lectures to the most junior of engineering technicians up to chief engineer level.</p> <p>At [REDACTED] I chair a three weekly contract review meeting between [REDACTED] and our maintenance contractor. These meetings involve many parties with different interests. The attendees are; the maintenance contractor account manager, operations/facilities managers, maintenance supervisors and other engineering services managers. I responsible for formulating and distributing the agendas and produce meeting minutes.</p>	<p>Communicate in English with others at all levels. D1</p>
<p>At [REDACTED] I will make formal presentations for any major M+E projects that are forecast to cost over a predetermined amount to the higher leadership team. This will involve making a short presentation using power point of a project outline, then leading in to a cost benefit analysis. This will then lead in to a debate usually based upon the cost benefit analysis but we will also debate the business need/requirement for the capital investment.</p>	<p>Present and discuss proposals. D2</p>
<p>At all stages of my career I have had to utilise various communication styles. I use various formal communication styles in my current role whether these are writing technical reports, specifications or meeting minutes. Informal communication techniques are also utilised whether this is face-to-face, via e-mail or during telephone conversations.</p>	<p>Demonstrate personal and social skills. D3</p>
<p>I have complied with IMarEST's code of professional conduct during my membership of many years. I remain up to date with legislative compliance in all areas of my work, including necessary regulations and approved code of practises. Some current examples are LOLER compliance for passenger lifts and L8 ACOP compliance within buildings under my control</p>	<p>Comply with relevant codes of conduct. E1</p>
<p>I have had extensive experience of safe systems of work within my career. On [REDACTED] I was an integral part of setting up the high voltage safe system of work as an authorised person.</p> <p>At [REDACTED] I have an overview of contractors CDM documentation in relation to building and refurbishment works. Prior to refurbishment projects CDM documentation is reviewed to ensure minimum standards of safety are ensured for employees in other areas of the site.</p>	<p>Manage and apply safe systems of work. E2</p>

<p>At [REDACTED] I was the customer technical lead on the site wide sustainable development committee. The role was auditing the energy consumption data of new plant proposals, this included most large additions and alterations.</p> <p>At [REDACTED] energy reduction is mandated within my role. I am obliged to reduce energy consumption of buildings under my charge. This has included a detailed lighting study, comparing current lighting systems with various LED replacement and retrofit options. This included energy savings and carbon reduction data.</p>	<p>Undertake engineering activities in a way that contributes to sustainable development.</p> <p>E3</p>
<p>My CPD is varied and is detailed in my development action plan. I always endeavour to enhance and maintain my competence. This is evident by the various educational courses I have completed</p>	<p>Carry out continuing professional development necessary to maintain and enhance competence in one's area of practice.</p> <p>E4</p>