

**Ability to plan and implement solutions and monitor their continuing performance.**

You will need to demonstrate that you can effectively plan for and implement solutions (e.g. services, research, development) complying with appropriate standards (e.g. H&S, QA, costs, resource management) identifying risks that may compromise the outcome (e.g. risk register).

You will demonstrate that you can evaluate performance against the initial specification that was agreed with the client / stakeholders. You will need to demonstrate the ability to learn from and amend operating procedures using performance criteria and data collection as appropriate.

**Key Questions**

- How did you plan the implementation of a solution?
- How did you manage the implementation?
- What were the main issues affecting implementation?
- How did you monitor the performance of the solution?
- How did you determine the root cause of any problems?
- What actions did you initiate to resolve any unsatisfactory performance?
- What plans were prepared to ensure continuing operation?
- What mitigating actions did you put in place to minimise risk?
- Have you carried out an audit or post project appraisal?
- Did the solution achieve what was expected of it?
- If the solution did not achieve what was expected of it what corrective action did you take?
- Did you produce relevant documentation or a training package?

**Examples**

- As part of a current Flood Risk Mapping project only level gauge data are available. In an attempt to validate a rating from the hydraulic model, I have organised the provision of flow gauging equipment and am monitoring the level on a daily basis, with the aim of obtaining spot gaugings if higher flows are recorded. Before this data can be incorporated into the study I will be required to assess the performance and validity of this data, to ensure that it is of good quality by making comparisons between the modelled and observed flow/levels. Throughout the study I will monitor the gauge and any outputs that could be of use to the Environment Agency will be provided at the end of the study.
- I designed and verified new Pressure Managed Areas (PMAs) to reduce the pressure in sections of their network and therefore leakage. This reduces the requirement to take more water from the environment and the use of energy and chemicals to treat it. Also calmed the distribution network and was a cost-beneficial way to extend the life of assets. I completed a targeted review of the high pressure areas in the network, selected suitable DMAs with good leakage savings. I sized the appropriate new assets and produced construction schematics. I assisted through the commissioning process and improved pressure and flow information (that was later used to calculate actual savings). After solution implementation, burst rates and supply interruptions decreased and the target leakage saving of 1 MI/day was achieved.
- I worked with the Environmental Team at [WATER COMPANY] liaising with farmers to encourage sustainable farming practices within the River [LOCATION] catchment which protected water quality within the river and associated raw water storage reservoir. Developing an abstraction management strategy was business critical to ensure metaldehyde, a difficult to treat pesticide, which although posing no danger to health or the environment,

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must not enter the reservoir at concentrations which breached EU drinking water standards. Working to reduce farmers use of metaldehyde by using alternative ferric phosphate and reducing soil erosion, for example through grass buffer strips, mitigated the potential for pesticides adsorbed on soil particles to runoff the fields to the water courses. In addition, I promoted further mitigation by producing an operating procedure for river abstraction to the reservoir. This monitored river flows, turbidity, metaldehyde and reservoir storage to ensure that abstraction avoided the first flush of metaldehyde through the system at the end of summer / start of autumn. During the second year of implementing my management strategy I worked with water quality to reduce the turnaround time for metaldehyde results from 4 days to 24 hours. This supported real time performance monitoring of the solution and stakeholder feedback on the positive reductions in metaldehyde resulting from catchment management and so ensure ongoing application of the strategy.

**Discussion Activity**

Discuss on the forum or with your peers at work:

- Identify a problem for which you have had responsibility to solve
- What steps did you take to plan your solution?
- How did you implement your solution? Can you break it down to bullet point actions for someone else to follow what you did if they had the same problem? What were the really key actions?
- How did you determine if you had a successful outcome? What did you measure to evidence this?
- Did you get it right first time? If not how did you know, and what did you change?
- Lessons have you learnt from unsuccessful problems

**Written activity**

This week...

- Spend 15 mins answering the 'key questions' discussed today
- Look at today's examples – take three highlighters and mark-up each example with where you can see evidence of **plan**, **implementing** and **monitoring** solutions.
- Prepare 5 bullet points for projects you have worked on in your career. Consider how your ability to plan and implement solutions. How was the continuing performance monitored?
- Now mark-up your evidence with the same three colours. Have you covered all three aspects of this competency?

**Related professional registrations**

While looking at B4 you may want to consider incorporating the following related professional regulations for Chartered Env/Eng/Sci.

- (CEng, B3) - Implement design solutions, and evaluate their effectiveness.
- (CEng, C1) - Plan for effective project implementation.
- (CSci, A2) - Use theoretical and practical methods in the analysis and solution of problems.
- (CSci, B1) - Plan and organise projects effectively.
- (CSci, B3) - Use effective influencing and negotiating skills.
- (CEnv, A3) - Analyse and evaluate problems from an environmental perspective, develop practical sustainable solutions and anticipate environmental trends to develop practical solutions.