
CONTINUING PROFESSIONAL DEVELOPMENT RECORD

Personal Professional Development

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Discipline: CPD

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1. Activity 1

1.1 Experience to date overview

Following on from studying a three-year degree course in Geography at Swansea University and achieving Upper Second-Class Honours, I pursued a Master's Degree in Environmental Dynamics and Climate Change and graduated in 2018. Subsequently, I was fortunate enough to be accepted onto Dŵr Cymru Welsh Water's (DCWW) Graduate Scheme. During the 2 years of the Graduate Scheme, I initially was placed in the Drinking Water Operations Department, where I was an Inspector in the Distribution section for 6 months. The role of inspector included investigating any water-related issues a customer may have and resolving these issues. Some of the issues included low pressure, discoloured water, no water and air in the system. As an inspector, it was also my responsibility to utilise water tankers to maintain supply into a district if an issue occurred and assist on emergency burst water mains or any planned work on the water network.

My second placement was in Hydraulic Modelling. This is where we used Hydraulic Models to test different areas of the water network to ascertain if areas are performing poorly and what can be done so that area can perform better. The model would be used during large water mains bursts to establish the wider impact of the burst on the network. Additionally, I would use the model if there were a new development site being built and I would test if the current network configuration is able to supply the new development with 'wholesome water'. This means supplying water with adequate pressure and flow, with no risk to quality. If there was a risk of any of these being compromised, I would use the model to investigate and establish the most feasible and cost-effective change to the network in order to supply the new development with wholesome water.

My third placement was in the Production Department, where I was the supervisor for 5 Water Treatment Works, responsible for ensuring water is treated effectively for hundreds of thousands of people and looking after assets costing millions of pounds and managing a team of 11. The role also involved ensuring that these Treatment Works continued to work effectively and if an issue arose, find the root cause and resolve it without impacting any supply. Some of these issues could only be resolved by shutting down the Treatment Works, which would require much planning. The planning of the work would include a procedure document, risk assessments and meetings with managers of different Treatment Works to increase the flow of their works to compensate for the shutdown of my own. This would also work vice versa.

My fourth placement was back in the Distribution Department as a Technician. The role included being a Site Supervisor during works on water mains that was larger than 8" or had a pressure over 16 bar and being the on-site Manager during large planned activities, where I would oversee the whole work, where water mains would need to be turned off and a water tanker used to maintain supplies elsewhere. This would also be the case during emergency events. I also reviewed RAMS (Risk Assessment Method Statements) and issued 'permits to work' if the RAMS were adequate for the task at hand. When not on site, I am an Analyst, analysing the water network and identifying resolutions for any issues that arise. When I am office-based, I also plan large on-site jobs and assess the potential risks, as I do with emergency work.

The Graduate Scheme has also provided training courses such as 'personal resilience' and 'project management' and the courses I have attended are detailed in the CPD log section below. The Graduate Scheme also included the Prince's Trust Million Makers Challenge, where DCWW's cohort of graduates were entered into a competition against graduates from different industries to raise as much money as possible for the Prince's Trust. In addition to carrying out our usual roles within the industry, we would meet up and organise charity events. The events we organised included an 'Open-event' 10KM trail run, an 'Open Mic' night, 5-a-side football tournament, undertook the Three Peaks Challenge, bucket collecting, bag packing and many more. We raised a total amount of £20,000 and subsequently won the Welsh Million Makers Challenge. Since completing the Graduate Scheme in September 2020, I have remained a Distribution Technician.

1.2 CPD Log

Date	Duration	Classification/Type	Objective	Learning / Outcome / Benefits	Reflection
15/11/18	1 Day	In-house training	Health, Safety, Environmental Awareness	Awareness of the dangers of on-site working and how to manage the risks on site.	Continuous 'catch-ups' and talks are required to ensure that all potential risks when working on site are remembered.
17/12/2018	1 Day	In-house training	Water Hygiene	Learned how to manage water supplies effectively and in the cleanest way. Also learned about water-borne diseases and the risks they pose, e.g. Legionnaires Disease.	Continuous 'catch ups' and talks are required to ensure that everyone maintains the practices that are taught on the course.
21/01/2019	1 Day	In-house conference	DCWW Innovation Event	Networked with colleagues in different departments and learned about the up-coming technologies that will be used.	Technologies that were presented are being utilised now and use them within my role. An example is a mapping tool where information on the mapping system is updated live. This helps establish areas being impacted during a large burst water main for example.

8/02/2019	1 Day	In-house training	Pressurised Pipelines	Recognise risks working with pressurised pipelines and how to manage and reduce these risks. Because of the training, I am now an appointed person who can issue a 'Certificate of Isolation' to contractors. A Certificate of Isolation is issued to the contractor allowing them to undertake work on a water main, stating that the main has been isolated and the stored energy has been approved. The appointed person is responsible for proving that the section of the main that the contractors wish to work on has been isolated.	Managing the risks and hazards working on pressurised pipelines is fundamental to the health and safety of the operators. The practices taught on the course need to be maintained at all times and nobody should ever attempt to take any shortcuts where health and safety of the operator can be compromised. Certificates of Isolation were difficult to construct at first, but got easier with practice. In addition, there is a specific method used to isolate water mains. As well as issuing Certificates Of Isolation, the method used also became easier with practice.
24/02/19	1 Day	Aberystwyth University Careers Fair	Presented and spoke about career opportunities at DCWW	Developed my presentational & communication skills.	Speaking to an audience without notes, I sometimes stutter and hesitate. Practice is needed to confidently present without notes.

11/03/2019	1 Day	Conference	Attended the Utility Week Live conference at Birmingham.	Networked with people from different water companies and learned about methods different water companies use to deal with issues.	Some of the methods discussed I have brought back to my company and reviewed with more senior colleagues.
9/04/2010	1 Day	Careers Event – Swansea University.	Presented to students at Swansea University about my experience on the DCWW Graduate Scheme.	Developed my presentational skills. Feel more confident public speaking.	Spoke better than the previous occasions and with more confidence. Practice still needed speaking in public.
08/05/2019	1 Day	In-house training	Management of Contractors	Learned about the rules and regulations for working with contractors and the Health and Safety regulations that are involved with water mains work. Because of Management of Contractors training, I am now an Appointed Person (AP) for issuing Permits to Work. Permits to Work are issued by an AP to the person in charge of work from the contractors and this allows them to undertake work on a water main. A permit to work is needed only on water mains that are 8 inches or larger, has pressure of 16 bar or over and near a petrol station or on a bridge. It is the responsibility of	I wish to continue to learn about managing contractors and issuing permits to work. Having on-site experience is important as it helps contractors accomplish the work. More experience on site also helps notice potential risks quicker and more effectively.

				the AP to review the RAMS supplied by the contracting party before issuing the permit to work.	
4/06/2019-7/06/2019	4 Days	External Training	Deltares 'Wanda' Training (Hydraulic Modelling)	I can now use a Hydraulic Model to investigate different aspects of the water network. This includes looking at areas that are performing poorly and finding the cause of this poor performance. The model gives information about flows, pressures, head losses and velocities. I have also used the model to support me during emergency incidents.	The more the model is used the easier it becomes to work it. However, if the model is not used for a while, it is easy to forget how to use it. I must re-use the model quite often to ensure that I remember how to use it correctly.
26/06/2019	2 Days	Conference	Attended the Institute of Water Young Careers Innovation Event - Edinburgh.	Networked with people from other water companies and discussed Climate Change and how we can manage our water resources with the impact on Climate Change increasing.	Learned about the growing challenges that Climate Change poses to the industry and reflected how these challenges can be met with the correct preparation.
10/07/19	1 hour	Million Makers Presentation	A 'pitch' to the Prince's Trust 'Dragons Den' for seed funding to be able to do the charity work	Developed my confidence in presenting and public speaking in front of important people.	Since doing pitch, my confidence when making presentations has improved greatly and I have learned how to present successfully without having

					notes in my hand.
18/07/2019	3 hours	Presentation	Presented my progress in the company to all Senior Managers and Head of Service of the Distribution Department.	Gained a lot of confidence presenting and reflected on my progress within the industry. Discussed points of improvement and how to develop further within the industry.	Having discussed my areas for improvement I have acted on this and accomplished what has been asked of me to develop further.
09/08/2019	1 Day	In-house training	Senior Authorised Person - Tankering	Became a 'senior person' for tankering which means I can assess other people on how they use tankers. Also, during major incidents I oversee the whole tanker operation if multiple water tankers are being used.	I have been the senior authorised person for tankering on a few occasions since the training. Overseeing people using the tankers in different areas to maintain water supplies to customers.
2/10/2019-3/10/2019	2 Days	In-house training	Confined Space Training	Able to enter a confined space safely, know the risks involved and how to manage them so it is safe to enter.	Following the confined space training, I have only entered a confined space on two occasions. Despite this, I am aware of all the dangers of a confined space and know how to manage the risk. I can also advise other people on what is needed to be done before entering a confined space and can pick up on mistakes other people make and stop them from

					entering until they have followed the correct procedure.
22/10/2019	1 Day	Institute Of Water (IOW) Conference	Organised, chaired and presented the Institute of Water Autumn Forum	Can talk in front of an audience with confidence. Developed my presentation skills further.	Organisational skills have improved since organising the IOW Autumn forum. Additionally, I have gained a lot of confidence when public speaking and when presenting in front of an audience.
20/01/2020	1 Day	In-house training	Knowledge Session: Mental Health Awareness	Became more aware of mental health issues and was taught how to manage my own mental health as well as my colleagues.	I am aware of what can impact on mental health personally and with colleagues. The course has also taught me the tell-tale signs of somebody is having trouble with their mental health.
April 2020	5 Days	Water Network testing for the field hospitals due to COVID-19.	Undertaking tests on the water network at field hospital locations to ensure their water supply is adequate.	Became more competent in undertaking water network assessments.	Gained experience testing the water network. This has benefitted me when undertaking further on-site work.
15/04/2020	1 Day	In-house training - Microsoft Teams	Project Management	Know the principles that are involved in project management and what is required for a project to be managed successfully.	I am yet to manage a project. However, I have managed many incidents and planned work on the water

					network. This includes burst water mains and water quality issues.
13/05/2020-14/05/2020	2 Day	In-house training - Microsoft Teams	Financial Awareness	Understand the financial concepts within the industry, such as CAPEX and OPEX, and how to best manage these.	Despite having undertaken this course, I am yet to do anything with finance, but I have an awareness of the financial processes behind each type of task on site.
30/06/2020	1 Day	In-house training - Microsoft Teams	Personal Resilience	Learned about methods of dealing with pressure when in difficult scenarios and how to become resilient in the workplace.	Since undertaking the course, I have been in difficult scenarios where there is pressure to resolve an issue as quickly as possible. I have used the techniques taught to overcome this pressure.
15/07/2020	1 Day	In-house training - Microsoft Teams	Role of the Leader.	Understand what is needed to become a good manager and how to be a better leader in the workplace.	When on standby, I am the manager and I guide the people who I manage and help them with issues on-site.
22/07/2020	1 Day	In-house training - Microsoft Teams	Presentational Skills	Was taught what makes a good power point presentation and what are the best ways of presenting it.	I have further developed my presentational skills as a result of the course.
September 2018-February 2019	6 Months	Graduate Scheme Prince's Trust Million Makers Charity Challenge.	Cohort of Graduates at DCWW from different departments	Became better at time management in balancing my day-to-day role	The challenge developed many different skills such as time

			attempt to raise £10,000 for the Prince's Trust. As a group we had to plan charity events, arrange what resources we needed and organise roles & responsibilities. We also needed to range extra help for the charity events if required. Charity events included 10KM trail run, 'Open Mic' night at Tiny Rebel, Three Peaks Challenge, online work bingo, 5-a-side football tournament and many more.	with the charity challenge. Also developed my communication skills and working as a team skill. I also learned what is required for a team to work effectively.	management, working as a team and thinking alternatively, which I now use in my role at work. It also pushed me to work proactively, having to do the work that is needed in my usual role whilst trying to arrange these events and reach our £10,000 target.
2019 – present.	Multiple occasions	Incident support.	Managing people and the water network, to keep everyone supplied with water during emergency incidents.	Gained valuable experience during operational incidents and become better in incident and people management.	I continue to use what I have learned from these experiences on an on-going basis, when incidents occur.
7/09/20-11/09/20 and 14/09/20-15/09/20	7 days (49 hours).	In- house training,	DCWW Distribution Technician Competency course.	Course provided training on how to analyse the water network and plan work effectively. It provided training on how to see the risks on the water network such as risks that can compromise water quality and can impact on supplying areas of the water network with adequate pressure and	Since attending the course, I am more aware of the risks associated with working on the water network. I am also more familiar with the methods used to resolve these potential issues. When issues arise on the water network, I use

				flow. The training included discussions on the different methods to resolve these issues. The course also provided training in hydraulics and flow dynamics.	the handbook provided from the training to decide which method is best to resolve that issue. I have also learned more about fluid dynamics and hydraulics and am aware of the equations required if needed to calculate something specific. An example of this would be calculating the velocity of the water in the main by knowing the pipe length, pipe diameter and amount of flow.
21/10/2020	1 Day	Online Careers event Swansea University	Presented to students at Swansea University about my experience on the Dwr Cymru Welsh Water Graduate Scheme.	Developed my public speaking skills.	A different experience talking online as opposed to in person, but still developed my confidence in speaking publicly.
Every Tuesday for 4 hours.	48 hours from September to January	Managing Health, Safety, Welfare and Risk in Construction lectures. HNC Civil Engineering.	Attended all lectures in the Managing Health, Safety, Welfare and Risk in Construction module	Understand why there is legislation and regulations with Health and Safety in construction and the importance of this.	The lectures have allowed me to put what I have learnt in theory into practice when working with contractors on site when undertaking work on water mains. This includes being risk averse and having a better understanding

					of unsafe working practices and the implications of unsafe work practices.
Multiple days	152 hours	Independent learning for Managing Health, Safety, Welfare and Risk in Construction Module. HNC Civil Engineering.	Understanding Health and Safety Legislation for different tasks and its purpose.	Read many different regulations with different tasks on site in the construction industry. Understand why these regulations have been created and know what makes a site unsafe and what practices are unsafe. I have also learned how potential risks can be mitigated and made less risky by implementing safety controls. I have also learned what information is required for RAMS and a Construction Phase Plan.	As above but by independent reading of different regulations via the HSE website.
Every Tuesday for 3 hours	48 hours Sep 2020- Jan 2021	Construction Technology lectures, HNC Civil Engineering.	Attended all lectures in the construction technology module.	Learned about what is required for a successful sub and super structure construction such as a ground investigation for sub-structure and adhering to the Building Regulations for Super-structure construction for example. Also developed an understanding of the principles that are involved with the different types of stresses	The causes of subsidence and excavation collapse has made me more aware of the potential risks of water mains work. I am now more risk observant and aware of how to mitigate the risks of excavation. I now ask contractors to put into practice what I have learned

				and the causes of subsidence and excavation collapse	in lectures in relation to excavation collapse.
Multiple days	152 hours	Independent learning for Construction Technology Module, HNC Civil Engineering.	Understanding the principles of the work that is involved with Sub-structure construction and Super-structure construction.	As above but aided by reading 'Construction Technology 1: House Construction', building regulations and geotechnical articles.	As above but the reading has provided extra information relating to the above.

1.3 Development Plan

As I have recently finished a graduate management scheme, I wish to develop further and into a management role within the Distribution Department in the next year. Once I have settled into this role and have become more competent, I wish to advance onto a more senior management role. The senior manager role may not occur in the next three years, as it takes approximately 5 years to be deemed as fully competent in their role according to Welsh Water. I am still a Technician and haven't reached the management level yet, and so the proposal of a senior manager in the next three years is unlikely. However, I wish to become a competent supervisor within the 3-year period and to achieve this, a series of targets will need to be met. These targets have been categorised into five categories which are Health and Safety, Performance, Cost, Compliance and People and are detailed as:

Health and Safety.

1. Participate in monthly Health, Safety and Wellbeing stand down sessions.
2. Regular Safety Conversations with colleagues and/or contractors during the year and recorded in Assure. 1 per month.
3. Zero avoidable RIDDOR or Lost Time Injury accidents for any DCWW colleague within the Eastern Distribution Team.
4. All accidents and incidents reported in line with 'Rule of 2' – reporting a near miss, accident or injury within 2 hours of it occurring.
5. Ensure any LTI investigations within Eastern Distribution are completed on time and to acceptable quality.
6. Support the Performance Manager in developing an 'area based' Health and Safety improvement plan to cover, but not limited to; Improvement in Hazard Awareness and Perception, Accident Reporting, Outdoor Working, Lone Working, Winter Preparedness and Streetworks.
7. Ensure that Unit Assessment achieves its monthly and annual targets and all data is of an auditable standard.
8. Ensure TAF (Task Assessment Forms) forms utilised in line with guidance.
9. Complete all COI/PTW issuing in line with HSP119 (Health and Safety Procedure) and HSP124.
10. Ensure vehicle is clean, tidy and daily checks are carried out and recorded.
11. Ensure tools and equipment are fit for purpose.
12. Use Lone Working equipment in line with company policy.
13. Complete Manual Handling activities in line with training.

14. Ensure WTD (Working Time Directive) remains within 48-hour target.

Performance.

1. Demonstrate positive behaviours toward customer service improvement.
2. Meet Annual Customer Minutes Lost performance target (company target: 8 minutes).
3. Support the team in delivering its Customer Acceptability Targets, mainly through ensuring no customer acceptability calls following planned work.
4. Assist the team in achieving its C-MEX targets, contributing on standby and working closely with the customer service element when required.
5. No DG7 directly attributable to planned operation or due to direct reports.
6. Support Leakage Delivery in meeting the DMA (District Metred Area) Leakage Target for 2019/20 in Eastern.
7. Complete all Network Activities within SLA (Service Level Agreement) & in line with PN Procedures (appropriate use of PNF121 / PNF122, alternative supplies etc).
8. Complete all oversized meter replacements within 30-day SLA.
9. Achieve DG2 target by year end. This is an indicator which focusses on the number of properties at risk of experiencing water pressure below the standard of 15 metres/head.
10. Support the delivery of Zonal Study delivery.
11. Completion of all Planned Maintenance activities.

Cost.

1. Work with Distribution Manager, Performance Manager and Supervisor to deliver against Opex (operational expenditure) and Capex (capital expenditure) budget provisions in Eastern for 2020/21.
2. Be mindful of opportunities to create headroom to absorb any upward cost pressures throughout the year, by detailed planning and execution of activities to meet budget.
3. Ensure overtime signed off in compliance with procedures.
4. Ensure Planned Work Time managed within 260 wherever possible.
5. Ensure best practice/most efficient approach on selection of R&M (Repair and Maintenance) job types.
6. Ensure Time-Charging undertaken weekly for you and each member of your team.

Compliance.

1. Delivery of all procurement activities as per IMS (Incident Management Strategy) procedures.
2. Ensure that all Distribution Activities undertaken are as per the specific PN, PW or Water Quality procedure.
3. Ensure that the Performance Management Review process is completed on schedule, a minimum of 1 every 2 months.
4. Achieve completion of all filters and flushes within a 12-week period.

5. Assist the unit with passing all audit exercises where appropriate.

People

1. Participate in monthly team briefs to improve information and engagement.
2. Ensure that all DCWW colleagues demonstrate the behaviours stated in 'DCWW Behaviours Framework'.
3. Work with the Eastern Engagement Champions to promote positive employee engagement within the team.

As well as achieving the targets above. I wish to continue to become more competent in accomplishing tasks on site. This includes becoming more vigilant for arising risks when working with contractors on water mains. I wish to understand the complexities of the water network better and become more confident when dealing with reactive incidents. I also wish to improve my understanding of hydraulics and fluid dynamics, which I believe I will gain with experience. With the teaching I have received from the University, I hope to apply this knowledge further in the workplace and become more competent in knowing the risks of the work involved in the water mains industry and develop a better knowledge of the Health and Safety legislation and regulations that are involved with working in this sector of the industry.

2. Activity 2

2.1 Experience and Learning to date

During my professional career I have had many learning opportunities which have enabled me to develop my skills and become more competent within my role. When I first began my graduate scheme at DCWW, I spent most of my time shadowing other Inspectors and took note of how they accomplished different tasks. These would-be tasks such as investigating a problem with a customer's water supply, which could be attributed to a range of causes. When I was also shadowing as an Inspector, I was first introduced to Hydraulics, where the water network would be assessed to see what flows and pressures were required in each area to supply customers. This would also be assessed during a tanker operation, where I was taught how to calculate the elevations (Above Ordnance Datum) of the area in order to work out what the delivery pressure would be to ensure customers get adequate supply of water when tankering. Shadowing the more experienced Inspectors gave a good insight into the best practices in resolving the issues on the water network and maintaining supply in the best possible manner. However, much of this work was not accomplished by myself and I would have learned more had I undertaken these tasks independently as opposed to observing someone.

During my placement at Hydraulic Modelling, I was exposed to more hydraulic concepts such as head losses and velocities. I also learned about the principles of water pipes such as pipe roughness and corrosion, which can make the orifice of the pipe smaller, increasing head loss. As well as this, I was introduced to a range of principles in fluid dynamics, such as the range of equations such as the Darcy Weisbach equation. My experience in fluid dynamics is limited, needs improvement and I would consider this to be one of my weaknesses. This has not been covered yet in the HNC course but will be in my later studies and will assist my understanding and help me improve when working with equations related to fluid dynamics.

During my fourth placement and full-time role as a Technician, I work closely with contractors who undertake water mains work and repairs. When in the office, I analyse the potential risks that are related to the activity

that needs to be undertaken, such as how much pressure is in the main and the size of the main, or is the work in proximity to a larger main or if the work required is a large task and requires a shut-down. I will analyse the water network where the work will take place and calculate how we can keep everyone in supply when doing the work. This also requires a calculation of hydraulics such as flows and pressures. Despite needing more experience in flow dynamics, I would consider my analysing skills of the potential risks on the water network to be good. When on site, the contracting party produces maps of other utilities and risks on site. The contractors also produce the RAMS for the work. When a 'Pemit to work' is required (this is when the water main is either 8" or more in size, has 16" bar pressure or in proximity to a main with these, on a bridge or near a petrol station or a large water asset), I will stay on site with the contractors and oversee the work, observing any potential risks that arise when excavating the main or undertaking any work in that area. Whilst at University, I have been taught in more detail of the risks that are involved with ground works. This includes the causes and risks of excavation collapse and ground subsidence and the risks of getting into contact with hazardous substances that are present in the ground. My time at University has allowed me to understand how the risks can be managed effectively and I am actively ensuring that the contracting party makes the excavation as safe as possible, by ensuring they carry out what I have learned. This includes ensuring that all spoil from the excavation is put at least 2 metres away from the excavation location for example. Because of the Health and Safety lectures and reading the documents provided by the Health and Safety executive, I understand what is required for different types of work and who is responsible for ensuring all safety measures are being implemented. This includes knowing the legal safety precautions and regulations required when completing a specific task, such as COSHH, which requires precautions to be implemented such as the hierarchy of hazard control and the use of control measures, for example making sure there is enough air flow and oxygen in a confined space. If these regulations are not followed, I understand what the implications could be. Because of this, I have improved noticing unsafe practices that can increase the risk of the work and know how to mitigate the risk. I would now consider myself as being very observant and risk averse, which I would consequently consider as one of my strengths when out on site.

When issuing a 'permit to work' I receive RAMS to review prior to issuing the permit. Before starting University, I knew what RAMS were for, but I knew little about why we use them in the construction industry or their importance. Since having the lectures on these and having created them myself, I now understand what is required to create suitable RAMS and their importance. When receiving RAMS now, I review them more thoroughly and if I am unhappy with them, I will ask contractors to add the information required prior to the work starting. Most of the time however, the RAMS are specific for the tasks at hand and contain all the information required. On larger schemes where there is a Construction Phase Plan, I have also reviewed these and understand what information is required for a satisfactory Construction Phase Plan. With work that requires a Construction Phase Plan, there is a specific Health and Safety File on site. Because of the teaching at University, I also have a good insight of the information required to be put in the site Health and Safety file and I have looked at these when attending these larger schemes. When looking at the file, I understand why the information is there and what information should be there, due to my experience at University.