

Technical Apprenticeship Scheme Handbook



Horizon Nuclear Power Technical Apprenticeship Scheme







DYFOBOL
Ysbrydoli cymeddiacth

Message from CEO, Duncan Hawthorne

From: Greenock, Scotland

Interests: Golf, Gym, Running

Future goals: Learn to play the piano and guitar



Apprenticeships are crucial to the success of our industry, as our CEO explains.

Having left school at the age of 16, I joined South of Scotland Electricity Board as an apprentice. This was my first experience of the working world and it gave me the opportunity to get to grips with the practical engineering skills that have formed the foundation of my whole career to date. Those four years weren't only challenging and exciting in equal measure, but they allowed me to form some important life-long friendships.

After completing my apprenticeship, I was awarded a scholarship to study Control Engineering at Strathclyde University and this set in motion my desire to strive for excellence. Following my degree, each time I progressed into a new position I wanted to achieve more and focussed on the skills and experience I needed to gain to achieve that. Throughout my career, I've held many job roles as a result, from working on the plant floor to being a senior engineer, and gained vital qualifications along the way. Today, I'm a Chartered Engineer at the Institution of Electrical and Electronic Engineers (IIEEE) and with the Institution of Mechanical Engineers (IMechE), and these experiences – and a network of supportive, positive people – helped me progress to CEO at Horizon Nuclear Power.

But I wouldn't be here today if it wasn't for those first four years as an apprentice.

I joined Horizon because I want to help usher in the next era of nuclear new build here in the UK. The nuclear industry has huge potential, not only to provide vital low-carbon energy, but also to create skill and supply chain opportunities for people and businesses across the country. In order to do this, we need to start now and we need to ensure there's a solid foundation of skilled individuals in place to deliver on our promise to build and operate Wylfa Newydd and Oldbury.

The apprenticeship scheme at Horizon gives you the opportunity to learn the skills necessary to not only progress within Horizon, but help shape the future of nuclear new build in the UK. Through the scheme, we'll provide you with the training and support structure necessary to get to grips with Horizon and the wider industry, putting your skills into practice while testing yourself against your counterparts. In short, we'll give you what you need to be a success and would love you to join us.



Duncan Hawthorne
Chief Executive Officer Horizon Nuclear Power



Wylfa Newydd

Oldbury

Horizon
Head Office

About Horizon

Our mission is to build a new, leading, UK nuclear utility company, successfully developing, constructing and operating the UK Advanced Boiling Water Reactor at Wylfa Newydd on Anglesey, and Oldbury-on-Severn in South Gloucestershire.

We plan to provide at least 5,400MW of new power station capacity to the UK, enough to power around 10 million homes. Our projects will create up to 850 permanent jobs at each of our sites on Anglesey and Oldbury. This investment will boost the country's low carbon power supplies and help develop local skills and new prospects for British suppliers.

The Scheme

If you're looking to be part of something truly special, then our Technical Apprenticeship Scheme could be for you.

The building and operation of Wylfa Newydd is one of Europe's largest and most exciting energy projects, requiring a variety of people with the right skills for its success. In growing our current team on Anglesey, we want to support the next generation of workers by offering a range of training opportunities through our Technical Apprenticeship Scheme.

Our scheme offers valuable experience and will help to kick-start your career in the nuclear energy sector. It offers training and hands-on experience as well as a chance to develop skills and knowledge across a wide range of technical areas.

We'll be working closely with Grŵp Llandrillo Menai at its Coleg Menai sites in Bangor and Llangefni to successfully provide this high quality Technical Apprenticeship Scheme, using its experience in providing skills and training across North Wales.

The Technical Apprenticeship Scheme



Our Technical Apprenticeship Scheme is a three-year programme which covers four engineering disciplines. These are:

- Mechanical
- Electrical
- Control and Instrumentation
- Electronics and Programming.

In the first year, you'll cover all four areas, but once you've progressed from a Level 2 qualification, Level 3 allows you to specialise in one of the four disciplines. The scheme will also help you develop the behaviours essential to Horizon Nuclear Power and your future career.

What can you expect from an Apprenticeship with Horizon?

You can expect to develop an understanding of the core technical and practical engineering skills needed to build, operate and maintain Wylfa Newydd, gaining relevant qualifications and accreditations in-line with the National Occupancy Standards. It will also give you access to one of the most exciting projects in the UK, and the opportunity to be mentored by some of the industry's leading figures.



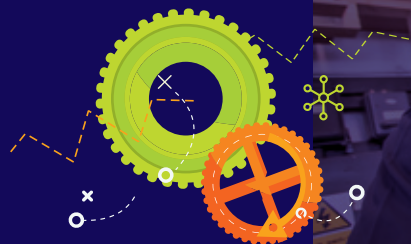
What we're looking for

- Obtained or predicted to obtain five GCSEs (or equivalent) at grades A*-C, to include Maths, English and Science (Double Science is a minimum requirement)
- Motivated to learn and develop new skills
- Show an interest in practical projects through personal hobbies, your path of education or simply fixing a practical engineering problem
- The ability to pass security vetting and other pre-employment checks
- We welcome applications from Welsh speakers.

Benefits

- The salary is highly competitive and if you perform well each year, you can expect an annual pay rise
- You will have the same flexible benefits as other employees at Horizon. This includes 26 days holiday each year and a number of retail and lifestyle discounts
- We are flexible in when you take holidays, however we encourage you to book holidays at times which will not affect your college classes.

The Technical Apprenticeship Scheme



Apprenticeship Overview

You will be in college five days a week, between 9am and 5.30pm. These hours are similar to that of all employees at Horizon Nuclear Power. You will have a mixture of classroom theory lessons and practical work in the workshop where you can put your theory into practice.

Each year you will be involved in design, build and commission projects while at college. These will be set by Horizon to cover specific learning areas or as part of team challenges set by external organisations.

As part of your development, a number of visits will be arranged to relevant facilities to give you a practical understanding of the world of work and to our Wylfa Newydd and Gloucester offices to maintain frequent contact with the wider team.



Year 1 Overview and Topics Covered

- You will be based at Coleg Menai
- Before you begin your apprenticeship scheme, Horizon Nuclear Power will organise opportunities for you to get to know one another through team building exercises and/or informal meet ups.

Topics Covered in Year 1

- Level 2 City and Guilds 2850 Engineering Diploma
- Level 2 City and Guilds Performing Engineering Operations
- Level 2 Essential Skills in Communication, Application of Number and Information Technology
- You will work to develop interpersonal skills and behaviours which will be invaluable to you in your career
- You will also be involved in activities and courses specific to you as an apprentice which includes team building, Human Performance Training and understanding the Nuclear Fuel Cycle
- By the end of Year 1 it is expected that you will have gained basic engineering knowledge and everyday skills to help you in and outside the industry.

Year 2 and Year 3 Overview

- In your second and third year your home base will continue to be at Coleg Menai. In year three you could also be on site.

Topics Covered in Year 2 & 3

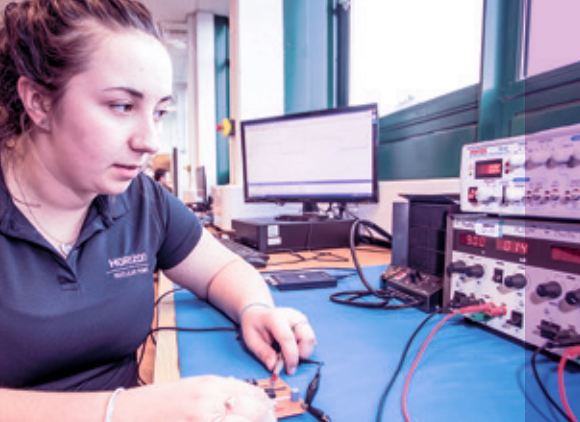
- Year 2: Level 3 Pearson BTEC Extended Diploma in Engineering
- Year 3: Level 3 NVQ Diploma in Engineering Maintenance
- During this time you will be able to specialise in one of the four engineering maintenance fields
- By the end of Year 2, you will have expected to achieve a BTEC Level 3 Diploma and an NVQ Level 3 and Level 3 Apprentice Framework.

The table on the next page provides an overview of the skills learnt during each qualification.

The Technical Apprenticeship Scheme



Topic	Skills Obtained
Year 1	
Level 2: Diploma in Engineering IVQ – Maintenance Technology (Technical Certificate underpinning knowledge)	<ul style="list-style-type: none"> • Principles of engineering and maintenance technology • Assembling and maintaining fluid power systems • Maintenance of mechanical devices and equipment • Maintaining electrical wiring support systems • Maintaining electrical equipment and systems • Constructing, testing and fault finding electronic circuits • Principles of electrical and electronics technology.
Level 2: Performing Engineering Operations (NVQ PEO Practical Application)	<ul style="list-style-type: none"> • Work safely in an engineering environment • Carry out engineering activities efficiently and effectively • Using and communicating technical information • Assemble, test and maintain pipework systems and fluid power systems • Maintain mechanical devices and equipment • Wire, test and maintain electrical equipment, circuits, electrical panels and components mounted in enclosures • Maintain electronic equipment/systems • Produce engineering project plans.
Level 2: Essential Skills in Communication, Application of Number and Information Technology	<ul style="list-style-type: none"> • Being concise in giving instructions to minimise errors in technical situations • Using correct terminology in technical documentation • Applying mathematical theories to real world applications • Using information technology to design, document, analyse and record engineering related activities.
Year 2	
Level 3: Pearson BTEC Extended Diploma in Engineering	<ul style="list-style-type: none"> • Industrial Process Control • Three Phase Machines • Mechanical Maintenance Principles.
Year 3	
Level 3: 1788 NVQ Diploma in Engineering Maintenance	<ul style="list-style-type: none"> • Requires practical workplace experience to build up competence in doing specific jobs that are relevant to your chosen field • Trained in how to perform a task by an experienced person then allowed to practice before being assessed doing the task independently • Calibrating a pressure sensor on a piece of equipment • Replacing a gasket on a compressor unit • Testing the control circuit for a 3 phase motor.



Work Placements

During your apprenticeship there will be periods of work placement. Horizon Nuclear Power will organise these with suitable industry partners.

The experiences you will receive while on placement will allow you to collect evidence towards your NVQ qualification. It is very important to Horizon that you not only have the skills to carry out a task from an engineering point of view but that you are also familiar with working in a nuclear environment and understand the special considerations that must be applied in this unique environment.

Future Opportunities

At the end of the scheme, we want you to have all the knowledge and practical skills as well as an excellent engineering grounding to start your career in a positive and inspiring direction.

By completing your apprenticeship you will be eligible to work in Maintenance, Technical and Safety Support or Operations, or you may choose to pursue further study, with further development available depending on your ambitions. You could also become a future leader at our power station or branch out to different areas of the business.

Our Current Apprentices



Name: Kieron

Age: 17

From: Llangefni, Anglesey

Interests: Football and the outdoors

What drew you to the Technical Apprenticeship Scheme?

What drew me to the Horizon apprenticeship is how local the company is to where I live. It is a company with big aspirations and so much enthusiasm behind it, this is definitely something to get you motivated and to keep on going. I have always had a keen interest in engineering and when I saw that Horizon was looking for technical apprentices, I jumped at the chance.

What does a day in your life look like?

We're in college five days a week, usually working from 9am-5pm Monday to Thursday and finish a little earlier on Friday. Practical work goes along with our theory work, such as learning the physics behind electronics and then going ahead and building an actual working circuit. Computer work is essential for us as our assignments are uploaded to our own E-portfolio and we often need to do some research online.

How did Horizon help you to get to know the other apprentices?

A few days had been organised before we started the scheme to meet up and get to know each other; almost two months into the course we're firm friends. Team building exercises have also been organised for the future to help us get to know each other better and continue to build trust.

How do you travel to the college? How has Horizon helped you regarding your travel?

I travel to college by car. I recently passed my test and one of the benefits of working for Horizon is the advanced driving course they offer to help further our driving skills.



Name: Luke

Age: 17

From: Llannerch-y-medd, Anglesey

Interests: Football, playing video games,
listening to music and going out with friends



What drew you to the Technical Apprenticeship Scheme?

What drew me to the apprenticeship scheme was how local it is and how big it is. My Dad has been working at the existing Wylfa Power Station since he was 17 and started off as an apprentice, and he's been my inspiration. Through his encouragement, I've wanted to work in the industry since childhood, so this is my ideal job.

What have you enjoyed doing most on the scheme so far?

The main aspects I've enjoyed are the lessons, making new friends and working together as a group in various tasks.

How much support do you get from the Horizon team? Are they easy to approach and contact when you need it?

Yes, Horizon provides a lot of support and we meet the team regularly – which will increase as the course progresses.

Our Current Apprentices



Name: Nia

Age: 17

From: Dolgellau, Gwynedd

Interests: Playing the harp and piano, rallying and crafts

What have you enjoyed doing most on the scheme so far?

I have enjoyed learning new skills, I have a passion for engineering and finally being able to put this passion into use has been amazing. I have also enjoyed getting to know everybody on the course, everybody gets along well; we're like a little family.

What are your thoughts and feelings on the importance of the new nuclear power station at Wylfa Newydd?

It's important as it is something that will bring opportunities to the local area. For me, it is an exciting time. I'll get to see the power station through all the stages of development, and will get to work there.

Did you need to relocate? How did you find moving/relocating?

I had to relocate as I live 50 miles from Bangor. This was hard to do, but it is something I was willing to do for this opportunity. I encourage people not to worry about relocation, and you'll get plenty of support from the team.

How do you think the Technical Apprenticeship Scheme has changed you?

While on the apprentice scheme I've had to take on more responsibilities, this is because I have to live more independently. Safety is a huge part of what we learn as apprentices, it is emphasised in everything we do. Understanding about my own safety as well as others has made me more aware of hazards around us, I would not have done this before but now I am more conscious of my environment. I believe as an apprentice this is one of the major areas where if we change our behaviour to safety it can have a positive effect on the work we do in the future.



Name: Justin

Age: 16

From: Llanberis, Gwynedd

Interests: The outdoors, climbing, mountain biking, hiking and racing Motocross

What drew you to the Technical Apprenticeship Scheme?

Since a young age I knew that I wanted to be an engineer, and Horizon have many engineering opportunities on offer. The apprenticeship scheme was perfect for me as it was available for people that came straight from GCSEs. It is also an exciting project – how could I say no!

What are your thoughts and feelings on the importance of the new nuclear power station at Wylfa Newydd?

With the decommissioning of the old Wylfa and modern demand for electricity, Wylfa Newydd will be of great importance for Britain. It's also important to the local area, providing new job and skill opportunities, so I'm keen to play my part to make it happen.

What does a day in your life look like?

I attend the Coleg Menai Bangor site five days a week working full time. An average day will involve a theory lesson – a mix of traditional teaching and research – and a practical lesson in the afternoon. They're roughly equal in terms of demand on time, and offer a great mix of learning and application.

Many of the apprentices get involved in extra-curricular activities within Horizon such as visiting schools and colleges to speak to prospective apprentices and their parents about the scheme. A few of the apprentices enjoy the outdoors and have organised hiking trips and other activities.



What to do next?

Register your interest in the Technical Apprenticeship Scheme by contacting the careers team at careers@horizonnuclearpower.com or call our Freephone Wylfa Newydd information line on **0800 954 9516**.

Recruitment Process

1. Firstly head to the Horizon website – www.horizonnuclearpower.com, click on **Careers** then **Technical Apprenticeship Scheme**, and then apply online. You will then need to do the following:

- Fill in the online application form
- Upload a CV
- Upload a cover letter.

2. If your online application is successful you will then have a 15-20 minute telephone interview.

3. Following a successful telephone interview you will then be invited to an assessment centre which is about half a day (4 hours). Activities that will take place on the day are:

- Icebreaker
- Formal interview
- Technical assessment which could be a maths and/or science assessment
- Group activity.

4. If successful you will be offered an apprenticeship before the end of May to start the scheme in September of that year.

We look forward to receiving your application and good luck!



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