

**NUCLEAR
INDUSTRY**

Cogent Standards and Qualifications Prospectus



Essential information
on qualifications,
standards,
apprenticeships and
awarding bodies



*Skills for Science
Based Industries*

Introduction

This Prospectus lists all the standards and qualifications which are underpinned by the National Occupational Standards (NOS) managed by Cogent or are of relevance to the nuclear industry.

The National Skills Academy for Nuclear is establishing a network of high quality providers through which these standards and qualifications are being delivered.

www.nuclear.nsacademy.co.uk/providers

The employer-led National Skills Academy for Nuclear was set up to ensure the UK nuclear industry and its supply chain has the skilled, competent and safe workforce it needs.

Nuclear Job Contexts

Nuclear Job Contexts are families of nuclear industry standard job roles that have been developed by Cogent in consultation with the nuclear industry. They are organised around four skills areas and associated training and qualifications:

- **Technical**
- **Business Improvement**
- **Compliance**
- **Functional and Behavioural**

Each Job Context sets out the competencies, qualifications and training standards that will provide a route to securing skills across each of the above areas.

Job Contexts developed to date are:

- **Nuclear Decommissioning**
- **Radiation Protection**
- **Nuclear Process Operations**
- **Nuclear Maintenance (Mechanical, Electrical or Control and Instrumentation)**

In development are Safety Case Specialists, Construction and Project Management.



“Through its partnering approach with the nuclear sector Cogent has developed world class standards for the industry. These employer endorsed Job Contexts will provide the platform for developing solutions to ensure industry-wide standards meet the needs of the sector.”

John Male, Head of Learning, Organisation & Capability Development, AMEC Power and Process Division

A full list of all the job roles can be found at www.cogent-ssc.com/industry/nuclear



“Foundation Degrees will be of particular importance in attracting new talent into the industry. They will also be of benefit in re-skilling the existing workforce, especially to respond to the new skills needs of Decommissioning and New Build. Funding and support to get a coordinated approach across the Cogent footprint is essential.”

Alan Coley,
Head of Engineering and Project Management at VT Nuclear Group

Job Roles	
Nuclear Decommissioning	
Nuclear Decommissioning Operative	Level 2
Nuclear Decommissioning Team Leader	Level 3
Nuclear Decommissioning Site Engineer	Level 4
Radiation Protection	
Health Physics Monitor	Level 2
Radiation Protection Supervisor/Team Leader	Level 3
Health Physicist	Level 4
Nuclear Process Operations	
Nuclear Process Operator	Level 2
Nuclear Process Operations Senior Operator	Level 3
Nuclear Process Operations Team Leader	Level 3
Nuclear Process Operations Engineer	Level 4
Nuclear Maintenance (Mechanical, Electrical or Control and Instrumentation)	
Nuclear Maintenance Fitter	Level 2
Nuclear Maintenance Technician	Level 3
Nuclear Maintenance Team Leader	Level 3
Nuclear Maintenance Senior Engineer	Level 4
Nuclear Maintenance Project Engineer	Level 4

An extract from an example job role from the Radiation Protection Job Context

Role Level 4 Health Physicist

Skill area	Knowledge and behaviours	Qualifications and training standards
Technical Competence	<ul style="list-style-type: none"> Deliver a radiation protection monitoring service to defined standards Identify and quantify radiation hazards and supervise radiation protection monitoring activities Conduct radiation protection monitoring Respond to changes in radiological conditions Deliver radiation protection training 	Relevant Honours or Foundation Degree. Training Standards in: <ul style="list-style-type: none"> Radiological Protection UK Legislation/International Recommendations Protection against External Radiation Sources Protection against Internal Radiation Sources
Business Improvement	<ul style="list-style-type: none"> Understand the theory, principles and practice associated with a variety of appropriate business improvement techniques Solve process problems using business improvement techniques 	<i>Optional</i> Level 2 Diploma in Business Improvement
Compliance	<ul style="list-style-type: none"> Safety, security expectations on nuclear sites Principles and implications of radiation hazards Procedures for radioactive discharge, waste, environmental control, and emergencies Safety management systems e.g. Permit to Work, SOPs and Risk Assessments Company policy, legislation and regulation 	<ul style="list-style-type: none"> Basic Common Induction Standard Basic NI Behavioural training Basic NI Context Training Standard Managing Safely Training Standard
Functional and behavioural	<ul style="list-style-type: none"> Team working and personal development Develop and implement operational plans Take responsibility for completing tasks and procedures Communicate complex information Coach others 	<i>Optional</i> Level 3 ILM Award in First Line Management

Higher Education (HE)

Foundation Degrees

Foundation Degrees are degree level qualifications which combine academic study with workplace learning. They are available in England, Wales and Northern Ireland. Equivalent qualifications in Scotland are called Higher National Certificates (HNCs) and Higher National Diplomas (HNDs).

With Cogent's guidance employers and the Skills Academy are shaping vocational foundation degrees to suit the nuclear sector's needs. Cogent's ground-breaking collaborative project Working Higher is developing a Framework for Foundation Degrees in Science and Engineering. It includes the **FdEng Nuclear**, to be delivered by the University of Central Lancashire. The new Foundation Degrees are being designed to be a solution to workforce development needs by creating flexible, work-based provision. Additionally there are a range of existing FDs covering engineering and technology of relevance of the Cogent Sector and endorsed by the National Skills Academy for Nuclear, which can be accessed via www.ucas.ac.uk.

These include:

- FdSc Nuclear Related Technology (Science & Process); Nuclear Related Technology (Instrumentation & Control); Nuclear Related Technology (Commissioning & Maintenance), FT/PT, delivered by GENII, validated by UCLan
- FdSc Nuclear Decommissioning, delivered by Lakes College (in partnership with GENII) and Bridgewater College and validated by UCLan, PT 3 years
- FdSc HVAC Energy Engineering, delivered at Westlakes Campus and validated by UCLan, FT 2 years
- FdEng Engineering (Nuclear), Hartlepool FE College and Blackpool and Fylde FE College and validated by UCLan, P/T

For further guidance on FDs contact Cogent's HE Curriculum Manager, Pauline Maden.

pauline.maden@kogent-ssc.com

The Certificate of Nuclear Professionalism

The Certificate of Nuclear Professionalism is a flexible post graduate qualification supporting continued professional development of the nuclear industry workforce. It is being developed and managed by the National Skills Academy for Nuclear through an employer steering group and designed in partnership with the Open University, with input from Cogent's Higher Education team. The Certificate will incorporate training modules delivered through employer accredited training/learning, distance learning and taught lessons which will be incorporated onto the Nuclear Skills Passport with professional recognition through the Nuclear Institute.

www.nuclear.nsacademy.co.uk/products-and-services

Apprenticeship Frameworks

Cogent is developing Apprenticeship Frameworks that meet employer needs and which are rigorously quality assured. Cogent works with employers to ensure that Apprenticeship Frameworks are fit-for-purpose and up-to-date. For example, Cogent is currently developing a new Nuclear Electricity Generating Operator Apprenticeship Framework.

Apprenticeship Frameworks are available in the four UK home nations, but they do not always have the same name. In Wales an Apprenticeship at Level 2 is called a Foundation Modern Apprenticeship. In England it is called an Apprenticeship. In Wales and Scotland a Level 3 Apprenticeship is called a Modern Apprenticeship and in England it is called an Advanced Apprenticeship.

HE courses

There are a number of nuclear HE courses including a variety of modules on Honours degree courses and MScs, many of which are available as part of an HE qualification or as Continuing Professional Development (CPD) modules. These can be found at:

www.nuclearliaison.com

Apprenticeship Frameworks	Level
Cogent Apprenticeship Frameworks	
Apprenticeship for Laboratory Technicians in Manufacturing, Processes and Education	Level 2
Apprenticeship in Specialized Process Operations (Nuclear Options). 3 Pathways: Nuclear Processing Nuclear Decommissioning Radiation Protection	Level 2
Advanced Apprenticeship in Nuclear Decommissioning	Level 3
Advanced Apprenticeship for Laboratory Technicians in Manufacturing, Processes and Education	Level 3
Semta Apprenticeship Frameworks	
Apprenticeship in Engineering	Level 2
Advanced Apprenticeship in Engineering	Level 3
ECITB Apprenticeship Frameworks	
Apprenticeship in Engineering Construction	Level 2
Advanced Apprenticeship in Engineering Construction	Level 3



“We are committed to supporting the development of young people in our operational and decommissioning phases through the Cogent Apprenticeship Framework. We also see this as a major opportunity to develop the industry’s future skills base.”

Lesley Bowen, Head of Education and Training & Development at Sellafield Ltd

Nuclear industry qualifications

The following qualifications have been developed by Cogent in consultation with the National Skills Academy for Nuclear or are of relevance to the nuclear industry.

Technical Competence	Level 2	Level 3	Level 4
Diploma in Nuclear Decommissioning	✓	✓	
Diploma in Radiation Protection	✓	✓	✓
Diploma in Processing Industries Operations	✓	✓	✓
Award in Nuclear Industry Awareness	✓		
Certificate for Introduction to Processing Operations in Energy	✓		
Diploma in Processing Engineering Maintenance	✓	✓	
Diploma for Nuclear Operations Technicians		✓	
Certificate in Transportation of Radioactive Materials	✓	✓	
Certificate in Transportation of Radioactive Materials by Road	✓		
Certificate in Ionising Radiation Instrumentation	✓	✓	
Certificate in Process Technology	✓	✓	
Business Improvement	Level 2	Level 3	Level 4
Diploma in Business Improvement Techniques	✓	✓	✓
Compliance	Level 2	Level 3	Level 4
IOSH Working Safely*	✓		
IOSH Managing Safely*		✓	
Functional and Behavioural	Level 2	Level 3	Level 4
Award in Personal Development	✓		
Certificate in Team Leading	✓		
Award in Managing Operations		✓	
Certificate in First Line Management		✓	

* Training Standards

Training Standards

Training Standards have been developed to provide industry-wide agreed common training for a range of disciplines across the nuclear industry. The development of these important standards has taken place in consultation with many subject area experts. The Training Standards are embedded in Job Contexts, identified on Cogent’s Skills Match web-based benchmarking tool and via the National Skills Academy for Nuclear’s Skills Passport. The Nuclear Skills Passport is a system which offers all nuclear organisations instant secure web access to information on their nuclear skills base, offering a detailed overview of the training completed by their workforce as well as contracting organisations. The Nuclear Skills Passport provides a simple, highly secure method of aiding in the demonstration of SQEP and for contractors enables a mobile workforce with demonstrable transferable skills.

Training Standards

Basic Common Induction Standard (BCIS)	The purpose of this standard is to ensure that entrants to nuclear sites and employees with industry experience who are new to licensed nuclear sites should be able to <i>“Recognise and understand: the importance and need for safety and security requirements, awareness of radiological hazards, environmental issues and individuals HSE responsibilities while on a licensed nuclear site.”</i>
Basic Nuclear Industry Context	The purpose of this standard is to ensure that entrants to nuclear sites and employees with industry experience who are new to licensed nuclear sites should be able to have a basic understanding of the context of the nuclear industry both civil and military.
Basic Nuclear Industry Behaviours	To provide the learner with an awareness of the standards of behaviour required to support the safe working practices on a licensed nuclear site.
Foundation in Radiological Protection	To provide an understanding of the physical and biological bases of radiological protection coupled with an overview of the radiological protection principles and practices, promoting the development of competence in their application.
Principles of Protection Against Internal Radiation Training Standard	The training standard is aimed at Health Physicists with a special interest in work involving open sources. It will also be of interest to persons who supervise such work and those responsible for designing and monitoring work areas.
Principles of Protection Against External Radiation Training Standard	The training standard is aimed at Health Physicists, those who supervise work, and those responsible for designing and monitoring work areas.
UK Legislation and International Recommendations Training Standard	Courses meeting this training standard should be designed to give students a detailed understanding of key UK legislation relating to radiological protection and ensure they are able to apply them in practical situations.
Working Safely	To make employees, at all levels, aware of their responsibility for safety toward themselves, colleagues and others affected by their work activities.
Managing Safely	Training should offer a broad and very practical introduction to a wide variety of health & safety management issues and concerns and is aimed at middle and first-line managers with direct responsibilities for local safety management.
Asbestos Awareness (UKATA)	To provide an awareness and development of knowledge to site-based employees of the hazards and risks posed by asbestos containing materials (ACMs) within their everyday working environment.
First Aid at Work Initial (HSE Approved)	To enable students to get help and give safe, prompt and effective First Aid to a casualty in the workplace following an injury or illness using materials to hand and HSE approved first aid equipment.
First Aid at Work Re-qualifier	To enable students to get help and give safe, prompt and effective First Aid to a casualty in the workplace following an injury or illness using materials to hand and HSE approved first aid equipment.
Introduction to Project Management	Successful candidates will be able to understand the language of project management and the structure of a successful project. They will be able to take an active part in a project team and make a positive contribution.
Foundations of Project Management	Aimed at project managers and aspiring project managers wishing to demonstrate their knowledge of project management. Candidates would be expected to participate in projects from individual assignments, through to large capital projects.
Project Management Practitioner	The training standard has been designed to assess the competence of relatively experienced project management professionals in managing non complex projects or running of a key control function of a large-scale project.
Industrial Gas Safety Awareness	To provide safety awareness for all personnel who either use, handle or store industrial gases. Courses that meet this standard are aimed at production and other managers with operational responsibilities for safety.
Industrial Gas Safety Practice	To provide practical instruction on the correct assembly and pre-use check of oxy-fuel gas systems. Courses that meet this standard are aimed anyone using oxy fuel gas systems on site including; production and other managers with operational responsibilities for oxy-fuel systems.
Ladder Safety	On completion of the training the candidate will be able to demonstrate competence of safe working practices, identify ladder faults and erect and work safely on various types of ladders in accordance with the Occupational Health and Safety Act and Working at Height Regulations.
Working at Height	This training standard is about working safely at heights and includes assessing the risks involved, taking all suitable precautions and following the correct procedures. It applies to individuals who work at heights, including those working for example, on containers, gantries, ladders, scaffolding or any other similar structure from where there is a danger of falling.
Occupational Health and Safety (Contractors - Engineering Construction)	The Occupational Health and Safety (Contractors - Engineering Construction) training standard details the basic knowledge of Health and Safety and should complement the on-site induction, enabling contractors to work more safely and with lower risk to themselves and others.
Occupational Health and Safety (Supervisors - Engineering Construction)	The Occupational Health and Safety (Supervisors - Engineering Construction) training standard aims to highlight some basic management skills for the working Supervisor that will assist them in controlling the safety aspects within their working environment.

National Occupational Standards (NOS)

Cogent is the custodian of National Occupational Standards (NOS) which are statements of the skills, knowledge and understanding needed in order to carry out a particular job role. Their development is led by nuclear employers. The following NOS are currently used by the industry.

Safety Case Preparation

Radiation Protection

Nuclear Regulators

Nuclear Decommissioning

Radioactive Material Transport

Ionising Radiation Measurement

Making nuclear qualifications accessible

Qualifications and Credit Framework

A unitised system – The Qualifications and Credit Framework (QCF) – is the new system for all qualifications which means more flexibility for both learners and employers to create tailored qualifications which are fit-for-purpose. The system allows individuals to gain qualifications at their own pace along flexible routes. QCF qualifications are made up of units. Each unit has a credit value and a level. Levels indicate difficulty and vary from entry at Level 1 to Level 8. One credit represents 10 hours of study. There are three sizes of qualifications available:

Awards (1 to 12 credits)

Certificates (13 to 36 credits)

Diplomas (37 credits or more)

For an interactive guide introducing the QCF go to:

qcda.gov.uk/resources/qcf_intro_animation/QCF_main.html

Scottish Credit and Qualifications Framework

The Scottish Credit and Qualifications Framework (SCQF) promotes lifelong learning in Scotland. Also a unitised system, the SCQF helps people all ages and circumstances understand, gain access to and compare different types of qualifications and learning. The framework is based on level and credit. Level indicates the complexity of the course, from access at Level 1 to Level 12. Credit indicates learning time with 1 credit representing 10 notional learning hours. For an overview of the SCQF go to:

scqf.org.uk/AbouttheFramework/Overview-of-Framework.aspx

Welsh Credit and Qualifications Framework

All learning, including mainstream qualifications, offered in Wales is gradually being brought into a single unifying structure – the Credit and Qualifications Framework for Wales (CQFW). Again it is based on level and credit. One credit unit equates to 10 hours learning time. For an overview of the CQFW go to:

wales.gov.uk/topics/educationandskills/learningproviders/creditqualificationsframework

All the standards and qualifications outlined in this Prospectus will soon be available at www.cogent-prospectus.com

Awarding Bodies

Cogent and Awarding Bodies work together to ensure a transparent qualifications system meeting the needs of employers and learners.

The Awarding Organisations which offer the specialist qualifications for the Cogent Sector are listed below:

Accredited Skills for Industry:

www.asfi.org.uk

Offers signmaking and polymer qualifications

City and Guilds: www.cityandguilds.com

Offers process and downstream petroleum, oil and gas and business improvement qualifications

Edexcel: www.edexcel.com

Offers technical, knowledge-based qualifications for Cogent's apprenticeship frameworks

ILM: www.i-l-m.com

Offers leadership and management and functional and behavioural qualifications

NEBOSH: www.nebosh.org.uk

Offers Health and Safety qualifications

PAA\VQ-SET: www.paa-uk.org

Offers process, polymer, sign making, nuclear, downstream, oil and gas and business improvement qualifications

PIABC: www.piabc.org.uk

Offers packaging qualifications

FDQ: www.fdq.org.uk

Offers packaging qualifications

SQA: www.sqa.org.uk

Offers SVQs in process, downstream, petroleum and oil and gas

Contact Us

For general enquiries on any of the qualifications and standards outlined in this Prospectus contact Cogent's Qualifications Reform Manager:

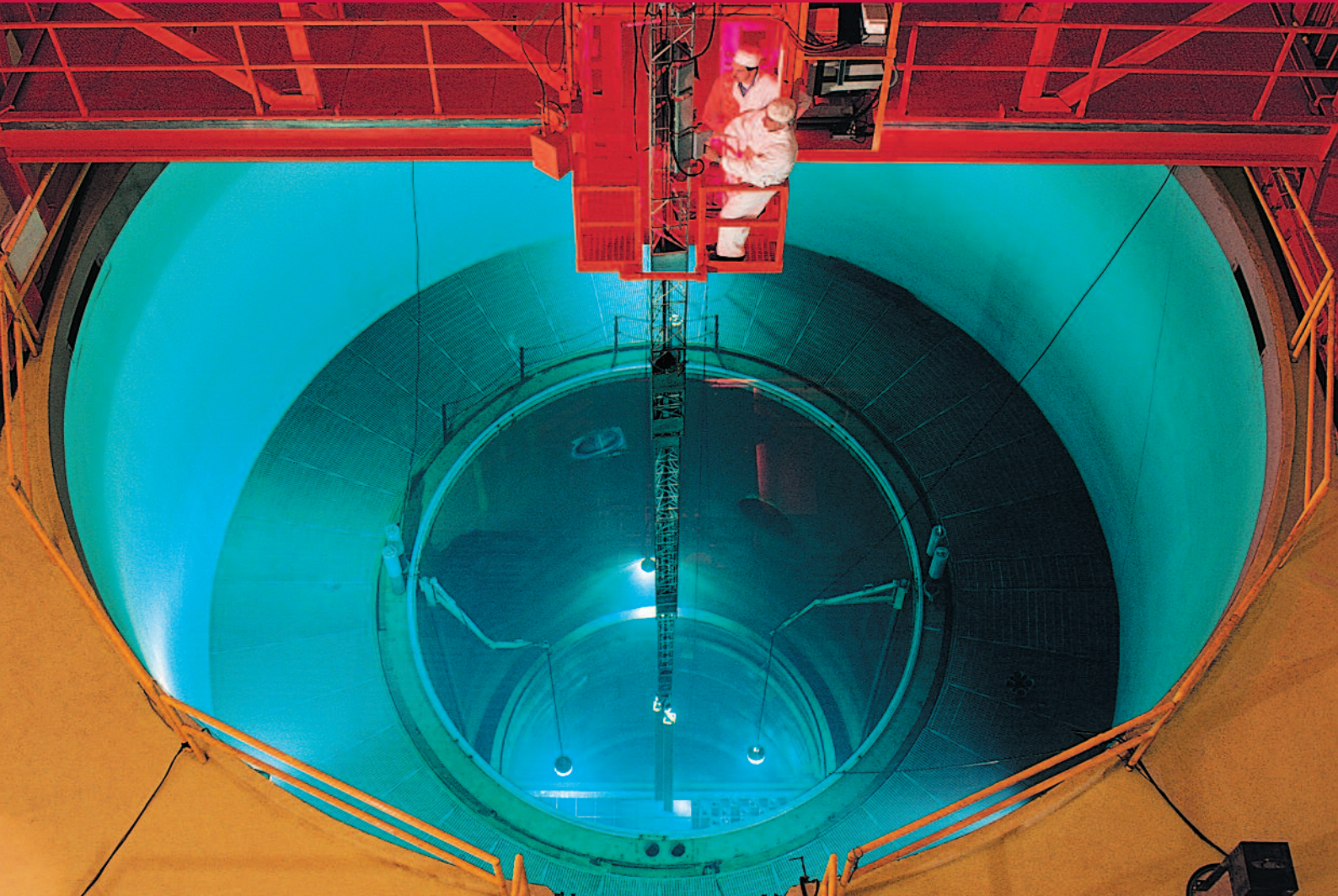
matthew.hardy@cogent-ssc.com

Tel: 01925 515 200

For information on undertaking any of the qualifications outlined in this Qualifications Prospectus contact:

National Skills Academy for Nuclear
enquiries@nuclear.nsacademy.co.uk

Tel: 01900 898 120



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The strategic skills alliance for the Nuclear Industry