

NSSG Strategic Action 14

Nationally recognised nuclear top-up / awareness courses

Prepared by **NSAN** on behalf of **NSSG**

September 2017



Introduction

The Nuclear Skills Strategy Group (NSSG) launched its Strategic Plan in December 2016 and the supporting detailed Delivery Plan in April 2017. Since that time it has been working with key skills partners to take key actions forward.

A key Strategic Theme within the Plan is **'Training and Infrastructure'** within this is Action 14: *'Develop and enhance a range of nationally recognised and NSSG supported nuclear top-up / awareness courses to ease transferability from other sectors',* with the specific action to: *'Determine current provision with respect to nuclear awareness or top-up courses at all levels, consolidate and publish guidance.'*

The Employer Advisory Board has progressed this on behalf of NSSG and this report details the current courses available that meet/address this action.



Nationally recognised nuclear top –up / awareness courses

Courses/Qualifications	Triple Bar Nuclear New Build Sites (TBNBNS)
Description	<p>Developed by EDF Energy NNB in collaboration with NSAN, the key knowledge requirements for working on a UK nuclear new build site are presented in three, short modules. The modules are available via online study or via classroom-based training at Bridgwater College.</p> <p>Individuals who are required to work at HPC will be tested on the objectives of the TBNBNS, which are now built into the Site Induction Process to show that they have retained the key aims and objectives set out in the training.</p> <p>Benefit: harmonised and consistent induction for construction workers for HPC and other proposed UK nuclear new build sites.</p>
Available from/at	TBNBNS training is available online at: www.nucleartrainingnetwork.com or via classroom training at https://www.nsan.co.uk/products-services/triple-bar-nuclear-new-build-sites
Key employers*	EDF Energy, Laing O'Rourke
Learner numbers**	9938

Courses/Qualifications	Triple Bar Existing Sites (TBES)
Description	<p>Developed by NSAN and industry, the TBES introduces people, who need to have unescorted access to work on a nuclear site, to the requirements for compliance, nuclear awareness and industry behaviours for safe working. It consists of three e-Learning or classroom taught modules, namely Basic Common Induction, Basic Nuclear Context and Basic Nuclear Behaviours.</p> <p>Benefits: provides a recognised introductory programme to enable experienced personnel to transfer from other sectors, and provides a consistent, one-off exercise to underpin an individual's SQEP assessment to move between nuclear sites.</p>
Available from/at	TBES training is available online at: www.nucleartrainingnetwork.com or via classroom training from several approved training providers, see: https://www.nsan.co.uk/services/triple-bar-existing-sites
Key employers*	Sellafield, Magnox, DSRL, RSRL, LLWR, Cavendish, Westinghouse, BAE Systems
Learner numbers**	9231

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Triple Bar Nuclear Security (TBNS)
Description	<p>Developed by NSAN with the IAEA, TBNS consists of three e-Learning modules covering the essential pre-course learning materials for IAEA classroom courses for nuclear security professionals. Ideal candidates for the TBNS training are those who have a need to understand about the requirements of nuclear security, including threat; the legal framework; the role of the IAEA; methods of prevention, detection and response; effective nuclear security culture.</p> <p>Benefits: raising awareness of, and improving security standards across the global nuclear community.</p>
Available from/at	TBNS is available online at: www.nucleartrainingnetwork.com
Key employers*	IAES
Learner numbers**	164

Courses/Qualifications	Triple Bar Nuclear Manufacturing (TBNM)
Description	<p>Developed by NSAN and nuclear companies, TBNM consists of three classroom taught modules and an assessment end-test in Basic Nuclear Awareness, Basic Nuclear Quality and Basic Nuclear Behaviours, taught in an experiential hands-on way so that it is suitable for all learning styles.</p> <p>Benefits: provides an introduction to the nuclear industry and the requirements for supplying to the sector, covering existing operations, decommissioning and new build. Essential information for all nuclear manufacturing companies, especially those seeking to enter the market for the first time, as recommended by F4N/NAMRC.</p>
Available from/at	2-day classroom-taught course available at training venues around the country subject to demand. Course dates and locations featured at: https://www.nsan.co.uk/products-services/triple-bar-nuclear-manufacturing
Key employers*	<p>Development – Tata Steel Project, Rotork, CSE Controls, Graham Engineering, Rolls Royce Civil Nuclear, AREVA, NIS Ltd, NES Ltd, Helander, Fort Vale Engineering, NAMRC, Westinghouse</p> <p>Review – NSANM Board, AREVA UK Ltd, Westinghouse, EDF Energy, Nuclear AMRC, Rolls Royce, Horizon Nuclear Power, NIS Ltd, Ansaldo NES</p> <p>Pilot – Doosan Babcock Ltd, Fort Vale Nuclear Ltd, Helander Precision Engineering, NIS Ltd, Rolls Royce Civil Nuclear, Rotork Control Ltd</p>
Learner numbers**	982

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Triple Bar Nuclear Leadership (TBNL)
Description	<p>One day fast-paced, experiential-learning course for supervisors, team leaders, first-line and middle managers. TBNL again covers three modules; 1) leading nuclear awareness 2) leading nuclear quality and 3) leading nuclear behaviours. It is suitable for existing employees as well as new entrants to the industry, who have ideally completed one of the other Triple Bars or an equivalent, basic introduction to nuclear course prior to attending.</p> <p>Benefits: intended to be a powerful spring board for supervisor/middle manager performance improvement.</p>
Available from/at	<p>1-day taught course at venues around the country, supported by half day pre-and post-course tasks via the NSAN online Nuclear Training Network. https://www.nsan.co.uk/products-services/triple-bar-nuclear-leadership</p>
Key employers*	<p>Development – NIS Ltd, Doosan Babcock Review – NSANM Board, AREVA, NAMRC, NIS Ltd, Doosan Babcock, Ansaldo NES, NDA Pilot – Sonomatic, Interserve, STS Defence, PDL Solutions, TIS Cumbria, Fort Vale Nuclear, NG Bailey, YGC, Ultra Electronics, Doosan Babcock, OLD Engineering</p>
Learner numbers**	40

Courses/Qualifications	Human Performance Fundamentals – For Workers and For Leaders
Description	<p>Programmes developed to cover the principles of Human Performance (HuP), from a basic version useful for all employees, through to a version for leaders and managers and more advanced options for practitioners. Topics include Organisational Effectiveness, Human Factors, Operating Experience, Event investigation and Corrective Process, HuP Governance and Oversight, Training Design and Delivery.</p> <p>Benefits: cost-effective, open courses delivering training to international standards for companies that don't have in-house HuP expertise.</p>
Available from/at	<p>Basic courses are one-day classroom-taught courses available in the North and South of England/Wales. https://www.nsan.co.uk/products-services/human-performance-fundamentals</p>
Key employers*	Human Performance Group – sub group from the Safety Directors Forum
Learner numbers**	496

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Fundamentals of Nuclear
Description	<p>One day course developed for the Energy Industries Council to provide a basic awareness, suitable for anyone requiring knowledge of nuclear history, technology, radiation, safety and supply chain working.</p> <p>Benefits: ideal for those with no prior knowledge of nuclear, who may be looking to move into the sector.</p>
Available from/at	Available from the EIC at https://www.the-eic.com/Training/About/EICTraining.aspx
Key employers*	Developed for the EIC
Learner numbers**	17

Courses/Qualifications	Masterclasses in Manufacturing for Nuclear
Description	<p>Masterclasses to improve manufacturing supply chain capability to support the nuclear programme covering: Establishing a Good Nuclear Safety Culture; Quality Management Processes and Documentation; Manufacturing Controls and Material Cleanliness, Final Certification and Release; Supplier Approval Control and Flow-down; People and Process Improvement; Estimating for/Winning Nuclear Tenders.</p> <p>Benefits: practical guidance for new to nuclear companies to identify any weaknesses in each of the topics above, and create action plans to close the gaps and enable them to more effectively bid for nuclear contracts.</p>
Available from/at	One day taught Masterclasses, usually held in-company, however open courses can be arranged subject to demand: https://www.nsan.co.uk/products-services
Key employers*	Developed for CNSiG – no specific development phase, but approved by the CNSiG/NAMRC team before delivery to: NIS Ltd, Graham Engineering, Goodwins, James Fisher Nuclear, Ansaldo NES, Stainless Metalcraft, Therco, Truflo Marine, Hayward Tyler, Tata Steel Projects.
Learner numbers**	1119

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Introduction of Nuclear Codes and Standards: RCC-M Fundamentals RCC-E Fundamentals ASME III Fundamentals
Description	Training programmes developed to improve supply chain capability and understanding in the new build design codes for EPR and ABWR technologies. Benefits: essential learning for design, engineering and manufacturing supply chain companies actively seeking to supply HPC and other new build programmes.
Available from/at	One and two day open or in-company courses held at training venues around the country: http://www.nsan.co.uk/products-services/asme-nuclear-indoctrination http://www.nsan.co.uk/products-services/rcc-e-technical-awareness http://www.nsan.co.uk/products-services/rcc-m-fundamentals-nuclear-manufacturers
Key employers*	RCC-M and RCC-E already a developed product – full list of attendees can be provided on request. ASME – Pilot: Ansaldo NES, Destec Engineering Ltd, Exova, FIRMA Engineering Ltd, Fort Vale Nuclear Ltd, Harris Pye Engineering, IIDEA Ltd, Truflo Marine, Independent Forgings & Alloys, Interserve, Laker Vent Engineering Ltd, Nasmyth Technologies Ltd, Newburgh Precision Ltd NuGeneration Ltd, Oldham Engineering Ltd, Outokumpu, SC Group, Sheffield Forgemasters, Shepley Engineers Ltd, Viking Trailers Ltd, W Maass UK Ltd
Learner numbers**	167

Courses/Qualifications	Manufacturing Improvement Workshops
Description	One-day practical skills workshop in nuclear related: Measurement and inspection techniques; Applications for virtual reality visualisation; Conventional machining technologies; Advanced manufacturing technologies; Additive manufacturing technologies. Benefits: expands engineers' awareness to increase capability in relation to nuclear projects.
Available from/at	One day open courses led at the University of Sheffield's AMRC Training Centre in Rotherham: https://www.nsan.co.uk/products-services
Key employers*	Development – Nuclear AMRC Review – NSANM Board, AREVA, Westinghouse, EDF Energy, AMRC, Rolls-Royce, Horizon Nuclear Power, NIS Ltd, Ansaldo NES Pilot – AMEC Foster Wheeler, Ansaldo NES, Atkins, Doosan Babcock Ltd, Fort Vale Nuclear Ltd, Harris Pye Engineering, NIS Ltd, Pryor Marking, Tata Steel Projects
Learner numbers**	41

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Post Graduate Certificate in Nuclear Engineering
Description	<p>This PGCert qualification provides a combination of nuclear engineering and transferable skills modules, and is offered as a “block release” course with three days of classroom training plus self-study. It has been designed by Aston in collaboration with NSAN and nuclear employers to meet the requirements of the Nuclear Institute’s Nuclear Delta for nuclear engineers and the Engineering Council’s Engineering Gateways Project. The course is aimed at:</p> <ul style="list-style-type: none"> - Experience engineers looking to move to the nuclear sector from other sectors. - Engineering graduates looking to gain knowledge of the specialist engineering requirements of the nuclear sector. - Existing technical workers in the nuclear engineering sector to develop their level of engineering expertise.
Available from/at	<p>Available from Aston University from January 2018, see: https://www.nsan.co.uk/products-services/coming-soon-pgcert-nuclear-engineering</p>
Key employers*	<p>Basis of the curriculum taken from CoNP development group comprising AMEC Foster Wheeler, Atkins, Cavendish Nuclear, EDF Energy, HSE Directorate (ONR), Magnox, MWH Global, NDA, Nuvia, Rolls Royce, Westinghouse Springfields Fuels Ltd. Further input from Atkins, STS Defence and Jacobs.</p>
Learner numbers**	0

Courses/Qualifications	Award for Nuclear Industry Awareness (ANIA)
Description	<p>The Award is a Level 2 qualification designed with nuclear employers to provide essential knowledge for all entrants to the nuclear sector including apprentices, graduates, people transferring from other sectors and non-nuclear personnel. It includes history, site licence, security, behavioural expectations, fundamentals of nuclear physics, radiation hazards, detection, safety culture, emergency procedures, control of contamination, electricity generation, defence, fuel cycle, waste management, environment, decommissioning. Benefits: enables new entrants to acclimatise and work safely in a nuclear environment.</p>
Available from/at	<p>Available as e-Learning from www.nucleartrainingnetwork.com Or classroom from a number of different training providers at: https://www.nsan.co.uk/products-services/award-nuclear-industry-awareness</p>
Key employers*	Sellafield, EDF Energy, AWE, NNL
Learner numbers**	720

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Civil Nuclear Course
Description	<p>This 5 day course Civil Nuclear Course (CNC) covers the principles and technology of current and planned reactors. The course is aimed at new entrants from other sectors to the nuclear industry or for CPD. The course takes advantage of EDF Energy's onsite AGR and PWR simulators, using multiple simulator sessions to consolidate the material delivered in lectures and workshops. Topics include: Current and future reactor types and plant systems; Decommissioning, site remediation and waste treatment; Atomic and Nuclear Physics; Reactor Principles and dynamics; Safety Culture and Accident Studies; Nuclear Fuel Cycle and Economics; Reactor Engineering.</p> <p>Benefits: enables new entrants to understand the technology requirements of the different sectors within the current and future UK industry.</p>
Available from/at	<p>Delivered by STS Nuclear in partnership with EDF Energy at EDF Energy Campus at Cannington. Details at https://www.sts-nuclear.com/training-education/courses/ or via https://www.ns4p-system.co.uk/TrainingDirectory/#/</p>
Key employers*	EDF Energy
Learner numbers**	7

Courses/Qualifications	Nuclear Safety Culture Course
Description	<p>The one day course is aimed at those individuals or employees who need to know more about nuclear safety and security cultures and attitudinal safety behaviours. The course examines organisational culture to identify the traits of a positive nuclear safety and security culture and how these may be developed and strengthened.</p> <p>Benefits: enables those who work, or wish to work, in the nuclear industry to understand and improve the organisational culture and personal behaviours.</p>
Available from/at	<p>Delivered by STS Nuclear, this classroom based course is delivered at a location agreed with the student cohort. Details at https://www.ns4p-system.co.uk/TrainingDirectory/#/</p>
Key employers*	Balfour Beatty, NG Bailey, Environment Agency, Polycast
Learner numbers**	80

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Introduction to Nuclear - ABWR
Description	<p>A 2 day Awareness Level course introducing the a number of key nuclear concepts and applying them to the Advanced Boiling Water Reactor (ABWR) model. Topics include: Reactor Engineering; Thermal Hydraulics; Accident Studies & Reactor Safety; Reactor Physics; Health Physics.</p> <p>Benefits: enables those who work, or wish to work, with ABWR technology to understand the technology requirements.</p>
Available from/at	<p>Delivered by STS Nuclear, this classroom based course is delivered at a location agreed with the student cohort.</p> <p>Details at https://www.ns4p-system.co.uk/TrainingDirectory/#/</p>
Key employers*	Environment Agency
Learner numbers**	20

Courses/Qualifications	Defence Nuclear Awareness Course
Description	<p>An Awareness Level Course covering the theory of Naval Pressurised Water Reactors, their operation and safety, environmental and security assurance. The learning objectives are mapped against the MOD Nuclear Competency Framework using the Defence Systems Approach to Training (DSAT) principles. Topics include: Introduction to Nuclear Power; Atomic and Nuclear Physics; Generic Nuclear Reactor Plant; Radiation and Radiological Protection; Nuclear Reactor Plant Operation; Nuclear Regulation and Safety Assurance; Nuclear Emergency Response; Nuclear Reactor Plant Support and Maintenance; Nuclear Information Security.</p> <p>Benefits: This course is aimed at personnel who currently work, or wish to work, within the Defence Nuclear environment and require awareness level knowledge (Nuclear Aware – Level 1 in accordance with MOD Nuclear Competency Framework).</p>
Available from/at	<p>Delivered by STS Nuclear, this course is run at the customer site over 5 or 10 days depending on customer requirements.</p> <p>Details at https://www.sts-nuclear.com/training-education/courses/ or via https://www.ns4p-system.co.uk/TrainingDirectory/#/</p>
Key employers*	Babcock Marine BAE Systems
Learner numbers**	400

* Engaged in the course development

** Completed as at 31/08/17

Courses/Qualifications	Nuclear Introductory Course (NIC)
Description	The aim of the NIC is to introduce MOD personal working in support of the Naval Nuclear Propulsion Programme (NNPP) with a conceptual understanding of the naval programme.
Available from/at	Classroom delivery at HMS Sultan
Key employers*	
Learner numbers**	

Courses/Qualifications	National College for Nuclear
Description	See: http://www.ncfn.ac.uk/ for information on all NCfN qualifications
Available from/at	http://www.ncfn.ac.uk/
Key employers*	Sellafield Ltd & EDF Energy
Learner numbers**	

* Engaged in the course development

** Completed as at 31/08/17