

Level 2 Nuclear Health Physics Monitor (NHPM)

End Point Assessment (EPA) Specification



Why choose NSAN as your End Point Assessment Organisation (EPAO)?

NSAN is led by nuclear sector employers, from both civil and defence, who live and breathe the skills needed in the whole of the UK nuclear industry, and with client engagement at the heart of everything we do.

As a trusted and respected organisation leading skills delivery in the nuclear industry, we harmonise internal staff expertise with standard-specific subject matter experts from across the nuclear industry to develop and deliver our EPA.

As an approved EPAO for the nuclear industry since 2017, we have the expertise to ensure that you will be fully supported with navigating the EPA process and can be assured your apprentices are being tested against the latest industry standards.

What's involved in the NHPM EPA?

There are 3 stages to the NHPM EPA:

Stage 1 - Written test

A two-hour test, which uses a range of multiple-choice, true/false and short answer questions to confirm the apprentice's knowledge and understanding of the theory behind the NHPM role.

Stage 2 - Practical test

A one-hour scenario-based assessment, accompanied by assessor questioning, to establish that the apprentice is able to safely and suitably carry out the role of an NHPM in a practical situation requiring the radiological protection of people, plant and environment, covering aspects of normal and abnormal operational conditions.

Stage 3 - Panel review

This does not involve the apprentice but confirms that the required competencies and mandated requirements have been met. The overall grade is confirmed during the panel review.

How long does the NHPM EPA take?

The Level 2 NHPM apprenticeship will typically take 2 years to complete, with the EPA typically being taken within the last 4 months; however, the duration of the EPA will depend on availability for assessment dates and whether resits are needed.

What criteria does the NHPM EPA test the apprentice on?

The NHPM standard is broken down into three main areas: knowledge, skills and behaviours (KSBs). There are 20 competencies in total - 7 being knowledge-based, 7 skills-based and 6 behavioural.

Ref	Knowledge Competencies
	A Nuclear Health Physics Monitor will be able to understand and apply:
K1.	The principles and implications of nuclear and radiological safety – that is: a. Nuclear safety is about preventing accidents and protecting people and the environment from radiation hazards; b. Radiological safety is about protecting people and the environment from the harmful effects of ionising radiation.
K2.	The fundamental principles and implications of radiation types, sources, hazards and appropriate radiological control measures.
K3.	The purpose and limitations of different types of radiation protection monitoring instrumentation in order to measure, calculate and assess the significance by comparison with pre-specified levels of alpha, beta, gamma and neutron radiation where applicable.
K4.	The safety and security expectations of those working on nuclear licensed sites.
K5.	The reason for and application of safety management systems such as Standard Operating Procedures and Risk Assessment.
K6.	How Human Performance and Human Factors affect nuclear safety culture.
K7.	The significance and relevance of company policy, legal requirements for the use and control of ionising radiation and other legislation and regulation on working practices.

Ref	Behaviours
	A Nuclear Health Physics Monitor will be able to demonstrate the following behaviours:
B1.	Commitment to safety – They always demonstrate a strong commitment to personal safety behaviours as set out in nuclear industry requirements. They actively challenge unsafe practices. They understand the relationship between nuclear and radiological safety and ensure this is reinforced in the workplace. The Health Physics Monitor will respond to each of the above situations accordingly by measurement, calculation and assessment of the radiological significance by comparison with pre-specified levels to enable the appropriate advice to be given to minimise radiation exposure to people to as low as reasonably practicable (ALARP). This is achieved through the ability to perform numerical calculations quickly, accurately and reliably to evaluate the significance of the radiological data produced.
B2.	Integrity – They ensure openness in relations with workers, customers and other stakeholders. They promote and model the highest standards of professional conduct, ethics and integrity.
B3.	Resilience – They work well under pressure, continuously strive for excellence in all they do and challenge poor performance or non-conformance in a tactful and diplomatic manner.
B4.	Quality – They follow rules, procedures and principles to ensure work completed is fit for purpose and pay attention to detail and carry out error checks throughout work activities.
B5.	Effective and Appropriate Communication – They will use oral, written and electronic methods; working effectively with others, with regards for diversity and equality.
B6.	Personal Conduct – They work reliably and effectively without close supervision, accepting responsibility for their own work.

Ref	Skills Competencies
	A Nuclear Health Physics Monitor will be able to:
S1.	Use specialist radiological protection instruments to monitor: *Surface and airborne contamination using hand-held contamination rate-meters and installed and portable air samplers *Radiation dose rates using hand-held, installed and portable radiation detectors *Individuals for personal contamination and respond accordingly The Health Physics Monitor will respond to each of the above situations accordingly by measurement, calculation and assessment of the radiological significance by comparison with pre-specified levels to enable the appropriate advice to be given to minimise radiation exposure to people to as low as reasonably practicable (ALARP). This is achieved through the ability to perform numerical calculations quickly, accurately and reliably to evaluate the significance of the radiological data produced. The Health Physics Monitor will respond to each of the above situations accordingly by measurement, calculation and assessment of the radiological significance by comparison with pre-specified levels to enable the appropriate advice to be given to minimise radiation exposure to people to as low as reasonably practicable (ALARP). This is achieved through the ability to perform numerical calculations quickly, accurately and reliably to evaluate the significance of the radiological data produced.
S2.	Carry out functional tests of radiation protection monitoring instrumentation using calibrated radioactive sealed sources.
S3.	Respond appropriately to changes in radiological conditions using the ALARP principles.
S4.	Record radiation protection monitoring and survey results – in a variety of formats (e.g. written logs, information technology).
S5.	Undertake radiation-related work activities safely and competently.
S6.	Participate in emergency response to provide radiological contingency arrangements to protect personnel, plant and the environment, for example: a. Respond to and take appropriate action in regard to emergency situations to monitor for environmental radiological releases; b. Where applicable carryout criticality incident monitoring; c. Use Forward Control Points (FCP) and Access Control Points (ACP) to respond to and recover from nuclear incidents. FCP's & ACP's are used to provide effective radiological safety control to personnel entering & leaving incident areas with regard to protective clothing, respiratory protection and radiation dose authorisation.
S7.	Communicate radiological protection monitoring information effectively using a variety of appropriate communication methods to interact with others to give and receive information accurately in a timely, positive, challenging and professional manner.

What does the apprentice need to do to prepare for the NHPM EPA?

It is not a requirement of the EPA, but it is considered best practice that, during their training, apprentices maintain a portfolio of evidence against each of the 20 competencies covered during the apprenticeship. This process allows the apprentice to continually reflect on their learning and provides sufficient evidence that consistently demonstrates their knowledge, skills and behaviours at Level 2 and confirms their readiness to begin the EPA. Before taking the EPA, the apprentice will also need to meet the requirements of the Gateway.

What are the requirements of the NHPM Gateway?

Prior to the EPA the employer, training provider and apprentice will confirm that the apprentice has met the requirements of the Level 2 NHPM Apprenticeship Standard and is ready for taking the EPA.

The gateway readiness requirements are:

- a declaration of readiness, signed by the apprentice, employer and training provider
- successfully completed IOSH Working Safely (or equivalent safety training)

If the apprentice was aged under 19 on the start date of their apprenticeship, they will **also** need to provide:

- evidence of achievement of Level 1 (or equivalent) maths and English

How is the NHPM EPA graded?

The EPA will be graded Distinction, Pass or Fail. The final grade will be determined by the results of the written test and practical test assessment. The table below indicates the possible scenarios where an overall Pass or Distinction will be awarded.

EPA Method	Assessment Grade	Assessment Grade	Assessment Grade
Written test	Pass	Merit	Distinction
Practical test	Pass	Pass	Pass
Overall grade awarded	Pass	Pass	Distinction

How much does the NHPM EPA cost?

£1800, which covers the full EPA process including planning, guidance, development, delivery, assessor expenses and certification.

Fees are payable at three points of the EPA.

- 10% non-refundable deposit at contract agreement
- 70% at gateway
- 20% on completion of the first attempt at the final method of assessment

Progression route - where can it lead?

Achievement of the NHPM EPA provides eligibility for Associate membership of the Nuclear Institute.