

Training Requirements and Records

Main Document – BSS/HRM/030

Version: Issue 001

Training Requirements and Records

1 This sets down the training and development provisions identified in the training needs analyses for the various functional groups of staff in ND.

2 Two tables are provided for each functional grouping. The first table, the Training and Development Record, should be used by staff to set up and manage their own development, in consultation with Line Managers and NTLs (for Nuclear Safety Inspectors). Note that it does not include behavioural expectations or development provisions related specifically to career management. Similarly, the need for basic 'office' skills (e.g. IT, ND business processes) is called up in the induction procedure. Any needs in these areas will be identified through routine performance management processes. Since the Training and Development Record has been devised from a formal training needs analysis, it represents an organisational view of the areas where competence is required and it should be followed. The T&D provisions identified are intended to help develop the necessary associated competence.

[Training and Development Record - Nuclear Inspection](#)

[Training and Development Record - Permissioning Inspection](#)

[Training and Development Record - Compliance Inspection](#)

3 Clearly, there will be instances where the competence can be gained by other means, or has already been developed in a way that can be verified. Line Managers should indicate in the Competence Record (notes column) where relevant judgements are made on this basis, similarly for Inspectors in the Training and Development record.

[Competence Record - Nuclear Inspection](#)

[Competence Record - Permissioning Inspection](#)

[Competence Record - Compliance Inspection](#)

4 Some items are mandatory, either because the necessary understanding cannot be gained by any other means, or because it is important to establish a common baseline from which future development needs can be identified.

5 The Competence Record should be used by Line Managers to judge progress and attainment.

Technical Indicative Marking Scheme (TIMS) for Nuclear Safety Inspector recruits - (3.1 to BSS/HRM/030).

1 The current TIMS for Specialist Inspector recruits to HSE are a generalised set that is intended to allow specialist competence to be tested for any potential 'end user'. This means, however, that the testing of nuclear competence is subject to a degree of interpretation, and possibly variability, by those using the criteria.

2 It has also been recognised that it will be important to minimise the future ND training burden by seeking as good a match as possible on expectations for nuclear competence between those joining ND on external recruitment and those joining on transfer from HSE. In addition, it is necessary to have a clear basis for nuclear equivalence judgements. The first three HSE TIMS have therefore been developed to reflect ND's need to judge nuclear competence, either on entry or when someone transfers from other parts of HSE.

3 The existing TIMS that have been replaced are:

1 Level of professional responsibility. This is replaced by 'level of technical expert knowledge', which includes the level of professional responsibility at which it is practiced. This corresponds to the former BSS/HRM/024 appendix 1 para 1.

2 Breadth and/or depth of experience. This is replaced by 'application of technical/expert knowledge to the nuclear sector' and allows for the possibility that high hazard capabilities may be appropriate. This new TIMS corresponds to the former BSS/HRM/024 appendix 1 para 2.

3 Technical quality/standard. This is replaced by 'application of knowledge of nuclear industry operations, safety case practices and principles'. This, too, allows for high hazard applicants and corresponds to the former BSS/HRM/024 appendix 1 para 3.

1 Level of Technical/Expert Knowledge

Guidance: this section is concerned with the extent to which the applicant has developed his/her professional capabilities since first gaining academic qualifications. It is not necessarily related to nuclear activity.

Compulsory opening question: Tell me about the extent to which you use your (discipline) expertise in your current position or I'm unclear on the way you utilized your professional expertise in the project(s) (describe) that you mentioned in your application. Please tell us a bit more about this.

Suggested supplementary questions:

Explain why you think your professional qualification and experience fits you to make judgments on nuclear industry applications and practice.

In which areas, if any, do you see a need for professional development?

How do you fit into your current department/structure/project team?

What responsibility do you have for the professional work of others?

To what extent is your professional work covered by the application of existing standards and codes?

Describe the outputs of your professional work (e.g. reports, papers, briefs, design proposals, safety cases, plant operating qualifications etc).

For what are you directly accountable and responsible (e.g. staff, budgets, development of procedures)?

Rating	Description	Tick
0	Examples indicate that the level of professional expertise is unacceptable. Still under training or supervision. Work is largely in codified applications and subject to formal approval. Little autonomy and few examples of applications of own understanding. Is responsible to others within the team. All work is routine.	
1	Examples indicate that the level of professional expertise is lower than that required. Recently completed training and still subject to professional oversight, e.g. design office work. Alternatively, still refreshing current knowledge after a prolonged absence from technical work. Limited autonomy and work largely routine. Is likely to be a team member and have limited responsibility for the work of others. Work is mostly routine	
2	Examples indicate that the level of professional expertise is at, or above, the minimum level required. Considerable degree of autonomy over work, may have other professionals working to him/her. Expected to solve problems and manage projects or operations. Develops some specifications and methods. Responsible for significant decisions affecting plant operations, construction or modification. Can use complex methods.	
3	Examples indicate that the level of professional expertise is well within the level required. Significant degree of autonomy over work. Responsible for approving design proposals, has large teams of professionals working for him/her. Responsible for significant projects, operations and expenditure, and development of codes and standards. Is used to ensuring team resolves problems, and influencing at a high level within a company.	
4	Examples indicate that the level of professional expertise exceeds the level required. Recognised as national/international authority in profession. Substantial discretion and autonomy. Responsible for the	

	professional work of others. Autonomy over work methods. May work alone or as operations manager or project leader with responsibility for one or more major projects or plant, for the work of the team, for expenditure, specification, standards, working practices. Accustomed to ensuring that solutions are achieved for challenging and complex problems.	
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2 Application of Technical/Expert Knowledge to the Nuclear Sector

Guidance: this section is concerned with the extent to which the candidate has developed his/her specialist capabilities into nuclear applications or into applications that are considered to be applicable to the nuclear field, for example in high hazard work.

Compulsory opening question: To what extent have you applied your professional expertise to the nuclear sector or, (if high hazard background), explain why your experience is applicable to the nuclear sector.

Suggested supplementary questions:

Outline your experience in design, construction, operations or safety appraisal of high hazard plant/facilities.

Can you characterize the particular hazards associated with the nuclear industry and associated controls (plant and personal safety)?

Explain your involvement in safety cases.

What would you say is your area of greatest strength?

(For high hazards only). How would you set about establishing a greater understanding of nuclear safety?

(For high hazards only). Can you describe any features of nuclear safety management that are significantly different from your experience?

Rating	Description	Tick
0	Knowledge lacks applicability to the requirements of the nuclear discipline applied for. Work has been confined to areas or areas of industries that do not have to address the control of major public hazards.	
1	Knowledge has limited applicability in the context of the nuclear discipline applied for. Work has previously been in nuclear or high hazard industries but has not brought the applicant into personal contact with the disciplines of high hazard control.	
2	Knowledge has applicability in the context of the nuclear discipline applied for. Work has covered several areas involving the development of solutions to high hazards control issues, or has involved personal experience at a significant level in operation and control of high hazard plant. Some experience of design, construction, operation or safety appraisal.	
3	Knowledge has more than required applicability in the context of the nuclear discipline applied for. Has considerable experience in high hazard plant design, construction, operation or safety appraisal. Is well acquainted with the safety case process. Sound understanding of the principles of major hazards/risk control. Some exposure to nuclear safety management.	
4	Exceptional applicability of knowledge in context of the nuclear discipline applied for. Has reached responsible senior positions in high hazard plant design/operation. Well practiced in safety case production, appraisal and clearance. Has a considerable depth of understanding of the principles of nuclear safety management. Fully capable of translating experience to the nuclear sector.	

3 Application of Knowledge of Nuclear Industry

Guidance: this section is concerned with the application of a general knowledge of the nuclear or high hazard industry to safety regulation: the nature of the hazards, how they arise and are controlled through sound engineering demonstrated in the safety case; and also how the industry manages itself to make sure that controls are properly realised in practice. It is also concerned with the likelihood that the candidate's experience will provide the necessary credibility to be able to influence duty-holders when necessary, and other stakeholders (OGD, other regulators, public).

Compulsory opening question: Describe the industry within which you presently work, in particular the nature of the hazards, and how they are managed.

Suggested supplementary questions:

- What would you describe as the most significant current business/organisational threats to safety in your industry or the NII?
- How do you think the HSE/NII should respond to these?
- Describe the main business players and interests in your industry.
- Which processes and plant would you say represent the principle hazards and why?
- Describe your most challenging piece of work, or an occasion when you successfully achieved an important safety outcome?

Rating	Description	Tick
0	Evidence indicates that his/her work is of unacceptable applicability. Applicability extremely limited. Majority of experience has involved relatively simple work at low levels in the organization.	
1	Evidence indicates that applicability is below the level expected in a nuclear safety inspector. Applications do not match the level of interaction expected of a nuclear safety inspector. Demonstrates little understanding of the philosophy and principles relevant to his/her industry. Unlikely to be able to persuade highly experience duty-holder staff. Largely unaware of current context and developments in current industry. No exposure to nuclear industry.	
2	Evidence indicates that applicability is at the level expected in a nuclear safety inspector. Applications similar to those practiced by NII nuclear safety inspectors. Understands relevant principles and philosophies. Has demonstrated ability to secure an acceptable outcome. Shows evidence of securing outcomes of a significant nature through personal influence. Has sound understanding of current industry context. Some knowledge of the nuclear industry context.	
3	Evidence indicates that applicability is above the level expected in a nuclear safety inspector. Well practiced in work of comparable nature to that of NII nuclear safety inspector. Has been involved in the development of some principles and philosophies. Has a track record of successful outcomes. Well versed in the development of current industry practices and has had some exposure to nuclear industry practice. Has influenced successfully at a high level based on technical credibility.	
4	Evidence indicates an exceptional level of applicability well above the level expected in a nuclear safety inspector. Many years	

	experience of practice, methodologies and safety management policy development in high hazard industries. Considerable experience of managing major projects or operations to successful outcomes. Well developed understanding of the nuclear industry.	
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Framework for identification of nuclear discipline expectations. - (3.2 to BSS/HRM/030)

1 The nuclear competence framework in Table 3.1 and 3.2 requires NTLs to establish additional training and development requirements to ensure that Nuclear Safety Inspectors and potential nuclear safety inspectors possess the necessary understanding of the application of their discipline in a nuclear environment. Precise requirements will vary from discipline to discipline. However, in order to secure a consistent approach to their identification, NTLs should take into consideration the following when they formulate this element of the DAP with new staff.

2 **Process.** The process of determining nuclear discipline requirements should go through the following steps:

- Establish nature of tasks expected of Nuclear Safety Inspector.
- Determine the competencies required for these tasks.
- Carry out a training needs analysis to determine any gaps in the new Inspector's capabilities.
- Establish a training and development programme to make good any gaps.
- Monitor progress with this programme.
- Re-assess competence on completion of programme.

3 **Task analysis.** In general, the majority of new Nuclear Safety Inspectors will spend the initial part of their ND time in the assessment function carrying out safety case assessment. In some disciplines, work is more oriented towards the contribution of specialist expertise to inspection programmes or reactive work where direct judgement of licensee performance is carried out. For any discipline, tasks can broadly be expected to include:

- Gaining an understanding of relevant hazards (and their controls) so that attention and sampling can be properly targeted.
- Identifying factors that are relevant to the ability to control the hazard.
- Establishing what constitutes good industry practice.
- Judging the adequacy of situations under examination.
- Setting down views in a coherent way.

4 Competence. The above broad task categories can be used to identify the competencies that are necessary to carry out associated work. For nuclear equivalence purposes it is necessary to cover only technical competence. Behavioural and organisational capability requirements, for example, will be picked up using the routine performance management process and HSE core criteria.

5 Training need and gap analysis. This should cover not only the discipline itself but also the area of practice within which discipline experience has been gained (design, construction, commissioning, operation, de-commissioning). For example a plant operator may be highly skilled at developing a balanced view of hazards and risks but out of touch with current design practice. Someone who has spent all his time in design may not have a full appreciation of the nature of the hazards or safety issues expected to be addressed in a safety case.

6 T&D programme. This should be developed with reference to the whole range of potential provisions, including:

- Further academic study.
- Additional discipline training.
- Training courses.
- Mentoring (NB mentors need not be in the same Unit /Division).
- Coaching by NTL or nominee.
- Directed reading.
- On-job training.

7 Monitoring and assessment. The development of nuclear discipline understanding is a pre-requisite for any nuclear equivalence case that may be appropriate. To make such a case the line manager must prepare a business justification based on evidence compiled by the Inspector, which will include evidence of satisfactory completion of identified discipline development. The NTL will need to be in a position to provide a view on this to the line manager if and when the need arises.