

Nuclear Inspection -Training and development record (Table 3.1)

The training and development provisions in this table are abstracted from the relevant Training Needs Analysis set out to provide the basis for professional development for new Inspectors in or designated for nuclear inspection posts. It is aimed at Inspectors who join ND at Band 3 level. Items marked M are mandatory. Items marked D are discretionary. Demonstration of the identified competence is a pre-requisite for gaining nuclear equivalence. The T&D provisions are intended to help develop the associated competence but applicants for equivalence can use alternative means to develop and demonstrate the relevant competence. This Table can be used as the basis for the necessary business case. The judgement on nuclear equivalence will be made against the competence requirements in [Table 3.2](#). In addition, a revised set of nuclear TIMS have been developed for direct recruitment of Nuclear Inspectors. These are reproduced at Training and Development Requirements to complement [Table 3.2](#) when judging applicants for nuclear equivalence, to promote a common approach to direct recruits and those who may join from other parts of HSE/OGDs.

T&D PROVISION	STATUS	CONFIRMATION (line manager)	DATE	NOTES
Competence:				
Analytical skills derived from a sound education and training in relevant science or technical subject, plus experience of application of those skills in practice (apart from the need to be able to analyse often complex proposals, these competences are also relevant to the need to secure credibility and influencing capability with licensee staff who are subject to legal arrangements to demonstrate their own competence).				
1 Agreed enhancements to academic qualifications.	M (if identified)			The need for this will be agreed with the NTL, in conjunction with Line Manager. NB it is a recruitment/entry requirement for nuclear inspectors to possess generally a good honours degree (agreed at the June 2007 NDMB).
2 Agreed enhancements to professional discipline understanding.	M (if identified)			Agreed enhancements to discipline capabilities as required for likely discipline applications with the NII, agreed with NTL in conjunction with Line Manager. NB it is a recruitment/entry requirement for nuclear inspectors generally to be a member of the relevant professional institution (Chartered status for engineers, equivalent for scientists). This was agreed at the June 2007 NDMB. These enhancements are not aimed specifically at nuclear applications, but at any additional capabilities that may be required within the discipline. For example, a mechanical engineer from the high hazard industry with significant structural integrity expertise may need to develop understanding of lifting applications.

Competence:				
Understanding of application of discipline technological knowledge and subject skill in the nuclear sector.				
3 As established by NTL/line manager.	M (if identified)			See also OJT 1-9.
Competence:				
Understanding of nuclear and radiological hazards and appreciation of the way in which safety functional requirements of structures systems and components are derived for their control.				
4 Nuclear Safety Course.	M			New course. Attendance at this course will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD. All new joiners should attend this course to establish a baseline for future development against this competence.
5 Completion of post-course development.	M			This course will include a formal evaluation process (test) from which any need for further development will be identified. Completion of post-course development will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD. For inspectors recruited as nuclear inspectors, completion of this will be achieved via the performance management system.
Competence:				
Understanding of the way in which safety cases should be used to demonstrate the control of nuclear and radiological hazards. This should cover all the likely elements of a safety case as well as the way in which demonstrations are put together (claim, argument, evidence) and expectations for defence in depth and the application of the relevant SAPs.				
6 Safety Assessment Course.	M			Attendance at this course will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD.
7 OJT 1. Assessment of hazard analysis techniques.	M/D			Items marked M/D are mandatory for those recruited from other parts of HSE/OGD, discretionary for direct recruits depending on previous experience. Line manager will agree requirements.
8 OJT 2. Assessment of design basis analysis.	M/D			See note for item 7.
9 OJT 3. Assessment of methodology for determination of adequacy of safety systems, functions and controls.	M/D			See note for item 7.

10 OJT 4. Assessment of ALARP process.	M/D			See note for item 7.
11 OJT 5. Assessment of severe accident analysis.	M/D			See note for item 7.
12 OJT 6. Assessment of PSA and related analytical techniques.				See note for item 7.
13 OJT 7. Assessment of engineering or design substantiation processes.	M/D			See note for item 7.
14 OJT 8. Use of SAPs.	M			
15 OJT 9. Assessment of derivation of safe operating envelop.	M/D			See note for item 7.
16 OJT 10. Verification Inspection (ie check that adequate safety case provisions are properly implemented in practice).	M			
Competence:				
Understanding of relevant good industry practice and what constitutes ALARP within discipline.				
17 Safety Assessment Course.	M			
18 OJT 11a. ALARP.	M			
19 OJT 11b. ALARP.	M			
Competence:				
Understanding of the way in which a safe operating envelope (Operating Rules and Safety Mechanisms) is derived from the safety case and ND expectations with regard to engineered and managerial defence-in-depth provisions.				
20 Safety Assessment Course.	M			Attendance at this course will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD.
21 Site Inspection for Assessors Course.	M			Mandatory for Inspectors who carry out a significant amount of site work. Attendance at this course will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD.

22 OJT 12a. LC23/27 Inspection.	M			
23 OJT 12b. Presentation on inspection at 12a.	M			
Competence:				
Ability to carry out balanced assessment through reference to key plant hazards and previous licensee/plant performance.				
24 Safety Assessment Course.	M			Attendance at this course will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD.
25 Site Inspection for Assessors Course.	M			Mandatory for Inspectors who carry out a significant amount of site work. Attendance at this course will be counted towards nuclear equivalence only for those recruited from other parts of HSE/OGD.
26 OJT 13. Plant visit and presentation.	M			

Nuclear Inspection –Competence Record (Table 3.2)

COMPETENCE REQUIREMENT	EVIDENCE	ASSESSOR ¹	LEVEL ²	DATE	NOTES
<p>1 Analytical skills derived from a sound education and training in relevant science or technical subject, plus experience of application of those skills in practice (apart from the need to be able to analyse often complex proposals, these competences are also relevant to the need to secure credibility and influencing capability with licensee staff who are subject to legal arrangements to demonstrate their own competence).</p>	<p>Agreed enhancements to academic qualifications.</p>				<p>It is a recruitment requirement that nuclear inspectors generally possess a good honours degree, agreed at the June 2007 NDMB. There may be occasions when it is necessary, post recruitment, to consider whether academic enhancements are necessary to ensure that learning fully meets ND expectations. An example would be a master's degree in a particular sub-discipline. The NTL will advice and judge satisfactory completion.</p>
	<p>Agreed enhancements to professional discipline understanding.</p>				<p>Need determined in conjunction with NTL and satisfactory completion judged by the NTL.</p> <p>It is a recruitment/entry requirement for nuclear inspectors generally to be a member of the relevant professional institution (Chartered status for engineers, equivalent for scientists). This was agreed at the June 2007 NDMB.</p>
<p>2 Understanding of application of discipline technological knowledge and subject skill in the nuclear sector.</p>	<p>Agreed enhancements to discipline capabilities as required for nuclear applications.</p>				<p>If an inspector is recruited into HSE as a nuclear inspector then this requirement is satisfied initially in the recruitment process but will be subject to a training needs analysis as part of routine performance management activity.</p> <p>If an inspector joins ND from other parts of HSE/OGD, then the judgement of satisfactory attainment of this competence requirement will be made by the NTL against appropriate discipline standards.</p> <p>NB: The depth and breadth of nuclear enhancement may vary between disciplines.</p>
<p>3 Understanding of nuclear and radiological hazards and appreciation of the way in which safety functional requirements of structures</p>	<p>Evaluation of attendance at Nuclear Safety Course.</p>				

COMPETENCE REQUIREMENT	EVIDENCE	ASSESSOR ¹	LEVEL ²	DATE	NOTES
systems and components are derived for their control.	Completion of post-course development.				
4 Understanding of the way in which safety cases should be used to demonstrate the control of nuclear and radiological hazards. This should cover all the likely elements of a safety case as well as the way in which demonstrations are put together (claim, argument, evidence) and expectations for defence in depth and the application of the relevant SAPs.	Evaluation of attendance at Safety Assessment Course.				
	OJT 1. Assessment of hazard analysis techniques.				
	OJT 2. Assessment of design basis analysis.				
	OJT 3. Assessment of methodology for determination of adequacy of safety systems, functions and controls.				
	OJT 4. Assessment of ALARP process.				
	OJT 5. Assessment of severe accident analysis.				
	OJT 6. Assessment of PSA and related analytical techniques.				
	OJT 7. Assessment of engineering or design substantiation processes.				
	OJT 8. Use of SAPs.				
	OJT 9. Derivation of safe operating envelope.				
5 Understanding of relevant good industry practice and what constitutes ALARP within discipline.	Evaluation of Attendance at Safety Assessment Course.				
	OJT 11a. ALARP.				

COMPETENCE REQUIREMENT	EVIDENCE	ASSESSOR ¹	LEVEL ²	DATE	NOTES
	OJT 11b. ALARP.				
6 Understanding of the way in which a safe operating envelope (operating rules and safety mechanisms) is derived from the safety case and ND expectations with regard to engineered and managerial defence-in-depth provisions.	Evaluation of attendance at Safety Assessment Course.				
	Evaluation of attendance at Site Inspection for Assessors Course.				
	OJT 12a. LC23/27 inspection.				
	OJT 12b. Presentation on inspection at 12a.				
7 Ability to carry out balanced assessment through reference to key plant hazards and previous licensee/plant safety performance.	Evaluation of attendance at Safety Assessment Course.				
	Evaluation of attendance at Site Inspection for Assessors Course.				
	OJT 13. Plant visit and presentation.				

NOTE

1 Normally Line Manager (with NTL as appropriate).

2 Assessed on a scale of 1 - 3. 1 = more development required, 2 = competent, 3 = suitable to act as mentor.