Office for Nuclear Regulation

ONR GUIDE			
Licensee Core and Intelligent Customer Capabilities			
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1. INTRODUCTION

1.1 ONR has established its Safety Assessment Principles (SAPs) MS.1 to MS.4 which apply to the assessment by ONR specialist inspectors of the organisational capability of potential land existing licensees. The principles presented in these SAPs are supported by a suite of guides to further assist ONR's inspectors in their technical assessment work in support of making regulatory judgements and decisions. This technical assessment guide is one of these guides.

2. PURPOSE AND SCOPE

2.1 The primary responsibility for the safety of a nuclear installation rests with the licensee. The licensee must be able to demonstrate sufficient knowledge of the plant design and safety case for all plant and operations on the licensed site. The licensee must be in control of activities on its site, understand the hazards associated with its activities and how to control them, and have sufficient competent resource within the licensee organisation to be an 'intelligent customer' for any work it commissions externally.

2.2 This TAG provides guidance to help Inspectors assess the suitability of the approaches that a licensee may take to the maintenance of in-house expertise to maintain control and oversight of nuclear safety at all times, and the use and oversight of contractors whose work has the potential to impact on nuclear safety. It considers the licensee's approach to:

- Identification of the core capability that it needs to understand its safety case, manage activities on the nuclear licensed site and deliver nuclear safety;
- Use of contractors to perform functions that have the potential to impact on nuclear safety;
- Identification of its 'intelligent customer' capability within the core capability to understand, specify, oversee and accept nuclear safety related work undertaken on its behalf by contractors.

2.3 Definitions

The following words or phrases are used in this document:

- **'Core Capability'** means the knowledge, functional specialisms and resources that the licensee should maintain within its own organisation to be able to maintain control and oversight of safety at all times. This core capability will include technical, operational and managerial elements. The licensee's 'Intelligent customer' and 'Design Authority' capabilities, and 'nuclear baseline' posts will be sub-sets of the overall core capability.
- '**Contractor**' means any organisation or individual person that provides a service for a licensee under a legally binding contract that is not in the licensee's direct employment or formally seconded to the licensee from the licensee's parent company. This definition also includes divisions or functions of the parent company organisation appointed by the licensee organisation to provide specific services e.g. Architect Engineer or Responsible Designer services.

  The definition excludes individual contractors or members of contractor organisations which the licensee is able to demonstrate as being fully embedded in the licensee organisation to the point that they can be regarded as employees for health and safety law purposes, and 'secondees' from a parent company or parent body organisation. Annex 1 gives further explanation of when these exclusions apply.

- '**Intelligent Customer**'. The concept of intelligent customer (IC) was developed by ONR and has gained international acceptance. It is defined by the IAEA as follows:

  'As an intelligent customer, in the context of nuclear safety, the management of the facility should know what is required, should fully understand the need for a contractor's services, should specify requirements, should supervise the work and should technically review the output before, during and after implementation. The concept of intelligent customer relates to the attributes of an organisation rather than the capabilities of individual post holders'.

  A licensee's intelligent customer capability will be a sub-set of its core capability.

2.4 This guidance may also be used to inform ONR assessment of the procurement of safety critical equipment which will be manufactured to the specification of the licensee or others formally appointed to act on its behalf.

3. RELATIONSHIP TO NUCLEAR SITE LICENCE AND OTHER LEGISLATION

3.1 The Health and Safety at Work etc. Act (1974)

- Sections 3 and 4 of the Act give employers general duties to protect the health and safety of people they do not directly employ and those who have access to their premises.

3.2 The Management of Health and Safety at Work Regulations (1999)

- Regulation 3 requires every employer to make a suitable and sufficient assessment of the risks to the health and safety of people other than direct employees in connection with the work they are undertaking for the employer.
- Regulation 12 requires that any employees from an outside undertaking are provided with comprehensive information by the employer relating to the risks to their health and safety arising from the work they are undertaking for the employer.

3.3 The Construction (Design and Management) Regulations (2007)

- These regulations impose requirements and prohibitions with respect to the design and management aspects of construction work.

3.4 Nuclear Installations Act (1965) as amended (NIA)

- The NIA requires HSE to attach conditions to nuclear site licences as necessary in the interests of safety. Most of the conditions attached to the nuclear site licences apply to relevant work undertaken by contractors.

3.5 Nuclear Site Licence Conditions

- **LCs 6 and 25 – Documents, Records, Authorities and Certificates, and Operational Records.** These conditions require a licensee to ensure that contractors and vendors supply relevant documents and records as specified under contract by the licensee, for example on completion of work.
- **LC 7 – Incidents on Site.** This condition requires a licensee to ensure that contractors are aware of and engaged in arrangements to report incidents.
- **LC 9 – Instructions to Persons on Site.** This condition requires a licensee to ensure that contractors on site are given adequate instructions about hazards and emergency arrangements.

- **LC 10 and 12 – Training, and Duly Authorised Persons and Other Suitably Qualified and Experienced Persons.** These conditions require a licensee to ensure that anyone carrying out work that may affect nuclear safety on the site is suitably qualified and experienced (SQEP). This includes all of the supply chain of the site and, where appropriate, off-site work by contractors and vendors, wherever in the world they happen to be.
- **LC 11 – Emergency Arrangements.** This condition requires a licensee to consider, where necessary, the new hazards that contractors may bring to site in the site emergency plan.
- **LC 17 – Management Systems.** This condition requires a licensee's quality management arrangements to robustly encompass all work carried out for the site by contractors whether as an on-site contractor or as a vendor of goods and services.
- **LC 18 – Radiological Protection.** This condition requires a licensee to make and implement arrangements for the radiological protection of all workers on site, including contractors.
- **LCs 19 to 22 – Construction, Installation and Modification of New Plant, Commissioning, and Modification or Experiment on Existing Plant**. These conditions require a licensee to make and implement arrangements to control construction, modification, commissioning etc. of plant which include arrangements for appropriate control and oversight of work performed by contractors.
- **LC 26 – Control and Supervision of Operations.** This condition requires a licensee to ensure that all operations that may affect safety are under the control and supervision of persons who are formally appointed as SQEP by the licensee. This strengthens the general requirements of the Health and Safety at Work Act by specifying the need to ensure the competence of supervisors and imposes a duty to control work.
- **LC 36 – Organisational Capability.** This condition requires a licensee to provide and maintain adequate financial and human resources to ensure the safe operation of the licensed site, and to make and implement adequate arrangements to control any change to its organisational structure or resources which may affect safety.

4. RELATIONSHIP TO SAPS, WENRA REFERENCE LEVELS AND IAEA SAFETY STANDARDS

Safety Assessment Principles (SAPs)

4.1 The Safety Assessment Principles (SAPs) for Nuclear Facilities (2006 Edition Revision 1) provide a framework to guide regulatory decision making in the nuclear permissioning process. They are supported by Technical Assessment Guides (TAGs) which further aid the decision making process. The following principles are of particular relevance to this TAG:

- MS.1. Leadership. Identifies the need for directors, managers and leaders to focus the organisation on achieving and sustaining high standards of safety and on delivering the characteristics of a high reliability organisation.
- MS.2. Capable Organisation. Identifies the need for an organisation to have the capability to secure and maintain the safety of its undertakings.
- MS.3. Decision Making. Identifies the need for decisions at all levels that effect safety to be rational, objective, transparent and prudent.

- MS.4. Learning from Experience. Identifies the need to learn lessons from internal and external events to continually improve leadership, organisational capability, safety decision making and safety performance.

Technical Assessment Guides

4.2 The following Technical Assessment Guides are applicable to this TAG:

- **T/AST/027 – Training and Assuring Personnel Competence**

  This TAG informs regulatory assessment of a licensee's approach to implementing a systematic approach to training.

- **T/AST/048 – Organisational Capability**

  This TAG sets out the broad principles which underpin ONR's expectations of a licensee's arrangements to provide and maintain adequate financial and human resources and to control changes to its organisational structure or resources which may affect safety.

- **T/AST/065 – Function and Content of the Nuclear Baseline**

  This TAG addresses the means by which the licensee demonstrates that its organisational structure, staffing and competencies are, and will remain, suitable and sufficient to manage nuclear safety throughout the full range of the licensee's business. It provides the foundation from which organisational change can be assessed.

- **T/AST/072 – Function and Content of a Safety Management Prospectus**

  This TAG expects the licensee to be able to demonstrate via the SMP a coherent approach to safety management incorporating organisation, resources and management systems.

- **T/AST/077 – Procurement of Nuclear Safety Related Items or Services**

  This TAG informs regulatory assessment of supply chain arrangements which are particularly important to the supply of items or services significant to nuclear safety designated for use in the UK. It highlights the need for the licensee to provide clarity regarding:

  - Who is, or will, ultimately be responsible for providing assurance that procured items with nuclear safety significance meet the required specification;
  - The purchaser's understanding of its responsibilities, either under a nuclear site licence or as a supplier to a future nuclear site licensee, and the adequacy of arrangements to assure the quality of items or services received from the supply chain;
  - The adequacy of skills and resources within the licensee organisation to maintain control and oversight of the procurement process for items or services.
  - **T/AST/079 – Licensee Design Authority Capability**

    This TAG sets out the ONR's expectations for existing and prospective licensees' Design Authority capability. It considers the licensee's approach to:

  - Identification and implementation of organisational arrangements and core competencies to understand and manage the design of its plant and the safety functions that needs to be provided;
  - The use of contractors as 'Responsible Designers' to provide authoritative advice to the Design Authority;

- The retention of design knowledge in a form that is practically and easily available to the licensee over the full lifetime of the plant until the plant is decommissioned.

Licensing of Nuclear Installations (ONR 2012)

4.3 Paragraphs 81, 82 and 83 set out ONR's expectations of a licensee's intelligent customer capability, including the requirement for the licensee to have sufficient, suitably qualified and experienced staff, and for the creation of a Design Authority function within the licensee. Paragraph 83 also expects the licensee to develop appropriate strategies to transfer expert plant design knowledge from the vendor.

Relevant WENRA Safety Reference Levels

4.4 The objective of the Western European Nuclear Regulators Association (WENRA) is to develop a common approach to nuclear safety in Europe by comparing national approaches to the application of IAEA safety standards. The Reactor Harmonisation Working Group Reference Levels, 2008 represent good practices in the WENRA member states. The following issues have been embodied within this TAG and should be taken into account by the inspector:

- Issue A: Safety Policy – Key elements of a licensee's safety policy should be communicated to contractors in such a way that the licensee's expectations and requirements are understood and applied in their activities.
- Issue B: Operating Organisation – Organisation structure, management of safety and quality, sufficiency and competency of staff. It identifies the need for:
  - The organisation structure to be justified and documented.
  - Sound decision making, continuous monitoring of safety performance, use of relevant operating experience, control of activities through a documented management system, and independent review of safety issues by a suitably qualified independent review function.
  - The required number of staff for safe operation to be analysed in a systematic and documented way.
  - The licensee to maintain in house sufficient and competent staff and resources to specify, set standards, manage and evaluate safety work carried out by contractors.
- Issue C: Management system, management commitment. Identifies the need for:
  - The control of processes, or work performed within a process, contracted to external organisations should be identified within the management system. The licensee should retain overall responsibility when contracting any process or work performed within a process.
  - Suppliers of products and services should be selected on the basis of specified criteria and their performance should be evaluated.

IAEA Safety Standards

4.5 The IAEA Safety Standards, Requirements and Guides were the benchmark for the revision of the SAPs in 2006 and are recognised by ONR as relevant good practice. They should therefore be consulted, as appropriate, by the Inspector. The following requirements and guides are applicable:

- Fundamental Principle 1: Responsibility for Safety - states that 'The prime responsibility for safety must rest with the person or organisation responsible for facilities and activities that give rise to radiation risks'.

4.6 IAEA Safety Standard GS-R-3 'The Management System for Facilities and Activities'. This safety standard defines the requirements for establishing, implementing, assessing and continually improving a management system that integrates safety, health, environmental, security, quality and economic elements to ensure that safety is properly taken into account in all the activities of an organisation. Section 3 'Management Responsibility', Section 4 'Resource Management' and Section 5 'Process Management' are particularly relevant to the use of contractors and intelligent customer capability.

5. ADVICE TO INSPECTORS

Background

5.1 Licensees should understand the knowledge, functional specialisms and resources that they need to maintain within their organisations to be able to maintain control and oversight of safety at all times. They should be able to demonstrate a 'core capability' within the licensee organisation that has sufficient competent persons to be able to maintain control and oversight of safety at all times. This core capability will include, but not necessarily be limited to, technical, operational and managerial resources. Licensees will also be expected to demonstrate that, within their core capability, they have sufficient in-house expertise to fulfil specific roles relating to intelligent customer, design authority and nuclear baseline (nuclear safety).

5.2 A licensee's core capability should comprise directly employed, competent staff. However, ONR recognises that direct employment by the licensee organisation may not be the preferred model for some licensee organisations and its core capability may include staff seconded from parts of a parent company. Contract resources, including embedded contractors, are not regarded as being part of a licensee's core capability.

5.3 Licensees may choose to use contractors to carry out some activities. The importance of taking appropriate decisions on when to use contractors, and the effective management of their work, has been highlighted in a number of events and near misses across the nuclear and other high hazard industries – for example in the construction of new nuclear power stations at Flamanville in France and Olkiluoto in Finland, the explosion and fire at the Buncefield oil storage deport in 2005, and the Deepwater Horizon drilling rig explosion in 2010.

5.4 The aim of this guide is to help Inspectors assess whether or not the arrangements that licensees have identified to establish and maintain the core competencies that they need to manage safety, and to retain control of those items and services that are contracted out, are adequate. It should be read in conjunction with T/AST/077 'Procurement of Nuclear Safety Related Items or Services' and T/AST/079 'Licensee Design Authority Capability' which make specific references to the use of contractors and intelligent customer capability.

Principles on the Use and Management of Contractors

5.5 There are some broad principles which underpin ONR's expectations of a licensee's arrangements for the use of contractors and for retaining control of nuclear safety. These are summarised below and then interpreted in the sections that follow.

1. The licensee should maintain a core in-house staff to ensure effective control and management for nuclear safety;
2. The licensee should retain overall responsibility for, and control and oversight of, the nuclear and radiological safety and security of all of its business, including work carried out on its behalf by contractors (note that this is a legal requirement);

3. Licensee choices between sourcing work in-house or from contractors should be informed by a company policy that takes into account the nuclear safety implications of those choices;
4. The licensee should maintain an 'intelligent customer' capability for all work carried out on its behalf by contractors that may impact upon nuclear safety;
5. The licensee should ensure that it only lets contracts for work with nuclear safety significance to contractors with suitable competence, safety standards, management systems, culture and resources;
6. The licensee should ensure that all contractor staff are familiar with the nuclear safety implications of their work and interact in a well coordinated manner with its own staff;
7. The licensee should ensure that contractors' work is carried out to the required level of safety and quality in practice.

Principle 1

Licensees should maintain a core of in-house staff to ensure effective management for nuclear safety.

5.6 The licensee should be able to identify and maintain the core capability that it needs to maintain effective management for nuclear safety. ONR expects the licensee to, within its own organisation, have sufficient competent persons to be able to maintain control and oversight of safety at all times. This 'core capability' will include technical (e.g. design authority, engineering, safety case capability), operational and managerial elements. Together they combine to ensure that the safety case for the installation is understood and maintained, and that the site, and plants or projects are operated in accordance with the safety case and the conditions of the nuclear site licence.

5.7 The licensee should be able to demonstrate that it is sustaining its core capability and that this capability is resilient – in other words, the licensee understands challenges to its retention of this capability and has put in place measures to mitigate them. Such measures may include vulnerability analysis, progression planning, review of the availability of external capability etc.

5.8 The most secure source of core capability is generally direct employment of competent staff. ONR recognises that direct employment by the licensee organisation may not be the preferred model for some licensee organisations and its core capability may include staff seconded from parts of a parent company. In such instances, the licensee must be able to demonstrate that it has formal arrangements in place to ensure that it will, at all times, have access to sufficient, competent staff and that those staff cannot return to the parent company individually or en bloc unless sufficient notice is given by the parent company to allow alternative arrangements to be made by the licensee to ensure continuity of core capability (see guidance in Annex 1).

5.9 The licensee's approach to identifying and managing its core capability should initially be set out in its Safety Management Prospectus (see T/AST/072 'Function and Content of a Safety Management Prospectus') and developed in more detail using an established methodology set out in its Nuclear Baseline (see T/AST/065 'Function and content of a Nuclear Baseline). The continued suitability of this approach should be periodically reviewed and kept live.

5.10 The licensee Board should put arrangements in place to assure itself that key decisions relating to the size of the core capability are subject to robust challenge and scrutiny. It should also be actively involved in assessing the implications, and monitoring the subsequent implementation, of proposed organisational changes where key activities with the potential to impact on nuclear safety may be outsourced or the size of the core capability significantly reduced.

5.11 New licensees whose primary objective is to construct new nuclear power stations should:

- Take into consideration their core capability needs commensurate with stages of the project. In the pre-construction stage, ONR acknowledges that much of the knowledge of plant design may reside with the Responsible Designer (RD) or Architect Engineer (AE). The licensee should develop an appropriate core capability to manage the totality of its activities as a licensee which includes sufficient resource to act as an 'intelligent customer' for the services provided by the RD or AE. It is important to note that, although the RD or AE may have an enduring role, it should always be regarded as a key external resource and not a part of the licensee's core capability.
- Be able to demonstrate that they understand when and how much core capability they need to develop in house or transfer into the licensee organisation from the AE or RD as the project progresses including a strategy to achieve this. It is expected that the licensee's core capability will increase and the role of the RD or AE will diminish as the project progresses through the pre-construction, construction and commissioning phases, and into operations.

5.12 Established licensees should:

- Be able to justify the size of their core capability and demonstrate how they are maintaining it via their arrangements for complying with LC 36 'Organisational Capability'. This will include a justification of the level of technical, operational and managerial and other key resources, and the level of resource required for fulfil specific roles such as intelligent customer, design authority and nuclear baseline as part of the overall core capability. It is important to note that intelligent customer, design authority and nuclear baseline capabilities are sub-sets of the overall licensee core capability. The nuclear baseline in particular should specifically identify posts containing roles with the potential to impact on nuclear safety. It should not include other non-nuclear safety related posts.
- Consider the nuclear safety implications arising from the potential for loss or degradation of core capability over time, particularly if they are considering contracting out major parts of their technical capability. The impact of such an approach should be fully assessed, justified and shared with ONR using the licensee's management of organisational change arrangements.

5.13 The Inspector should consider whether or not:

- The licensee has a rationale and justification for its current and future core capability and whether this methodology clearly identifies subordinate key roles such as intelligent customer, design authority and nuclear baseline.
- There is adequate evidence to demonstrate that core capability is being maintained at the level specified by the licensee and regularly monitored and reviewed by the licensee Board.

Principle 2

The licensee shall retain overall responsibility for, and control and oversight of, the nuclear and radiological safety and security of all of its business, including work carried out on its behalf by contractors.

5.14 The Nuclear Installations Act places a duty on the licensee to ensure that the conditions of the licence are complied with. The licensee is not able to delegate this responsibility to contractors, service providers or others who do work on its behalf (see

definition of ‘contractor’ in section 2.3). The licensee therefore must retain overall responsibility for nuclear and radiological safety at all times, and ONR considers that in order to do this it must maintain a suitable level of control and oversight of those who are carrying out work on its behalf.

5.15 In order to retain this control and oversight, the licensee needs to identify the potential nuclear safety impact of its activities and bear this in mind when making decisions about whether to retain those activities should be undertaken by in-house resources or whether they can be contracted them out. These decisions should be informed by a company policy on the use of contractors (see Principle 3).

5.16 Decisions will be affected not only by nuclear safety significance, but also by the nature of the work being considered. For example, if the licensee is considering contracting out the management of some activities as opposed to performing operations or administrative functions using its own resources, it may be appropriate to question whether the licensee can remain in control of those activities. Similarly, if the licensee is considering using contractors to deliver functions which are core to the continued safe operation of its facility, it is reasonable to seek confidence that the licensee is able to retain the capability to make and enact its own decisions on safety matters.

5.17 In such instances, the licensee must be able to demonstrate that, through a combination of technical competence, understanding of the work, management arrangements, relationship with the contractor, and assurance of the contractor’s management arrangements, that it will retain adequate and enduring control of the nuclear safety risks by being an ‘intelligent customer’ for work carried out by a contractor on its behalf.

5.18 It should be noted that the Board of the licensee organisation is the ultimate ‘intelligent customer’ for the activities undertaken on its behalf on the nuclear licensed site. It should demonstrably own the company policy on the use of contractors (see Principle 3) and ensure that arrangements are in place to monitor the effectiveness of work undertaken by contractors on its behalf.

5.19 The Inspector should consider whether or not:

- The licensee has robust, auditable policies and arrangements in place through which it can demonstrate that:
  - The licensee has retained within its own organisation, at all times, the capability to make, and take responsibility for, informed and prudent decisions and actions affecting nuclear safety;
  - The licensee will remain in control at all times of work with nuclear safety implications that is carried out on its behalf by contractors on the nuclear licensed site;
  - Adequate arrangements are in place to maintain oversight of work with nuclear safety implications that is carried out on its behalf by contractors off the nuclear licensed site.
- There a clear line of sight and evidence of responsibility being exercised in a proportionate manner, from the Board down, for all work placed with the supply chain with nuclear safety implications and any proposed organisational changes that may affect the size of the core or intelligent customer capabilities.

Principle 3

Licensee choices between sourcing work in-house or from contractors should be informed by a company policy that takes into account the nuclear safety implications of those choices.

5.20 The licensee should establish a clear policy and rationale for making choices between placing work and business activities with the supply chain, or retaining them in-house (a 'make or buy' policy). This policy should take adequate account of the long and short-term nuclear safety implications of using contractors.

5.21 Licensee organisations should be aware of, and be able to justify, the approach that they take to use of contractors. This may differ according to the maturity of the licensee organisation.

5.22 For new build organisations, the approach to the use of contractors should be explained in its Safety Management Prospectus. The approach should recognise the need for, and demonstrate, the ability of the licensee to retain control and oversight of nuclear safety and to deliver an adequate 'intelligent customer' capability. This is particularly important where a new build organisation intends to appoint a Responsible Designer (RD) to develop the UK specific design, or an Architect Engineer (AE) to project manage aspects of new build development and installation. In such instances, the licensee must be able to demonstrate that it is in control of the new build project and has adequate arrangements and resources to oversee work being undertaken on its behalf by the RD or AE.

5.23 For established licensees, the use of contractors may have grown historically, rather than in accordance with a coherent policy. In such instances, this should be recognised by ONR and the licensee, and the licensee should be able to provide evidence to justify its approach, and demonstrate that it is soundly based and will not have a detrimental effect on nuclear safety. Use of the policy should also be evident when significant organisational changes are being formulated which involve consideration of whether or not to retain services and resources in-house or to outsource them from the supply chain. Although commercial considerations may influence that choice they should not outweigh or override safety.

5.24 The licensee should be able to demonstrate that it has a process to consider potential organisational vulnerabilities arising from dependence on contractors which ideally links to or integrated with the nuclear baseline. Vulnerability may increase as a result of factors such as the scarcity of, and demand for, the services that the contractor provides, the degree of site specific knowledge required for the task, and how readily available suitably qualified and experienced (SQEP) replacements are, either in-house or in the market place.

5.25 Where contracted work may create a dependency on singleton or specialised contractors for essential safety related work such as maintenance, ONR expects the licensee to have identified this as a vulnerability as part of a structured vulnerability assessment and be able to justify the decision; and explain what the contingency and succession arrangements would be should the contract terminate. The vulnerability assessment should result in actions to mitigate individual vulnerabilities which are monitored and managed as part of the licensee's human resource processes. The vulnerability analysis should be subject to regular review.

5.26 The Inspector should consider whether or not:

- The licensee has a clear policy and rationale for use of contractors and there is evidence that the policy is being used in practice;
- Licensee management is able to explain and justify the extent of its current and future reliance on contractors;

- Contractorisation proposals may potentially weaken the control of the licensee or introduce ambiguities over the legal positions of the parties involved, for example new functional contractorisation or partnership proposals. In such instances the Inspector should seek the advice of the ONR Leadership and Management for Safety Professional Lead.
- Where a licensee has contracted out functions, or is proposing to do so, it can show that the risks of doing so have been adequately assessed and managed. This includes considering whether:

o Contracting out the task could compromise the licensee's retention of core capability;

o Contracting out the work introduces potential for additional challenges to nuclear safety and, where this may be so, showing how these risks are managed;

o The licensee has considered potential vulnerabilities arising from loss of services provided by contractors with key nuclear safety related capabilities and, where appropriate, identified contingency arrangements. This may include consideration of whether or not the knowledge required for the task is scarce or more generally available in the market place, or whether there will be sufficient competent staff in-house to provide effective care and maintenance until replacement contract support can be found.

- The licensee has a process to assess and manage organisational vulnerabilities arising from the use of contractors.

Principle 4

The licensee should maintain an 'intelligent customer' capability for all work carried out on its behalf by contractors that may impact upon nuclear safety.

5.27 The licensee may choose to contract out work which has the potential to impact upon nuclear safety. In these circumstances, the licensee should be able to demonstrate that, within its core capability, it has a suitable and sufficient competence, resource and arrangements to understand where and when work is needed; specify requirements to carry out that work; understand and set suitable standards; supervise and control the work; and be able to review, evaluate and accept the work carried out on its behalf. This capability is referred to as the 'Intelligent Customer (IC)' (see paragraph 2.3 for the IAEA definition).

5.28 The licensee should be able to demonstrate that it understands the need to retain an IC capability and it has put in place arrangements to determine the range of functions for which it requires IC capability. It should be able to demonstrate that it has the ability to make informed judgements about the depth of knowledge and level of SQEP resource it will require to maintain its IC capability for each function. It should be noted that IC is a function of the licensee as a whole, and the IC capability to manage contracted work is unlikely to be vested in a single individual.

5.29 It is expected that a licensee will develop IC arrangements appropriate for the construction of new nuclear facilities. These arrangements should be an integral part of its management system, and reflect the IC requirements commensurate with the lifecycle phases of the project i.e. design, procurement, construction, installation, commissioning and operation. The arrangements should ensure that, in the event that individuals holding IC roles change during the course of the project, or IC responsibilities change as the project moves from one phase to the next, there is a mechanism to formally handover IC responsibility from one role holder to the next.

5.30 The licensee should be able to demonstrate that it is delivering in practice its claimed IC capability. For example, if contractors are used to prepare a safety case, the

licensee must be competent to ensure that the contractor is suitably qualified and experienced, follows an appropriate methodology, and uses the correct data and assumptions. The licensee should have sufficient knowledge to understand the limitations and implications of the analysis to its safety case; to question and challenge the contractor's work; and to show that it has applied an appropriate degree of oversight in practice. The licensee should be able to lead the presentation of the safety case arguments. However the licensee need not necessarily have the depth of knowledge required to undertake the detailed analysis itself.

5.31 Roles with IC responsibilities should be identified in the nuclear baseline. As part of this process, the licensee should be able to demonstrate that it has put in place suitable succession planning for individuals holding IC roles.

5.32 The Inspector should consider whether or not:

- The licensee is able to demonstrate that it has arrangements in place to identify and secure the intelligent customer capability needed to conduct its business;
- Arrangements are in place to identify the competencies required to fulfil IC roles and that individuals fulfilling IC roles are demonstrably competent and formally appointed to the roles;
- Posts containing IC roles are clearly identified on the licensee's nuclear baseline and that these posts are included in the vulnerability assessment;
- Contingency plans are in place to cater for loss of staff or absences in vulnerable areas, particularly where IC numbers are scare or individuals fulfilling IC roles are singletons;
- The licensee is able to demonstrate the application of IC capability to selected activities by:
  - Explaining how it is able to judge when external expertise is required;
  - Showing that it understands the relevance of any given work carried out by contractors to the safety case;
  - Explaining how the specification for contracted work was derived,
  - Showing how it assessed the technical quality of tenders and proposals;
  - Explaining why the contractor selected was suitable for the specific task;
  - Showing that it monitored the potential impact on nuclear safety of work being performed by contractors, and explaining how it judged if this was adequate;
  - Explaining how it has evaluated the items or services provided and determined that it was of the appropriate quality;
  - Being able to lead the presentation of safety case arguments to the regulator.
- There is any evidence of unsafe or poor quality work by contractors and, if so, is the licensee able to demonstrate that it has identified the problem and has put suitable plans in place to learn from the experience;
- There is a process though which the licensee's senior management can gain assurance that the licensee has retained a suitable core capability and intelligent customer capability and that this is effective and robust in ensuring the safe performance of contractors.
- Arrangements have been developed for nuclear installation construction projects which ensure that IC responsibilities have been identified for each phase of the project and that they include arrangements for ensuring that there is a formal handover of IC responsibilities between the phases.

Principle 5

The licensee should ensure that it only lets contracts for work with nuclear safety significance to contractors with suitable competence, safety standards, management systems, culture and resources.

5.33 The licensee's safety management system should include a contractor selection and award process that ensures that the expectations of the successful contractor in terms of technical delivery, product or service quality, and nuclear safety culture and behaviours are clearly specified in the tender documentation. The process should include an examination of prospective contractors' overall ability and capacity to deliver the goods and services required, certification to an appropriate QA standard, and safety performance. It should be noted that although price is an important factor it should not override technical capability, quality and safety performance (see T/AST/077 'Procurement of Nuclear Safety Related Items or Services'). These requirements should be applied throughout the supply chain i.e. in sub-contracts between the main contractor and its sub-contractors.

5.34 The process should also ensure that once the contract has been awarded the contractor is only given tasks for which it has been assessed and deemed to be suitable and that its performance in delivering the contractual requirements is regularly assessed. The licensee should ensure that it has sufficient resources to oversee and assess contractor performance throughout the supply chain.

5.35 The licensee should be aiming for an intelligent customer and 'intelligent contractor' relationship where both deploy suitably qualified and experienced personnel who understand the requirements specified under the contract and are able to communicate them effectively. This is particularly important in the event that contract variations should arise where both parties need to be assured that variations to contract have been properly conceived, communicated, implemented and assessed for nuclear safety implications

5.36 The licensee should be able to show that it has made, and implemented, appropriate arrangements which provide assurance that its contractors' competencies are adequate. There should be a clear auditable trail that demonstrates that contractor staffs are equally as 'SQEP' as licensee staff would be for the same role (see T/AST 027 'Training and Assuring Personnel Competence'). For key contract staff whose services are needed regularly it may be appropriate to assess and confirm their competence using the licensee's competence assurance system. Where this is not the case, the licensee should be able to show how it has confirmed the adequacy of the contractors' arrangements for competence assurance.

5.37 These expectations apply to relevant work by contractors both on the licensed site and at other locations. For example, the licensee should take suitable steps to ensure that contractors' work on a safety case or on the construction of nuclear safety-related plant which is later to be used on site is carried out by SQEP people wherever in the world they happen to be located.

5.38 The contractor appraisal and approval system should be a 'live' system, such that the licensee actively monitors its contractors' safety management arrangements and performance and that any deficiencies are reviewed and acted on as appropriate.

5.39 The Inspector should consider whether or not:

- The licensee is maintaining a contractor selection and award process that ensures each contractor and subcontractor used has:
  - The technical capability, safety and quality performance to deliver contractual requirements without adversely affecting nuclear safety;

- The individual and collective competence to carry out the specified work contracted to the required safety and quality standards;
- The resources, including manpower and equipment, to carry out the work safely;
- A contractual arrangement that reflects the technical, safety and quality requirements of the licensee's contract and whether or not these arrangements are consistently applied to sub-contractors.

- The contractor is only given tasks for which it is suitable, and for which all of the above apply.
- The licensee can demonstrate that it has assured the adequacy of tenders and proposals from contractors, including clear identification of any particular or unusual hazards that their activities will introduce;
- There is evidence at all relevant stages of contract preparation and contractor selection that potential immediate or latent nuclear safety risks that could arise from the quality or conduct of the work have been identified and considered as necessary;
- There is evidence that effective action has been taken where contractor performance was judged to be less than adequate;
- The licensee's procurement procedures address communication and interfaces in the supply chain;
- The licensee actively monitors and gains assurance regarding the continuing suitability of its contractors' arrangements for delivering the required quality work using competent personnel;
- Procurement procedures include the need for technical and safety SQEPs to be formally appointed as Intelligent Customers.

Principle 6

The licensee should ensure that all contractor staff are familiar with the nuclear safety implications of their work and interact in a well coordinated manner with their own staff.

5.40 The licensee should provide its contractors with sufficient information and instruction to ensure that contractors' staffs work safely and understand the limits of what they can do. Their appreciation of the hazards should not be confined to the specifics of the task but should include their entire working environment when they are on the licensed site. It is important for contractors to be aware that they share legal accountability for the safety of their operations on the licensed site.

5.41 The licensee should be able to demonstrate that this applies throughout the supply chain where necessary. It is not sufficient to gain assurance that the main contractor understands the nuclear safety implications of its work; the licensee should seek assurance that sub-contractors have the same understanding.

5.42 Where contractors have a continuing relationship with the licensee, the licensee should be working to ensure that they become an integral part of the licensee's safety culture and expectations of behaviour. This means, for example, including contractors as well as licensee employees in safety briefs, working groups, behavioural safety initiatives, audits etc.

5.43 The licensee should also ensure that contractors are suitably inducted onto the site and that licensee behavioural expectations, as well as technical job performance, are effectively communicated and understood by the contracting organisation and its staff.

5.44 The licensee should ensure that there are clear arrangements, which are understood by all parties, for coordination, communication and authorisation of work between the licensee's own staff, contractors, and subcontractors. Where there is an extended supply chain, the potential exists at each interface for dilution and misunderstanding of customer requirements.

5.45 The licensee's' procurement processes should consider the potential number of sub-contract layers when letting contracts with the objective of avoiding unnecessarily long supply chains. The licensee should also ensure that there is effective communication and interfaces between each link in the supply chain to ensure that the licensee's requirements are clearly understood and effectively cascaded to each contractor.

5.46 The Inspector should consider whether or not :

- There is evidence that, at all relevant stages of a contract, the following items have been identified and appropriate control measures agreed and communicated, as necessary, to all contractor and sub-contractor staff working on the licensed site and their understanding verified:
  - Immediate or latent nuclear safety risks from inadequate quality of work or errors by contractors or subcontractors;
  - Radiological risks to contractor staff from the licensee's plant and processes;
  - Rules and instructions including, but not confined to, emergency arrangements;
  - Arrangements for authorising and managing work;
  - Arrangements for communication between all parties;
  - Quality management arrangements.
- There is evidence that contractors have been suitably inducted onto the site and are aware of the standards and behaviours expected to support the licensee's safety culture;
- Adequate information has been provided to licensee staff and others who may come into contact with a contractor concerning the nature, extent and control of the contractor's work;
- Contractor staffs with a frequent or permanent presence on the site have been given equivalent status to licensee staff and are being included in the licensee's normal two-way safety communications and other relevant safety activities.

Principle 7

The licensee should ensure that contractors' work is carried out to the required level of safety and quality in practice.

5.47 The licensee's arrangements and behaviour in supervising contractors should be active and rigorous, in proportion to the risks of the work, and the capabilities and track record of the contractor. Contracting out work does not lessen a licensee's legal accountability for the work done on its behalf and the degree of supervision and assurance should reflect that.

5.48 The licensee should judge whether or not it is able to reduce the level of supervision based on its assessment of the adequacy of the contractor's safety management and quality assurance arrangements. . The licensee should be able to demonstrate that it is aware, and in control of, the standards of work throughout the supply chain, proportionate to nuclear safety implications.

5.49 The licensee's arrangements should provide for work performed by contractors to be confirmed as complete in accordance with the technical specification, and formally

accepted by the IC. Expert resource should be engaged as appropriate to provide this assurance.

5.50 The Inspector should consider whether or not:

- The licensee is able to demonstrate that it has adequate arrangements and resources to monitor contractor, and where appropriate sub-contractor, performance to a degree that takes into account the hazards and risks associated with the tasks and the capabilities and previous performance of the contractor;
- There is evidence from the performance of contractor and subcontractor staff on site that the licensee's monitoring arrangements are effective;
- The licensee is able to demonstrate, where appropriate, that the arrangements that the contractor uses to ensure quality, such as quality targets and plans, are effective;
- Licensee contractors and sub-contractors are using up to date and approved technical specifications;
- The licensee's procurement arrangements include provision for :

  - Dialogue between the licensee and the contractor to ensure that the status of the work is clearly understood by the parties and, where appropriate, formally handed over either to the licensee or a subsequent contractor;
  - Dealing with early termination (for example through inadequate performance or bankruptcy);
  - Reviewing and recording the safety performance of a contractor for future reference.

6. APPENDICES

APPENDIX 1: TREATMENT OF SECONDED AND AGENCY STAFF

6.1 Seconded or agency staff may in some circumstances be considered as 'employees' under health and safety law as opposed to 'contractors' as discussed in this guidance (Health and Safety at Work Act (1974) (s53(1)).

6.2 There is no single indicator of an individual's employment status; rather it is a matter of looking at a number of factors and deciding whether on balance there is a contract of employment. Factors which need to be considered include:

1. Whether the Licensee has the power to select and appoint the individuals doing the work;
2. Whether the Licensee has the power to dismiss or suspend the worker.;
3. Whether the Licensee fixes the times and place of work;
4. Whether personal service is provided. A person will not normally be an employee if they are entitled to delegate the entire performance of the work to another person;
5. Whether they are formally appointed to a position within the licensee's organisation;
6. Whether they report via the management chain to the licensee and are accountable to the licensee via established management arrangements such as appraisal and development processes.

6.3 However, there are still clear implications to their status that should be given due consideration by the licensee when the role of seconded or agency staff is safety related. This includes the extra potential for sudden or en bloc departure, which can be dealt with for example through careful drafting of contract terms and development of robust succession plans. In some cases seconded or agency may be paid incentive payments or otherwise rewarded by their 'other' employer. Care should be taken that such reward schemes do not conflict with the interests of nuclear safety at the licensed site.

6.4 If the licensee can demonstrate that the contractor is embedded to the extent that he/she is in effect an employee of the licensee, as set out above, then ONR considers that the contractor need not be subject to control and oversight different from a normal employee.

6.5 Further guidance on contractor legal status available in the HSE Enforcement Guide: www.hse.gov.uk/enforce/enforcementguide/investigation/status/contract.htm