



ONR GUIDE			
Challenge Culture, Independent Challenge Capability (including an Internal Regulation function), and the provision of Nuclear Safety Advice			
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1. INTRODUCTION

- 1.1 ONR has established its *Safety Assessment Principles for Nuclear Facilities* [1] (SAPs) which apply to the assessment of safety at existing or proposed nuclear facilities. The principles presented in the 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 (TAG) is one of these guides.

2. PURPOSE AND SCOPE

- 2.1 TAGs contain guidance to advise and inform ONR staff in the exercise of their regulatory judgement. They are also part of the demonstration on how ONR meets the WENRA Reference Levels [2] and how ONR links its guidance to that contained in IAEA Safety Standards. TAGs are not written for duty holders, and although they may be used as a source of guidance or good practice, they should not be taken by duty holders as a prescriptive set of legal requirements.
- 2.2 This TAG sets out ONR's expectations for the way in which duty holders design and manage their organisations to provide and promote effective nuclear safety advice and independent challenge. The guidance extends to cover the totality of a duty holder's organisation and includes the way in which advice and independent challenge is provided whether on or off the licensed site. The guidance is also relevant to organisations and individuals providing goods and services to a duty holder, whether as agency staff or contractors, including key supply chain organisations.
- 2.3 ONR recognises that duty holders will develop different approaches to delivering effective nuclear safety advice and independent challenge however each duty holder should be able to demonstrate how it has satisfied itself that its approach is appropriate. A cross-industry Independent Oversight Working Group of the nuclear industry's Safety Directors' Forum has published *Independent Oversight: A Nuclear Industry Good Practice Guide* [3]. This industry guide provides sources of good practice and Inspectors should encourage duty holders to use it where appropriate.

3. RELATIONSHIP TO LICENCE AND OTHER RELEVANT LEGISLATION

- 3.1 The following Licence Conditions [4] (LC) underpin nuclear safety advice and independent challenge:
- LC13 – *Nuclear Safety Committee*. This LC requires the licensee to establish a nuclear safety committee (NSC) or committees to which it shall refer for consideration and advice matters of nuclear safety. This LC also requires the appointment to the NSC of one or more members who are independent of the licensee's operation; at least one independent member must be present at each meeting of the NSC.
 - LC14 – *Safety Documentation*. This LC requires the licensee to make and implement adequate arrangements for the production and assessment of safety cases. An appropriate level of advice and independent challenge will be necessary to demonstrate that these arrangements are adequate.
 - LC15 – *Periodic Review*. This LC requires the licensee to make and implement adequate arrangements for the periodic and systematic review and reassessment of safety cases. An appropriate level of advice and independent challenge will be necessary to demonstrate that these arrangements are adequate.

- LC12 – *Duly Authorised and other Suitably Qualified and Experienced Persons*. This LC requires the licensee to make and implement adequate arrangements to ensure that only suitably qualified and experienced persons perform any duties which may affect the safety of operations on the site. Persons providing advice and independent challenge must, therefore, be suitably qualified and experienced to perform these roles.
 - LC17 – *Management Systems*. This LC requires the licensee to establish and implement management systems which give due priority to safety, and within its management system, the licensee must make and implement adequate quality management arrangements in respect of all matters which affect safety. Advice and independent challenge, and the processes which underpin them, are key elements of a management system.
 - LC36 – *Organisational Capability*. This LC requires the licensee to provide and maintain adequate human and financial resources to ensure the safe operation of the site. This human resource provision will include those persons providing nuclear safety advice and undertaking the independent challenge capability. This LC also requires changes to the licensee's organisational structure or resources to be controlled where safety may be affected. This will also include those persons providing nuclear safety advice and undertaking the independent challenge capability.
- 3.2 The general duties laid out in the Health and Safety at Work etc. Act 1974 [5], Section 2(1) and 3(1), underpin nuclear safety advice and independent challenge. For example, having nuclear safety advice and independent challenge capabilities would contribute to a licensee's demonstration of his duty to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all of his employees.
- 3.3 The health and safety arrangement requirements detailed in Regulation 5(1) of the Management of Health and Safety at Work Regulations 1999 [6] underpin independent challenge by requiring an employer to make and give effect to arrangements for the effective planning, organisation, control, monitoring and review of the preventive and protective measures. An independent challenge capability is a significant element of an employer's arrangements for the planning, organisation, control, monitoring and review of the preventive and protective measures.
- 3.4 The health and safety assistance requirements detailed in Regulation 7(1) of the Management of Health and Safety at Work Regulations 1999 underpin nuclear safety advice and independent challenge by requiring an employer to appoint one or more competent persons to assist him in undertaking the measures he needs to take to comply with the law.
- 4. RELATIONSHIP TO SAPS, WENRA REFERENCE LEVELS AND IAEA SAFETY STANDARDS ADDRESSED**
- 4.1 The principal SAPs to which this guidance is relevant are: MS1 - *Leadership*; MS2 - *Capable Organisation*; MS3 - *Decision-Making*; MS4 - *Learning*.
- 4.2 The relevant *WENRA Safety Reference Levels for Existing Reactors* which this TAG meets, are:
- Issue B: Operating organisation. (B2.2) *"The licensee shall ensure that decisions on safety matters are timely and preceded by appropriate investigation and consultation so that relevant safety aspects are considered. Safety issues shall be subjected to appropriate safety review, by a suitably qualified independent review function."*

- Issue C. Management system. (C6.2) *“An organisational unit shall be established with the responsibility for conducting independent assessments. This unit shall have sufficient authority to discharge its responsibilities. Individuals conducting independent assessments shall not assess their own work.”*
- Issue C. Management system. (C7.1) *“Management, at all levels in the licensee organisation, shall consistently demonstrate, support and promote attitudes and behaviours that result in an enduring and strong safety culture. This shall include ensuring that their actions discourage complacency, encourage an open reporting culture as well as a questioning and learning attitude with a readiness to challenge acts or conditions adverse to safety”.*

4.3 The following IAEA Safety Standards have informed the development of this TAG:

- GS-R Part 2: Leadership and Management for Safety [7], specifically Culture for Safety (paragraphs 5.1 and 5.2); Independent assessments of the management and system (paragraphs 6.4 and 6.5); Independent assessments of leadership for safety and safety culture (paragraph 6.10). .)
- GS-G-3.1: Application of the Management System for Facilities and Activities [8], specifically: *Safety Culture* (paragraphs 2.32-2.36); *Managing Organisational Change* (paragraph 5.58); *Independent Assessment* (paragraphs 6.22-6.43).
- INSAG-15: Key Practical Issues in Strengthening Safety Culture [9], specifically: *Challenging Unsafe Acts and Conditions* (section 3.5).
- NS-G-2.4: The Operating Organisation for Nuclear Power Plants [10], specifically: *Structure of the Operating Organisation* (paragraphs 2.10, 2.16 & 2.17); *Safety Policy* (paragraph 5.7); *Monitoring and Review of Safety Performance* (paragraph 5.18); *Radiation Protection Services* (paragraph 7.15 & 7.17).
- NS-G-2.11: A System for Feedback of Experience from Events in Nuclear Installations [11], specifically: *Peer Review* (paragraphs 8.5 to 8.7); *Quality Assurance* (paragraph 9.2).

5. ADVICE TO INSPECTORS

- 5.1 A licensee’s capability to manage its activities safely is strengthened by the presence of informed and authoritative sources of nuclear safety advice and a robust independent challenge capability. Together, these enhance organisational safety resilience by presenting additional barriers to potentially flawed decision-making and inappropriate behaviours. Increased regulatory confidence in the advice and independent challenge capabilities can also enable ONR to more effectively target and leverage its own resource. For these reasons, ONR places considerable emphasis on seeking assurance that licensees have proportionate and effective advice and independent challenge capabilities.
- 5.2 This TAG provides guidance for inspectors on features that should be considered as part of interventions to establish whether a licensee has put in place, and is implementing, effective advice and independent challenge capabilities. The TAG addresses four core features that ONR would expect to see in a licensee organisation:
- **A challenge culture:** A culture whereby receiving advice and challenge are an expected and accepted part of routine business.

- **An independent challenge capability:** Adequate independent challenge to, and oversight of, nuclear safety leadership, management and decision making at all levels of the organisation, and the establishment of an independent internal regulation function or suitable alternative.
- **Provision of nuclear safety advice:** Adequate nuclear safety advice which supports effective, proportionate nuclear safety leadership, management and decision making at all levels of the organisation.
- **Adequate organisational capability for nuclear safety advice and independent challenge:** Appropriate organisation, staffing and management of the nuclear safety advice and independent challenge capabilities.

A challenge culture

- 5.3 A challenge culture is an essential characteristic of an effective nuclear organisation. It refers to the characteristics of organisational culture whereby receiving advice and challenge are an expected and accepted part of routine business. This requires all employees to be ready, willing and able to both give and receive advice and challenge in a positive and constructive manner in the interests of nuclear safety. All members of the organisation play a part in creating and sustaining a challenge culture.
- 5.4 Establishing and promoting a culture which institutionalises and encourages individuals to seek advice and constructive challenge starts at the top of any organisation. If directors and senior managers put in place the organisational structures and processes that support effective advice and challenge, and through their own actions demonstrate their personal commitment to fostering an open and questioning environment, they are more likely to succeed in establishing a challenge culture.
- 5.5 In designing and operating a nuclear licensee organisation, directors and senior managers should ensure that challenge and advice is built into the ways of working. The aim is to provide sufficient diversity, redundancy, checks and balances to ensure that suitable and proportionate barriers are provided to protect against erroneous decision making and action. Designing organisational structures and processes which support challenge and advice is not sufficient: the leaders and managers of a licensee also need to exhibit and promote attitudes and behaviours that encourage and reinforce constructive challenge and the seeking of advice.
- 5.6 Directors and senior managers should be able to describe how the structure and operation of the organisation delivers challenge and advice. They should also be able to explain how they are actively promoting a challenge culture. This culture should be apparent at all levels of the organisation and observable to inspectors during interactions with licensees and contractors.
- 5.7 Organisations with a mature challenge culture actively encourage peer review of their approach to independent challenge by other organisations, such as other licensees. Directors and senior managers should support the peer review of their approach to independent challenge by external organisations.
- 5.8 Key features which inspectors should look for include:
- A safety policy which encourages a questioning attitude and a rigorous and prudent approach to all safety related activities.
 - A chair of the board of directors who fosters a challenge culture amongst the board members.

- Board membership which includes an appropriate number of non-executive directors.
- Independent representation for nuclear safety at board level, ideally by means of a dedicated safety director who is effective in challenging the board about improving standards of nuclear safety performance.
- The ability of the board, and in particular non-executives/independent directors, to commission and receive independent advice.
- A board governance process which ensures that nuclear safety is given due priority during decision making.
- A board governance process which ensures that the strategic influence arising from a parent body organisation or government agency does not undermine the challenge culture and/or nuclear safety.
- Actions arising from independent challenge are visible to the Board and tracked to completion by them.
- A robust Nuclear Safety Committee supplied with sufficient information to consider, provide advice, and challenge all matters on or off the site which may have safety significance, in line with LC 13 requirements. Guidance on Nuclear Safety Committees can be found in ONR Guide NS-INSP-GD-013: *LC13 Nuclear Safety Committee*.
- Membership of all committees and other decision-making bodies to include a range of relevant experience and perspectives, to provide a diverse view on the nature and importance of nuclear safety issues. Involvement of suitably qualified persons from different industries may be appropriate to provide a truly diverse view.
- An internal challenge capability that is independent of the operational decision-making line.
- Management system processes which consider nuclear safety significance and specify the level of challenge (e.g. arrangements for modification control, organisational change, operational decision making, document control and management review).
- Management system processes should specify when and how nuclear safety advice should be sought (e.g. purchasing of equipment, installation of new plant, implementation of new working methods, changes in organisational arrangements, recovery from plant failure and events).
- Decision making methods which ensure that active challenge, in proportion to the hazard/risks, is a routine part of the process and occurs by design in all key decision making that may affect nuclear safety.
- Practices which encourage a high level of good quality communication both inside and outside the organisation about safety issues (e.g. behavioural safety schemes, quality circles, peer review processes, and improvement groups).
- Peer review of the approach to independent challenge by external organisations.

5.9 Key behaviours which inspectors should look for in directors, managers, supervisors and the workforce, include:

- Seeks, gives and receives advice and challenge in a positive and constructive manner.
- Seeks, gives and receives good news and bad news about performance.
- Shares knowledge of nuclear and radiological safety.
- Applies a rigorous, conservative approach to problem solving by the application of appropriate tools and techniques.
- Has the confidence to question decisions.
- Engages in open dialogue on safety.
- Encourages others to challenge
- Supports/rewards those that challenge.
- Uses effective conflict management and resolution techniques.

An independent challenge capability

5.10 ONR expects the licensee to be able to demonstrate that it has an effective independent challenge capability. In this context, to *challenge* is to question and require explanation and/or justification for a decision or course of action that has the potential to affect nuclear safety. An *independent challenge capability* will normally be fulfilled by a function (or functions) to which people are appointed for the purpose of providing structured, formal challenge as part of the nuclear safety management arrangements.

Challenge: To question and require explanation and/or justification for a decision or course of action that has the potential to affect nuclear safety.

Independent challenge capability: A function (or functions) to which people are appointed for the purpose of providing structured, formal challenge as part of the nuclear safety management arrangements.

5.11 For independent challenge to be effective, true independence is required. *Independence* is the freedom from conditions that threaten the ability of an individual to carry out their responsibilities in an unbiased manner. Independence can be demonstrated by the provision of advice or challenge from a person who has no direct line management responsibility for, or vested interest in, an activity and who has not previously been involved in developing the ideas or decisions. Independent persons should be appropriately knowledgeable so that they can examine an issue from a different perspective and challenge the reasoning and rationale of an idea or decision. Independence is important because it reduces the potential for conflict between pressures arising from operational line management responsibilities and safety. Boards and senior management should have access to independent sources of information on nuclear safety performance and the success or otherwise of policies and strategies.

Independence: The freedom from conditions that threaten the ability of an individual to carry out their responsibilities in an unbiased manner.

- 5.12 Independent challenge may be delivered in a number of different ways across a single organisation. A licensee may choose to deliver some aspects of the independent challenge capability through an *Internal Regulation* function: a specific function staffed by suitably qualified and experienced staff. This approach is becoming increasingly common across the nuclear industry and ONR would ordinarily expect the licensee to have an internal regulation function or, in its absence, another function that provides a similar range of capabilities. The size of an internal regulation (or similar) function and the range of activities it undertakes will be influenced by the nature of the hazards, the size of the licensee's organisation and how the overall independent challenge capability is delivered.

Internal Regulation: A specific function staffed by suitably qualified and experienced staff that provides key elements of the internal challenge capability.

- 5.13 ONR does not expect the internal regulation (or similar) function to be the source of all independent challenge: elements of the independent challenge capability may be delivered by other parts of the organisation that are suitable to provide this challenge. For those persons undertaking independent challenge, this need not be their only role but in the performance of this role they should report to those who are not responsible for delivery of the outcome in question. Their work should be organised and managed to secure that purpose. The key features are that the independent challenge capability is formalised such that independence is a stated requirement and that it is demonstrably met.
- 5.14 Independent challenge should be applied in a proportionate manner throughout the licensee's organisation, utilising a graded approach based upon the nuclear safety significance of activities. An effective and respected function (or functions) fulfilling the independent challenge capability will have responsibility for the oversight of nuclear safety throughout the organisation and will have a powerful influence on the strategy, policy and decision-making levels, serving an important role in promoting values and behaviours that give due priority to safety. The function (or functions) fulfilling the independent challenge capability should, therefore, be actively encouraged by the licensee board and executive, and should have access to these senior levels of the organisation. To be effective they should have the authority to act wherever and whenever they see fit in the interests of nuclear safety, have a route to escalate concerns to the top of the organisation, and if necessary advise management that that activities should be halted. Licensees should consider providing the function (or functions) fulfilling the independent challenge capability with the authority to discharge an internal enforcement capability. An effective function (or functions) fulfilling the independent challenge capability, that is valued and supported by the licensee's senior management, is a sign of an effective challenge culture and provides an important means of continual questioning and challenge in the interests of nuclear safety.
- 5.15 Independent challenge involves a range of scrutiny activities that are in addition to any line management assessment, monitoring or management system audits. Independent challenge activities should be:
- *Independent* of the operational director/line-management chain and other safety advisors.
 - *Diverse* so as to cater for a variety of failure modes in plant and systems.

- *Duplicating* of other existing barriers, such as monitoring, supervision and other checking activities, to provide the redundancy appropriate to the severity of the nuclear or radiological hazards, and should have the remit to confirm the adequacy of the existing barriers or to challenge from a wider perspective.
 - *Applied at all levels* of the organisation, including the boardroom, and to all processes and systems that may impact on nuclear or radiological safety.
 - *Timely* to allow for the outcome of the independent challenge activities to be considered, and changes made where necessary.
- 5.16 In practice the independent challenge capability requires a balance of activity ranging from structured programmes which systematically and proportionately cover the significant hazards and risks, such as examining safety equipment and systems identified in safety cases, or compliance with the management system, through to inspections of product quality, plant, equipment, systems, processes and ways of working that may be unannounced or informed by learning from within the licensee or elsewhere. Other activities carried out by an independent challenge capability include the assessment of work performance, leadership and organisational culture.
- 5.17 Independent challenge provides a key role in internal permissioning activities, including non-routine decisions, and changes in arrangements or appointments which may significantly impact on nuclear or radiological safety.
- 5.18 The independent challenge function should not be the sole method of providing challenge within a nuclear organisation.
- 5.19 Key features which inspectors should look for include:
- Active support for independent challenge from senior levels of the organisation, which includes acknowledging the positive influence that such challenge can have on their strategic direction and policy decisions.
 - The existence of an internal regulation function with clearly defined terms of reference, responsibilities, authority, accountability and capability commensurate with the nuclear hazards and risks.
 - No restrictions on the areas the internal regulation function can address in the interest of nuclear or radiological safety.
 - A route to escalate concerns to the top of the organisation, and if necessary advise management that activities should be halted.
 - Evidence that the licensee has considered providing the function (or functions) fulfilling the independent challenge capability with the authority to discharge an internal enforcement capability, and recorded the rationale behind this decision.
 - The views of the internal regulation (or similar) function carry due weight and are effectively communicated within the organisation.
 - Arrangements that require the internal regulation (or similar) function to agree to significant activities such as return to service and commissioning of new plant as part of an effective hold point release process.
 - Proportionate peer review of all new safety cases, modifications, changes and reviews to existing cases which may have an impact on nuclear safety. In some nuclear organisations this may be termed as *independent nuclear safety assessment* or *independent peer review*.

- A planned programme of inspections and structured audits that assess compliance with arrangements and the adequacy of outcomes, for example compliance audits to verify the adequacy of management system arrangements, process safety audits to examine operational nuclear safety performance, third-party inspection and assurance, external peer review, and targeted checks to confirm close-out of actions. A programme of inspections and audits should consider topics such as leadership and culture, in addition to those related to plant and procedures.
- Internal investigations and formal inquiries to discover the root causes of events, to identify corrective actions and draw together and disseminate organisational learning where there is potential challenge to nuclear and/or radiological safety.
- Targeted, reactive inspection to investigate known or potential areas of concern arising from the discovery of problems within the licensee or elsewhere, for example through operational experience feedback, organisational learning, or following major changes.
- Oversight of on-going work activities to provide real-time challenge and checking of nuclear significant activities or change, supported by arrangements which require internal challenge.

Provision of nuclear safety advice

- 5.20 The effectiveness of decision-making and actions can be reinforced by the provision of informed and timely advice on nuclear safety matters. In practice, this will require proactive and reactive assistance by competent people.
- 5.21 A licensee is expected to show that it understands where and how nuclear safety advice should be provided, and that it has put in place adequate arrangements to secure that support. These arrangements should take into account ONR expectations on maintaining Intelligent Customer and Design Authority capabilities as detailed in Technical Assessment Guides NS-TAST-GD-049: *Licensee Core and Intelligent Customer Capability*, and NS-TAST-GD-079: *Licensee Design Authority Capability*, respectively.
- 5.22 Advice is a separate activity which complements, but is different in nature to, independent challenge. Advice is often not independent: those persons providing advice may have responsibility for, or a vested interest in, the activity in question.

Advice: A separate activity which complements, but is different in nature to, independent challenge.

- 5.23 Sound and timely advice should reduce the potential for inadequately conceived or executed decisions or actions and therefore reduce the degree of reliance that is otherwise placed upon the independent challenge capability. Advice and independent challenge are both components of the organisational defences and have elements in common, for example, both are more likely to be offered and well-received in a supportive culture which values the provision of advice and challenge.
- 5.24 Nuclear safety advice may not always be delivered through posts that are solely dedicated to the provision of safety advice. For example, peer review of safety cases may be carried out by persons who hold other roles and who have the requisite technical and safety knowledge to provide an informed view. It is expected, however, that those who hold a nuclear safety advice role are demonstrably competent and understand the purpose of this role, and that there are arrangements in place to

formally recognise the role and give it suitable authority. Advice may be provided by a wide range of competent people within and outside of the licensee organisation, some of whom may not hold a formal advisory role.

- 5.25 Industry groups, for example the Safety Director's Forum, can provide a valuable source of advice, and licensees should consider engaging with relevant industry groups where appropriate.
- 5.26 Inspectors should look for evidence that competent advisers have been consulted or have intervened appropriately and provided authoritative advice which has been considered by recipients. This may include advice on:
- Strategic and operational planning, prioritisation and resource allocation in proportion to the nuclear hazards.
 - Interpreting and applying all law and guidance relevant to nuclear and radiological safety and setting safety standards for the organisation.
 - Understanding all nuclear and radiological hazards and risks relevant to the activities of the organisation.
 - Structuring the organisation to support a positive culture.
 - Organisational baseline development and the maintenance of the core capability, design authority and intelligent customer capability.
 - Identifying competence requirements for key safety posts and roles.
 - Operating and/or overseeing the management system.
 - The selection and use of appropriate tools, techniques and processes for identifying hazards, assessing risks and producing safety cases, including the design and implementation of appropriate precautions to control the risks and recover from accidents
 - The provision of human performance and human factors advice and support.
 - The design and implementation of arrangements and systems to control and manage radiological and nuclear risks to health and safety, including radiological health monitoring and health physics.
 - The design and operation of measuring systems to monitor nuclear safety performance including the use of key performance indicators.
 - Operational experience and feedback activities seeking to learn lessons for safety leadership and management, from internal and worldwide experience and events.
 - Maintaining the 'corporate memory' on nuclear safety.
 - Providing directors and management with reliable information about safety performance and areas of vulnerability requiring improvement.

Adequate organisational capability for nuclear safety advice and independent challenge

- 5.27 The licensee should put in place suitable organisational structures and resources to discharge the advice and independent challenge functions. The way in which this is achieved may vary from licensee to licensee, as the differing nature of licensees'

activities and the associated hazards and risks will influence their organisational design. Each licensee should be able to demonstrate how they have satisfied themselves that their approach is appropriate. ONR Inspectors may consider seeking information about the way in which this assessment has been conducted, and assurance that the structures, management, accountabilities, resourcing and competencies of staff delivering advice and independent challenge are suitable.

5.28 Key features which inspectors should look for include:

- Staffing levels are sufficient to provide suitable advice and independent challenge, and these are proportionate to the size and complexity of the organisation and the range of hazards and risks of the business, in line with LC36 arrangements.
- Staff providing advice and independent challenge have the status and gravitas to provide authoritative views to directors, management and other staff.
- There are adequate competence assessment and training arrangements for staff delivering advice and independent challenge functions which are subject to the licensee's LC10 and LC12 arrangements, and include technical and behavioural competencies, including influencing skills.
- Roles and responsibilities for staff providing advice and challenge are clear and ensure that they do not remove or replace the primary responsibility of line management for nuclear safety.
- There is a clear distinction and separation between those directly supporting line management in the advisory function and those providing the independent challenge capability. Separate organisational units/teams may be necessary to achieve this.
- Suitable safeguards are in place to ensure that safety advisors, who are embedded within the organisation that they are providing advice to, are providing appropriate, consistent and up to date advice.
- Safety advisors have a formal reporting line through to the director with accountability for nuclear safety to ensure oversight of professional advice. Regular contact with other peers/managers should be maintained to ensure appropriate standards of performance are maintained and corporate policies adhered to.
- Where advice and challenge is discharged across a range of sites, suitable corporate arrangements are in place to facilitate a consistent approach, shared learning and support.
- The independent challenge capability has a direct reporting line to the most senior nuclear safety officer/director and, through him/her, direct access to the board.
- Individuals conducting independent assessments, audits and/or scrutiny do not assess their own work.
- Advice and challenge activities are controlled by arrangements which form part of the management system, so as to secure adequate and consistent practice across the organisation.
- The roles and responsibilities of staff delivering advice and challenge are understood by all staff.

5.29 Inspectors should look for evidence that advice and independent challenge activities:

- Cover all parts of the organisation and its activities, including the boardroom.
- Balanced oversight of activities in relation to the current strengths and vulnerabilities in nuclear safety performance including responses to recent incidents, the nuclear and/or radiological hazards present, and the significance of the precautions, controls and arrangements in place.
- Maintain current performance, initiate improvements in performance and sustain existing improvement activity.
- Aim to maintain an appropriate balance of effort on both active and reactive work.
- Are monitored against objectives and quality standards to ensure that they are implemented effectively and applied consistently.
- Include robust reporting arrangements in which issues of safety concern are clearly identified and categorised according to safety significance, appropriate actions are defined and realistic deadlines for completion are set.
- Have robust follow-up and close-out systems to confirm that actions have been completed and that these have resolved the issues identified.
- Are subject to periodic independent review, at appropriate intervals, to gauge effectiveness and provide a basis for continual improvement.

6. REFERENCES

- 1 ONR, 2014. *Safety Assessment Principles for Nuclear Facilities, 2014 Edition, Rev.0*. ONR: Bootle, UK.
- 2 Western European Nuclear Regulators' Association, 2014. *WENRA Reactor Reference Safety Levels for Existing Reactors, 24 September 2014*. WENRA Reactor Harmonization Working Group.
- 3 Safety Director's Forum, 2014. *Independent Oversight: A Nuclear Industry Good Practice Guide, issue 1*, January 2014.
- 4 ONR, 2014. *Licence Condition Handbook, February 2017*. ONR: Bootle, UK.
- 5 UK Parliament. *The Health and Safety at Work etc. Act 1974*.
- 6 UK Parliament. *The Management of Health and Safety at Work Regulations 1999*.
- 7 IAEA, 2016. *Leadership and Management for Safety (GS-R Part 2)*. IAEA: Vienna, Austria.
- 8 IAEA, 2006. *Application of the Management System for Facilities and Activities (GS-G-3.1)*. IAEA: Vienna, Austria.
- 9 IAEA, 2002. *Key Practical Issues in Strengthening Safety Culture (INSAG-15)*. IAEA: Vienna, Austria.
- 10 IAEA, 2001. *The Operating Organisation for Nuclear Power Plants (NS-G-2.4)*. IAEA: Vienna, Austria.
- 11 IAEA, 2006. *A System for Feedback of Experience from Events in Nuclear Installations (NS-G-2.11)*. IAEA: Vienna, Austria.