| Function and Content of a Safety Management Prospectus | | | |
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| **Doc. Type** | ONR Technical Assessment Guide (TAG) | | |
| **Unique Doc. ID:** | NS-TAST-GD-072 | **Issue No.:** | 4.1 |
| **Record Ref.** | 2022/25810 | | |
| **Date Issued:** | Jul-22 | **Next Major Review Date:** | Jul-27 |
| **Prepared by:** | | Leadership and Management for Safety (LMfS) Specialist Inspector | |
| **Approved by:** | | LMfS Specialist Inspector | |
| **Professional Lead:** | | Professional Lead for Human Organisational Capability (HOC) | |
| **Revision Commentary:** | Minor update - revised format and routine update. | | |

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# 1. Introduction

1. ONR has established its Safety Assessment Principles (SAPs) [1] which apply to the assessment by ONR specialist inspectors of safety cases for nuclear facilities that may be operated by potential licensees, existing licensees, or other duty-holders. 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. The primary responsibility for the safety of a nuclear installation rests with the licensee. Before granting a nuclear site licence ONR must be satisfied that the licence applicant has an adequate management structure, safety management arrangements and resources to discharge the obligations associated with operating a nuclear site. It is ONR's policy, promulgated in 'Licensing Nuclear Installations' [2] that the licence applicant should submit a Safety Management Prospectus (SMP) to demonstrate those capabilities. Thus, the SMP is a fundamental element of the licensing basis.

3. A licensee should be able to demonstrate continuing licensability throughout the lifecycle of the site. The coherent approach to safety management described in the SMP incorporates organisation, resources and management systems and should remain visible to senior management and be reviewed from time to time and updated as necessary to reflect changing needs. A SMP may also need to be submitted as part of any application for relicensing an existing licensed site.

4. ONR and the environment agencies have recognised that nuclear licensees' responsibilities to people and society extend beyond nuclear safety and a licence applicant, or an existing licensee seeking to relicense its site, may wish to adopt an integrated management approach, consistent with the expectations of IAEA GSR Part 2 [3], to its business and the way in which safety, environment, security, and safeguards are managed. An integrated management prospectus may therefore be developed to reflect this approach.

5. The SMP may be presented in various ways throughout the lifecycle of an installation provided it continues to demonstrate an adequate management structure, safety management arrangements and resources to discharge the obligations associated with operating a nuclear site. For example, it may be demonstrated through a combination of a Governance Manual and a Management System Manual.

6. The purpose of this guide is to inform regulatory assessment of a SMP (or its equivalent) submitted either by a licence applicant where a nuclear installation is to be licensed for the first time, or by an existing licensee where a change is being proposed to the basis of the nuclear site licence which will necessitate the granting of a new licence. It sets out expectations of the use, role, and remit of a SMP and these are reflected in the 'elements' set out in Section 5, 'Advice to Inspectors'. The relationship between the SMP, which sets the strategy, and the Nuclear Baseline which describes the organisation, resource, and competence aspects, is also addressed.

7. The term ‘licence applicant’ is used throughout this document to describe an organisation applying for a licence for a nuclear installation for the first time, or by an existing licensee organisation applying for a new licence where a change is being proposed to an existing licence.

# 3. Relationship to Licence Conditions and other Relevant Legislation

## 3.1. The Management of Health and Safety at Work Regulations 1999

8. These regulations describe an employer's responsibilities, addressing the requirements for control and co-operation with outside undertakings, together with appropriate arrangements for effective planning, organisation, control, and monitoring and review.

9. Regulation 5 requires that:

> (1) Every employer shall make and give effect to such arrangements as are appropriate, having regard to the nature of his activities and the size of his undertaking, for the effective planning, organisation, control, monitoring and review of the preventive and protective measures.
>
> (2) Where the employer employs five or more employees, he shall record the arrangements referred to in paragraph (1).

## 3.2. Nuclear Site Licence Conditions

- LC 14 – Safety Documentation. Arrangements for producing and assessing safety cases should address organisational as well as technical factors. Taken together, the SMP and the nuclear baseline, should demonstrate that the licensee (or applicant) has adequate management structures, capability and staffing levels to discharge the obligations connected with holding a Nuclear Site Licence. They can therefore be regarded as major components of an 'organisational safety case'.

- LC 15 – Periodic Review. Arrangements for reviewing the total current safety case for an installation to confirm that it remains adequate, or to update and revalidate it as appropriate should address organisational as well as technical factors.

- LC 17 – Management Systems. The management system should bring together in a coherent manner all the requirements for managing the licensee organisation. The SMP should describe how the management system will provide adequate confidence that all these requirements will be satisfied.

- LC 36 – Organisational Capability. The SMP should describe how the licensee will provide and maintain adequate financial and human resources to ensure safe operation of the licensed site. It should reference the nuclear baseline as the means of demonstrating that the licensee has suitable and sufficient organisation structures, resources and competence to be able to reliably and effectively carry out all activities that may impact on nuclear safety. It should also describe the arrangements that will be made and implemented 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

## 4.1. Safety Assessment Principles (SAPs)

10. The SAPs for Nuclear Facilities 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 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 affect safety to be rational, objective, transparent and prudent.
- MS.4 – Learning. Identifies the need to learn lessons from internal and external events to continually improve leadership, organisational capability, safety decision making and safety performance.

## 4.2. Technical Assessment Guides (TAGs)

11. The following Technical Assessment Guides are applicable to this TAG:

- NS-TAST-GD-048 – Organisational Change [4] - 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.
- NS-TAST-GD-049 – Licensee Core and Intelligent Customer Capabilities [5] - This TAG sets out 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.
- NS-TAST-GD-050 – Periodic Safety Reviews (PSR) [6] - This TAG sets out the purpose and principal requirements of a periodic safety

review as required under LC 15(1) to confirm that the total current safety case for an installation remains adequate, or to update and revalidate it as appropriate.

- NS-TAST-GD-065 – Function and Content of the Nuclear Baseline [7] - This TAG addresses how 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.

- NS-TAST-GD-080 – Challenge Culture, Independent Challenge Capability, and the provision of Nuclear Safety Advice [8] - This TAG sets out ONR's expectations for the way in which licensees design and manage their organisations to provide and promote effective nuclear and radiological safety advice and challenge.

- NS-TAST-GD-107 – Safety Leadership [9] - This TAG draws together safety leadership behaviours from sources of relevant good practice into a single document aligned to a theoretically informed model of safety leadership, to advise and inform ONR staff in the exercise of their regulatory judgment as to the adequacy of safety leadership.

## 4.3. Licensing Nuclear Installations

12. Paragraph 66 in the Licensing Nuclear Installations document [2] identifies the arrangements that ONR envisages will be documented in a SMP to demonstrate the adequacy of its arrangements for managing health and safety.

## 4.4. WENRA Safety Reference Levels for Existing Reactors

13. 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 Safety Reference Levels for Existing Reactors [10] 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 B: Operating Organisation – Organisation structure, management of safety and quality, sufficiency and competency of staff. Identifies the need for:

  - The organisational 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 appropriate 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.

- Issue C: Leadership and management for safety. Identifies the need for:
  - Effective leadership for safety at all organisational levels.
  - A management system to be established, implemented, assessed and continually improved.
  - Goals, strategies, plans and objectives of the organisation to be developed in an integrated manner so that their collective impact on safety is understood.
  - Clarity regarding when, how and by whom decisions are to be made.
  - Management at all levels to demonstrate its commitment to the establishment, implementation, assessment and continual improvement of the management system.

## 4.5. IAEA Safety Standards

14. The IAEA Safety Standards (Requirements and Guides) were the benchmark for the revision of the SAPs in 2014 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:

### 4.5.1. IAEA Fundamental Safety Principles

- 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”.
- Principle 3: Leadership and Management for Safety - states that “Effective leadership and management for safety must be established and sustained in organisations concerned with, and facilities and activities that give rise to, radiation risks”.

### 4.5.2. IAEA Safety Requirements - ‘Leadership and Management for Safety’

15. This safety standard defines the requirements for establishing, sustaining and continually improving leadership and management for safety, including 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.

### 4.5.3. IAEA Safety Guide - ‘The Operating Organisation for Nuclear Power Plants’

16. This guide [11] includes some elements that are embodied in the nuclear baseline and management prospectus as a means of justifying and describing the organisation.

# 5. Advice to Inspectors

## 5.1. Background

17. The SMP plays an important part in the demonstration of a 'licensable' organisation. It provides a strategic, overarching demonstration of how nuclear safety is managed within the organisation and shows how the management controls are appropriate and sufficient. This includes showing how the direction and control of the organisation, and its management system and staffing arrangements, will ensure safety in the context of its activities and the nuclear hazards to which they give rise. It can thus be described as a fundamental element of 'the safety case for nuclear safety management'.

18. The SMP should be proportionate to, and reflect, the organisation's work activities. It should state how policies and objectives enable work to be performed in a safe, efficient, and effective manner. It should tell the 'story' of what the organisation does, the associated hazards and the way the organisation manages risk. It should not be merely a summary of safety management systems.

## 5.2. Requirement for a Safety Management Prospectus

19. ONR expects a licence applicant to produce a SMP as part of its licensing submission. The overall view of the way that the organisation, resources, and management system combine to manage safety as described in the SMP should remain visible and understood by the licensee and its Board throughout the life of the licensed site.

20. Prospective licensee organisations for new nuclear build may have been established from a zero base and will continue to evolve as the build project progresses. The SMP should be kept under regular review and, where there is a prolonged period between licence application and expected date of licence granting, ONR would expect the SMP to be revised and resubmitted some months before the anticipated decision date.

21. An existing licensee may not wish to maintain a SMP document as a 'live' document because the elements expected of a SMP may be located and maintained in different parts of the licensee's management system. ONR will expect a licensee to be able to demonstrate at any time that the elements addressed in the SMP are in place and appropriate to its business needs.

22. Where organisational changes are proposed that materially affect the SMP elements, these should be addressed through the licensee's management of change arrangements made under LC 36(2). Where major transitions take place, such as a move from one stage of new build to another or a move

from operations into decommissioning, a licensee may choose to revise the SMP to confirm the organisation's readiness to make the move. ONR encourages such an approach.

23. ONR would expect a licensee to formally reconsider the suitability of the elements covered in its SMP as part of any application for relicensing the site. ONR will apply a targeted and proportionate approach, particularly in the case of relicensing where the scope of the changes which give rise to the need for relicensing is small and may not justify the development of a standalone SMP document. In such instances the licensee may choose to provide a route map to show where those different elements are located within the management system and how they are maintained.

24. The SMP can be regarded as a top tier safety case for nuclear safety management. ONR expects a licensee to consider the continued suitability of the elements covered in its SMP as part of its Periodic Safety Review (PSR) (see [6]).

## 5.3. Elements of a Safety Management Prospectus

25. The format of the SMP is for each licence applicant to develop to best suit its needs but there should be a narrative thread covering the items described below.

26. The management prospectus is a strategic document which addresses:

1. **Activities** – the type of activities carried out on the licensed site(s).
2. **Leadership** – the role of directors, managers and leaders in focussing the organisation on achieving and sustaining high standards of safety.
3. **Governance** – the arrangements for ensuring and assuring nuclear safety.
4. **Organisational structure and resources** – how the organisation will ensure that it has adequate structures and resources to ensure the safe operation of the licensed site.
5. **Decision making** – the decision-making processes to ensure that safety is given a high priority and is evident in all decision making.
6. **Management system** – how the management system will bring together in a coherent manner all the requirements for managing the licensee organisation.

7. **Organisational learning** - how lessons will be learned from internal and external sources to continually improve leadership, organisational capability, safety decision making and safety performance.

27. These SMP 'elements' are expanded upon in the remainder of this TAG.

28. The Inspector should consider whether the SMP:

- Embraces the elements described in this TAG.
- Adequately sets out the organisation's strategic approach, supported by evidence of implementation and signposts to the relevant detail in the management system.
- Has been endorsed by the Board and Chief Executive of the licence applicant/licensee organisation, including demonstrable awareness and understanding of its function and content.
- Demonstrates the importance of the management system in providing the overarching framework for managing the business activities of the licensee organisation, and integrating safety, health, environmental, security, quality, and economic elements to ensure that safety is properly considered.
- Adequately demonstrates the licensability of the organisation when taken together with the nuclear baseline.

29. Expectations for each of the SMP elements are as follows:

### 5.3.1. Element 1 - Activities

30. The SMP should provide a clear description of the type of activities carried out on the licensed site(s) showing how the safety management arrangements set out in the SMP are appropriate and proportionate to the specific hazards, risks, and scale of operations.

31. This section of the SMP should:

- Describe the type of undertaking, setting out the nature of the work and the scale of operations. Where the licence applicant will operate more than one licensed nuclear site or is applying for a licence for an additional site, the structure of the SMP may need to be adapted accordingly. Generic issues such as governance and the organisation's approach to learning from experience can be covered in an overarching corporate management prospectus. However, this document may need to be supplemented by site specific documentation justifying local arrangements. In such cases, the

combination of the overarching corporate SMP and the justification of local practices will provide the licensing basis for a specific site.

- Consider all activities with the potential to impact on nuclear safety, whether they will be carried out by the licensee itself, by contractors under the control of the licensee, or by tenants in facilities on the site(s).
- Give a clear indication of the stage of the life cycle each site has reached, for example: installation, commissioning, operation, decommissioning etc.
- State whether the licensee's activities are stable in terms of the lifecycle or whether they are in transition between, say, operations and decommissioning.
- Describe the nuclear safety implications of interfaces with other systems and facilities; for example, adjoining nuclear sites, wind farms.
- The link between the activities described in this section and the organisation's capabilities, addressed in Element 4, should be clear. High level nuclear safety management arrangements should be clear. For example, outline descriptions should be provided of how the body corporate will maintain control and direction of the site(s), and compliance with the nuclear site licence.
- The level of detail should be sufficient to demonstrate that the management arrangements and control measures are appropriate and commensurate with the hazard. The licence applicant must understand the effect of interactions with other operations either within the control of the operator or outside. The effect of changes to these operations can then be assessed.
- Reference should be made to documents which give more detail of the hazards and risks associated with operations. For example, the site safety case and facility safety cases contain in-depth descriptions of operations. Hazards and risks should be signposted.
- Where a licence applicant sub-lets part(s) of its site(s) the arrangements for managing relationships with tenants, and overseeing their activities where appropriate, should be summarised and references given to supporting documents.

32. The Inspector should consider whether:

- There is an adequate description of the nuclear activities to be carried out by the licence applicant.

- The description of activities clearly identifies the nuclear safety significance of the site(s) to enable the SMP to be developed on a proportionate basis.
- The relationship between the body corporate and the site is clear, and accountabilities and responsibilities have been clearly defined;
- There is a clear description of the status of activities on the site, i.e. phase of commissioning, decommissioning, new build etc.
- Interactions with other non-nuclear operations or adjacent operators have been adequately identified and described.
- Arrangements for oversight of activities in tenanted facilities have been adequately described.

### 5.3.2. Element 2 - Leadership

33. The SMP should describe the role of directors, managers, and leaders in focussing the organisation on achieving and sustaining high standards of safety. Leadership is a key element in achieving appropriate, high levels of safety and establishing and sustaining a positive safety culture.

34. The SMP should:

- Reference the mission, vision and values of the organisation including any high-level strategies, goals and standards for safety.
- Explain how direction and oversight to create a climate that establishes a strong safety culture that underpins safe operation will be provided.
- Explain how conflict between safety and other goals will be recognised and resolved.
- Explain how directors, managers and leaders will visibly demonstrate their commitment to safety through their activities and in their relationships with staff and contractors.
- The SMP should include the licence applicant’s safety policy statement, setting out the nuclear safety aims of the organisation. It should also summarise how the organisation is structured, populated and managed to deliver those aims and make clear the links between the site’s activities, safety policy, management system and nuclear baseline.

35. The Inspector should consider whether:

- The mission, vision, values and other business objectives are aligned and represent a consistent and coherent approach to achieving and sustaining a positive safety culture.
- There are any parent or owner business objectives that might conflict with the aims of the licensee organisation.
- There is evidence that staff have been involved in the development of the organisation's values and if measures have been taken ensure that they understand and embrace them.
- There is evidence that directors, managers, and leaders demonstrate their commitment to safety through their actions and behaviours.

### 5.3.3. Element 3 - Governance

36. The SMP should set out the organisation's approach to the governance of nuclear safety.

**General Governance Principles**

37. Nuclear safety governance refers to the processes and structures used to direct, manage, supervise, account for, and assure the effectiveness with which an organisation delivers nuclear safety. The SMP should therefore include a high-level description of the systems and processes for monitoring, directing, and controlling activities, together with the organisation's approach to developing and maintaining appropriate behaviours, including leadership behaviour and a culture that enhances nuclear safety.

38. The approach to governance should be embedded in the way the organisation works and, in the leadership, and management approaches to make it happen. This starts with the Board of Directors who set the organisation's strategic direction, policies, and objectives, and oversees compliance and achievement. There should be a clear line of sight, and clear lines of control, traceable from the Board down to frontline safety performance.

39. The SMP should include sufficient information to assess the governance arrangements against SAPs MS.1 – MS.4. It should set out expectations regarding leadership and safety culture and describe how directors and managers will demonstrate the appropriate behaviours. It should describe how governance of the business will ensure that it remains within the law, including the terms of the nuclear site licence.

40. The SMP should describe how functions, responsibilities and reporting relationships are managed from the Board down. This should encompass all roles needed to carry out all activities for which the site is licensed as defined in the nuclear baseline, including normal operations and emergencies. It is expected that the functions described will normally include arrangements for, but not restricted to:

- Authorisation and control of nuclear safety related work.
- Selection, appointment, and control of contractors.
- Management of tenants on the nuclear licensed site.
- Appointment of suitably qualified and experienced staff.
- Acceptance, authorisation and assurance of technical specifications and designs.
- Technical subject matter expertise for all topics necessary for nuclear safety, including 'intelligent customer' roles where expertise is contracted out.
- Provision of safety management advice.
- Development of the management system.
- Safety case production.
- Independent challenge and assurance of safety management and safety cases.
- Nuclear Safety Committee specification, appointment and function.
- Emergency planning and response.

**The role of the Board and Executive**

41. The Board's role is to provide entrepreneurial leadership of the company within a framework of prudent and effective controls which enables risk to be assessed and managed.

42. An effective Board develops and promotes its collective vision of the company's purpose, its culture, its values, and the behaviours it wishes to promote in conducting its business.

43. An effective Board should not necessarily be a comfortable place. Challenge, as well as teamwork, is an essential feature. Diversity in Board composition is an important driver of a Board's effectiveness, creating a breadth of perspective among directors, and breaking down a tendency

towards ‘group think’. Well-informed, high-quality decision making is also a critical requirement for a board to be effective. To ensure effective decision making, the composition of the board should ensure that it cannot be dominated by any individual or group of directors which can inhibit contributions from other directors.

44. The composition of the Board should ensure there is an appropriate focus on nuclear safety and the capacity for independent challenge. Board members should have an awareness of the nuclear safety implications of their decisions and be ‘intelligent customers’ for the safety related information they receive. The SMP should embody a commitment to ensuring that only suitably qualified and experienced persons are appointed as Board directors or as members of the Executive. ONR’s expectations are consistent with the UK Corporate Governance Code [12] and Wates Corporate Governance Principles [13] but with a specific focus on nuclear safety.

45. The SMP should define the collective and individual responsibilities of the Board as part of demonstrating that the organisation is capable and licensable. The Board is accountable for the matters set out in the SMP including setting policy, standards, strategy, and objectives for safety and ensuring that the structure and staffing are suitable.

46. The Board should have adequate means to give itself a clear view of the nuclear safety risks and performance of the business, including governance arrangements, and review status at appropriate intervals, taking its own view after clear and robust questioning. The means for providing this view should be diverse including a wide range of performance indicators, progress against objectives, nuclear safety assurance processes, external comparators or ‘benchmarks’, and operational experience feedback including investigations of nuclear safety incidents.

47. The Executive is responsible for implementing the policies and strategies developed by the Board, and for imparting the right ethos for leadership and management through the day-to-day management of the licensee organisation. This theme should run through the governance arrangements. The SMP should clarify the respective roles of the Board and the Executive.

**Nuclear safety advice and challenge**

48. The SMP should describe what arrangements exist to provide meaningful challenges to safety-related decisions and activities. This should include arrangements for challenge and oversight of the licensee Board, as well as oversight of the licensee’s activities by the Board. The role and experience of non-executive directors should also be referenced as an important, independent source of experience and challenge.

49. The role of committees, e.g. the Nuclear Safety Committee, in the direction and oversight of nuclear safety should be explained, including relevant sub-

committees. The explanation should demonstrate how these committees fit together to form cohesive and robust corporate governance arrangements including challenge to nuclear safety issues and related decisions.

**Influence of associated bodies**

50. Responsibility for governance of a licensee organisation resides with the Board but other bodies are involved, directly or indirectly, who may be able to influence the behaviour of the licensee. The SMP should address potential influences on nuclear safety arising from, but not restricted to, the following key interfaces:

- Parent Body Organisations, and their owners.
- The Nuclear Decommissioning Authority.
- Major contractors including the Architect Engineer/Responsible Designer.
- Purchasing organisations.
- Vendor and operator interfaces.
- Parts of the business outside the licensee organisation.

51. The main nuclear safety responsibilities on each side of the interface should be explained, and the SMP should describe the licensee's strategy for managing these interfaces to ensure that safety management will not be influenced inappropriately.

52. New nuclear build organisations should be able to demonstrate in the SMP a formal relationship between the licensee organisation and its Architect Engineer or Responsible Designer for the provision of design and project management activities, which will confirm the responsibilities of the respective parties and ensures that the licensee will always be in control of the work to be performed on its behalf.

53. The SMP should confirm the licence applicant organisation as the 'body corporate' and 'controlling mind'. It should be clear that there will not be undue interference from parent body organisations and their owners, and that adequate financial resources will be made available to allow the licensee organisation to meet its statutory obligations. These requirements are set out in more detail in paragraphs 59-61 of Licensing Nuclear Installations [2].

54. ONR would normally expect the Chair of the licensee Board and the Chief Executive Officer roles to be held by separate individuals to provide a clear distinction between the strategic role of the Board and the day-to-day

business management role of the Executive. If the licence applicant chooses to vest these two roles in the same individual, the SMP should set out the rationale for this arrangement and make clear how any potential conflicts of interest will be managed.

55. The Inspector should consider whether:

- The licence applicant is in full control of its activities and free from undue interference from parent body, owner, or shareholder organisations.
- The respective roles of the Board and Executive are clearly described, and that clear lines of accountability and control are traceable right through the organisation.
- The Board and Executive team members are suitably qualified and experienced for their roles and can act as 'intelligent customers' for the information they receive about nuclear safety.
- The constitution of the Board facilitates independent challenge.
- The licence applicant has clear governance objectives and there is evidence to demonstrate that these objectives have been adequately cascaded throughout the organisation.
- The Board and Executive receive timely and suitably diverse information on performance to inform business decisions, and there is evidence to demonstrate conservatism in its approach to taking safety-related business decisions.
- Potential impacts on the governance of nuclear safety from the influence of outside bodies such as parent organisations, NDA etc. are recognised and addressed where appropriate.
- There is an effective communication strategy to ensure the right information is available at the right time to aid decision making and oversight of performance, and to address stakeholder needs.
- Communication routes have been established for employees to raise issues of concern, including safety governance.
- There is a business risk assessment and assurance process including nuclear safety which is an integral part of the organisation's governance arrangements and business systems.
- Company policies on code of conduct, safety culture, reward framework etc support the governance arrangements are in place and adequate.

- The role and remit of safety governance committees is an integral part of the licence applicant's governance arrangements and management system.

### 5.3.4. Element 4 - Organisational Structure and Resources

56. The SMP should describe how the licence applicant will have adequate structures and resources to meet the nuclear safety management needs of the business. It should:

- Include top level organisation charts with reference to where full organisational charts are to be found for example in the nuclear baseline.
- Make clear the relationship between the organisation holding the licence and any other organisation with which significant interactions are required to deliver nuclear safety, such as owners, vendors, and 'parent' organisations (see Element 3 'Governance'). There should be some indication that potential impacts on nuclear safety management from this relationship have been recognised and addressed.
- Include a description of the approach taken to ensuring that the licence applicant has all the capabilities necessary to deliver nuclear safety and the safety case. This should include how it will ensure that it retains sufficient in-house, core capability to manage its activities under the nuclear site licence and be an 'intelligent customer' for items or services procured from the supply chain.
- Summarise how the organisation will ensure that it has enough qualified staff, making reference to the nuclear baseline. The SMP should set out the resource strategy and describe arrangements to review its implementation. It should describe how aspects of the organisation that may lead to vulnerabilities such as reliance on scarce or singleton expertise, or specialist contractors are identified and mitigated.
- For new, or existing licensee organisations intending to re-licence, the licence applicant should be able to describe in its SMP the 'design principles' around which its organisation will be constructed. This should include such matters as numbers of layers of hierarchy, length of decision-making chains, spans of managerial control and the policy for the use of contracted resources to supplement the in-house capability.
- For new nuclear build organisations, or for existing licensee organisations undertaking major construction projects, the resource strategy should indicate the quantity of resources and the mix of

disciplines/skills required as the build project progresses through the various phases of the project: such as pre-construction, construction, commissioning and operation.

- Where project work is being implemented the SMP should show how the licence applicant's resource strategy will be proactively managed to ensure that resource profiles and organisational arrangements remain fit for purpose. This should include ensuring the continuing overall viability of the licensee and not just individual projects.

57. The Inspector should consider whether the SMP adequately demonstrates:

- The organisational structure and resources required to meet the nuclear safety needs of the licensee's business.
- The relationship between the licence applicant and parent organisations, including confirmation that the licensee is in control of its activities and will not be subject to undue influence by its parent organisation(s).
- The design principles used to develop the organisational structure.
- The core capability required to deliver nuclear safety and manage the activities required under the nuclear site licence including safeguards to prevent it being degraded through over-reliance on contractors.
- The intelligent customer capability to specify, procure, monitor and accept work undertaken on its behalf by the supply chain.
- An understanding of the nuclear baseline as the vehicle to identify the nuclear safety related posts and underpinning role. This should make reference to arrangements to control organisational changes and maintain the nuclear baseline as a living document.
- The importance of the licence applicant having a resource strategy which will ensure that the right resources are available at the right time with the right skills and experience to meet the core capability requirements of the organisation at the current and future stages of the installation's lifetime, i.e. design, construction, commissioning, operations and decommissioning.

### 5.3.5. Element 5 - Decision Making

58. The SMP should describe the decision-making processes to ensure that safety is given a high priority.

59. The SMP should clearly describe how nuclear safety is considered in decision making processes. It should describe how appropriate technical

expertise and authority is applied and what the process is for ensuring that there is no conflict between safety and other business goals. Arrangements should exist to ensure that mismatches will be actively managed to ensure that safety is not compromised.

60. Where decisions must be made based on incomplete evidence or other uncertainties then the SMP should describe the process by which it is ensured that decisions err on the side of caution. In particular, the governance of emergency situations should be addressed.

61. The SMP should describe the licence applicant's approach to the use of safety performance indicators, and any reward and incentive schemes, to ensure that such schemes promote nuclear safety and do not inadvertently introduce perverse drivers.

62. The Inspector should consider whether:

- Decision making processes are clear.
- There is evidence that decisions have been made after due consideration of available data, relevant opinions from subject matter experts and independent review by the internal challenge function.
- It is clear that all the factors that should be considered in decisions affecting safety have been considered.

### 5.3.6. Element 6 - Management System

63. A properly designed and implemented safety management system should be able to deliver the aims set out by the IAEA 'International Nuclear Safety Group' (INSAG) which are:

- To improve the safety performance of the organisation through the planning, control, and supervision of safety related activities in normal, transient, and emergency situations.
- To foster and support a strong safety culture through the development and reinforcement of good safety attitudes and behaviours in individuals and teams to allow them to carry out their tasks safely.

64. The SMP should explain the main features of the management system and how it will be implemented. The descriptions should be at a high level with references to more detailed supporting documentation.

65. The SMP should set out the process for establishing, implementing, assessing, and continually improving the management system in line with GSR Part 2 [3] such that nuclear safety is properly considered. Descriptions should be given of the way the management system is

designed, implemented, assessed, and continually improved to ensure it appropriately supports the claims made in the SMP. Evidence that the system responds to both internal and external influences should be given.

66. A summary should be provided of how the full 'plan, do, check, act' learning cycle, as described in HSG65 [14], is delivered through the management system and how this is directed and controlled. The management system is part of ensuring a strong culture of leadership and management for safety; it should be possible to see how the leadership and management for safety SAPs are enacted through the design and operation of the management system.

67. The Inspector should consider whether:

- The structure of the management system is clear, and it is reflected in a logical hierarchy of manuals, processes, and procedures.
- The key business processes have been defined and it is clear what the inputs and output to each process are.
- Process owners have been appointed and that they understand and are fulfilling their roles.
- Procedures are clear, concise, and easy to read and there is evidence that they are being satisfactorily implemented and complied with.

### 5.3.7. Element 7 - Organisational Learning

68. Successful management of nuclear safety calls for the right culture and way of working to complement the right arrangements and procedures. A truly 'learning organisation' reflects on information and experience to improve performance. It does not rely on the fact that it has not had any significant accidents or incidents, but constantly strives to prevent future events. It welcomes challenge and review into its day-to-day working and encourages feedback across the organisation.

69. The SMP should outline how a 'learning organisation' culture will be fostered, showing how the organisation absorbs and responds to lessons from within and outside the organisation. The methods for communication of safety information should also be addressed.

70. The SMP should set out how the organisation will encourage an open, learning environment. It should include the process for monitoring the effectiveness of the management system and standards achieved.

71. It should also show how a robust process for learning from operating experience both within the organisation and from others within nuclear and other high hazard industries is established. There should be evidence of a

process to ensure that what is learned from experience is not only promulgated as necessary from the Board and Executive down but taken up and embedded throughout the organisation.

72. As part of the review and appraisal of performance there should be suitable measures to help monitor achievement and vulnerabilities. Care should be taken to choose measures that are real reflectors of nuclear safety performance, not merely those that are easy to measure. The approach taken to developing and using such indicators should be described in the SMP and should be consistent with the requirements of SAP MS.4.

73. When the need for improvement is identified, this should be followed up by a process of assessing the best option and putting it in place in a timely and comprehensive way. Part of this process should include checking to ensure the intended outcome has been achieved and reporting back on achievement. This process should apply across the organisation and include the Board and Executive.

74. Understanding processes and plant is vital to a learning organisation. Ensuring knowledge is captured and managed is a key element of this process. Knowledge management comprises three fundamental components: people, processes and technology, and these components should be managed as an integrated resource [15]. Changing the shape and size of an organisation whether through downsizing or growth can affect the organisational knowledge base and needs careful management. The SMP should show how the organisation will ensure that knowledge of the current processes, plant and equipment etc. is preserved.

75. As part of the capability maintenance arrangements the SMP should set out how the organisation ensures knowledge of the current processes, plant and equipment etc. is preserved in readily accessible media over time.

76. The Inspector should consider whether the SMP provides:

- A description of the learning and improvement process and how this is embedded across the organisation.
- A strategy for performance measurement which includes monitoring of leading indicators. Senior managers should understand the basis of the measures and the limitations of lagging indicators in proactive management of safety.
- Evidence that the Board and Executive demonstrate their commitment to learning and improvement. This should include discussions on what there is to learn from the experience of other organisations both within and outside the nuclear community, and a focus on outcomes.
- Evidence of challenge and how this leads to improvement.

- An adequate system for monitoring the implementation and effectiveness of the management system and modifying it to reflect learning and influences such as changing requirements.
- The basis for a communications strategy that supports the organisation's vision, mission and change initiatives. This should include how the organisation communicates with stakeholders.
- A requirement for directors, senior managers and line managers across the organisation to lead by example and foster open communications through personal involvement.
- Evidence that the system of rewards and incentives supports the aims of a learning organisation.
- Evidence of how the knowledge management process works in practice to support the claims made in the SMP. For example, knowledge capture from people retiring and moving on and after stages in the work programme, to inform future work.

# References

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# Glossary and Abbreviations

| | |
|---|---|
| HSE | Health and Safety Executive |
| IAEA | International Atomic Energy Agency |
| INSAG | International Nuclear Safety Group' |
| LC | Licence Condition |
| NDA | Nuclear Decommissioning Authority |
| PSR | Periodic Safety Review |
| SAP | Safety Assessment Principle(s) |
| SMP | Safety Management Prospectus |
| TAG | Technical Assessment Guide(s) |
| WENRA | Western European Nuclear Regulators' Association |