



HORIZON

NUCLEAR POWER

Management Prospectus

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Chief Executive Officer's Commitment Statement

Horizon Nuclear Power Wylfa Limited's (Horizon's) objective is to build a new nuclear power station on Anglesey, known as Wylfa Newydd. Horizon aspires to become a high reliability organisation with the skills and capability to deliver safe, low carbon, sustainable and affordable energy for current and future generations. Safety is our fundamental guiding principle and central to everything we do. We recognise the specific challenges associated with the nuclear environment and the high levels of responsibility that this entails. We will prioritise the safety, security and wellbeing of the public, our people, the environment and our stakeholders. We have a responsibility to our owners to spend their money wisely and this is consistent with our wider responsibilities.

In this context Horizon acknowledges its legal obligations under the Health and Safety at Work etc. Act 1974, and its supporting regulations, and the applicable environmental legislation. This Management Prospectus supports our applications to the Office for Nuclear Regulation for a Nuclear Site Licence as required by the Nuclear Installations Act 1965 and to Natural Resources Wales for a Radioactive Substances Regulation Environmental Permit under the Environmental Permitting (England and Wales) Regulations 2016.

This Management Prospectus describes our corporate arrangements for nuclear safety, security, radiological environmental protection and quality requirements. Importantly, this document describes Horizon's corporate governance and management system arrangements that will ensure compliance with nuclear licensing and radiological environmental permitting requirements.

I believe that leadership and commitment from the top are essential to successfully delivering the Wylfa Newydd Project. I strive to be exemplary in my leadership and the behaviours I exhibit, and I demand that my colleagues on the Horizon Nuclear Power Wylfa Limited's Board and in the Horizon Leadership Team follow my lead. Together we are committed to ensuring that the highest standards are delivered at all times, through the acceptance and demonstration of our personal and corporate responsibilities. We lead by example with a proactive approach to all areas, and encourage robust challenge where any activity contrary to our leadership or safety culture is identified. Safety, security and the environment will always be key factors in our decision making from our Board downwards, and I will actively support decisions made in the interests of safety, security and the environment. My ambition is for Horizon to be a continuously learning and improving organisation that takes account of good practice from both the United Kingdom and world-wide in the pursuit of excellence.

The Board has approved this Management Prospectus and is committed to delivering against it to help contribute to the UK's energy needs.



Duncan Hawthorne
Chief Executive Officer

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Summary

Background

Horizon Nuclear Power Wylfa Limited (Horizon) is the company that will build, operate and decommission the nuclear power station known as the Wylfa Newydd Power Station (the Power Station) on Anglesey. We are part of the Horizon Nuclear Power group of companies that is owned by Hitachi, Ltd.

We intend to build two UK Advanced Boiling Water Reactors that will generate electricity for an expected 60 years. The reactor design is provided by Hitachi-GE Nuclear Energy, Ltd. We have placed a significant Early Contractor Engagement contract with a joint venture known as Menter Newydd to help deliver the Power Station. We anticipate that this will develop into an engineering, procurement and construction contract or contracts (the EPC Contract) with Menter Newydd to subsequently build major elements of the Power Station (under our control). Certain activities will be delivered by Horizon, outside of the EPC Contract, through a sub-programme that is referred to as the “Owner’s Scope”.

Our stakeholders include our owners, our neighbours on Anglesey, our suppliers, our Regulators, and our people. Isle of Anglesey County Council is one of our key stakeholders. Other stakeholders in Wales include local residents, local authorities, community councils, Members of Parliament and Welsh Assembly Members.

This Management Prospectus

This Management Prospectus (MP) describes our organisation and management arrangements. It is a key element of applications to the Office for Nuclear Regulation for a Nuclear Site Licence (NSL) and to Natural Resources Wales for a Radioactive Substances Regulation Environmental Permit (EP-RSR). It describes how we have an adequate organisational and management structure, a developing integrated management system and sufficient human and financial resources to discharge the legal and business obligations associated with our current activities. Its scope covers our current and future activities that will be covered and regulated by the NSL and the EP-RSR.

Our organisation and arrangements reflect our understanding that we will have enduring and important obligations and responsibilities once we are a Licensee and a Permit Holder. This MP provides an overview of how we will manage our regulated activities under the NSL and the EP-RSR that could affect nuclear safety, security, radiological environmental protection, and quality.

Horizon’s Organisational Capability

Control

We have responsibility for ensuring high standards in all activities relevant to our Wylfa Newydd site. This means that we shall be in day-to-day control of all these activities and have the independence to make decisions on matters affecting the safety, security and environmental protection of the Power Station.

Our starting point is to ensure that we understand our activities and their potential hazards. We then ensure there are measures in place that give us a high level of confidence in our control. Of particular note is the staged system of control for the Wylfa Newydd Project (the Project) that includes obtaining the necessary permits, permissions and licences; making our final investment decision; and then proceeding to construct the Power Station under regulation against the NSL and the EP-RSR. We shall also ensure that we have control of the design of the Project to ensure that it achieves high standards of safety, security and environmental protection. We have established a Design Authority with this purpose. We also ensure that we are an effective Intelligent Customer so that we control those activities done on our behalf by our contractors, whether on or off our site, for the goods, works and services that they provide.

We manage and plan changes to our organisation and our arrangements in a controlled manner that takes into consideration the safety, security and environmental significance of any change. This recognises that changes will result from factors such as the growth of the Project and of us as a company; from the Project's progression; and from continuous improvement.

In all this we will hold ourselves to high standards, including challenging and questioning what we do. We will also check ourselves and our performance against national and international benchmarks such as those established by the International Atomic Energy Agency and high-performing utilities.

People

Our organisation has sufficient competent people for what we do. As the scope of our activities expands we will need to grow, and we have resourcing plans in place to help manage this. We demonstrate that we have enough suitably qualified and experienced people, in a suitable organisational structure, to sustain the delivery of nuclear safety, security, radiological environmental protection and quality at all times through what is termed a Nuclear Baseline that defines and justifies that capable organisation.

Management

Our arrangements ensure that our decision-making is properly managed, is based on accurate and suitable information, and take due consideration of the potential impact of our activities. We have processes and procedures that set out and describe how we properly control these. These include controlling the start of significant activities through a Hold Point control process that ensures that all arrangements are properly in place. Our processes and procedures are developed to ensure compliance with our regulatory requirements as well as achieve our business objectives. Compliance with the conditions of the NSL and the EP-RSR will therefore be achieved through adherence to our normal processes and procedures. Our arrangements will develop through the life of the Project to be appropriate to our activities.

Our ambition is to be an organisation that continuously learns and improves, taking account of good practice world-wide. As part of this we are establishing the effective knowledge management processes needed to achieve this ambition.

What next?

We have been working to become capable and competent to apply for a NSL and an EP-RSR. We are now ready for formal regulatory assessment. This MP describes the organisation and the management arrangements that will be assessed by the regulators and provides the required information as part of our applications for these assessments. We will continue to develop to become a Licensee and Environmental Permit Holder in preparation for construction through to eventual operation of the Power Station.

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1 Introduction

1. This Management Prospectus (MP) has been prepared by Horizon Nuclear Power Wylfa Limited (Horizon), a wholly owned subsidiary of Horizon Nuclear Power Wylfa Holdings Limited, which is itself ultimately owned by Hitachi, Ltd. The purpose of this document is to describe Horizon's organisation and management arrangements to demonstrate that Horizon is capable of holding and maintaining a Nuclear Site Licence (NSL) and a Radioactive Substances Regulations Environmental Permit (EP-RSR) for the installation and operation of two nuclear reactors on Anglesey in North Wales. The NSL and the EP-RSR are expected to be granted at approximately the same time.
2. The chosen reactor technology is the UK Advanced Boiling Water Reactor (UK ABWR). As required by the Office for Nuclear Regulation (ONR) and by Natural Resources Wales (NRW), this MP forms part of both the NSL and the EP-RSR applications and has been produced in support of these applications. This MP describes the governance infrastructure, management arrangements and resources that Horizon has put in place to discharge its regulatory obligations, and demonstrate the control of its activities. This MP describes the organisation and arrangements at licence and permit grant, except where it explicitly identifies changes between the points of application and grant. The information presented is valid from 1 April 2017 unless otherwise stated.
3. The Nuclear Installations Act 1965 (NIA65), together with the Nuclear Installations Regulations 1971 (SI 1971/381), require that a NSL is in force before a site may be used for the purpose of installing or operating nuclear installations. An EP-RSR is required under the Environmental Permitting (England and Wales) Regulations 2016 (EPR16) (SI2016/1154) for discharge and disposal of radioactive waste. In parallel with these Horizon must comply with the Nuclear Industries Security Regulations 2003 (NISR), including having approved security plans as appropriate to the activities in any nuclear installation lifecycle phase. As a body corporate, Horizon is eligible to hold a licence under Section 3(1)(a) of the NIA65 and is required to hold an EP-RSR under Schedule 23 of EPR16.
4. This MP provides a strategic, overarching description of how regulated activities, including nuclear safety¹, security, radiological environmental protection and quality² insofar as it supports the delivery of these, are managed within the organisation. It also shows how the management controls will be appropriate and sufficient to enable Horizon to discharge its obligations under the NSL and the EP-RSR in all lifecycle phases. Nuclear Safeguards and the safe transport of radioactive materials is not an immediate

¹ Nuclear safety encompasses radiological protection throughout this MP except where the text discusses radiological protection as a separate aspect of Horizon's activities and responsibilities.

² Throughout the MP, where "nuclear safety, security and radiological environmental protection" are used as a collective, this encompasses quality in so far as it supports delivery of these. Any exception to this convention will be made clear.

consideration as these activities will not be undertaken for some time. Horizon management arrangements will be developed in the future to control these activities.

5. This MP also describes the management arrangements that Horizon is developing and will implement to ensure the nuclear safety, security and radiological environmental protection of its activities, and the protection of the general public and local population, visitors to its site, its employees and contractors, the surrounding environment, and its facilities. It makes reference to key underpinning documentation that provides more detailed information on the management of Horizon (the Company Manual [RD1]); the adequacy of the human resources and organisational structure of Horizon (the Nuclear Site Licence Application - Nuclear Baseline Report [RD2]), and the ability of Horizon to comply with the conditions of the NSL and the EP-RSR (Compliance Matrices).
6. In developing its organisation, Horizon recognises the unique nature of nuclear technology and the potential hazards arising from operating a nuclear power station. Horizon also recognises the potential hazards inherent in a major construction project. This MP can be regarded as the headline document to what could be considered a Horizon organisational safety case, demonstrating that Horizon has appropriate capability, competencies and resources in terms of people, processes, organisation and infrastructure to discharge all duties applying to it at any time. Horizon recognises the importance of managing the hazards and risks arising from its nuclear operations as well as the potential environmental impacts arising from its activities. Our approach to the management of these is provided in Section 4.5.
7. In developing this MP, Horizon has taken due cognisance of relevant regulatory guidance. This includes the Function and Content of a Safety Management Prospectus [RD3] (which highlights ONR's Safety Assessment Principles for Leadership and Management for Safety), Guidance on the Production and Use of An Integrated Management Prospectus (produced by the Health and Safety Executive (HSE) and Environment Agency (EA)) [RD4] and Radioactive Substances Regulation: Management Arrangements at Nuclear Sites [RD5].
8. Horizon's management arrangements include the relationships it has established with its stakeholders. This encompasses its owners, neighbours on Anglesey, suppliers and partners, Regulators, and staff. The Operations Director is the lead for communications and engagement with stakeholders in Wales. Local stakeholders include local residents, local authorities, community councils, Members of Parliament and Welsh Assembly Members. On Anglesey, the Isle of Anglesey County Council is both a key stakeholder and the responsible authority for planning applications under the Town and Country Planning Act. Other Horizon stakeholders include those in the international and UK nuclear industries with whom it shares knowledge and experience and learns from, as well as its long term suppliers. In the energy market, stakeholders include National Grid and Horizon's customers once Horizon is generating electricity. Horizon seeks to proactively engage with its stakeholders, keeping them informed of its activities and, in particular, sharing safety related information with the appropriate stakeholders in support of continuous improvement.

9. Horizon's communications procedures are developing to acknowledge the importance of sharing safety related information in a targeted and timely manner. They will support the continuous improvement of Horizon's performance under the provisions outlined in Section 7.1. The details of this will be embedded in the management arrangements as they develop.
10. As part of Horizon's applications for a NSL and EP-RSR, this MP reflects Horizon's organisational capability through to NSL and EP-RSR grant. Horizon's organisational capability will continually develop to ensure that it is sufficient to control and discharge its activities at any point of the Wylfa Newydd Project lifecycle. Horizon is applying for other necessary permits and consents as detailed in the Nuclear Site Licence Application Overview Document [RD6] and in Section 1 of the EP-RSR application.
11. Horizon anticipates placing the major engineering, procurement and construction contract or contracts (the EPC Contract) with a joint venture known as Menter Newydd whose participants include Hitachi Nuclear Energy Europe, Limited, Bechtel Management Company Limited, and JGC Corporation (UK) Limited. The engineering, procurement and construction (EPC) joint venture will be the contractor (the EPC Contractor) for major elements of the delivery and construction of the Wylfa Newydd Power Station. The responsibilities of the EPC Contractor will be defined in the EPC Contract, more details of which are given in Section 4.7, including the existing Early Contractor Engagement (ECE) contract with Menter Newydd. Certain activities will be delivered by Horizon, outside of the EPC Contract, through a sub-programme that is referred to as the "Owner's Scope". Horizon will need to place contracts to support delivery of the Owner's Scope.
12. This MP will be kept under review and may be updated at appropriate business delivery points to ensure its accuracy and validity. These are expected to be associated with major Hold Points.

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2 Acronyms, Abbreviations, Terms and Definitions

Table 2.1 Table of Acronyms, Abbreviations, Terms and Definitions

Acronym or Abbreviation	Definition
BAT	Best Available Techniques
CAP	Corrective Action Programme
CEO	Chief Executive Officer
DA	Design Authority
EA	Environment Agency
EC	Environment Committee
ECE	Early Contractor Engagement
ECI	Export Controlled Information
EDRMS	Electronic Document and Records Management System
EPC	Engineering, Procurement and Construction
EP-RSR	Environmental Permit-Radioactive Substances Regulation
EUR	European Utilities Requirements
GDA	Generic Design Assessment
GEP	Generic Environmental Permit
HLT	Horizon Leadership Team
Hitachi-GE	Hitachi-GE Nuclear Energy, Ltd.
HMS	Horizon Management System
HSE	Health and Safety Executive
IACC	Isle of Anglesey County Council
IAEA	International Atomic Energy Agency
IC	Intelligent Customer
IER	Independent Environmental Review
INPO	Institute of Nuclear Power Operations
INSAG	International Nuclear Safety Advisory Group
INSR	Independent Nuclear Safety Review
ISO	International Organization for Standardization
KM	Knowledge Management
LC	Licence Condition
LLI	Long Lead Item
MP	Management Prospectus
NB	Nuclear Baseline
NDA	Nuclear Decommissioning Authority
NIA65	Nuclear Installations Act 1965

Acronym or Abbreviation	Definition
NICoP	Nuclear Industry Code of Practice
NISR	Nuclear Industries Security Regulations 2003
NLS	Nuclear Licensed Site
NORA	Nuclear Oversight and Regulatory Affairs
NRW	Natural Resources Wales
NSC	Nuclear Safety Committee
NSSEPs	Nuclear Safety, Security and Environmental Principles
NSL	Nuclear Site Licence
NSSP	Nuclear Site Security Plan
ONR	Office for Nuclear Regulation
ONR CNS	Office for Nuclear Regulation Civil Nuclear Security
PCSR	Pre-Construction Safety Report
Pre-NSC	Preliminary Nuclear Safety Committee
QA	Quality Assurance
QC	Quality Control
RD	Responsible Designer
REPPiR	Radiation (Emergency Preparedness and Public Information) Regulations
RPA	Radiation Protection Advisor
RWA	Radioactive Waste Adviser
SDF	Safety Directors' Forum
SLA	Site Licence Application
SLG	Site Licence Grant
SQEP	Suitably Qualified and Experienced Person
TAG	Technical Assessment Guide
TECDOC	Technical Document (IAEA)
TOR	Terms Of Reference
UK ABWR	United Kingdom Advanced Boiling Water Reactor
WANO	World Association of Nuclear Operators
WN-PCSR	Wylfa Newydd Pre-Construction Safety Report
WN-SJR	Wylfa Newydd Site Justification Report

The Nuclear Site Licence Application Glossary in the SLA package has full definitions of the above terms. The Glossary also contains the definitions of additional technical terms that are presented as capitalised words within this document.

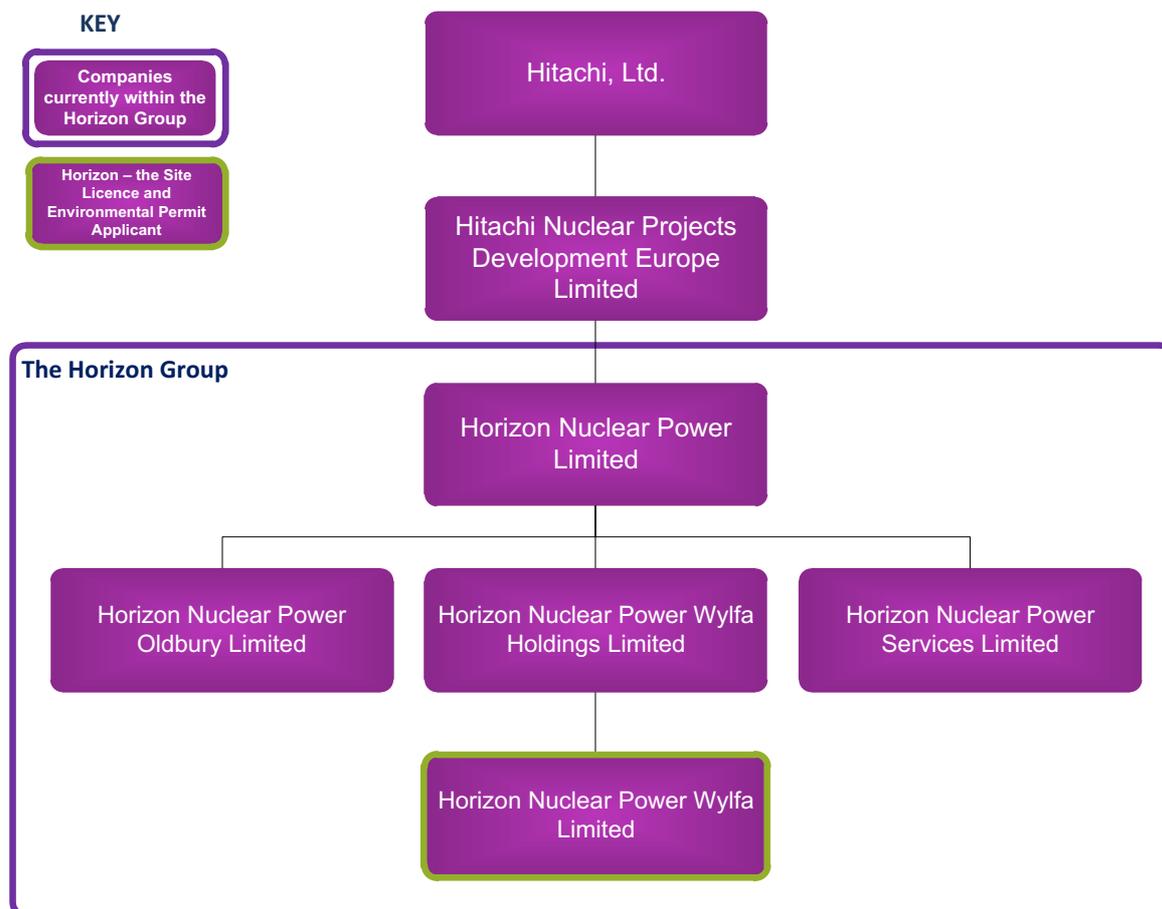
3 Horizon Nuclear Power Wylfa Limited

3.1 Company Overview

13. Horizon Nuclear Power Wylfa Limited (Horizon), registered in England and Wales, is applying for a NSL and an EP-RSR and upon grant would become a Licensee and Permit Holder. The Registered Office and headquarters of Horizon are at Sunrise House, 1420 Charlton Court, Gloucester Business Park, Gloucester, GL3 4AE. Further details of Horizon are provided in the Company Manual [RD1].
14. Horizon is currently a wholly-owned subsidiary of Horizon Nuclear Power Wylfa Holdings Limited (Wylfa Holding Company). The Wylfa Holding Company has been established to facilitate future investment in the Wylfa Newydd Project (the Project) and is currently 100% owned by Horizon Nuclear Power Limited which, via an intermediary company, is 100% owned by Hitachi, Ltd. This structure is illustrated in Figure 3.1.
15. The activity applied for under the NSL is for new nuclear installations that *“will utilise the UK Advanced Boiling Water Reactor design, and will include two thermal neutron reactors together with any machinery, equipment, appliance, and storage facilities required for the operation thereof. The reactors are fuelled with uranium dioxide enriched with the isotope Uranium235, and moderated and cooled by water. The new installations will be known as the Wylfa Newydd Power Station.”* The activity applied for under the permit is: *“The disposal from the Wylfa Newydd Power Station of aqueous and gaseous radioactive waste to the environment, and consignment of solid radioactive waste to appropriately permitted treatment and disposal facilities.”* Section 4.1 discusses the licence and permit boundaries for the Wylfa Newydd site. The definitive boundaries are provided separately in the Site Licence Application (SLA) package and Section 2 of the EP-RSR application.
16. As the prospective Licensee and Permit Holder, Horizon has developed its organisation and arrangements as detailed in the Company Manual [RD1], Nuclear Site Licence Application - Nuclear Baseline Report [RD2] and the Horizon Management System (HMS).
17. Horizon will have sole control of the proposed licensed and permitted sites and controls all regulated activities on it and impacting it for the Project’s lifecycle.
18. Horizon is funded by its ultimate owner, Hitachi, Ltd., which agrees and resources Horizon’s business plan (including finance). It is recognised that as Horizon’s activities develop, Horizon will need to ensure that it has adequate funding to discharge its duties and responsibilities in respect of regulated activities under the NSL and the EP-RSR.
19. Horizon must ensure it has adequate capability to control and oversee activities currently undertaken by it, and on its behalf, including those activities which impact on nuclear safety, security and radiological environmental protection. It currently uses a combination of employees provided by Horizon Nuclear Power Services Limited (Horizon Services), secondees and contractors supplied either directly to Horizon or via Horizon

Services. Where resources are provided by Horizon Services, arrangements are being reviewed to ensure that Horizon’s control of those resources is adequate and appropriate for the activities being undertaken.

Figure 3-1 Overview of Horizon Corporate Structure



3.2 Horizon’s Vision, Mission, Values and Policies

20. **Vision:** Horizon’s Vision is that it believes there is a compelling requirement for new nuclear power in the UK to help tackle the vital and complex challenge of delivering a sustainable energy future. Horizon will deliver secure, affordable low carbon energy, for present and future generations.
21. **Mission:** The Mission of Horizon Nuclear Power Wylfa Limited is to build a new, leading, UK nuclear utility company, successfully developing, constructing and operating the UK Advanced Boiling Water Reactor at Wylfa on Anglesey.
22. **Values:** To drive through its ambitions and direct the way in which it will deliver its Mission, Horizon follows a clear set of fundamental Values [RD7]. Further details on these are provided in the Company Manual [RD1]:

- Courage;
 - Safety³;
 - Integrity;
 - Collaboration; and
 - Inspiration.
23. The Values are integral to the business, and are explicitly considered within normal business activities, for example:
- during recruitment; and
 - when reviewing an individual's performance.
24. Horizon is committed to a strong safety ethos as demonstrated by its Commitment to Conventional and Nuclear Safety Statement and has developed its Safety, Health and Environment Policy (see Appendix 1) using national and international guidance and best practice: Managing for Health and Safety–HSE [RD8], and Safety Culture–IAEA Safety Series [RD9]. The Safety, Health and Environment⁴ Policy also holds Horizon's commitment to nuclear safety, recognising the specific challenges associated with nuclear technology, and this is supported by the Horizon Quality Management and Continual Improvement Policy (see Appendix 1). Safety governance in Horizon is part of the arrangements for initiating, directing, controlling and monitoring activities, together with Horizon's approach to developing and maintaining appropriate behaviours. This includes leadership behaviour and the fostering of a culture that enhances safety [RD9] and embeds a positive safety, security and environment culture in Horizon. This commitment similarly extends to an understanding across the whole business of the importance of radiological environmental protection in all Horizon's activities.
25. Horizon has a top-down commitment to the management of security, ensuring there is acceptance at all levels of management that appropriate security measures are essential and apply to all members of Horizon and its supply chain. Horizon's Safety, Health and Environment; Security; and Quality Management and Continual Improvement Policies are provided in Appendix 1.
26. Key to the safe and efficient delivery of any organisation's goals is the culture that exists within it; what is sometimes defined as "*the way things are done around here*". The cultural contribution to performance is well recognised within the nuclear and other high hazard or high consequence industries and Horizon is proactively seeking to state, develop and instil its own cultural norms. These will reinforce Horizon's values of safety; integrity; collaboration; courage and inspiration. The need to do this is more acute in a

³ Horizon interprets Safety to cover a wide range of activities. In the context of this MP the scope covers nuclear safety, security and radiological environmental protection.

⁴ Whilst this MP is scoped for radiological environmental protection, Horizon has an integrated Safety, Health and Environment Policy.

rapidly developing organisation that has a challenging programme with many stakeholders and suppliers.

27. Horizon's expectations for its safety, security and environment culture are established in its Nuclear, Safety, Security and Environmental Principles (NSSEPs) that include the identification of essential traits; these are covered further in Section 6.1.
28. Staff are encouraged by their line management to contribute to the improvement of delivery standards in Horizon. Culture programmes are delivered across the business to all staff on a developing basis. This not only maintains a focus on nuclear safety, security and radiological environmental protection but also provides a forum for discussion and knowledge transfer to ensure the implications on safety from all activities undertaken by Horizon are fully understood. Policies on conduct, conflict management and whistleblowing are in place, together with their supporting arrangements.

3.3 The Board of Directors

29. Horizon's corporate governance arrangements reflect the regulatory expectation for demonstrating that decision-making has sufficient and robust scrutiny. The Horizon Board of Directors (the Board) is ultimately accountable for Horizon's activities, its corporate governance framework and all decisions taken within the framework, including those relevant to regulated activities. The Board is accountable for ensuring the company remains in full control of its activities. Further information about the Board is set out in the Company Manual [RD1].

3.3.1 Board Composition

30. Details of the Board composition are provided in Section 6 of the Company Manual [RD1]. Collectively the Board has the appropriate competencies to meet its responsibilities for the current stage of the Project. This includes a number of Executive Directors, including the Safety and Licensing Director, who provide authoritative advice on nuclear safety, security and radiological environmental protection matters. Advice and challenge is provided to the Executive Directors by the Non-Executive Directors and Shareholder Nominated Directors. As Horizon moves through the Project lifecycle the Board composition may need to change as different skills, knowledge and experience are required to set new objectives and to maintain effective challenge whilst providing an optimal balance for oversight.

3.3.2 Board Responsibilities and Reporting

31. Details of the Board's purpose are given in the Company Manual [RD1]. The Board is informed by Horizon's business reporting. Reports provided to the Board are appropriate to Horizon's activities, including on organisational effectiveness. Horizon's Safety Performance Indicators require development in line with the UK Nuclear Industry's Good Practice Guidance [RD10] (which itself is informed by the ONR advice) for the purpose of future Board reporting. Other, diverse views also inform the Board, including reports from the Nuclear Oversight function, advice from the Preliminary Nuclear Safety

Committee (Pre-NSC) (the Nuclear Safety Committee post Site Licence Grant (SLG)) and Environment Committee (EC) and from external independent verification. Additional detail on decision-making is provided in Section 3.7.

3.4 Governance

32. Day-to-day management of Horizon's business is delegated to the Chief Executive Officer (CEO) and the Horizon Leadership Team (HLT). The Board holds the CEO and the HLT accountable for this. Horizon's corporate governance arrangements have been designed and implemented to ensure that, from the Board down, control is demonstrable and effective, and that decisions are subject to appropriate challenge and scrutiny. Horizon's governance arrangements, including a summary of the key accountabilities of each HLT director and a summary of each of the key committees, are outlined in Sections 7 and 8 respectively of the Company Manual [RD1]. The delivery and assurance of nuclear safety governance and radiological environmental governance are summarised in these Sections.

3.5 Executive Delivery: the Horizon Leadership Team (HLT)

33. The CEO has appointed an executive team under his accountability and chairmanship called the HLT. Details of the HLT structure, key accountabilities of the HLT, and of individual members are given in the Company Manual [RD1].

3.6 Board Committees' Structure

34. Horizon's governance arrangements for nuclear safety, security and radiological environmental protection are currently supported by a number of committees with their individual Terms of Reference (TOR) held in the HMS and outlined in the Company Manual [RD1]. Key advisory committees include a Pre-NSC and an EC to provide independent advice to the Board, the HLT and the business as appropriate.

3.7 Lines of Authority

3.7.1 Horizon Board and HLT

35. As noted above, day-to-day management of Horizon's business has been delegated to the CEO and the HLT who are held accountable by the Board. This delegation provides the CEO and HLT with the appropriate and necessary authority to manage their (individual and collective) accountabilities and responsibilities for regulated activities. The level of authority delegated to the CEO is sufficient to respond to and make safe any hazard likely to arise in connection with the current phase of the Project. The Company Manual [RD1] describes the governance framework that enables Horizon to discharge its regulatory duties, including in relation to safety. The delegations will be reviewed to ensure they remain appropriate to the phase of the Wylfa Newydd Project.

3.7.2 Decision-Making

36. Horizon's organisation and governance structures have been designed and implemented to ensure that responsibility for decision-making sits closest to where activities are undertaken. Individuals have decision-making responsibilities defined by the post and role profiles assigned to them; their competency to undertake these responsibilities is achieved through Horizon's competency assessment arrangements. Decisions made by governance bodies are bounded by their TOR.
37. Communication of information is supported by the governance arrangements, defined within the HMS. The management arrangements aim to enable access to relevant information, learning from experience and performance data, and for decisions to be clearly documented and recorded. This supports decision-making informed by timely, relevant and accurate information, provided through clear reporting lines.
38. The governance arrangements have been designed to ensure that decisions are subject to appropriate challenge, scrutiny and oversight up to, and including, the Board. Where required, advice independent from delivery is provided by internal regulation function, statutory advisory bodies (the Corporate Radiation Protection Advisory Body (RPA) and Corporate Radioactive Waste Advisory Body (RWA)) and advisory committees (Pre-NSC and EC).
39. For matters relevant to nuclear safety, security and radiological environmental protection, decision-making is expected to take due cognisance of the principles defined in NSSEPs. A graded approach to decision-making is taken that ensures that matters with higher levels of significance are subject to proportionately greater oversight and independent challenge. This framework provides a mechanism to ensure nuclear safety, security and radiological environmental protection considerations are given due account in making business decisions. It also provides a means for the escalation of decision-making, for example where conflicts between different priorities arise.
40. Finally, decision-making is supported by the underlying culture and values of the organisation, encouraging all, where appropriate, to contribute to the decision-making process.

3.8 Relationship between Horizon and its Owner

41. As identified above, currently Horizon is ultimately owned by Hitachi, Ltd. As Horizon's activities progress, arrangements will be developed between Horizon and the Wylfa Holding Company to clarify the boundaries of control and decision-making, so that Horizon maintains the necessary control to meet its responsibilities for its changing regulated activities and is able to carry out its duties (as a Licensee and Permit Holder) with appropriate autonomy from the Wylfa Holding Company and the ultimate owner.
42. Hitachi, Ltd. is also the majority shareholder of Hitachi-GE Nuclear Energy Ltd. (Hitachi-GE), the nuclear technology provider and nuclear reactor vendor that will provide the UK ABWR for the Project. Horizon acknowledges that it has a group company relationship with Hitachi-GE. Notwithstanding that, the procurement of the UK ABWR via the EPC

Contract, and the EPC Contract itself, will be subject to Horizon's responsibilities under UK law and in particular in ensuring that it can meet its responsibilities under the NSL and the EP-RSR (amongst others). More detail on the EPC Contract is given in Section 4.7.

3.9 Assurance, Oversight and Independent Challenge

43. Independent of delivery, assurance of Horizon's nuclear safety, non-nuclear health and safety, radiological and non-radiological environmental protection, security, and quality elements of the company's activities is principally provided by the Safety and Licensing Functional Unit. Within the Safety and Licensing Functional Unit, the Nuclear Oversight function is mandated to provide independent oversight on the effectiveness of the organisation's structures, management arrangements and people, in managing the nuclear safety, security and radiological environmental protection risks and hazards associated with its activities. Nuclear Oversight function works on behalf of the HLT and the Board, reporting through the Safety and Licensing Director.
44. The Head of Nuclear Oversight and Regulatory Affairs (NORA) is accountable for discharging the responsibilities of the Nuclear Oversight function. The Head of NORA reports to the Safety and Licensing Director who provides authoritative advice direct to the CEO and the Board.
45. In developing the organisational structure and management arrangements of the Nuclear Oversight function, reference has been made to UK Nuclear Industry Good Practice Guide [RD11] and regulatory guidance on advice and challenge [RD12].
46. The Nuclear Oversight function is responsible for providing to senior management, regular reports of its independent assessment of Horizon's performance on matters of nuclear safety, security and radiological environmental protection. Oversight of Horizon's Quality Assurance (QA) performance is delegated to the Organisational Effectiveness Director, though accountability remains with the Safety and Licensing Director.
47. The Nuclear Oversight function provides advice to the business, from the Board down, on areas within its scope and competence. The majority of this advice is informal but, should the need arise, formal or compelling advice can be given. Formal or compelling advice will be given in writing, by an authorised member of the Nuclear Oversight function. Such formal or compelling advice is intended to give the appropriate management a clear indication of where specific action should be considered or avoided so that appropriate standards of nuclear safety, security and radiological environmental protection are maintained.
48. The Nuclear Oversight function discharges its role as an internal regulator through formal activities including:
 - observation and surveillance of Horizon meetings and governance arrangements;
 - formal scrutiny of workplace activities (inspections) against the controlling documentation and procedures;

- independent review of documents that are significant to nuclear safety, security and radiological environmental protection (where there are implications for the EP-RSR) including the Safety Case and the Best Available Techniques (BAT) Case;
 - provision of advice on nuclear safety, security and radiological environmental protection matters; and
 - provision of concurrence, where appropriate, for the release of Hold Points.
49. Horizon's NSSEPs define expectations for nuclear safety, security and environmental protection to be achieved⁵. The comparison of nuclear safety, security and radiological environmental protection submissions with the principles in NSSEPs form a significant contribution to the Nuclear Oversight function's assessment of the adequacy of a submission.

3.10 Horizon's Current Activities

3.10.1 Current Status

50. Horizon is currently in the Development Phase of its five lifecycle phases (Development, Construction, Commissioning, Generation and Decommissioning: see Section 4) and will still be in this phase at licence and permit grant.
51. Horizon has conducted a readiness assessment process and has judged that it is of sufficient maturity and competence to submit a SLA for the Wylfa Newydd Nuclear Licensed Site (NLS). An EP-RSR readiness review will have been conducted prior to submission of the EP-RSR application for the EP-RSR permitted site. The requirements of nuclear safety, security and radiological environmental protection regulations are either in place or planned to be in place at granting of the NSL and the EP-RSR. Horizon has forward work plans in place that outline, amongst other things, the development and demonstration of capability to undertake its current activities. These are summarised in the Nuclear Site Licence Application Summary Forward Work Plan [RD13] in the SLA package and Section 9 of the EP-RSR application.
52. Horizon's key activities during the Development Phase include:
- activities at the proposed NLS, such as site characterisation (archaeological and geological investigations) and site clearance (including demolition and removal of existing buildings);
 - design control activities, such as specification of requirements, completion of design reviews, and design acceptance and the establishment of configuration control;
 - preparation for completing the order of the first material fabrication for Long Lead Items (LLIs);

⁵ Expectations on quality are not explicitly within the scope of the NSSEPs, however it is recognised that nuclear quality is critical to many of the activities Horizon undertakes.

- development of the Wylfa Newydd Site Justification Report (WN-SJR) and the Wylfa Newydd Pre-Construction Safety Report (WN-PCSR);
- commencement of sentencing of generic design assessment (GDA) findings and GDA adoption;
- development of arrangements for control and oversight of the EPC Contractor; and
- development of arrangements, capabilities and attributes required to undertake the above and to accept the obligations of being a NSL and EP-RSR organisation.

3.10.2 Company status expected at Site Licence Grant

53. Horizon will need to have clearly established its capability to act as a NSL and EP-RSR holder in advance of licence and permit grant. Horizon will have forward work plans in place to define the further development that will be required to take on the additional activities, notably those associated with starting construction and later commissioning and operation of the plant. Horizon's business capability, organisation and human resource, management arrangements and infrastructure will grow in a planned manner to deliver against the NSL and EP-RSR as follows:

- the arrangements under which Horizon Services provides resource to Horizon are being reviewed to ensure that Horizon's control of those resources is adequate and appropriate to the activities being undertaken;
- for the organisation to mature the capability to become a Licensee and achieve SLG, which will include the completion of a period of demonstration working;
- the specification and engagement of Operating Partners and training service providers;
- development of capabilities to oversee the completion of nuclear construction activities in preparation for starting the Construction Phase;
- to continue design control activities, such as specification of requirements, completion of design reviews and design acceptance, and the establishment of configuration control;
- to complete the WN-SJR and to continue production of the WN-PCSR;
- development and maintenance of the BAT Case;
- to continue sentencing GDA assessment findings and preparation for GDA adoption;
- to progress the development of arrangements for control and oversight of the EPC Contractor;
- to complete first material order of LLIs, in addition to commencement of first LLI fabrication;
- to continue to undertake activities such as site characterisation (archaeological and geological investigations);

- to continue to develop security arrangements, including development of the Nuclear Site Security Plan (NSSP); and
 - arrangements for compliance with EP-RSR commitments for future activities will be covered in regulatory agreed forward work plans and be detailed as part of the appropriate Hold Point release criteria.
54. At grant, Horizon will be continuing its regulated activities broadly as they were at the point of application. Horizon will be continuing financial and investment discussions in preparation for key investment decisions to be made. Additionally, Horizon will be continuing its design and Safety Case development work in preparation for construction.

4 Delivery of the UK Advanced Boiling Water Reactor for Wylfa Newydd Power Station

4.1 The Wylfa Newydd site

55. The Wylfa Newydd site is located to the west of the village of Cemaes on Anglesey. The proposed site for the Wylfa Newydd Power Station (the Power Station) is directly to the south-west of the existing Magnox Wylfa Power Station (the Existing Power Station). The grid reference for a significant point on the site is SH 349 930. The Existing Power Station is owned by the Nuclear Decommissioning Authority (NDA) and managed and operated by Magnox Limited. Horizon intends to install and operate two UK ABWRs as designed by Hitachi-GE Nuclear Energy, Ltd. on the Wylfa Newydd NLS.
56. The National Policy Statement for Nuclear Power Generation EN-6 (NPS EN-6) [RD14] was issued following the UK Government's Strategic Siting Assessment, designed to identify sites in England and Wales potentially suitable for the deployment of new nuclear power stations. The NLS falls within the Wylfa Newydd NPS Site boundary.
57. The proposed NLS boundary is defined on a map provided in the SLA package. The EP-RSR boundary is defined on a map in Section 2 of the EP-RSR application.
58. Horizon has exclusive possession of nearly all the land required for the proposed Power Station. The northern half of the Power Station site is leased to Horizon by the NDA for 999 years from 2011 (leasehold ownership) and the southern half is owned (freehold ownership) by Horizon. The titles have a number of restrictions attached that need to be addressed before Horizon can be in full control of the land. These include the use of the highway across the site by third parties and rights of third parties, such as those to run cables and pipelines across the land. The restrictions are understood fully by Horizon and are actively being addressed. It is anticipated that the majority will be resolved by voluntary agreements before SLG.
59. A co-operation agreement exists between Horizon, Magnox Limited and the NDA dealing with common issues affecting both sites. The agreement incorporates a general principle of co-operation and is designed to enable continued compliance by all parties with all relevant legislation. It is also intended to facilitate the smooth operation of adjacent NLS and operations. This will be supported in the future by agreements with Magnox Limited covering, but not limited to, issues between Horizon and the Existing Power Station relating to access, shared services and emergency arrangements. The emergency arrangements for the Power Station will develop in a phased manner commensurate with the activities at both the Power Station and at the Existing Power Station. Further details of Horizon's emergency arrangements are provided in the Nuclear Site Licence Application Overview Document [RD6].
60. Horizon recognises the influence that the activities of external bodies, such as National Grid, have the potential to affect the nuclear safety of the Wylfa Newydd site, and so will

work closely with them to ensure that their influence is appropriately considered and managed.

4.2 The UK Advanced Boiling Water Reactor Technology

61. The UK ABWR is based on the ABWR design, which is a mature reactor design having been both licensed and operated in Japan, and licensed by the Nuclear Regulatory Commission in the USA and by the Atomic Energy Council in Taiwan. The design encompasses the knowledge and understanding of Hitachi-GE in the design, construction, commissioning and operation of similar plants in Japan, and benefits from the experience of the Boiling Water Reactor Owners Group (BWROG) from operating Boiling Water Reactors (BWR) world-wide. The design reference for the UK ABWR is based on the first ABWRs (Kashiwazaki-Kariwa units 6 and 7), including improvements implemented at Shika Unit 2, Shimane Unit 3 and Ohma Unit 1, in addition to incorporation of post Fukushima enhancements. The detailed Safety Case for the construction of the UK ABWR will be contained in the WN-PCSR. Further information on the UK ABWR technology is contained in the Nuclear Site Licence Application Overview Document [RD6] and in Section 2 of the EP-RSR application.

4.2.1 Generic Design Assessment

62. The ONR and EA's GDA process allows for the assessment of a new reactor design, proposed for UK deployment, prior to any formal application to build a new nuclear power station at a specific site. NRW is a member of the EA's GDA Programme Board and will use the GDA in its assessment of environmental permit applications for the UK ABWR at the Power Station site.
63. Hitachi-GE is the Requesting Party for the GDA of the UK ABWR and this is anticipated to be completed before SLG and EP-RSR grant. Horizon as the prospective user of the UK ABWR technology is providing support to Hitachi-GE in the development of the GDA Pre-Construction Safety Report (GDA-PCSR) and the Generic Environmental Permit (GEP). Documents that demonstrate the security of the generic design against malicious threats are discussed in the Conceptual Security Arrangements report, which also makes up part of the GDA.
64. The WN-PCSR and EP-RSR application will use the documentation assessed by the regulators through the GDA process (GDA-PCSR and GEP). This site specific licensing and permitting documentation will cover the differences between the Site and the GDA.
65. Successful completion of the GDA process will lead to the issuance of a Design Acceptance Confirmation from the ONR and a Statement of Design Acceptability from the EA, which would be seen as key milestones in the Project. This would also support the subsequent Project milestones to be reached. Horizon will need to address any relevant assessment findings arising from the GDA which will be addressed at appropriate and agreed points in the lifecycle to meet the Project delivery. For environmental assessment findings, the EP-RSR forward work plan states that Horizon

shall ensure that a programme for resolution of assessment findings is developed and provided to NRW before moving to the Construction Phase.

4.3 Control and Management of the Project

66. The Wylfa Newydd Project will be delivered by Horizon and its supporting contractors. Horizon is developing its arrangements to ensure that it will have the appropriate and necessary control of activities throughout the lifecycle of the Project, including those of the EPC Contractor. Horizon will be the Intelligent Customer (IC) for all contractor provided goods, works and services that have the potential to impact upon nuclear safety, security and radiological environmental protection. The Company Manual [RD1] identifies those within Horizon with responsibility for the control and delivery of both site and headquarters based activities and those at any other location supporting Horizon's business. Control and oversight on behalf of the Board will be a key element at each stage of development of these arrangements. Horizon's management arrangements ensure that all activities are reviewed for their impact on nuclear safety, security and radiological environmental protection, and subsequently assessed, reviewed, approved and implemented as appropriate to their significance.
67. The Construction Director is accountable for nuclear safety, security and radiological environmental protection at the Power Station site. As the Project moves through the lifecycle phases the accountable Director will change according to the nature of activities at the Power Station site.
68. The provisions that secure the adequacy of Horizon's organisation are provided in Section 6. To deliver the Project, Horizon will expand its capabilities during the Construction Phase to control and oversee the EPC Contractor. Horizon will continue to develop programme management arrangements in order to perform the IC function and to accept contractor's deliverables. Horizon will be responsible for delivery of the necessary ancillary and supporting facilities, and structures and systems outside of the scope of the EPC Contract, referred to as the "Owner's Scope" (see Section 4.7.2). Horizon will also develop the capabilities to control and oversee contractors delivering Owner's Scope activities. Additional resource will be provided via the supply chain, and may include project management expertise and an Owner's Engineer capability.
69. The Nuclear Site Licence Application - Summary Forward Work Plan [RD13] and Section 9 of the EP-RSR application provide more detail on Horizon's development and intentions for organisational development against the NSL and EP-RSR respectively.

4.3.1 Lifecycle Phases

70. The Project will move through lifecycle phases as shown below, with the principal site based activities shown in brackets:
- Development Phase (site enabling works);
 - Construction Phase (main construction, including nuclear safety related construction). This phase also includes the following key activities:

- I. Construction Testing (systems and component testing);
 - II. Pre Operational Testing (systems testing).
- Commissioning Phase;
 - Start Up Testing (initial criticality; power testing);
 - Generation Phase (normal power operation); and
 - Decommissioning Phase (permanent shutdown and de-fuelling; fuel and waste removal through to dismantling; de-licensing and return of permits).
71. Through the Development Phase, Horizon will continue to focus on developing the design and selection of an approach to the EPC Contract and other contracts that will support the delivery of the Project. Horizon's management, governance and assurance arrangements will be in force to control these activities.
72. Further details on Horizon's activities in each phase are given in Section 9 of the EP-RSR application and in the Nuclear Site Licence Application - Summary Forward Work Plan [RD13].

4.3.2 Project and Programme Management

73. Horizon uses industry standard programme and project management techniques in managing the delivery of the Project. The Construction Director is principally accountable for development and delivery of the Project, supported by the other HLT members according to their own accountabilities and responsibilities. After investment decisions have been made, the Construction Director will be responsible for overall management of the activities related to the Construction Phase of the Project.
74. Horizon is developing its integrated work schedule and its arrangements for the integration of project, sub-programme and programme delivery. This work is underpinned by the developing project management arrangements in HMS that are supported by a programme-wide controls system to provide performance management information at portfolio, programme and project level. The control and management of the design of the Power Station and of its construction are detailed in the next section. Project engineering and construction oversight activities will be fully aligned and integrated into our programme management approach. Horizon's programme management approach follows relevant industry and international best practice.
75. Horizon is developing arrangements for applying appropriate oversight and control of the Construction Phase including the major regulated activities within each phase. A strategy for controlling Hold Points and supporting arrangements are in place and shall be applied appropriately. They provide a proportionate approach to activity constraint, assessment of readiness to proceed and approval, according to the risk associated with each Hold Point. A subset of these Horizon Hold Points will be agreed with the ONR to also act as regulatory permission Hold Points, for example First Nuclear Concrete and Fuel to Site. The Hold Point control arrangements will also consider environmental constraints and requirements placed by NRW in the EP-RSR.

76. The organisation will evolve as Horizon moves through the lifecycle phases. The approach to ensuring the necessary competence and capacity to safely control all activities is detailed in the management of Nuclear Baseline change arrangements that are outlined in Section 6.3. Horizon has recently transitioned from a function-led organisation to a project-based organisation. The accountabilities of the HLT, and consequently their associated operational or functional units, are described in the Company Manual [RD1] and the Nuclear Baseline Report [RD2].

4.4 Control and Management of Design and Construction

4.4.1 Control and Management of the Design

77. Horizon's Design Authority (DA) specifies the nuclear safety, security and radiological environmental functional requirements for the design of the Power Station, and monitors the establishment of the Basis of Design that is drawn from these. The final agreed Basis of Design is the responsibility of the DA and this will in turn inform the design and construction activities being undertaken by the EPC Contractor, through the Construction Operational Unit. The maturing design will be taken under Horizon's configuration control through a number of reviews led by Horizon's DA to ensure it is adequate to support submissions for activities in the current Development Phase. The DA is responsible for the arrangements for maintaining design integrity through the life of the Power Station. This is discussed further in Section 6.4.

4.4.2 Control and Management of the Site and Construction

78. Horizon has established a permanent office at the Wylfa Newydd site, headed by the Wylfa Site Manager. This supports the Construction Director who has accountability for all activities at the site including managing interfaces with the Existing Power Station. The Head of Construction and Wylfa Site Manager are supported by a number of Horizon staff, including specialists in health and safety, environment and security.
79. Management arrangements will be implemented to control, and support compliance with regulatory conditions for the activities that will be undertaken on the Wylfa Newydd site, as follows:
- general arrangements for the safe and successful management of activities on the Wylfa Newydd licensed and permitted site;
 - nuclear safety, security and radiological environmental protection arrangements; and
 - site management of projects, the site management arrangements to be applied to specific projects.
80. Further arrangements will continue to be developed after SLG that will also apply to the Construction Phase of the Project, including:
- management of the integrated schedule;

- management of the EPC Contract; and
 - management of the Owner's Scope.
81. In due course the EPC Contractor, and contractors used to deliver the Owner's Scope, will be given controlled access to the site. These will be within a defined boundary under appropriate Horizon procedures and under Horizon's supervision. It is anticipated that the EPC Contractor will manage the site and works within its boundary to fulfil the contract. Horizon is responsible for ensuring that the EPC Contractor fulfils the requirements of the EPC Contract, including adherence to statutory, regulatory, and client (Horizon) requirements in respect of nuclear safety, security and radiological environmental protection. The Construction Operational Unit will undertake the necessary level of control, including surveillance activities, to ensure compliance with the above. This will be supported by independent oversight and assurance of the performance of the EPC Contractor, contractors used to deliver the Owner's Scope and the Construction Operational Unit. The EPC Contractor will be responsible for ensuring that their contractors and sub-contractors comply with its contractual arrangements, this ensures that accountability for safety, environment, security and quality at all places on site is clear.

4.5 Future Variation of Hazards and Environmental Impacts with Activities

82. The hazards to Horizon's activities, and the hazards presented by Horizon's activities, will vary according to both the lifecycle phase and the activities at the adjacent Existing Power Station. As with any major construction project, Horizon's arrangements ensure compliance with the Health and Safety at Work etc. Act 1974 and all associated UK regulations, as a key contributor to the reduction and mitigation of non-nuclear hazards throughout the lifecycle phases. The radiological environmental impact of Horizon's activities will also similarly vary with lifecycle phase, the management of which is through the environmental management arrangements within HMS.
83. The focus for the management of hazards and radiological environmental impacts for each lifecycle phase is outlined below. The means by which Horizon achieves this is set out in the provisions described throughout this document.
- Development Phase:
 - I. management of the design process and design basis through constructability and operability design reviews to ensure that no latent hazards are introduced by the design processes and that potential hazards during operation are identified and removed or adequately mitigated;
 - II. assessment of the risks and hazards in the Construction and Commissioning Phase, supporting contractor selection and the planning of safe delivery of these phases. The initial focus will be biased to identifying, mitigating and managing the construction risks and environmental impacts in a major

- construction project, with the environmental impacts having been identified and captured from this evaluation;
- III. assessment of the potential external hazards to the Wylfa Newydd site, including the potential hazard presented by the Existing Power Station and preparations required at the Wylfa Newydd site;
 - IV. management of the design process and design basis to ensure that the projected environmental impacts are minimised;
 - V. oversight and control of the procurement, manufacture, inspection, transport, receipt and storage for future installation of LLLs; and
 - VI. design and delivery of the training programme required to support construction, commissioning and future operations, ensuring future competence.
- Construction Phase:
 - I. implementation of safe systems of work by the EPC Contractor, and contractors used to deliver the Owner's Scope, under the control of Horizon. This will include an appropriate Wylfa Newydd site emergency plan, as identified by the strategy for emergency planning, and as may be required under the Control of Major Accident Hazards Regulations 2015;
 - II. Horizon oversight of the construction process to ensure that it is delivering the required design intent supported by the necessary QA and Quality Control (QC) management framework and associated processes, procedures and quality records. This prevents the introduction of latent hazards to future operations and both ensures and assures the validity of the safety and environmental cases and security plan throughout the life of the plant;
 - III. Horizon oversight of the construction process to ensure that the environmental impact is minimised as designed, planned and permitted, and that wastes (including construction wastes) are managed in accordance with the intended integrated management arrangements for the management of waste;
 - IV. management of the commissioning processes for Construction Testing and Pre Operational Testing, with a staged and incremental approach to assuring plant operational performance is as claimed and justified in the Safety Case, BAT Case and security plan; and,
 - V. design and delivery of the training programme required to support commissioning and future operations, ensuring future competence.
 - Commissioning Phase:
 - I. management of the commissioning processes for Start Up Testing, with a staged and incremental approach to assuring plant operational performance is as claimed and justified in the Safety Case and BAT Case and security plan.

- recognising the significance of first receipt of nuclear fuel to site;
 - recognising that commissioning generates the first planned radioactive wastes;
 - recognising that commissioning underpins future operations; and
 - recognising the change in responsibilities of those doing the commissioning from the EPC Contractor to Horizon, as commissioning moves to Start Up Testing (including initial criticality and power operations). Horizon will lead the Start Up Testing with expert support from the EPC Contractor;
- II. recognition within the management controls and the Safety Case and BAT Case for commissioning that there will be time when one unit is in the Commissioning Phase whilst the other unit is still under construction;
 - III. management of the plant and its operations by duly authorised operators in accordance with the Safety Case and BAT Case, including operating rules and operating limits. The latter includes environmental operating rules and operating limits;
 - IV. delivery of the on-site emergency plan and support to the off-site emergency plan under the Radiation Emergencies (Public Preparedness and Information) Regulations (REPPIR);
 - V. management of radioactive wastes in accordance with integrated management arrangements for the management of waste; and
 - VI. delivery of the training programme as required to maintain competence.
- Generation Phase:
 - I. operation of the plant will be by competent operators in accordance with operating rules and operating limits, defined from the Safety Case and BAT Case;
 - II. delivery of the on-site emergency plan and support to the off-site emergency plan under REPPIR;
 - III. management of radioactive wastes in accordance with the intended integrated management arrangements for the management of waste;
 - IV. delivery of the training programme as required to maintain competency;
 - V. recognition within the management controls, the Safety Case and BAT Case for operation that there will be time when one unit is operating whilst the other unit is still under construction or commissioning; and
 - VI. recognition that there is the small (remote) possibility for one unit to close and potentially start decommissioning early while the other unit continues to operate.

- Decommissioning Phase:
 - I. management of the plant and its operations by competent operators in accordance with operating rules and operating limits defined by the Safety Case and BAT Case;
 - II. delivery of the on-site emergency plan and support to the off-site emergency plan under REPPiR;
 - III. reduction of radiological hazards following de-fuelling and decommissioning activities;
 - IV. despatch of spent fuel off-site to the UK Geological Disposal Facility and Radioactive Waste disposal off-site to the UK Geological Disposal Facility and other appropriately permitted facilities⁶;
 - V. reduction of all hazards on the site to a position of no danger in the context of NIA65 and an end to the period of responsibility (as described in Section 5 of the NIA);
 - VI. meeting the requirements of NRW for surrender of Environmental Permits; and
 - VII. delivery of the training programme as required to maintain competence.

4.6 The Nuclear Technology Provider and Responsible Designer

84. Hitachi-GE are the nuclear technology provider (the Vendor) to Horizon under contractual arrangements via the EPC Contract. The DA is responsible for the strategy to gain and retain sufficient knowledge of all aspects of the design to enable it to understand the results of the design work from the nuclear technology provider, and to understand the implications of that work for the rest of the design. As part of this, the DA will appoint (acting as the IC) Responsible Designers (RDs), for any parts of the design where it requires a formally defined and enduring relationship to be created between the operator and a design vendor throughout the lifetime of the Power Station. In outline, any appointed RD will have a responsibility to provide Horizon's DA, under contractual relationship, detailed and specialist knowledge of the systems, structures and components important to safety. It is anticipated that Hitachi-GE will act as a RD for the Power Station.
85. It should be noted that, although the DA may assign some specific activities to RDs, it cannot delegate its overall responsibility for the integrity of the design.

⁶ Spent fuel and Intermediate Level Waste will be present on the site until the UK's Geological Disposal Facility is available. Lower activity wastes will be transferred to the Low Level Waste Repository, or such facilities as are dictated by UK Government policy from time to time.

86. The RD service will be governed against the commercial and procurement procedures laid down in HMS and will be subject to oversight and surveillance. It is intended that contractual arrangements will facilitate the further transfer of knowledge and understanding from RDs to Horizon's DA, and to other functions where appropriate, through the life of the contract. This transfer of knowledge will assist and inform the production of operating documentation and subsequent safe operating practice.

4.7 The Engineering, Procurement and Construction Contractor

87. Horizon anticipates placing the major EPC Contract with a joint venture which comprises Hitachi Nuclear Energy Europe, Limited, Bechtel Management Company Limited, and JGC Corporation (UK) Limited. This joint venture is known as Menter Newydd and is expected to be the contractor (the EPC Contractor) for the delivery and construction of the Power Station. The responsibilities of the EPC Contractor will be defined in the EPC Contract.
88. Horizon will be the IC for the EPC Contract and all its activities and deliverables. It will work with the EPC Contractor to develop a governance structure that oversees Horizon's compliance with regulatory and other related mechanisms to maintain compliance with internal control and decision-making requirements to ensure the necessary nuclear safety, security and radiological environmental protection of all works, services, equipment and designs bought under this contract including associated records. The contract will be subject to oversight and surveillance as detailed in defined business processes.
89. As the IC in the context of the EPC Contract, Horizon intends that:
- the project engineering function in the Construction Operational Unit will produce the technical specifications of the EPC Contract, supported by the programme engineering function and based on the DA's requirements in the Basis of Design;
 - Horizon will state and clearly define the requirements that affect nuclear safety, security and radiological environmental protection in the EPC Contract;
 - the EPC Contract will be delivered in line with these arrangements following agreement between Horizon and the EPC Contractor; and
 - Horizon will exercise appropriate control and oversight of the EPC Contractor and its supply chain.
90. Horizon's overall approach to the maintenance and delivery of IC capability is outlined in Section 6.5.
91. The detailed management of the EPC Contract will take advantage of the delivery team's experience and mature arrangements. Horizon will define the requirements for the EPC Contract, including the requirements for a management system. It is intended that the EPC Contractor will prepare or procure a management system, under Horizon's control,

which will serve the sole use of managing the details of the EPC Contract delivery and, as required, will be integrated with the EPC Contractor's quality management systems. When the contract is effective, Horizon's IC control and oversight will be exercised by means including: reporting, audit, surveillance and inspection, review, and acceptance. This oversight will take a graded approach to the quality management system based on the significance, nature and extent of activities (see Section 6.5 below).

4.7.1 Early Contractor Engagement Contract

92. Horizon identified a need for early works to be initiated as a precursor to the EPC Contract, in the form of an ECE contract with Menter Newydd. The ECE contract will provide design, procurement and certain other early works and activities that will support a final investment decision to proceed with the Project.
93. The scope of the ECE contract is determined by the requirements of the Project and includes: engineering and design, licensing and permitting, construction planning, schedule and price firming up to the point of signature of the EPC Contract at the final investment decision.
94. Under Horizon's control, specific ECE objectives include (but are not limited to):
 - agree the division of responsibility for the scope of the Project (buildings, facilities, enabling and early works, system and balance of scope) between Horizon and Menter Newydd;
 - provide input to the Owner's Scope;
 - support Horizon in the preparation of the major permission applications, and during the applications' submission and determination processes;
 - support Horizon's site development activities;
 - develop the detailed design (for site specific scope) and provide design information and documentation to develop a detailed EPC Contract price and schedule;
 - undertake design work and document preparation and update to assist Horizon with its design reviews and development of its WN-PCSR;
 - development of the supply chain so that suitable suppliers and subcontractors can be selected as required to meet the EPC Contract schedule;
 - support the procurement of LLIs. This will require early delivery of design, safety justification, quality, and LLI vendor selection information;
 - continue to input to the development and finalisation of the EPC Contract; and
 - prepare for mobilisation under the EPC Contract, including development and preparation of appropriate management systems and procedures.
95. As Horizon intends to order LLIs before SLG, Horizon has obtained a Licensee Certificate from an independent third party body that gives assurance that Horizon has suitable capability and arrangements to oversee the procurement to the standards and the level

of oversight that will continue under the appropriate Licence Conditions following SLG. The ONR has regulatory oversight of this procurement before SLG pursuant to a Deed signed by Horizon and ONR in November 2014. Horizon is developing the arrangements for the preparation of design and manufacturing records that will identify how equipment, materials and services meet the requirements of the Safety Case and BAT Case. These records (LLI Safety Packs) identify the evidence that will be required to underpin a future safety case until the WN-PCSR has been approved, after SLG.

4.7.2 Owner's Scope

96. Certain early works and other activities will be procured by, and delivered for, Horizon to ensure that the site is delivered to Menter Newydd for the purposes of the EPC Contract in a 'ready to build' state and to ensure that certain site works which are necessary for the Project are completed. The scope of these activities is currently being developed, but is likely to include: road upgrades and diversions; construction worker accommodation; site preparation and clearance; excavation; marine works; supply of utilities; establishment of a perimeter fence; and non-nuclear buildings and structures. Where activities have the potential to impact nuclear safety, security and radiological environmental protection, appropriate arrangements will be implemented to a proportionate extent, as described in this document, such that Horizon remains in overall control of activities.

4.8 Supply Chain Management

97. Horizon recognises the significant contribution of its procurement processes to the delivery of nuclear safety, security and radiological environmental protection throughout the life of the Project, and particularly during the Development, Construction and Commissioning Phases. Horizon's commercial function provides the commercial expertise to ensure the timely, cost effective and efficient, legal, ethical and quality supply of goods and services to meet Horizon's requirements. The Programme Quality Assurance function provides the expertise to ensure QA and QC and the associated monitoring and inspection activities are applied as part of the procurement process. Further details on their oversight of the supply chain are given in the next section. This function will be supported by an Independent Third Party Inspection Agency or an Inspection Agency as identified below.

4.8.1 Generic Supply Chain Controls

98. Horizon is developing the required processes, laid down in HMS, that ensure and assure the nuclear safety, security and radiological environmental protection for the procurement of materials and services for the Power Station. These processes cover the end-to-end supply chain management from the identification of the requirement to completion of the contract and include the appropriate processes to ensure a continuous improvement culture is maintained, particularly with regards to lessons learnt. These processes define how Horizon:

- gathers appropriate market intelligence on the potential supply chain and suppliers that can meet Horizon's needs prior to these requirements going to market, then evaluates, pre-qualifies, selects and approves its suppliers and their sub-suppliers according to the specified requirements as determined by the QA grade of the scope of work to be procured;
 - establishes processes that enable monitoring and inspection activities to be applied during procurement activities using Horizon's approach to QA grading which provides the requirements for the application of QA and QC measures;
 - specifies the Horizon procurement requirements (including all relevant and applicable law) for any supplier appointed to undertake any major contracting activity in support of Horizon (these are also to be disseminated to their sub-contractors);
 - verifies by objective evidence that procured items and services at the time of final testing, prior to dispatch or on receipt are acceptable and conform to specifications in compliance with purchase order requirements;
 - ensures that appropriate supplier performance metrics are in place to ensure that contractors are meeting our specified performance requirements prior to the completion of the specified contract;
 - gathers information on suppliers performance to identify supplier corrective actions and collect the appropriate lessons learnt to share internally and with our supply chain; and
 - uses its IC capability to oversee, manage and make decisions in all of the above.
99. Horizon's contracts with its suppliers include the requirement that regulators are to be granted access to all monitoring and inspection processes and records including independent inspection by the regulators.
100. A graded approach is used for the assignment of a QA Grade. The QA Grade is based on an evaluation of risks in the project or procurement activity and on the nuclear safety and environmental classification of structures, systems and components. The risks considered include security, technical and commercial risks. The Horizon allocated QA Grade informs the extent of the quality arrangements to be applied, and these arrangements are determined by the combination of the QA Grade, the associated deliverables and the scope of supply.
101. Horizon, understanding the importance of surveillance during procurement activities, has a framework of management system arrangements in place for planning and implementing the monitoring and inspecting of suppliers during the manufacture of items or provision of services. It includes in-process inspection, witnessing of tests, monitoring of supplier quality management arrangements, receipt inspection and acceptance, and review of records. These activities may be done by Horizon, or by an independent body on its behalf as described below. Horizon is developing its arrangements, including processes and training, to mitigate the potential risks from possible counterfeit, suspect and fraudulent goods.

4.8.2 Independent Inspection

102. Oversight of the above activities may be done by Horizon, on its behalf by an Independent Third Party Inspection Agency, or an Inspection Agency, and an Independent Third Party Inspection Agency has been appointed. Ultimate responsibility for the oversight of activities and for product or service quality remains with Horizon, and Horizon will use its oversight activities and IC capability to own all findings from these agencies.

4.9 Security and Export Controls

103. The Project is subject to the requirements of the NISR for a security plan for the Power Station, and to the requirements of all applicable national and international export control regulations throughout the various stages of the project. Outline details of Horizon's compliance with these requirements is given in this Section.

4.9.1 Security

104. Horizon's currently approved Construction Site Security Plan will be superseded by an ONR Civil Nuclear Security (ONR CNS) approved NSSP coincident with SLG. The NSSP will be submitted to the ONR CNS and must be approved before the NSL can be granted, in accordance with Regulation (4) from NISR 2003.
105. Horizon's security arrangements include appropriate checks and controls on its people (including contractors) and its IT infrastructure. Horizon's arrangements include training all members of the Horizon organisation in their responsibilities for the marking, management and protection of information and documents and for their personal and the organisation's security requirements. Horizon understands the importance of generating a positive security culture throughout the Horizon organisation, and this will be passed down to the supply chain at all levels.

4.9.2 Export Controls

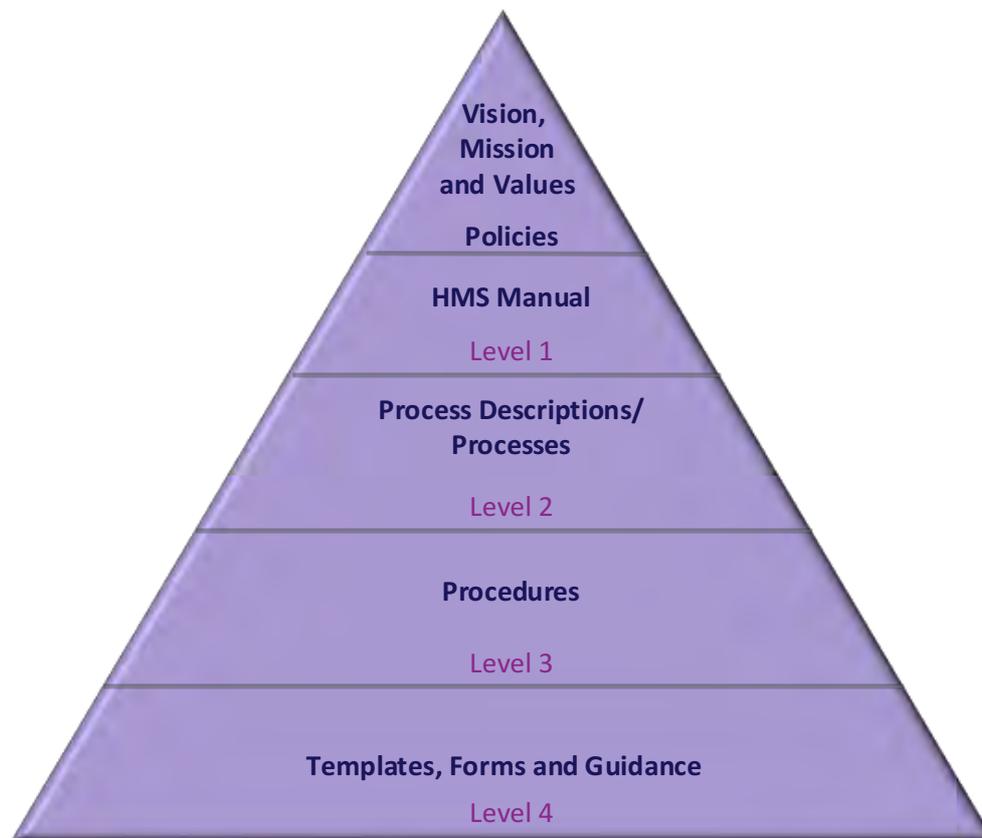
106. Horizon's export control procedure has been created to support Horizon's export control policy and, with its supporting arrangements, ensures compliance with UK, EU, US and Japanese export controls and the conditions attached to its licences. The export control procedure applies to all exports of the Export Controlled Information (ECI), controlled software and controlled goods created or received by Horizon or its contractors. The procedure includes appropriate checks and controls on: people (including contractors); the classification, marking and handling of ECI; and the IT infrastructure.

5 Horizon Management System

107. Horizon controls and manages its activities through the implementation of the arrangements contained within its developing integrated management system, the Horizon Management System (HMS). The HMS is developed to support the policy framework and contains the processes, procedures and controls that Horizon requires to carry out its operations safely and efficiently. The principal Horizon policies for Safety, Health and Environment; Security; and Quality Management and Continual Improvement are provided in Appendix 1.
108. The HMS integrates all aspects of the management of the business including but not limited to, nuclear safety, non-nuclear safety (including health), quality, environment (radiological and non-radiological), security, financial, commercial and project management.
109. The HMS defines the management responsibilities and articulates the interface arrangements across Horizon's integrated business. This is supported by controlled documentation held in the Horizon Electronic Document and Records Management System (EDRMS). It also details Horizon's initial arrangements for continuous learning and improvement of its arrangements and these will develop with experience over time. The HMS is controlled and used by Horizon and is also used across the Horizon Group. The HMS will have been subject to continual improvement in accordance with the Quality Management and Continual Improvement Policy in Appendix 1.
110. The HMS provides the hierarchical framework of Horizon's policies, processes, and procedures used to control and deliver all activities for the appropriate lifecycle phase (Figure 5.1). It forms a key part of Horizon's overall governance structures and capability by which the organisation is able to achieve its objectives with regard to its legal obligations for nuclear safety, security and radiological environmental protection in all lifecycle phases.
111. Design and development of the HMS has been aligned to reflect the industry standards and best practice for establishing, implementing, assessing and continually improving an integrated management system. This includes:
- IAEA Safety Requirements GS-R-3, The Management System for Facilities and Activities (to be replaced, in due course, with alignment to the successor standard GSR Part 2: Leadership and Management for Safety;
 - INSAG-13 Management of Operational Safety in Nuclear Power Plants; and
 - EA's Radioactive Substances Regulation: Management Arrangements at Nuclear Sites.
112. The HMS is certified to the following standards:
- BS EN ISO 9001:2008, Quality Management System Requirements;
 - BS EN ISO 14001:2004, Environmental Management System Requirements; and

- BS OHSAS 18001:2007, Occupational Health and Safety Management System Requirements.
113. A set framework has been established to ensure robust control, management and coordination of the HMS. All HMS processes have clearly identified process owners with defined responsibilities for developing, implementing and reviewing processes, taking into account guidance and input from subject matter experts where required. All HMS documentation is electronically held within a securely controlled IT infrastructure.

Figure 5-1 HMS Document Hierarchy

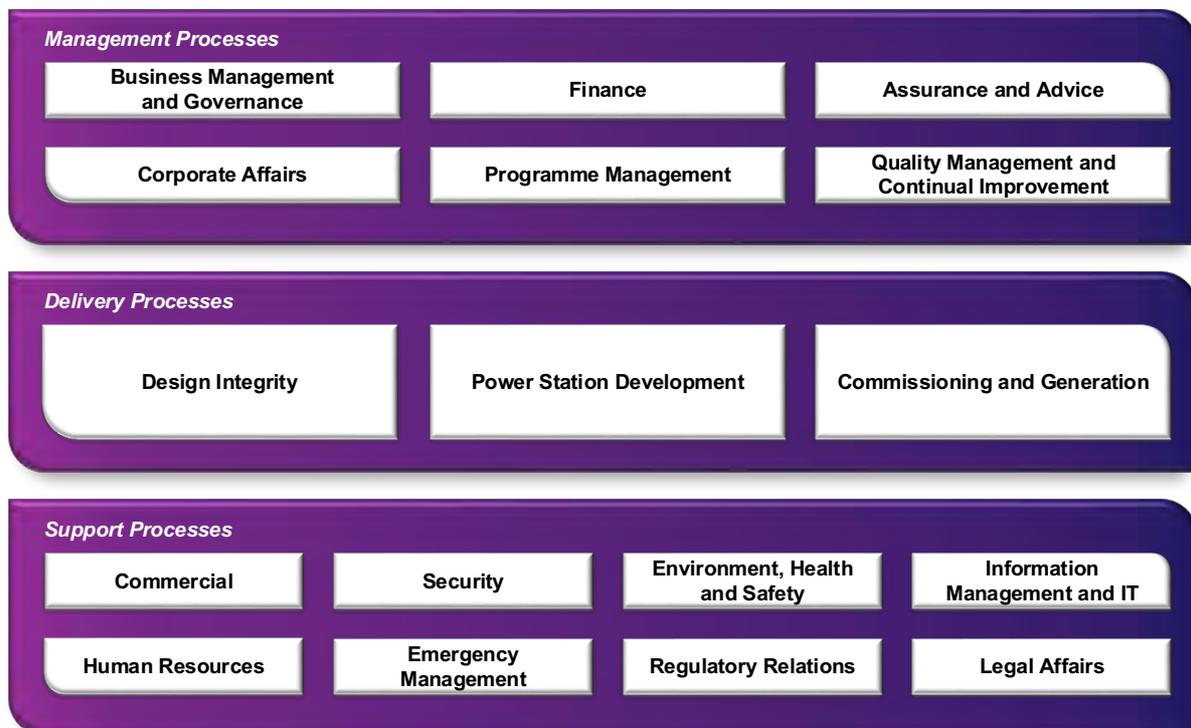


114. The HMS is designed to deliver the Plan-Do-Check-Act approach when managing nuclear safety, security and radiological environmental protection and for supporting continuous improvement. The HMS was recently refreshed by detailed examination of the business' needs, interfaces and ways of working that sought to improve the integration of Horizon's activities. The HMS will be maintained at all phases of the Project lifecycle to ensure that it will be appropriate for the activities being undertaken at any given time. It sets out Horizon's arrangements that ensure changes to the organisation, plant or processes that impact on nuclear safety, security and radiological environmental protection are identified, assessed, appropriately reviewed, approved and implemented in a manner commensurate with its significance. Horizon has appropriate QA arrangements in place to assure nuclear safety during the design, procurement,

manufacture and installation of new components and systems. Further details are given in the HMS manual.

- 115. Figure 5.2 shows the overall process landscape of the integrated HMS.
- 116. The development of processes and procedures within the HMS supports the overall delivery of compliance against relevant legislation including: Nuclear Installations Act 1965; the Health and Safety at Work etc. Act 1974 and all associated UK regulations.
- 117. Compliance with the regulatory requirements applicable to the business, including the NSL Conditions and the EP-RSR Permit Conditions will be delivered through working to the arrangements contained within the HMS evidenced in the controlled documentation held in the Horizon EDRMS. The principal arrangements that deliver compliance with NSL conditions are identified in Nuclear Site Licence Compliance Matrix in the SLA package. Similarly the principal arrangements that deliver compliance with the EP-RSR conditions are identified in an EP-RSR Compliance Matrix. This is accompanied by a description of the phased approach to the development of compliance requirements is summarised in Section 8 of the EP-RSR application.
- 118. Details of the HMS are provided in the HMS manual. Governance of the management system is supported by a review body, the Management Arrangements Review Group, whose TOR are in the HMS.

Figure 5-2 Integrated Horizon Management System



5.1 HMS Review and Improvement

119. Horizon is committed to continual business improvement and its arrangements are developing. These arrangements will include the continual review and assessment of the HMS which is vital to on-going compliance and adequacy of the HMS through the Project lifecycle and business changes.
120. The Board is responsible for ensuring that the HMS is evaluated at planned and other appropriate intervals. This is the accountability of the Safety and Licensing Director.
121. The evaluation shall include assessing opportunities for improvement and the need for changes to the management system, including policies and objectives. Its scope shall include, but not be limited to, review of the management system with respect to nuclear safety, security and radiological environmental protection requirements. Review and improvement will be supported by and informed by: Management Review and audits under both the internal audit programme and externally under peer reviews and certification audits.
122. Non-conformances identified are raised, managed and appropriately addressed via Horizon's Corrective Action Programme (CAP).

5.2 Document and Records Management

123. Horizon has developed arrangements for control and management of documents and records and will ensure that suitable arrangements continue to be maintained throughout the full project lifecycle. The arrangements are designed to meet legal and regulatory compliance arrangements as well as meeting business needs. They are also considered a key part of Horizon's Knowledge Management (KM) framework. The arrangements include the secure management of data and the integrity of the data.
124. Company written approved documentation is stored within the Horizon EDRMS. The Horizon EDRMS is a structured document and record management system which enables documents to be configuration controlled and readily retrievable.
125. All changes to approved documentation are classified in accordance with the safety, environmental or security significance of the change. This defines the level of review and approval including whether there is a need for independent review of the document and whether advice is required to be sought from either the Pre-NSC or the EC or both.

6 Organisational Capability

126. Organisational development to date has used principles intended to deliver clear lines of accountability and responsibility, a separation of central standards setting and site-focused delivery. The principles also emphasise Horizon's IC capability and requirements. Future organisational development will take into account Horizon's organisational design principles and the NSSEP principles.
127. Horizon has developed and will continue to develop (commensurate with its activities) an organisation with the capability to meet the requirements of its business to ensure proper and efficient delivery of its activities including its duties and obligations for nuclear safety, security and radiological environmental protection. Horizon's capability is delivered through its competent people and is controlled by Horizon's governance and management arrangements. Horizon has defined its Nuclear Baseline (NB) at the point of SLG. The NB defines the required number of posts and roles Horizon must have to safely discharge its duties and obligations. The Nuclear Baseline Report [RD2], submitted in the SLA package, provides organisation charts against the NB for Horizon's organisation at SLG. Any changes to the defined NB are controlled in accordance with Horizon's management of NB change arrangements.
128. Horizon currently uses a combination of employees provided by Horizon Services, secondees and contractors supplied either directly to Horizon or via Horizon Services. Where resources are provided by Horizon Services the arrangements are being reviewed to ensure that Horizon's control of those resources is adequate and appropriate to the activities being undertaken. The Nuclear Baseline Report [RD9] provides further details of the differing employment types and how they are used to form the Horizon Organisation. The controls identified above will include contractual safeguards where temporary embedded contractors are used. The Nuclear Baseline Report [RD2] identifies which of these employment types are considered to be part of the NB and demonstrates that the balance of in-house capability to contractors is suitable to ensure that Horizon retains its core capability. Further detail on the NB scope and function is detailed in Section 6.2.
129. This section sets out the provisions that secure the adequacy of Horizon's organisational capability. As required of a Licensee and Permit Holder, Horizon has arrangements to be able to understand and maintain that capability within its organisation that is required to effectively manage and control its regulated activities at all times. This is the enduring capability required to understand hazards and environmental impacts and associated justifications and includes technical (e.g. DA, IC, and Safety Case and BAT Case capability), operational and managerial elements to control activities so that they remain safe. This capability combines to ensure that Horizon meets its legal and regulatory obligations. HLT directors are responsible for ensuring they have the appropriate capability, through defining suitable and sufficient competent resources to deliver, manage and control the work in their unit as part of the business planning process. The effectiveness of Horizon's organisational capability, including the NB, will be overseen

and monitored by the Organisational Effectiveness Committee, details of which are outlined in the Company Manual [RD1].

130. Horizon's organisational capability has been defined against its current and near term activities, including SLG. In general a "capability" will be able to be demonstrated by a distinct team of people, or a collection of teams within the organisation who will have the people, processes and tools to deliver the appropriate activities. The core capabilities are driven by the current and future activities being carried out that are relevant to the delivery of, and sufficient to secure, nuclear safety, security and radiological environmental protection.
131. Horizon has also defined the attributes required of both its Board and its organisation at the point of licence and permit grant. These attributes include both behavioural and organisational aspects at both individual and organisational levels.

6.1 Organisational Culture

132. Horizon is developing its culture strategy to take account of its organisational responsibilities, obligations and duties, as well as to create the landscape for continuous improvement through collaboration and learning. This recognises that culture is about people and their attitudes and behaviours; that leadership from the Board and the HLT is essential; but that this must be cascaded to all levels of leadership responsibility including individual personal accountability and the willingness to challenge upwards. Horizon recognises that attitudes and behaviours are about more than words.
133. Against those expectations, the practical outputs of Horizon's culture, applicable across the life of the Project, are:
- **Leadership:** Ensuring that the leaders are competent, that they lead by example and are independent in expressing their views and opinions when decision-making affects Safety;
 - **Nuclear:** Ensuring a graded approach to nuclear quality and nuclear safety is established and maintained in our decision-making processes;
 - **Security:** Ensuring our workforce members are vetted, and that our premises, nuclear material and information are protected from theft and sabotage;
 - **Non-Nuclear Safety:** Ensuring non-nuclear safety hazards are identified, risks are managed and workers are protected during design, construction, commissioning, operations and decommissioning activities;
 - **Environment:** Ensuring the headquarters and the Wylfa Newydd site lead in sustainability and protection of the environment during construction, commissioning, operations and decommissioning activities;
 - **People:** Ensuring the skills, knowledge and experience needed within our organisation are available throughout all phases of the Project and that behaviours

and attitudes are aligned with Horizon's culture, including the oversight and control of contractors' work throughout the supply chain; and

- **Learning:** Ensuring the organisation learns from the experiences of itself and others throughout its lifecycle.
134. Horizon's ongoing cultural developments will take account of these factors, and their impacts are described in Horizon's cultural statement. This statement builds on the highly visible Vision, Mission and Values, and identifies the change levers that will be used as Horizon seeks to develop to a high reliability organisation as defined in its NSSEPs. It will support the development of differing strands of an organisational culture that will include Horizon's attitudes to learning and improvement as being as intrinsic to its culture as the individual aspects of nuclear safety, security and radiological environmental protection.
135. The overarching priority is in establishing Horizon's organisational culture using the established Institute of Nuclear Power Operations (INPO) and World Association of Nuclear Operators (WANO) principles and traits. Horizon has aligned the WANO traits [RD15] against its own focus on people, plant, process and culture, and will use these as a basis for ongoing development and improvement of the cultural development programme. The alignment of the WANO traits against Horizon's focus areas are:
- people focus area: WANO traits Leadership Accountability; Personal Accountability; Questioning Attitude; and Decision Making;
 - process focus area: WANO traits Problem Identification and Resolution; and Work Processes; and
 - culture focus area: WANO traits Continuous Learning; Environment for Raising Concerns; Safety Communication⁷; and Respectful Work Environment.
136. Currently there are no WANO traits identified as being specifically aligned to the Plant focus area but there are WANO key performance indicators that are being applied by Horizon in the plant focus area.
137. The principles of a healthy organisational culture are the same for safety, environment, security and quality, and will be pro-actively monitored, surveyed and observed, and developed through a programme of engagement and interventions designed to instil personal accountability at all levels. There is a need for Horizon to develop the capability of measuring and monitoring its culture to ensure that changes, both positive and negative, are captured and assessed. Horizon's security culture remains a priority area and its development is being encouraged by a range of lower level actions in parallel with its strategic development.

⁷ Safety Communication is the title of the WANO trait, but for Horizon it is interpreted as communications for nuclear safety, security, radiological environmental protection and quality.

6.2 Nuclear Baseline

138. The definition and subsequent maintenance of the NB is a fundamental element of the demonstration that Horizon has a suitable and sufficient organisation capable of holding a NSL and EP-RSR.
139. The Human Resources Director is accountable for the NB. The definition and maintenance of the NB is the responsibility of the Head of Human Resources, who ensures that the NB remains reflective of the organisational nuclear safety, security and radiological environmental protection requirements. The NB identifies all posts and roles which have an impact on nuclear safety, security and radiological environmental protection. Each NB Role within Horizon is listed on a register of roles and each role has an associated owner, role profile and competency definition which details the delivery expectations and required competency to ultimately enable delivery of Horizon's activities.
140. Horizon's NB arrangements have drawn upon regulatory guidance and industry best practices as set out in the Nuclear Baseline and Management of Organisational Change Nuclear Industry Code of Practice [RD16] and the ONR Technical Assessment Guide on the Function and Content of the Nuclear Baseline [RD17]. In doing so the NB:
- defines and justifies the organisation and structure in terms of roles that are required to support the safe delivery of NB activities to achieve the declared Project for that lifecycle phase;
 - presents (in conjunction with the Company Manual [RD1]) how accountabilities are adequately distributed across the organisation to ensure sufficient oversight and control of activities which concern nuclear safety, security and radiological environmental protection;
 - identifies where the IC capability rests within the organisation to provide oversight of those nuclear safety, security and radiological environmental protection related activities which are delivered by others e.g. the supply chain;
 - provides a demonstration and evidence of the capability and capacity required to undertake nuclear safety, security and radiological environmental protection related activities to be delivered by competent resources; the latter is achieved through:
 - I. an assessment of competency conducted using Horizon's competency management process which is applicable to LC12 appointed Suitably Qualified and Experienced Person (SQEP) and appointed RWAs and RPAs, all NB Roles and those that Horizon require to be competent for discharging business activities; and
 - II. specific training requirements, provided under Horizon's Systematic Approach to Training, as identified through the competency management process.
 - reflects where Horizon's transition to a Corporate RWA/RPA capability will be shown; and

- identifies vulnerabilities and related mitigations or contingencies.
141. The NB provides the basis against which changes to the organisation can be managed and assessed, acting as a reference point for the assessment of NB change through exercise of the management of organisational change arrangements. Confirmation of organisational readiness against the defined NB will be managed through the Horizon Hold Point process.
 142. The NB is reviewed periodically or as triggered by organisational change requests and changes in lifecycle phase as detailed in the NB arrangements. The NB will remain appropriate and relevant to Horizon's regulated activities at all times.
 143. Horizon will develop performance indicators that include its human resources and the status of the NB. It is planned that these performance indicators will be reported to the Organisational Effectiveness Committee and subsequently, as required, to the Board.

6.3 Management of Nuclear Baseline Change

144. Oversight and control of organisational change is critical to ensure that any implications for nuclear safety, security and radiological environmental protection are identified and managed; also that the organisation remains suitable to properly manage and control its planned activities. Horizon has developed and implemented change control arrangements that take consideration of industry standards and guidance [RD16], [RD17] and [RD18], and that deliver compliance with the appropriate regulatory conditions. These apply across the whole of the organisation, from the Board down.
145. The Head of Human Resources is responsible for the arrangements that control the management of NB organisational change across the Horizon business. Line managers are responsible for delivery against these arrangements.
146. These arrangements provide a clear definition of what constitutes a NB organisational change. Each proposed change to the organisation is assessed for its impact upon the defined NB. Changes that affect the NB then undergo a categorisation process to assess the significance of the change for nuclear safety, security and radiological environmental protection. The categorisation level informs the extent of scrutiny in the subsequent approval and review process.
147. The arrangements provide for consideration of the collective impact of cumulative changes on the organisation in addition to the impact of individual changes, and the identification of any required mitigation.
148. These arrangements ensure that implementation of changes is done in a controlled manner, as well as confirming that the outcomes of the change have been successfully realised and that any learning is assessed and communicated.
149. Changes to the NB will only be approved following the successful adherence to the management of NB change arrangements. This will ensure that the NB is maintained in a controlled, justified and auditable manner.

6.4 Design Authority

150. Horizon's DA has primary and enduring responsibility for understanding, managing and controlling those aspects of the plant design that have an effect on nuclear safety, security or radiological environmental protection. The principles of the Horizon DA are aligned with international and national good practice and regulator guidance on Licensee design authority capability [RD19] [RD20] and are described in the DA's functional manual.
151. Where Horizon does not have sufficient detailed specialist knowledge required of the design that impacts upon nuclear safety, security and radiological environmental protection, it will appoint RDs under contractual relationships, who will have a formal responsibility to Horizon's DA for maintaining detailed, specialised knowledge of the Power Station (see Section 4.6 for the description of the UK ABWR RD, as an example).
152. The Head of Design Authority has ultimate accountability for ensuring that the full scope of DA responsibilities is available through the capability of the internal Horizon DA function, through the capability of other Horizon areas, and via authoritative advice as provided by RD organisations through formal contractual relationships. The Head of Design Authority reports to the HLT and the Board through the Technical Director.
153. The roles and responsibilities of the DA endures over the lifetime of the Power Station. The DA's integrated nuclear safety, security and radiological environmental protection responsibilities are underpinned by Horizon's overall organisational capability. All Horizon internal DA roles that affect nuclear safety, security and radiological environmental protection are identified on the NB, including those acting as part of Horizon's IC capability.
154. It is anticipated that Hitachi-GE will be appointed as a RD for the Power Station, as described in Section 4.6 of this MP. Additional RDs may be appointed in the future for other areas of the Power Station.
155. Responsibility of the DA during the project development phase will primarily focus on review and acceptance of the design; managing the arrangements for control and oversight of the design including modifications to the design; and development of the Safety Case and BAT Case.
156. The production and ownership of the site specific Safety Case and BAT Case⁸ for the Project will be the responsibility of the DA, with support from RDs where required. These documents will go through Independent Nuclear Safety Review (INSR) and Independent Environmental Review (IER) as appropriate, as managed by the Nuclear Oversight function, and will be subject to the advice of the Pre-NSC and EC in line with their nuclear safety and environmental categorisation.

⁸ In the context of this MP, BAT Case refers to the BAT Case submitted with the EP-RSR application. Other BAT Cases will be produced to support the applications for other environmental permits, but they are not considered in this MP for the SLA and EP-RSR application.

157. Elements of the GDA-PCSR and the GEP will be adopted by Horizon and adapted to be site specific. The site specific BAT Case is a development of the GEP and is expanded to a comprehensive scope that addresses all radiological waste management, minimisation of radiological waste and the minimisation of dose to the public.
158. The DA are accountable for the arrangements for controlling technical documentation required to specify, design, construct, test, commission, operate, maintain, and ultimately decommission the nuclear power plant. The DA is responsible for the arrangements for the maintenance of design intent through life. This is through ensuring the maintenance of up to date design documentation and managing the arrangements for the overall non-conformance and concessions processes. The DA also sets the standards and has robust arrangements in place to effectively manage and control changes to the design. The latter includes reviewing and accepting changes from the reference design to ensure that nuclear safety, security and radiological environmental protection requirements have been met.
159. The justification and governance routes for all proposed changes are dictated by the categorisation of the change which reflects the impact of that change on nuclear safety, security and radiological environmental protection. The Horizon DA has sufficient capability and knowledge of the design to ensure nuclear safety, security and radiological environmental protection for the current phase of the project. This capability and knowledge will evolve and grow to meet the requirements of controlling nuclear safety, security and radiological environmental protection during the subsequent lifecycle phases.
160. The DA will maintain its competence and capacity through training, learning and development, and through recruitment and other contracted means to meet the demands placed on it. The DA capability will be reviewed and developed as the Project moves forward.

6.5 Intelligent Customer

161. Horizon understands and recognises the importance of acting as an IC for all goods, works and services provided by its contractors which have the potential to impact upon nuclear safety, security⁹ and radiological environmental protection¹⁰. Horizon's IC capability is required, such that Horizon knows what is required, fully understands the need for a contractor's goods, works or services, and is able to specify requirements, supervise the work and technically review the output before, during and after implementation. Being an IC is an integral part of the arrangements and capability that demonstrate that Horizon is in control of all its activities including those delivered by contractors.

⁹ Security as covered by the scope of the Nuclear Industries Security Regulations (NISR) 2003.

¹⁰ The scope of IC does not explicitly cover quality.

162. Horizon's approach to ensure it is an IC for goods, works or services procured from the supply chain is set out in its IC policy. These requirements are incorporated in processes and procedures that are defined in the HMS. The approach and requirements developed by Horizon relating to the delivery of IC capability takes due cognisance of regulator guidance [RD20].
163. Horizon's IC policy sets out the following principles:
- I. Horizon will maintain an in-house capability, including an effective IC capability, to ensure effective control and management of nuclear safety, security and radiological environmental protection.
 - II. When procuring any goods, works or services from external organisations, Horizon will ensure that it maintains sufficient knowledge, understanding, supervision and oversight of the contractors' work, so as to remain in control of any nuclear safety, security or radiological environmental protection implications.
 - III. Horizon ensures that it maintains this knowledge and understanding of contractors' work through the deployment of appropriate competent in-house capability to each procurement activity. This in-house capability shall be involved in the specification, oversight of delivery activities, receipt, evaluation, acceptance and use of all goods, works or services delivered on Horizon's behalf by contractors. The level of involvement and the competence of this in-house capability shall be commensurate with the nuclear safety, security and radiological environmental protection significance of the goods, works or services.
 - IV. Horizon will ensure that it only lets contracts for goods, works and services to contractors who have demonstrated suitable competence, safety, environmental and quality standards, management systems, culture and resources, taking into consideration the nuclear safety, security and radiological environmental protection significance of the goods, works or services provided.
 - V. Horizon will ensure that all contractors are familiar with any nuclear safety, security or radiological environmental protection implications of their work (whether delivery of goods, works or services), and interact in a well-coordinated manner with its staff.
 - VI. Horizon will ensure that contractors' work, whether it be delivery of goods, works or services, is carried out to an appropriate standard of quality to achieve the required level of nuclear safety, security and radiological environmental protection in practice at all stages of their involvement.
164. All NB Roles that form part of Horizon's IC capability are identified in the NB. This supports maintenance of the required IC capability through maintenance of the NB.
165. The Construction Operational Unit is the principle conduit for engagement with major suppliers in the current phase. As such its people are a significant contributor to Horizon's IC capability. Horizon's business model supports the Construction Operational Unit with expertise from the Technical Operational Unit (principally the DA), the Operations Operational Unit and the Safety and Licensing Functional Unit. These supporting areas have policy and standards roles and assurance roles that are

applicable to the delivery of nuclear safety, security and radiological environmental protection, and accordingly they set the framework through which the Construction Operational Unit contributes to IC works.

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7 Learning Organisation

166. Horizon aims to be a learning organisation seeking continuous improvement in all aspects of its business, but particularly in the delivery of nuclear safety, security and radiological environmental protection.
167. Horizon also seeks to be a high reliability organisation as outlined in fundamental principle one of its NSSEPs. The drive to this will be achieved through its approach to learning and improvement, a positive safety and environment culture, the recognition of the need for continuous improvement, and the avoidance of complacency. The management and organisational principles in the NSSEPs describe how the actions, attitudes and expectations of all, from the Board downwards, contribute to Horizon's development and learning. These are both driven by and reflected back to Horizon's values. Horizon's organisational learning and KM arrangements will continue to develop to be appropriate and proportionate to the stage of the Project.

7.1 Organisational Learning

168. Organisational learning is achieved through a combination of: the application of processes to facilitate learning, and the attitudes and behaviours of individuals and of the organisation. Horizon's organisational learning processes will be developed under the Safety and Licensing Director.
169. Horizon will take a holistic approach to learning, and so intends that learning processes should be independent of the subject or function to support consistent, coherent and comprehensive information gathering. Horizon will implement its processes supported by an easy to use, robust and effective information management infrastructure.

7.1.1 Sources of learning

170. Horizon's Corrective Action Programme (CAP) provides an internal source for learning that is developing with use. It provides a framework for improving nuclear safety, security and radiological environmental protection through the identification and resolution of undesirable conditions, as well as through the promulgation of good practice. CAP metrics are tracked and reported through key performance indicators. Horizon's future Safety Performance Indicators are expected to feed in to the CAP and support learning via that route as well as via their input to the Board.
171. Horizon has external arrangements in place with a number of industry bodies that provide the opportunity for wider lessons to be received. A listing of a selection of bodies is as follows:
- Safety Directors' Forum and its sub-groups, including environment and security related sub-groups;
 - World Association of Nuclear Operators (WANO);
 - Institute of Nuclear Power Operators (INPO);

- US Electric Power Research Institute;
 - Boiling Water Reactors Owners Group (BWROG); and
 - European Utilities Requirements (EUR) Group.
172. Horizon is developing an Operating Partner programme to support its growth in capability towards commercial operation and in doing so providing a pathway to excellence in operational performance. The Operating Partner programme seeks to identify appropriate partners, under commercial arrangements, to support particular areas of growth in terms of knowledge and understanding such as technology, operational training, business strategy, and specialist equipment areas. It seeks to promote learning and continuous improvement and to focus on key areas to instil the foundations for future excellence in organisation and plant performance. The first such partnership is in place with the Japan Atomic Power Company and that draws on their experience in light water, and especially boiling water, reactor technology and operations. The Operating Partner programme will support Horizon's organisational learning context through access to significant experience, best practices, and operating data. The programme is led by the Operations Director, and it complements the membership of industry bodies as listed above.
173. Horizon will develop its arrangements further to address the active research of external sources of learning. As Horizon's arrangements and organisation mature it is expected that these will include non-nuclear industry information sources (for example other high hazard industries) and defence nuclear information sources.

7.1.2 Dissemination of Learning to Support Continuous Improvement

174. Horizon has identified interim arrangements that may provide the platform to support the capture and storage of learning pending a later, integrated, solution. Currently they are biased towards enabling the availability of learning to support the Construction and the Technical Operational Units, particularly in support of design-related decisions and improvements in programme management.
175. Horizon's learning arrangements are expected to develop to support the delivery of continuous improvement in its business, particularly in its performance in the delivery of nuclear safety, security and radiological environmental protection as the Project progresses. These developments are expected to include improvement in nuclear safety, security and radiological environmental protection by the incorporation of learning to:
- design and engineering;
 - operations, including emergency preparedness;
 - training;
 - management systems;

- procurement; and
 - security.
176. Continuous improvement will be managed using the arrangements in the HMS and the practices adopted are expected to follow the guidance provided in sources including the UK Nuclear Industry Good Practice Guide [RD21], WANO, INPO and IAEA publications, and the IAEA INSEN Programme.

7.2 Knowledge Management

177. Knowledge Management (KM) is an important part of Horizon's approach to ensuring that it has a suitable understanding of its activities and is closely linked to organisational learning and safety, security and environment culture. Horizon defines KM as: *"an integrated, systematic approach to identifying, acquiring, transforming, developing, disseminating, using, sharing, and preserving knowledge relevant to specific objectives."* Horizon's KM principles and framework are set out in its information management strategy. This will inform the strategy for the delivery of KM that will be developed. Information and KM arrangements will be implemented through processes that will be embedded in HMS and that will follow the principles of IAEA TECDOC-1510. The policy and framework for KM are the accountability of the Safety and Licensing Director. The strategy for the delivery of KM will be developed in a proportionate manner, with the strategy being detailed and with arrangements subsequently developed (proportionate to the activities being done) by licence and permit grant. The KM strategy and subsequent implementation of the KM arrangements will be aligned to, and supportive of, the development of Horizon's learning and continuous improvement arrangement identified in Section 7.1.
178. The DA has specific responsibility for the knowledge and information management of activities that have an impact on nuclear safety, security or radiological environmental protection. It is responsible for:
- ensuring the establishment of a single source of data and knowledge of the design for Safety Case and permitting purposes that is preserved and expanded with experience; and
 - establishing and maintaining arrangements for the transfer of knowledge from Hitachi-GE and any other RDs to Horizon to ensure Horizon will have the necessary level of understanding to act as a DA.
179. Horizon's framework for its KM development identifies the principles, areas of knowledge, and interactions with the business's requirements. This will be supported by an assessment of capabilities and improvements that will inform developments beyond SLA.
180. A key focus is to retain experienced workers as well as the knowledge and skills they possess. So too is the need to capture and disseminate accurate relevant information whilst ensuring understanding by the appropriate people. The future application of Horizon's KM processes and procedures embedded in HMS aims to achieve the highest

levels of understanding and knowledge capture and to maintain this through the life of the Project.

8 Conclusions

181. Horizon considers that the organisation and arrangements described in this Management Prospectus demonstrate that Horizon is a capable and competent applicant for a Nuclear Site Licence and a Radioactive Substances Regulations Environmental Permit. Horizon judges that its organisation, management arrangements and governance structures will enable it to be a competent holder of a Nuclear Site Licence and a Radioactive Substances Regulation Environmental Permit, in due course.
182. This Management Prospectus will be kept under review and may be updated at appropriate business delivery points to demonstrate that Horizon is capable and competent to proceed further. These delivery points are expected to be associated with major Hold Points.

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9 Schedule of References

Table 9.1 Schedule of references

Ref.	Document Number	Title	Rev No.
[RD1]	HG-M-02-MAN-01-04	Company Manual	2.0
[RD2]	WD03.01.04-S5-NL-REP-00004	Nuclear Site Licence Application - Nuclear Baseline Report	1.0
[RD3]	NS-TAST-GD-072	Function and Content of a Safety Management Prospectus	Rev 2
[RD4]	LIT 3552	Guidance on the Production and Use of An Integrated Management Prospectus (HSE and EA)	-
[RD5]	GEHO0709BQXB-E-E	Radioactive Substances Regulation: Management Arrangements at Nuclear Sites	2.0
[RD6]	WD03.01.02-S5-NL-REP-00012	Nuclear Site Licence Application – Overview Document	1.0
[RD7]	HG-M-02-POL-01-674	Horizon Vision, Mission and Values	2.0
[RD8]	HSG65	Managing for health and safety	3 rd Edition
[RD9]	75-INSAG-4	Safety Culture – IAEA Safety Series	-
[RD10]	n/a	Development and Use of Safety Performance Indicators – A UK Nuclear industry Good Practice Guide	Issue 2
[RD11]	n/a	Independent Oversight – A Nuclear Industry Good Practice Guide	Issue 1
[RD12]	T/AST/080	Nuclear Safety Advice and Challenge-ONR	-
[RD13]	WD03.01.02-S5-NL-REP-00007	Nuclear Site Licence Application - Summary Forward Work Plan	1.0
[RD14]	n/a	National Policy Statement for Nuclear Power Generation EN-6	-
[RD15]	WANO PL 2013 - 1	WANO Principles – Traits of a Healthy Nuclear Safety Culture	-
[RD16]	n/a	Nuclear Baseline and the Management of Organisational Change – A Nuclear Industry Code of Practice	2 nd Edition

Ref.	Document Number	Title	Rev No.
[RD17]	NS-TAST-GD-065	Function and Content of the Nuclear Baseline	Rev 2
[RD18]	NS-TAST-GD-048	Organisational Capability	Rev 4
[RD19]	NS-TAST-GD-079	Licensee design authority capability	Rev 2
[RD20]	NS-TAST-GD-049	Licensee use of contractors and intelligent customer capability	Rev 4
[RD21]	n/a	Operating Experience and Learning – A Guide to Good Practice – Safety Directors’ Forum Operating Experience and Learning Group	1 st Edition

Appendix 1 - Related Policies

Safety, Health and Environment Policy

The accountable individual for this policy is the Safety and Licensing Director
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Reason for this Policy

Our mission is to build a new, leading, UK nuclear utility company and successfully develop, construct and operate and ultimately decommission UK Advanced Boiling Water Reactors. To do this successfully we make safety, health and the environment, central to everything we do.

Our Company Values explicitly reflect our commitment to the safety, health and environment of our employees and our stakeholders. We recognise the importance of climate change to the wider community and the important role of nuclear power to help meet government plans for stable and sustainable low carbon energy.

Recognising the specific challenges associated with nuclear technology and the additional level of care and responsibility this requires, our Safety, Health and Environment Policy Statement is at the foundation of Horizon's management approach.

Applies to

The content of this policy applies to all staff working for and on behalf of Horizon¹.

Policy Statement

Everyone in our organisation is required to take personal responsibility for the environment and for the safety and health of themselves and anyone who is directly or indirectly affected by their actions. We will support this through our active leadership with the overall aim being to prevent all workplace safety, environmental and ill health incidents.

We will:

- Ensure compliance with all legal and regulatory requirements and other standards to which we subscribe
- Implement industry best practice, drawing upon operational experience, best available techniques and innovation to protect the public, workforce and environment where reasonably practicable to do so
- Provide a safe and healthy working environment through engagement with our employees, stakeholders and suppliers for positive safety, health and environment risk management
- Identify the activities of our work presenting significant safety and health risks and environment aspects and integrate them into our strategic business decision making
- Protect the environment by undertaking activities including preventing pollution, minimising resource use, implementing the waste hierarchy, managing our waste Duty of Care and limiting our environmental impact

- Set out clear roles and responsibilities to make and keep our people and business safe
- Provide managers and leaders with sufficient time and resources to enable leadership by example
- Ensure persons working for or on behalf of Horizon are competent on the basis of their skills, knowledge, attitude, training and experience
- Promote consultation, co-operation and open communication internally and externally through positive engagement with our employees and stakeholders
- Hold regular safety, health and environment performance reviews by the Horizon Leadership Team
- Continue to build a strong culture, one founded on the principles of effective leadership, clear ownership, full engagement and competent supervision
- Continually improve our, safety, health and environment performance by establishing company objectives, targets and indicators which are monitored through regular system, activity and management reviews
- Be a good neighbour and be responsive to any concerns raised

Responsibilities

The responsible posts to deliver the primary activities covered by this policy are as follows:

Activity	Post
Health, Safety and Environmental Management System	Head of Health Safety and Environment & Emergency Preparedness
Health and Safety Policy and Standards	Head of Health Safety and Environment & Emergency Preparedness
Environment and Waste Policy and Standards (Conventional)	Head of Health Safety and Environment & Emergency Preparedness
Nuclear Safety Policy and Standards	Head of Nuclear Oversight and Regulatory Affairs
Environment and Waste Policy and Standards (RSR)	Head of Nuclear Oversight and Regulatory Affairs
Management of Nuclear Safety	Head of Design Authority
Management of Conventional Health and Safety	Head of Construction
Management of Environmental & Waste Management	Head of Environment & Waste Management
Management of Conventional Safety, Health and Environment for Oldbury Site	Head of Property

ⁱ Other companies in the Horizon Group may utilise the Horizon Management System (HMS) and therefore this policy is applicable to staff working for or on behalf of those companies.

Security Policy

<p>The accountable individual for this policy is the Safety and Licensing Director</p>
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Reason for this Policy

Horizon is a UK energy organisation developing a new generation of nuclear power stations to help meet the country's need for stable and sustainable low carbon energy.

Horizon is committed to establishing, maintaining and further developing a security framework that enables the company to operate effectively and efficiently in the Civil Nuclear sector. By creating an environment where risks are managed and a culture is engendered, which provides safety and security for its operations, people and stakeholders thus enabling them to deliver their full potential.

The purpose of this policy is to enable the development, implementation and continual improvement of security throughout all aspects of Horizon business.

Applies to

The content of this policy applies to all staff working for and on behalf of Horizonⁱ.

Policy Statement

Security is everyone's responsibility. All employees and other personnel working within and for Horizon are to comply with this policy and security procedures and directives at all times.

The objectives of the Security Policy are to ensure:

- People, information, systems, facilities, reputation and all other assets are protected from threats arising from malicious acts;
- Security risks are properly identified, assessed, disseminated, recorded and managed;
- Security controls are effective, proportionate, cost effective and business enabling; and
- All legal, regulatoryⁱⁱ and contractual requirements and standards are met

The Horizon Security Team will develop a framework to ensure arrangements are in place that:

- Maintain effective **personnel** security controls, including vetting of all employees and contractorsⁱⁱⁱ at the appropriate level and promotes good security behaviours and awareness throughout the organisation
- Design and Implement appropriate **physical** controls to control access and protect people, equipment, facilities and nuclear material from damage, theft or misuse

- Protect government sensitive^{iv} and Horizon commercial **information** through appropriate marking of information, physical controls, and robust IT systems, proportionate to the nature of the information
- Ensure the **confidentiality, integrity and availability** of all current and future systems in respect to defence against **cyber** attack, including swift and effective recovery processes from any such attack
- Ensure Department Heads will put in place and apply all appropriate security measures across their areas and activities and ensure staff compliance

Responsibilities

The responsible posts to deliver the primary activities covered by this policy are as follows:

Activity	Post^v
Security Policy	Head of Security Policy
Personnel Security	Personnel & Headquarters Security Manager
Information/Cyber Security	Information and Cyber Security Manager
Physical/Developmental Security	Security Development Manager
Wylfa Site Security	Head of Construction
Oldbury Site Security	Head of Property ^{vi}

ⁱ Other companies in the Horizon Group may utilise the Horizon Management System (HMS) and therefore this policy is applicable to staff working for or on behalf of those companies.

ⁱⁱ Includes compliance with NORMS, NISR2003, NIMCA, SPF, etc.

ⁱⁱⁱ Includes sub-contractors.

^{iv} Including classified documents.

^v The processes are further delegated within the security function to individual managers.

^{vi} Site not yet handed over to Security, however, regular liaison is undertaken between property management and security.

Quality Management and Continual Improvement Policy

<p>The accountable individual for this policy is the Safety and Licensing Director</p>
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Reason for this Policy

Horizon is a UK energy organisation developing a new generation of nuclear power stations to help meet the country's need for stable and sustainable low carbon energy.

In undertaking its operations, Horizon utilises an Integrated Management System, the Horizon Management System (HMS) that enables Horizon to develop its nuclear power programme, and to deliver and prepare to operate nuclear plants safely to meet all Horizon stakeholders' requirements.

The reason for this policy is to provide principles for the development, implementation and continual improvement of the HMS.

Applies to

The content of this policy applies to all staff working for and on behalf of Horizon¹.

Policy Statement

We shall ensure:

- An Integrated Management System, the Horizon Management System (HMS) is established and developed
- Our policies, processes and procedures that constitute the HMS are developed with a top-bottom approach
- Our policies, processes and procedures integrate the ISO 9001:2008 and IAEA GS-R-3 requirements, UK nuclear industry best practices, as well as complying with other legislative and regulatory requirements
- The HMS is structured in a manner that promotes effective and efficient implementation of our policies, processes and procedures
- A graded approach to the HMS is established to enable the required policies, processes and procedures to support adequate corporate governance and to provide assurance of nuclear programme quality
- Our HMS expectations are cascaded throughout the supply chain
- Continual improvement opportunities for the HMS are identified and implemented

- The HMS performance is measured by means of SMART indicators and regular Management Reviews are held to measure our performance against defined objectives and targets
- Necessary working environment, systems, training and resources are provided to meet our defined objectives and targets
- Corrective Actions are systematically addressed through the Corrective Action programme (CAP) in order to continually improve Horizon's operations
- Relevant Quality Assurance (QA) Programmes (including Supply Chain QA) are established
- Compliance Management arrangements are established and applied

Responsibilities

Delivery of assurance and oversight of Quality is delegated to the Organisational Effectiveness Directorⁱⁱ.

The responsible posts to deliver the primary activities covered by this policy are as follows:

Activity	Post
Quality Policy and Standards	Head of Quality Assurance and Management Systems
Management Systems and Continual Improvement	Head of Quality Assurance and Management Systems
Management of Corrective Action Programme	Head of Nuclear Oversight and Regulatory Affairs
Management of Quality Assurance	Head of Programme Quality Assurance

ⁱ Other companies in the Horizon Group may utilise the Horizon Management System (HMS) and therefore this policy is applicable to staff working for or on behalf of those companies.

ⁱⁱ Extract from Company Manual, Section 7.8.3 - Safety & Licensing Director.



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