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| **Assessment Report** | | | |
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| **Project:** | NNB GenCo (SZC) Ltd Nuclear Site Licence Grant | | |
| **Site:** | Sizewell C | | |
| **Title:** | Site Activities and Licence Compliance | | |
| **Nuclear Site Licence No.:** | N/A | | |
| **Licence Condition(s):** | LC 1- Interpretation  LC 2 – Marking the site boundary  LC 3 – Control of property transactions  LC 4 – Restrictions on nuclear matter on the site  LC 5 – Consignment of nuclear matter  LC 6 – Documents, records, authorities and certificates  LC 7 – Incidents on the site  LC 8 – Warning notices  LC 9 – Instructions to persons on the site  LC 10 – Training  LC 11 – Emergency arrangements  LC 12 – Duly authorised and other suitably qualified and experienced persons  LC 13 – Nuclear safety committee  LC 14 – Safety documentation  LC 16 – Site plans, designs and specifications  LC 17 – Management systems  LC 19 – Construction or installation of new plant  LC 20 – Modification to design of plant under construction  LC 28 – Examination, inspection, maintenance and testing  LC 36 – Organisation capability | | |
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**NNB GenCo (SZC) Nuclear Site Licence Grant**

**Site Activities and Licence Compliance Assessment**

Assessment Report Ref.: ONR-NRD-AR-22-009

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# Executive Summary

This report presents the findings of the Office for Nuclear Regulation’s (ONR) assessment for the site activities and licence compliance arrangements aspects of the NNB Generation Company (SZC) Ltd (NNB GenCo (SZC)) application for a nuclear site licence to construct and operate two UK EPR™ reactors at Sizewell C.

The assessment focused on the arrangements that NNB GenCo (SZC) has in place to fulfil compliance arrangements including arrangements for compliance with those licence conditions that would be required for the early phases of the Sizewell C project and other relevant health and safety legislation.

The assessment activities underpinning this report were carried out by a programme of working-level meetings and inspections which examined, NNB GenCo (SZC)’s compliance matrix and compliance thread for each licence condition clause; communication of arrangements to relevant NNB GenCo (SZC) personnel, i.e., training; implementation of arrangements, where appropriate and the outcome of the licensee’s self-assessment activities.

The purpose of these interventions and inspections was to gain assurance that NNB GenCo (SZC) has developed adequate arrangements to ensure safe site activities and compliance with licence conditions, proportionate to this stage of the project. NNB GenCo (SZC) has been able to demonstrate that they have been able to develop adequate arrangements for compliance with those conditions attached to the standard NSL required for design, procurement, manufacture, construction and installation of two EPR units at Sizewell C.

Overall, I am satisfied that NNB GenCo (SZC) has in place adequate arrangements for compliance with the relevant licence conditions.

I recommend that, from a site activities and licence compliance perspective, a nuclear site licence should be granted to NNB GenCo (SZC) to construct and operate a nuclear power station at Sizewell C.

# List of Abbreviations

CDM Construction (Design and Management) Regulations 2015

CNI Chief Nuclear Inspector

EPRTM The generic design of pressurised water reactor submitted for GDA

EPRG Emergency Preparedness Review Group

GB Great Britain

HOW2 ONR’s Management System Platform

HPC Hinkley Point C

HSE Health and Safety Executive

LC Licence Condition  
NNB New Nuclear Build  
NNB GenCo NNB Generation Company

NNB GenCo (SZC) NNB Generation Company (Sizewell C) Ltd

NSL Nuclear Site Licence  
ONR Office for Nuclear Regulation

PAR Project Assessment Report

PC Principal Contractor

PD Principal Designer

REPPIR19 Radiation (Emergency Preparedness and Public Information) Regulations 2019.

RI Regulatory Issue

SZA Sizewell A (nuclear licenced site)

SZB Sizewell B (nuclear licenced site)

SZC Sizewell C (proposed nuclear licenced site)

TIG Technical Inspection Guide(s) (ONR)

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Introduction

## Background

NNB Generation Company Ltd (Sizewell C) (NNB GenCo (SZC)) applied to the Office for Nuclear Regulation (ONR) on 30 June 2020 for a Nuclear Site Licence (NSL) to construct and operate a nuclear power station comprising two UK (EPRTM) reactors at Sizewell C (SZC) in Suffolk.

To reduce costs and project uncertainty, NNB GenCo (SZC)’s strategy for SZC is to derive value from replicating, wherever possible, the Hinkley Point C (HPC) plant and arrangements and adopting a systematic approach to capturing, quantifying and applying lessons learned to NNB GenCo (SZC). It is noted that some aspects of the design will not be replicated due to site specific features. In principle, ONR is supportive of this approach and has communicated its position on replication to NNB GenCo (SZC) via letter SZC504197N [1].

ONR’s ‘Licensing Nuclear Installations’ [2] publication provides guidance on the licensing process and the factors that ONR may consider when reviewing a NSL application. ONR has defined a strategy outlining the approach that will be taken to assess the NNB GenCo SZC (SZC) licence application to inform a decision by the Chief Nuclear Inspector (CNI) on granting a licence [3].

This report presents the findings of the assessment of the ONR site activities and licence compliance cornerstone. It covers the technical areas SLC1 (Emergency Arrangements), SLC 3 (Plant Operations, Maintenance and Commissioning), SLC 4 (Construction and Site Management), SLC6 (Nuclear Safety Committee) and SLC 7 (Licence Condition Compliance) [4]. The assessment focused on the adequacy of proposed arrangements relevant for initial site licensing for SZC.

The assessment was undertaken in accordance with the requirements of the ONR Management System (HOW2). The ONR Safety Assessment Principles [5], together with supporting Technical Assessment Guides [6] and Technical Inspection Guides (TIGs) [7], have been used as the basis for this assessment.

## Scope

The scope of this report covers the findings of the assessment of the acceptability of NNB GenCo (SZC)’s arrangements for complying with the conditions attached to the standard nuclear site licence [8]. For the purposes of licencing, the focus was on those licence conditions deemed necessary for safety during the early stages of the project. This covers design, procurement, manufacture, construction, and installation of the proposed nuclear power plant. The report also considers arrangements relevant to nuclear site health and safety.

This assessment report also reviews the status of NNB GenCo (SZC)’s policies and plans for complying with those licence conditions that apply to activities during later stages of the project, such as commissioning, operations, and decommissioning.

In the site activities and licence compliance cornerstone, the licensing assessment strategy covers the licence conditions to be considered during the early stages of the project. The main focus for site activities and licence compliance was:

* LC2 ‘Marking of the site boundary’, LC7 ‘Incidents on the site’, LC8 ‘Warning notices’, LC9 ‘Instructions to persons on the site, LC11 ‘Emergency arrangements’, LC13 ‘Nuclear safety committee’, LC16 ‘Site plans, designs and specifications’, LC19 ‘Construction or installation of new plant’ and LC28 ‘Examination, inspection, maintenance and testing’.

ONR also agreed with NNB GenCo (SZC) that they would develop arrangements for other LCs which would be covered by other ONR assessment areas, saved in CM 9 4.4.2.24692.:

LC1 ‘Interpretation’ and LC3 ‘Control of property transactions’ were covered as part of licensing, permissioning and legal cornerstone.

LC14 ‘Safety documentation’ and LC20 ‘Modification to design of plant under construction’ were covered as part of the design and safety case cornerstone.

LC6 ‘Documents, records, authorities and certificates’, LC10 ‘Training’, LC12 ‘Duly authorised and other suitably qualified and experienced persons’, LC17 ‘Management systems’ and LC36 ‘Organisational capability’ were covered as part of the organisational capability cornerstone

LC4 ‘Restrictions on nuclear matter on the site’ and the management of radioactive sources under LC4, which are consistent with the with Ionising Radiations Regulations 2017 (IRR17) and LC 5 ‘Consignment of nuclear matter’ were covered under the SLC 5 topic stream.

## Methodology

The methodology for assessment follows ONR’s guidance on the mechanics of assessment, NS-TAST-GD-096 , noting this report has been identified as a “routine report” in line with ONR’s guidance on production of report for permissioning, NS-PER-GD-015 [9].

There were five aspects to my assessment of the adequacy of the licence condition arrangements:

* assessment of the policy, strategy or plans for the development of licence conditions;
* the resources or capability associated with the compliance arrangements;
* the arrangements for compliance;
* where applicable, evidence of implementation of the arrangements, and;
* verification of the arrangements, including self-assessment and internal assurance activities.

Assessment Strategy

The intended assessment strategy for the cornerstone is set out in this section. This identifies the scope of the assessment and the standards and criteria that have been applied.

Standards and Criteria

The relevant standards and criteria adopted within this assessment are principally the TIGs [7], relevant national and international standards, and relevant good practice informed from existing practices adopted on GB nuclear licensed sites. The key standards and criteria are detailed within this section.

Technical Inspection Guides (TIGs)

The following TIGs have been used as part of this assessment [7]:

NS-INSP-GD-002 (Revision 2) LC2 – Marking of the site boundary

NS-INSP-GD-007 (Issue 6.1) LC 7 – Incidents on the site

NS-INSP-GD-008 (Rev 6) LC 8 – Warning notices

NS-INSP-GD-009 (Rev 6) LC 9 – Instructions to persons on site

NS-INSP-GD-011 (Issue 7.1) LC 11 – On-site emergency arrangements

NS-INSP-GD-013 (Rev 6) LC 13 – Nuclear safety committee

NS-INSP-GD-016 (Issue 6) LC 16 – Site plans, designs and specifications

* NS-INSP-GD-019 (Issue 7.1) LC 19 – Construction or installation of new plant

### National and International Standards and Guidance

The following national and international standards and guidance have been used as part of this assessment:

* Licensing Nuclear Installations [2]

## Integration with Other Assessment Topics

This report will input into a project assessment report (PAR). The PAR will draw together the views of ONR’s specialist inspectors on NNB GenCo (SZC)’s readiness to become a nuclear site licensee, as well as site specific safety case elements applicable to licensing.

## Intervention strategy

The assessments followed ONR’s intervention strategy and were informed by a programme of level 4 dialogue and interventions which aimed to examine:

* the SZC licence condition compliance matrix and compliance thread for each condition and the relevant sub-clause;
* communication of arrangements to relevant personnel, i.e. training;
* implementation of arrangements, if applicable; and
* discussions on the licence applicant’s self-regulation.

## Out of Scope Items

1. The following items are outside the scope of this assessment:

aspects relevant to the other cornerstones, including, but not limited to, the licensing and legal aspects relevant to the security of tenure;

security and safeguards; and

LC arrangements dealt with in the safety case and organisational development cornerstone.

Relevant Documentation

The site activities and LC compliance assessment is presented in section 4. The following section provides a summary of the NNB GenCo (SZC) documentation considered for the assessment.

Within the NNB GenCo (SZC) nuclear site licence compliance matrix, NNB GenCo (SZC) identifies the procedures and documents within the integrated management system that demonstrate compliance with the LCs attached to the nuclear site licence.

In-line with the licensing of Hinkley Point C (HPC), prior to the submission of the nuclear site licence application, ONR had agreed that at the point of nuclear site licence grant decision, NNB GenCo (SZC) needs only to demonstrate its ability to comply with those LCs deemed necessary in the interest of safety for those activities required for construction and installation of the plant. Hence, the LCs have been split into three categories for ONR’s licensing assessment.

Category one LCs are required for activities that NNB GenCo (SZC) will undertake during design, procurement, construction and installation phases of the project.

ONR’s expectation is that NNB GenCo (SZC) has made and implemented adequate arrangements for the licence conditions to be adopted early in the project. These licence conditions are category 1 and 2:

* LC1- Interpretation
* LC2 – Marking the site boundary
* LC3 – Control of property transactions
* LC4 – Restrictions on nuclear matter on the site
* LC5 – Consignment of nuclear matter
* LC6 – Documents, records, authorities and certificates
* LC7 – Incidents on the site
* LC8 – Warning notices
* LC9 – Instructions to persons on the site
* LC10 – Training
* LC11 – Emergency arrangements
* LC12 – Duly authorised and other suitably qualified and experienced persons
* LC13 – Nuclear safety committee
* LC14 – Safety documentation
* LC16 – Site plans, designs and specifications
* LC17 – Management systems
* LC19 – Construction or installation of new plant
* LC20 – Modification to design of plant under construction
* LC28 – Examination, inspection, maintenance and testing
* LC36 – Organisation capability

LCs to be adopted following the completion of the build phase will be required for activities that NNB GenCo (SZC) will undertake during the commissioning, operation and decommissioning phases of the project. ONR has engaged with NNB GenCo (SZC) to ensure timely development of these licence conditions for the future phases of the project. The licence conditions are defined as category 3:

* LC15 – Periodic review;
* LC18 – Radiological protection;
* LC21 – Commissioning;
* LC22 – Modification or experiment on existing plant;
* LC23 – Operating rules;
* LC24 – Operating instructions;
* LC25 – Operational records;
* LC26 – Control and supervisions of operations;
* LC27 – Safety mechanisms, devices and circuits;
* LC29 – Duty to carry out tests, inspections and examinations;
* LC30 – Periodic shutdown;
* LC31 – Shutdown of specified operations
* LC32 – Accumulation of radioactive waste
* LC33 – Disposal of radioactive waste
* LC34 – Leakage and escape of radioactive material and radioactive waste, and
* LC35 – Decommissioning

A key approach for NNB GenCo (SZC) has been the intelligent replication of HPC arrangements. Therefore, a proportionate and targeted approach has been adopted for licensing NNB GenCo (SZC), taking account of the learning and experience gained in the HPC project.

Licence condition compliance framework

Summaries of each of the key documents submitted by NNB GenCo (SZC) which form part of this assessment are captured below:

‘Nuclear Site Licence Compliance Matrix’ [10]. This document outlines NNB GenCo (SZC)’s demonstration of compliance with the 36 standard LCs attached to Schedule 2 of the nuclear site licence. It references and identifies the compliance owners who have the responsibility for ensuring compliance and the documents in which those arrangements are described.

‘Nuclear Site Licence compliance owners’ responsibilities’ [11]. This document provides information on the responsibilities and expectations for compliance owners during pre and post licensing phase of the project.

‘Nuclear Site Licence compliance assessment strategy’ [12]. This document captures NNB GenCo (SZC)’s arrangements for the systematic review of the arrangements to enable intelligent replication of the HPC arrangements and to ensure operational learning can be used to update the procedures as required.

‘Manage interface with the Office for Nuclear Regulation and Environment Agency’ [13]. This document provides information on how the dutyholder would manage incoming correspondence from the regulator.

‘Control Regulatory approved management arrangements’. This document presents how the dutyholder will manage regulatory approved management arrangements.

ONR and NNB GenCo (SZC) agreed which licence conditions will be assessed for licensing. The licence conditions are summarised in Table 2.

NNB GenCo (SZC) has developed arrangements for dealing with ONR’s standard wording for Licence Instruments to ensure consistency and accuracy in communication. The developed framework will be updated following the licensing process.

For approved arrangements, specifications, the “control regulatory approved procedure” will be used. The procedure has been written such that the management arrangement owner and their responsibilities have been appropriately identified.

NNB GenCo (SZC)’s approach for the intelligent adoption of the licence conditions is underpinned by a programme of self-assessment activities. Figure 1 shows the framework for the self-assessment process.

Table 2 :- Licence Conditions required for licensing and the cornerstone they were captured in.

|  |  |  |  |
| --- | --- | --- | --- |
| LC | Condition | Required for Licensing | Cornerstone |
| 1 | Interpretation | Yes | Land and Legal |
| 2 | Marking of the Site Boundary | Yes | Site |
| 3 | Control of Property Transactions | Yes | Land and Legal |
| 4 | Restrictions on Nuclear Matter on the Site | Yes | Site – management Nuclear Matter and Liabilities |
| 5 | Consignment of Nuclear Matter | Yes | Site – management Nuclear Matter and Liabilities |
| 6 | Documents, Records, Authorities and Certificates | Yes | Organisational capability |
| 7 | Incidents on the Site | Yes | Site |
| 8 | Warning Notices | Yes | Site |
| 9 | Instructions to Persons on the Site | Yes | Site |
| 10 | Training | Yes | Organisational capability |
| 11 | Emergency Arrangements | Yes | Site |
| 12 | Duly Authorised and Other Suitably Qualified and Experienced Persons | Yes | Organisational capability |
| 13 | Nuclear Safety Committee | Yes | Site |
| 14 | Safety Documentation | Yes | Safety Case/Safe Design |
| 15 | Periodic Review | No | N/A |
| 16 | Site Plans, Designs and Specifications | Yes | Site |
| 17 | Management Systems | Yes | Organisational capability |
| 18 | Radiological Protection | No | N/A |
| 19 | Construction or Installation of New Plant | Yes | Site |
| 20 | Modification to Design of Plant under Construction | Yes | Safety Case/Safe Design |
| 21 | Commissioning | No | N/A |
| 22 | Modification or Experiment on Existing Plant | No | N/A |
| 23 | Operating Rules | No | N/A |
| 24 | Operating Instructions | No | N/A |
| 25 | Operational Records | No | N/A |
| 26 | Control and Supervision of Operations | No | N/A |
| 27 | Safety Mechanisms, Devices and Circuits | No | N/A |
| 28 | Examination, Inspection, Maintenance and Testing | Yes - Limited | Site |
| 29 | Duty to Carry Out Tests, Inspections and Examinations | No | N/A |
| 30 | Periodic Shutdown | No | N/A |
| 31 | Shutdown of Specified Operations | No | N/A |
| 32 | Accumulation of Radioactive Waste | No | N/A |
| 33 | Disposal of Radioactive Waste | No | N/A |
| 34 | Leakage and Escape of Radioactive Material and Radioactive Waste | No | N/A |
| 35 | Decommissioning | No | N/A |
| 36 | Organisational Capability | Yes | Organisational Capability |

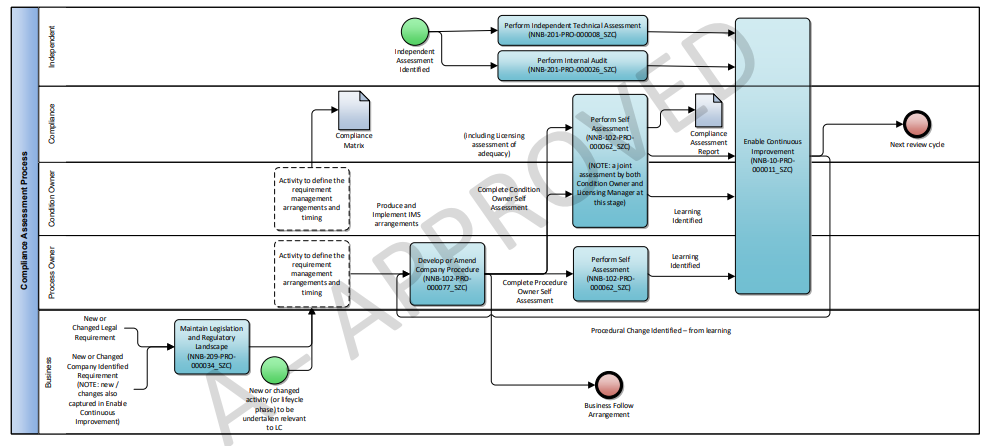


Figure : Overview of the licence condition compliance framework for self-assessment, intelligent replication of arrangements

Other relevant health and safety legislation

NNB GenCo (SZC) arrangements for conventional health and safety for this phase of the project has focused on the Construction (Design and Management) Regulations 2015, specifically the arrangements for the client [14], principal designer (PD) [15] and principal contractor (PC) [16]. It should be noted that as the project evolves the PD and PC roles will be undertaken by different dutyholders so the focus at this stage has been on the client duties in relation to managing projects.

Arrangements for working with neighbouring facilities

NNB GenCo (SZC) has developed inter-site safety and security arrangements. The adjacent facilities process aims to support effective co-operation between the licensee organisations at Sizewell A (SZA), Sizewell B (SZB) and SZC [17].

The purpose of the inter-site working arrangement is to ensure effective sharing of information on future activities by each site, to ensure that activities that may impact neighbouring sites are clearly understood. Such activities may:

* have potential nuclear safety, personnel safety, environmental, security or business interruption risks;
* lead to a previously undeclared external hazard to the adjacent licensee's activities;
* have an impact on emergency arrangements for any or all three sites;
* involve off-site communication of the activities to the public, local authorities, and regulators; and
* Any other activities of interest.

# ONR Assessment

Licence Condition compliance framework

Licence Condition 1 – Interpretation

LC1 does not have any requirement clauses. LC1 defines the meaning of expressions used in the 36 LCs as part of the standard LCs attached to a nuclear site licence. From a Licensing perspective, LC 1 has been covered as part of licensing, permissioning and legal cornerstone [18].

The corresponding assessment report states that, ONR’s judgement is that NNB GenCo (SZC) has made and implemented arrangements to cover interpretation of the terms within the LCs.

Licence Condition 2 – Marking the site boundary

I examined NNB GenCo (SZC)’s arrangements for complying with LC2: marking of the site boundary. I assessed NNB GenCo (SZC)’s arrangements for LC2 against the requirement of the ONR Technical inspection guide NS-INSP-GD-002, marking of the Site Boundary (Rev 2).

The intervention report (ONR-NR-CR-21-611) [19] presents the findings of the intervention which focused on the development of arrangements for compliance with LC2.

NNB GenCo (SZC) provided ONR with a compliance pack which contained of the following documents:

Maintain NSL Boundary Procedure / NNB-209-PRO-000081\_SZC / 1

* Local Instruction – Locations & Maintenance Schedule / 100943351 / 1
* Recruit Employee Procedure / NNB-302-PRO-000003\_SZC / 7;
* Recruit Contractor Procedure / NNB-302-PRO-000020\_SZC / 7;
* Manage Leavers Procedure / NNB-302-PRO-000004\_SZC / 7
* Sizewell C Nuclear Site Licence Area / 100960941 / 1 [20];
* Temporary Marking Drawing / 100960957 / 1 [21];
* Final NSL Area Drawing / 100960943 / 1 [22];
* NSL Signage position / 100960958 / 1 [23];
* New Nuclear Build Site / 100960956 / 1 [24];
* SZC Personnel Security Standard / 100941649 / 1;
* SZC Visitor Management Standard / 100941648 /
* SZC Control Access to Site and Manage Visitors / 100986551 / 1
* SZC Cross Site Modification Work Instruction (100948635)

I engaged in dialogue which informed improvements to the procedure for:

* arrangements for demonstration of compliance with LC2(1) and management of access to site.
* arrangements for demonstration management of common boundary signage; and
* demonstration of resourcing requirements and the site licence compliance capability.

The shortfalls identified as part of my LC2 interventions, resulted in a regulatory issue being raised. The shortfalls were related to NNB GenCo (SZC) not being able to demonstrate the full set of defined arrangements to enable compliance with LC2 (1). NNB GenCo (SZC) could not demonstrate a defined set of arrangements with adjacent facilities in relation to the management of the common boundary signage and NNB GenCo (SZC) could not demonstrate the future resourcing/establishment of the site licence compliance capability to cover the requirements of LC2.

To address the shortfalls NNB GenCo (SZC) produced a work instruction for the control of access to site and the management of visitors. I sampled this work instruction as part of my licensing assessment and judged that it is adequate for this stage of the project.

To address the shortfalls for common boundary signage arrangements, NNB GenCo (SZC) developed arrangements for the sign locations drawings for the site, detailing the type of signage on the common boundary with neighbouring facilities. The arrangements include the locations and maintenance schedule for the signage are captured within the adjacent facilities arrangements. I sampled the development of the common boundary signage as part of my licensing assessment and judged that the arrangements are adequate for this stage of the project.

A key aspect of the nuclear site licence assessment has been the proportionate development of arrangements in-line with site activities. NNB GenCo (SZC) has developed a detailed analysis of the site related activities with associated on-site personnel numbers. I reviewed the forward work plan associated with the development of LC2 and I judged it to be adequate for his stage of the project. The forward work plan recognises key changes within the site activities and details how the arrangements need to be updated to address the changes.

During the early stages of the construction schedule NNB GenCo (SZC) will undertake site preparation, major earthworks and preparation of the formation level for construction of the plant. ONR has accepted that erecting and maintaining nuclear site boundary markings during this stage is impracticable and could expose personnel to an unacceptable risk of injury. This is in-line with arrangements for HPC. Therefore, ONR has agreed that clause 4 of LC2 will not be enforced at this stage of the project until such time as it is safe to erect and maintain an appropriate means of marking the nuclear site boundary. NNB GenCo (SZC) has written to ONR to request the LC2 (4) will not be enforced, [25].

As part of the licensing assessment I conducted a site boundary walk. I also sampled the specification for the demonstration of the SZC Nuclear Licensed Site Boundary, this was identified on a NNB GenCo (SZC) drawing entitled ‘Sizewell C Nuclear Site Licence Sign Locations and Sizewell C Nuclear Site Licence Area, Sizewell C Nuclear Site Licence Temporary Marking Locations and Sizewell C New Nuclear Build Site’. I assessed these documents on site during my intervention and judged that they were adequate for the purpose of the site boundary markings. I found that the documents had been produced in accordance with NNB GenCo (SZC)’s management system and had the appropriate level of review and approval.

Prior to my visit, NNB GenCo (SZC) had temporarily marked the new boundary with wooden peg positions at appropriate site locations. Parts of the Southern boundary are shared with SZB, and NNB GenCo (SZC) explained that they had worked closely to ensure the signage for the SZB site is not compromised.

NNB GenCo (SZC) used Leica Geosystems Global Positioning System and showed me the calibration certificate issued by the manufacturer which I checked against the product identification**.**

Taking into account NNB GenCo (SZC)’s progress for the development and implementation of the LC 2 arrangements and the implementation of the arrangements, as demonstrated during the site boundary walk, I was satisfied that that NNB GenCo (SZC) can accurately mark the position of the proposed SZC nuclear licensed site, and I judge that NNB GenCo (SZC) has made and implemented adequate arrangements for this licence condition.

Licence Condition 3 – Control of property transactions

The ONR security of tenure assessment report [18] presents the findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC3: control, of property transactions. ONR met with NNB GenCo (SZC) to assess the principal procedure describing the arrangements for conveying, assigning, transferring, letting, or parting with possession of the site or part thereof. The procedure covers all stages of the project from construction to operation and beyond.

The report concludes that the procedure for restricting dealings with the site is acceptable and that SZC has made and implemented adequate arrangements to comply with LC3.

Licence Condition 4 – Restrictions on nuclear matter on the site

The management of nuclear matter and liabilities assessment report [26] presents the findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC4: restrictions on nuclear matter on the site. Inspectors met with NNB GenCo (SZC) to assess the arrangements and aspects associated with land quality monitoring. ONR also considered the funded decommissioning programme as part of its assessment activities.

ONR’s assessment concludes that the arrangements for restrictions on nuclear matter on the site are adequate and ONR is content that NNB GenCo (SZC) can comply with LC4.

Licence Condition 5 – Consignment of nuclear matter

The management of nuclear matter and liabilities assessment report [26] presents the findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC5: consignment of nuclear matter. Inspectors met with NNB GenCo (SZC) to assess the arrangements.

ONR’s assessment concludes that the arrangements for consignment of nuclear matter are adequate, and ONR is content that NNB GenCo (SZC) can comply with LC5.

Licence Condition 6 – Documents, records, authorities and certificates

The organisational capability assessment report [27] presents the findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC6: document, records, authorities and certificates. The assessment considered the adequacy of the arrangements, and their implementation, for the purposes of granting a nuclear site licence and NNB GenCo (SZC)’s proposals for continued development of its arrangements.

The report concluded that procedures and arrangements for documents, records, authorities and certificates are acceptable and that SZC has adequate arrangements to ensure compliance with LC6.

Licence Condition 7 – Incidents on the site

I conducted a programme of work that examined NNB GenCo (SZC)’s arrangements for complying with LC7: incidents on the site. I have assessed the arrangements against the requirement of the ONR TIG NS-INSP-GD-007 (Issue 6.1).

NNB GenCo (SZC) shared the following documents as part of the intervention [28]:

* SZC Organisational Learning Strategy, 100971065 Version 001;
* SZC Event Categorisation Register / 100931287 / 1
* Enable Continuous Improvement Procedure / NNB-104-PRO-000011\_SZC / 2
* Investigate Incidents Procedure / NNB-304-PRO-000040\_SZC / 2
* Event categorisation, Offsite Reporting and Notification Guidance / 100928427
* Event Categorisation Register / 100931287 / 1
* Learning Brief Template / 100926512 / 1
* Witness Statement template / 100926537 / 1
* Priority 1 Root Cause Investigation (SACI) Template / 100926521 / 2
* Priority 2 Apparent / Contributory Cause Investigation Template / 100926388 / 2
* Priority 3 Investigation Template / 100926429 / 2
* Template for Investigation TOR / 100926413 / 1
* Corrective Action Review Meeting- Terms of Reference / 100928684 / 1
* SZC routine screening meeting Terms of Reference / 100964474 / 2
* Organisational learning Project committee paper / 00971065/ 001
* LC7 Incidents on Site - Self Assessment / 100966406 / 1

I met with NNB GenCo (SZC) staff at the corporate headquarters and at the SZC site. This enabled me to review the arrangements and procedures for LC7 and gather evidence of implementation of the arrangements.

My intervention covered the overview of the arrangements, including notification, recording, investigation and reporting of incidents. NNB Genco (SZC)’s approach to LC7 compliance has been to intelligently adopt the arrangements from HPC as well as taking learning from experience gained by EDF Nuclear Generation Limited. experience. This has been enabled by recruitment of experienced key individuals to the team.

NNB Genco (SZC) was able to demonstrate their arrangements in relation to LC7 screening, which enables the review of the of learning reports. As well as learning from activities within NNB GenCo (SZC) or at the SZC site, learning reports can arise from several sources including learning identified in HPC as of interest to SZC and that arising from external organisations (WANO, INPO etc).

An intervention as part of ONR’s assessment of organisational capability matters (see ONR-NR-AR- 22- 010) noted that NNB GenCo has provided evidence against ONR expectations for organisational learning. Of note was the licence applicant’s approval of the organisational learning strategy and the completion of a self-assessment. NNB GenCo (SZC) was able to provide examples of learning reports being raised.

I am content that Sizewell C has adequate procedures to comply with LC7 and that these satisfy the requirements for early phases of the construction and will allow adequate learning.

Licence Condition 8 – Warning notices

I examined NNB GenCo (SZC)’s arrangements for complying with Licence Condition 8: warning notices, against the expectations defined in the ONR Technical inspection guide NS-INSP-GD-008 (Rev 6).

Contact Report ONR-NR-CR-21-610 [29] presents the findings of ONR’s intervention for LC8: warning notices. I spoke with personnel currently based at the proposed site who explained that the warning notices subject to LC8 includes signs and sound signals related to emergency arrangements, fire safety arrangements, first aid arrangements and security arrangements.

NNB GenCo (SZC) presented the key steps within the LC compliance procedure and shared the document ‘Licence Condition 8 – Warning Notices – Approved Notices’ as part of the compliance demonstration, [30], [31], [32] and [33] .

During my intervention, I noted clear evidence of learning from the HPC project. NNB GenCo (SZC) was able to demonstrate how they have utilised the procedures and adapted it to ensure the arrangements are fit for purpose during the early construction phase of the SZC project.

During a site visit ,I saw evidence of signage being appropriately deployed for this stage of the project.

I am content that NNB GenCo (SZC) has acceptable arrangements for ensuring that suitable and sufficient notices are posted on the site and that the arrangements for LC8 are adequate for the start of site activities post-licensing.

Licence Condition 9 – Instruction to persons on site

I examined NNB GenCo (SZC)’s arrangements for complying with LC9: instruction to persons on site, against the expectations defined in the ONR Technical inspection guide NS-INSP-GD-009 (Rev 6).

The contact Report ONR-NRD-AR-21-610 [29] presents findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC9.

During a programme of meetings and a targeted intervention NNB GenCo (SZC) was able to show clear evidence of compliance with LC9 covering health, safety, security and environment, and people, detailing on-boarding and recruitment.

NNB GenCo (SZC) provided several company procedures, these were supported by induction packs and induction objectives.

I observed that the arrangements have been intelligently adopted from the HPC project and NNB GenCo (SZC) was able to demonstrate its understanding of the compliance requirements.

I reviewed NNB GenCo (SZC)’s self-assessment for LC9 and found key compliance gaps had been self-identified. The post-licensing forward action plans include actions to address these gaps.

NNB GenCo (SZC) has conducted a work analysis, capturing the uplift in on-site personnel related to different activities, such as the commencement of construction of the railway crossing or the cut off wall. Relating the uplift or changes to compliance arrangements in-line with or ahead of changes in construction workforce numbers or changes in the site risk profile has enabled NNB GenCo (SZC) to provide a targeted forward action plan that captures the risks on-site.

I am content that NNB GenCo (SZC) has adequate procedures in place to ensure every person authorised to be on the site receives adequate instruction to the extent that this is necessary regarding:

* the risks and hazards associated with construction and installation activities.
* the precautions to be observed in connection with said risks and hazards; and,
* the action to be taken in the event of an accident or emergency on the site or neighbouring site.

Licence Condition 10 – Training

The organisational capability assessment report [27] presents findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC10: training.

ONR’s assessment concludes that NNB GenCo (SZC)’s arrangements for compliance with LC10 are sufficiently developed to support nuclear site licence grant.

Licence Condition 11 – Emergency Arrangements, including arrangements for compliance with Radiation (Emergency Preparedness and Public Information) Regulations 2019

I examined NNB GenCo (SZC)’s arrangements for complying with LC11: emergency arrangements, against the expectations of the ONR Technical inspection guide NS-INSP-GD-011 (Issue 7.1).

I discussed the proposed LC11 arrangements as part of a series of Level 4 discussions detailed in ONR-NR-CR-21-489 [34] and ONR-NR-CR-21-569 [35].

NNB GenCo (SZC) has developed its arrangements via three main documents. These are [36]:

* SZC Emergency preparedness and response policy / 100943431/ 001,
* SZC emergency preparedness and response standard / 100953960 / 1

Establishing, Developing and Maintaining the Emergency Arrangements Procedure / NNB-308-PRO-000042\_SZC / 1

I also reviewed additional documents as part of my LC11 assessment [36]:

* SZC Emergency Planning Review Group Terms of Reference / 100942435 / 3
* Manage Interfaces with the ONR and EA Procedure / NNB-209-PRO-000026\_SZC / 1
* Enable Continuous Improvement Procedure / NNB-104-PRO-000011\_SZC / 1
* Nuclear Site Licence Compliance Matrix, Sizewell C / 100200248 / 5

I discussed the purpose of the emergency review group (EPRG) as part of my interactions. The EPRG’s purpose is to ensure that the deployment of the emergency planning policy is consistent by providing governance for establishing emergency arrangements. The aim of the group is to provide a clear route for the implementation of an emergency arrangements policy required to avert harm from accidents on the site, in conjunction with Local Authority emergency planning. The policy also covers the protection of site personnel who may need to be protected against an event on SZB. I reviewed the EPRG terms of reference as part of my assessment and found them to be satisfactory.

NNB GenCo (SZC) has developed close working relationships with its neighbouring facilities. As part of my inter-site working with the SZB site inspector, I took part in SZB’s level 1 emergency exercise on 1 December 2021 [37], although the exercise did not require NNB GenCo (SZC) involvement. As the Level 1 exercise was outside of normal working hours, there was no impact on the SZC site personnel. However, they had been briefed appropriately and could discharge their duties if required.

Based upon my interactions and sample of NNB GenCo (SZC) procedures, I am content that key business functions are in place to enable the timely development of emergency procedures. I am content that NNB GenCo (SZC) has taken an approach that builds on the experience from the operational power plants as well as taking SZB’s arrangements and requirements into consideration.

As part of my assessment of LC11 I reviewed the policy and compliance arrangements and forward action plan. I judge that NNB GenCo (SZC) recognises that throughout the project phases, including construction, installation and commissioning, the hazards and risks to site personnel will change and this change will inform the development of the emergency arrangements.

The forward action plan for the emergency arrangements has been developed in-line with the increase in the number of people on-site and the complexity of the activities, and demonstrates a clear route for the implementation of an emergency arrangements policy required to avert harm from accidents on the site, in conjunction with Local Authority emergency planning. I have also discussed the development of the emergency arrangements with the CDM 2015 advisor at NNB GenCo (SZC) and I am content there are clear routes to incorporate the conventional health and safety requirements in the plans.

ONR’s demographics and emergency planning assessment [38] has captured the requirements for Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR19). The report concludes that ONR should not object to the Planning Inspectorate granting a Development Consent Order for Sizewell C based on demographics or emergency planning considerations.

Licence Condition 12 – Duly authorised and other suitably qualified and experienced persons

The design and safety case assessment report [39] presents the findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC12: duly authorised and other suitably qualified and experienced persons. The assessment considered the adequacy of the arrangements, and their implementation, for the purposes of granting a licence and NNB GenCo (SZC)’s proposals for continued development of its arrangements.

ONR’s assessment concludes that NNB GenCo (SZC)’s arrangements for compliance with LC12 are sufficiently developed to support nuclear site licence grant.

Licence Condition 13 – Nuclear safety committee

I examined NNB GenCo (SZC)’s arrangements for complying with LC13: nuclear safety committee, against the expectations of the ONR TIG NS-INSP-GD-013 (Revision 6).

The contact report ONR-NR-CR-22-003 [40] presents my intervention and assessment of NNB GenCo (SZC)’s compliance arrangements for LC13.

As part of my intervention I reviewed NNB GenCo (SZC)’s compliance matrix and compliance thread for the licence condition. I also reviewed NNB GenCo (SZC)’s consideration of the competency requirements for NSC membership and whether the current membership was appropriate to the current phase of the project. The NSC’s engagement plan [41] was also reviewed.

1. I reviewed NNB GenCo (SZC)’s self-assessment of NSC members’ suitability and qualification assessment as part of the intervention. I reviewed the current members’ competency assessments, as well as interviewing some of the NSC members, and found them to be appropriate for this stage of the project. I also considered the links between LC13 with other relevant licence conditions.

I observed the NSC on 22 March 2022 [42] and judged that the meeting was well organised and that the NSC provided valuable advice and feedback on key technical challenges. I advised NNB GenCo (SZC) that, if granted a licence, it should immediately submit to ONR for approval the terms of reference for the nuclear safety committee. It should be noted that the arrangements have been intelligently adopted from HPC, and those arrangements had been previously approved by ONR.

In summary, I have engaged in dialogue to ensure NNB GenCo (SZC) clearly understand the LC requirements, and I also observed NNB GenCo (SZC)’s NSC. The intervention and my knowledge of HPC’s LC13 arrangements, for comparison, has informed my judgement on the adequacy of proposed arrangements. On the basis of these, I conclude that NNB GenCo (SZC)’s arrangements for complying with LC13 are adequate for the purpose of granting a nuclear site licence.

Licence Condition 14 – Safety documentation

The design and safety case assessment report [39] presents the findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC14: safety documentation. The assessment considered the adequacy of the arrangements, and their implementation, for the purposes of granting a licence and NNB GenCo (SZC)

ONR’s assessment concludes that NNB GenCo (SZC)’s arrangements for compliance with LC14 are sufficiently developed to support nuclear site licence grant.

Licence Condition 16 – Site plans, designs and specifications

I examined NNB GenCo (SZC)’s arrangements for complying with LC16: site plans, design, and specifications. I have assessed the arrangements against the requirement of the ONR Technical inspection guide NS-INSP-GD-016 (Issue 6).

The contact report ONR-NR-CR-21-611 [19] presents the findings of the intervention and assessment of NNB GenCo (SZC)’s compliance arrangements for LC16.

NNB GenCo (SZC) provided ONR with a compliance pack which contained:

* 100638352 / 004 / SIZEWELL C Site layout
* 100813188 / 002 / SZC List of Buildings
* 100960941 / 001 / Sizewell C Nuclear Site Licence Area
* 100813221 / 003 / Sizewell C Plot Plan Committee Terms of Reference
* 100831729 / 003 / SZC Permanent Site Plot Plan – Identification and Positioning Of The Main Buildings On The Plot Plan.
* NNB-202-Pro-000033-SZCRev 01 Manage design change procedure
* Maintain Nuclear Site Licence Boundary Version 1.0.

LC16 does not require the licensee to make and implement arrangements, but we expect to see management system procedures for the production and management of the relevant documentation. Therefore, ONR’s intervention focused on NNB GenCo (SZC)’s development of such procedures and the acceptability of the resulting plans and schedule.

I discussed the compliance thread for LC16 with NNB GenCo (SZC). They were able to describe the overarching procedure (Manage Design Change Procedure) and the compliance documentation, which consists of site layout, list of buildings (schedule) and nuclear site licence boundary as well as the supporting evidence and procedures.

I reviewed the site licence area, the development of the site layout plan and the new nuclear build site boundary. I found that NNB GenCo (SZC) had intelligently applied learning from HPC and that the information provides an acceptable representation of the nuclear site boundary that will be marked on the map attaching to the nuclear site licence.

I reviewed the SZC site layout drawing which shows the location of each building and plant on the licensed site. The schedule developed by Sizewell covers the building identification code, the name and the functionality of the building. This enabled me to ascertain SZC’s compliance with LC16 (2).

NNB GenCo (SZC) will utilise the Manage Design Change procedure to ensure any changes to building/plant location have been communicated with ONR and the company procedure for managing the interface with ONR is given in ‘Managing Interfaces with the Office for Nuclear Regulation and Environment Agency’, which will ensure compliance with the requirements to furnish to ONR plans, design, specification or other information relating to such building, plant and operations as ONR may specify.

As a result of my intervention and review of NNB GenCo (SZC)’s arrangements for LC16, I judge that the proposed arrangements are adequate for the purpose of granting a nuclear site licence.

Licence Condition 17 – Management systems

The organisational capability assessment report [27] presents findings of ONR’s assessment of Sizewell C’s compliance arrangements for LC17: management systems.

ONR’s assessment concludes that Sizewell C’s arrangements for compliance with LC17 are sufficiently developed to support licence grant.

Licence Condition 19 – Construction or installation of new plant

The contact Report ONR-NRD- CR-21-523 [43] presents findings of ONR’s intervention of NNB GenCo (SZC)’s compliance arrangements for LC19: construction or installation of new plant. I conducted my interventions and assessments in relation to LC19 in accordance with ONR guidance NS-INSP-GD019 (Issue 7.1).

ONR guidance expects arrangements for complying with LC19 to provide a system of rigorous and appropriate control of changes to plant during the construction and installation phases. The arrangements are required to provide ONR with appropriate regulatory control of construction and installation. NNB GenCo (SZC)’s procedures that comprise its arrangements for complying with LC19 were reviewed on site, these were:

* Ensure Safe Control of Work Activities Procedure / NNB-308-PRO-000082\_SZC / 1) .
* Request For Information Procedure / NNB-201-PRO-000030\_SZC / 1.
* Define, Manage and Release Key Hold Points Procedure / NNB-209-PRO-000025\_SZC / 2.
* Communicate with Adjacent Facilities Procedure / NNB-209-PRO-000014\_SZC / 1.
* Manage Manufacturing Non-Conformance Procedure / NNB-102-PRO-000110\_SZC / 1.
* Manage Contractor Site Non-Conformance Procedure / NNB-205-PRO-000111\_SZC / 1.
* Manage Site Surveillance (NNB-205-PRO-000089\_SZC) / NNB-205-PRO-000089\_SZC / 1.
* 100200626 / Sizewell C Hold Point List Revision 3.

The compliance matrix identifies eight procedures for adherence with this licence condition. The overarching themes are as follows:

* Planning, performance, recording and improvement of the surveillance of (on and off-site) construction and erection activities.
* Controlling work activities within the construction boundary.
* Raising and responding to requests for information between manufacturing and construction contractors, designers and NNB GenCo (SZC).
* Raising and responding to a field change request to change design deliverables after they have been released as “fit for construction”.
* Controlling the issue of design documentation to contractors for the purposes of construction, erection, testing and commissioning, and subsequent updating.
* Identifying, defining, managing and releasing hold points between defined “phases” from design to commissioning which also recognise ONR primary and derived powers.
* Ensuring effective communication of future planned activities with the adjacent nuclear facilities.
* Managing the identification, categorisation, analysis and resolution of contractor non-conformances during construction, installation, testing and commissioning
* The compliance matrix identifies eight procedures for adherence with this licence condition.
* The procedures have been intelligently replicated from HPC arrangements, with the aim of ensuring that construction and installation will comply with design requirements. The proposed delivery organisation for the project has not yet been finalised, as the arrangements will need to reflect the delivery organisation, there will be a need to review the arrangements to ensure they are consistent with the proposed SZC organisation. NNB GenCo (SZC) stated that this review will be part of the forward action plan to ensure that arrangements are in place to support the first regulatory hold point. I judge that this approach is appropriate as the release of this primary hold point will require regulatory oversight and control.

NNB GenCo (SZC) must also ensure that the management arrangements reflect the correct sub-procedures and references when adopting HPC arrangements.

A key area of focus for the LC19 arrangements has been the links with other relevant LCs and design requirements. I found that the ‘maintain design integrity’ aspects of the arrangements are not as well developed as other aspects. I judge that the links to LC14 arrangements will therefore require strengthening. I am satisfied that NNB GenCo (SZC)’s forward action plan adequately addresses the required reviews and updates.

As part of the licence condition requirements, ONR expects that, where appropriate, the construction/ installation phase is divided into stages. NNB GenCo (SZC) has a procedure for ensuring arrangements for complying with this requirement.

NNB GenCo (SZC) has produced a hold point list, which has been adopted from HPC with the addition of two key hold points. These hold points relate to the start of the construction of the cut off wall, hold point, 1.1.4 and assembly of high integrity components, hold point 2.1.4.

In addition to my intervention, ONR has sampled the implementation of the LC19 arrangements as part of the supply chain management interventions and has concluded that the supply chain management including the management of high integrity long lead items has been proportionally developed for the current stage of the project [27]. I judge that NNB GenCo (SZC) has been able to adequately demonstrate the implementation of the LC19 arrangements via the long lead item work.

I judge that NNB GenCo (SZC) was able to demonstrate learning from HPC arrangements, and they had effectively utilised it for the SZC project. The staff I interviewed demonstrated understanding of their roles and responsibilities.

NNB GenCo (SZC) has developed a comprehensive forward action plan which should ensure the arrangements can be effectively uplifted to reflect the progress of site activities. I have reviewed the plan and I judge that it will effectively capture future compliance requirements to ensure activities are effectively and safely managed.

In summary, I have examined the proposed arrangements for compliance with LC19 and I am satisfied that, subject to successful implementation of the required forward action plan, LC19 compliance will be achieved throughout the project lifecycle.

Licence Condition 20 – Modification to design of plant under construction

The design and safety case assessment report [39] presents findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC20: modification to design of plant under construction.

ONR’s assessment concludes that NNB GenCo (SZC)’s arrangements for compliance with LC20 are sufficiently developed to support nuclear site licensing.

Licence Condition 28 – Examination, inspection, maintenance, and testing

A key area of learning from HPC has been the timely and effective maintenance during the construction and commissioning phase of systems, components and structures that have already been installed. Therefore, proportionate site-based LC28 arrangements will be required well in advance of any operational activities. I have reviewed NNB GenCo (SZC)’s proposals to intelligently adopt the HPC site approach for LC28 to ensure timely and proportionate arrangements are in place in advance of commencement of site related activities.

I judge that for this stage of the project there are sufficient plans in place.

Licence Condition 36 – Organisational capability

The organisational capability assessment report [27] presents findings of ONR’s assessment of NNB GenCo (SZC)’s compliance arrangements for LC36: organisational capability.

ONR’s assessment concludes that NNB GenCo (SZC)’s arrangements for compliance with LC36 are sufficiently developed to support nuclear site licensing.

Licence Condition 15, 18, 21, 22, 23, 24, 25,26, 27,29,30,31,32,33,34 and 35

These licence conditions are not required for my licensing assessment as they relate to later stages of the Sizewell C project. I have discussed the high-level plans and policies associated with licence conditions covering the operational phase of Sizewell C [44], [45] and [46]. These plans and policies have been developed in conjunction with HPC, hence incorporating appropriate learning. I judge that for this stage of the project there are sufficient plans in place to develop arrangements in relation to these licence conditions.

Overall Conclusion

NNB GenCo (SZC) has developed adequate arrangements for complying with those licence conditions required in this early phase of the project. ONR will continue to monitor the development of the arrangements to ensure that they are adequate.

NNB GenCo (SZC) has demonstrated to ONR site inspector that:

* it can accurately mark the position of the boundaries to the SZC nuclear licensed site by fences or other appropriate means; and
* it has erected appropriately managed signage along the intended boundary with the SZB licensed site.

NNB GenCo (SZC) developed and implemented arrangements for LC2: marking the site boundary. These support the exclusion of clause 4 of LC2 until such time as it is safe to mark the site boundary by fences or other appropriate means.

NNB GenCo (SZC)’s arrangements for compliance with LC19 facilitate ONR’s use of primary or derived powers requiring the licensee to seek permission to commence or thereafter proceed from one stage to next of the construction or installation.

NNB GenCo (SZC)’s arrangements for compliance with LC20 facilitate ONR’s use of primary or derived powers requiring the licensee to seek permission to implement modifications to the design of a plant under construction.

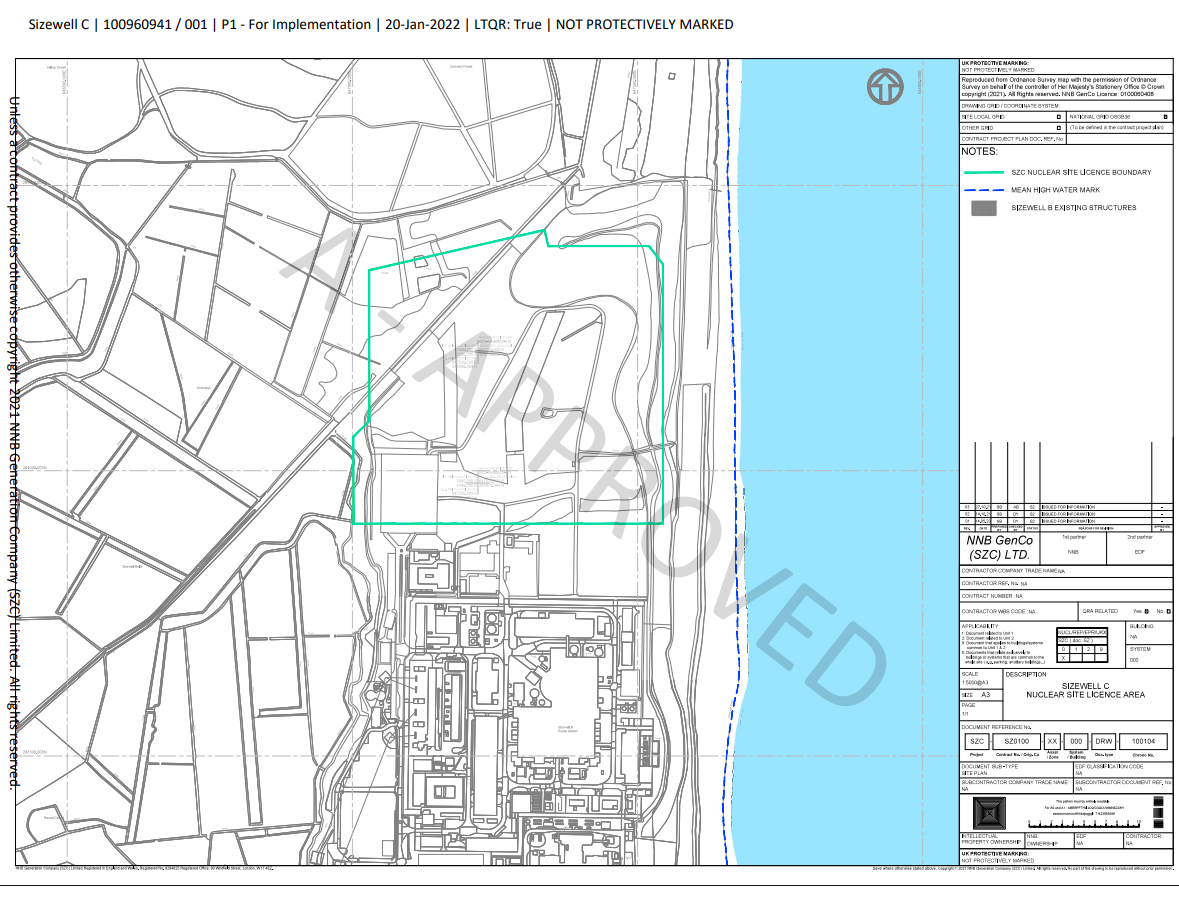


Figure : Sizewell C Nuclear Site boundary [47]

Construction (Design and Management) Regulations 2015 – CDM

Interventions covering Conventional Health and Safety and LC compliance were held jointly with site inspector and nuclear site health and safety inspector [48], [49].

NNB GenCo (SZC) presented its CDM strategy which sets out the overall CDM2015 arrangements for the project and sets out roles and responsibilities through the project lifecycle. The strategy details lessons learnt from HPC in the context of CDM2015, the recommended approach, and some key differences from HPC such as the key roles as required by the regulation.

NNB GenCo (SZC) has been able to demonstrate a coherent plan for the adoption of the CDM regulations and for identifying key areas where LC compliance arrangements will also meet the requirements for CDM regulations and vice versa. This approach has ensured key interfaces have been identified and that arrangements consider conventional health and safety as well as nuclear safety.

Conclusions

ONR’s assessment report covering conventional health and safety [49] concludes that NNB GenCo (SZC) has made adequate arrangements for the early stage of the project.

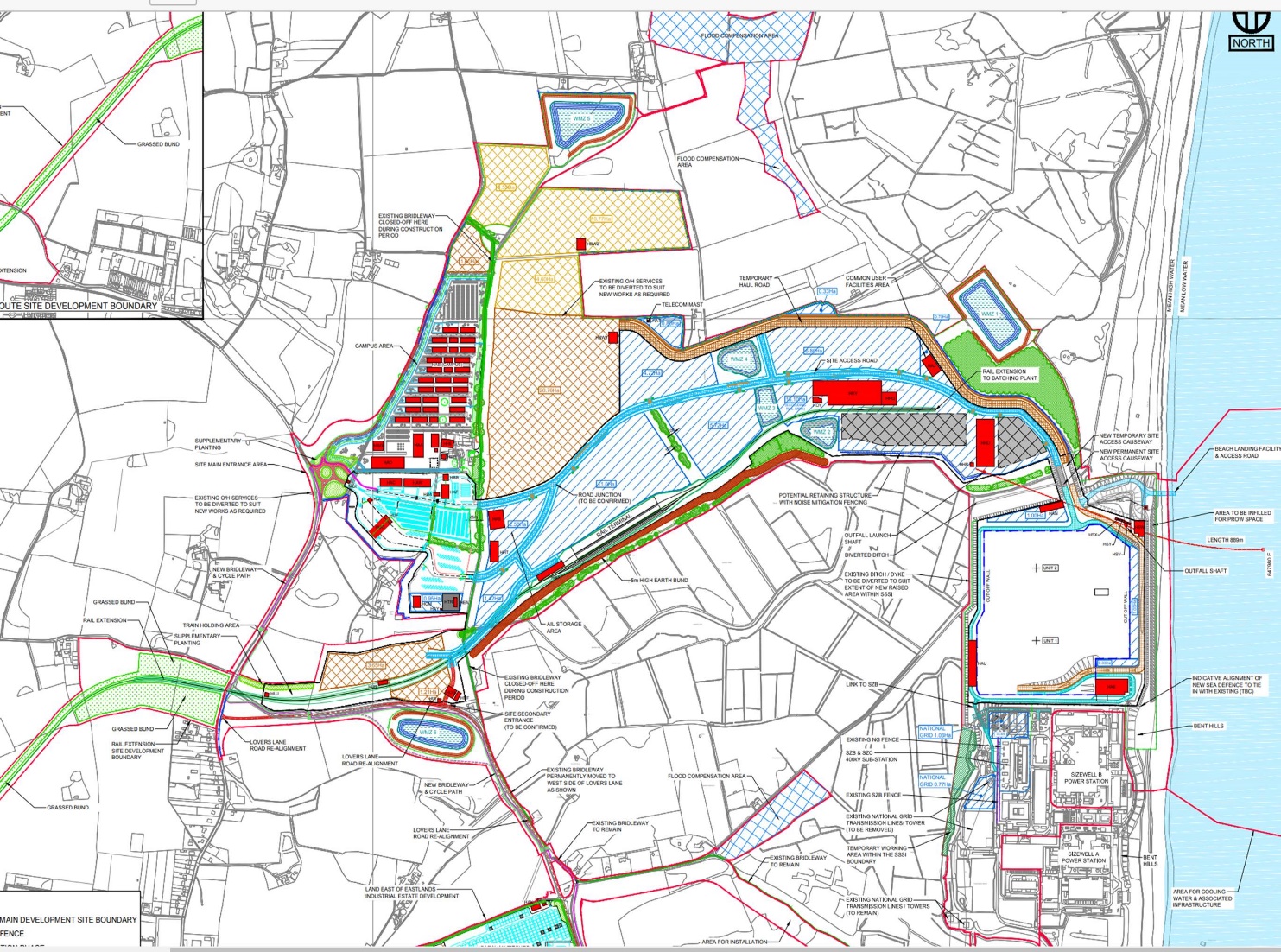
Regulation of Site and New Nuclear Build Site

1. Regulation 2A of the Health and Safety (Enforcing Authority) Regulations 1998 defines a New Nuclear Build (NNB) site, as a site which:  
     
   (a) is immediately adjacent to a GB nuclear site (“the associated site”)  
   (b) is, of forms part of, a construction site where construction work is being carried out wholly or mainly for the purpose of the installation of one or more nuclear installations on the associated site; and by or on behalf of the person to whom the nuclear site licence for the associated site has been granted.
2. Regulation 4A(1)(b) of the Health and Safety (Enforcing Authority) Regulations 1998 establishes ONR as the enforcing authority for premises which are on a NNB site.
3. A position paper [50] was presented to the ONE EPR sub-division board [51] on 20 December 2021 discussing the options for the definition of the NNB site.
4. Figure 3 illustrates the proposed boundaries of the construction site at SZC and the location of a proposed hostel for site workers, on the edge of that construction area. The construction area consists of two parts identified as the Main Construction Area (MCA) and the Temporary Construction Area (TCA).
5. The MCA encompass the nuclear licensed site area; the boundaries of both are generally close to each other and coincide in places. Broadly, the MCA equates to the licensed site, with a single connection to the TCA via the permanent causeway. The New Nuclear Build boundary will overlap the site security fence.
6. The TCA includes areas for contractors’ offices and storage as well as areas for pre-construction and storage of items for transfer into the MCA. Within the MCA is a railway line and terminus by means of which construction materials will be brought to the site.
7. Following discussion at the ONR EPR sub-division board, it was decided that the NNB boundary should encompass all of the MCA and TCA (including the jetty for offloading materials brought by sea). The NNB area would exclude the area used for construction of the workers’ hostel.
8. This would give ONR the vires for regulation of conventional health and safety matters throughout the whole of the MCA and TCA. This includes the construction of the rail line and terminus within the TCA. The vires for enforcement of relevant health and safety regulations for the construction of the hostel would fall to the Health and Safety Executive (HSE).
9. At that meeting it was also agreed that ONR would include the intake and discharge tunnels radiating from the MCA into the definition of the SZC NNB. This would give ONR the vires for regulating the construction of those tunnels. ONR will call on the specialist advice of HSE in relation to the safety of tunnel construction as required.
10. These proposals were discussed at a meeting was held with HSE and the Office of Rail and Road on 23 February 2022 [52] at which there was general agreement.

Conclusions

1. It was agreed at the ONR EPR sub-division board that ONR will regulate the MCA, the TCA and the railway line running into the TCA during construction, with areas outside the TCA and MCA to be regulated by HSE.
2. ONR will also regulate the construction of the intake and outfall tunnels, calling on specialist advice from HSE as necessary.

Figure 3 - proposed boundaries of the construction site at SZC.



Temp Construction Area

Main Entrance and Security

Storage Areas

Accommodation Campus

Main Construction Site

## Site interface arrangements

1. It is important that construction activities on the SZC site do not negatively impact the adjacent SZA and SZB sites. Consequently, a forum has been established to enable effective co-operation and communication between the licensee organisations at Sizewell A, Sizewell B and the aspirant licensee Sizewell C. I have conducted joint meetings with SZB site inspector to ascertain the effectiveness of the inter-site working arrangements [53].
2. A key element of the discussions was around the identification and sharing of future activities that may impact the adjacent facilities. These are activities that could:

* have potential nuclear safety, personnel safety, environmental, security impacts;
* lead to a previously undeclared external hazard to the adjacent licensee's activities;
* have an impact on emergency arrangements for any or all three sites; amd
* involve off-site communication of the activities to the public, local authorities, and regulators

Conclusions

I conclude that NNB GenCo (SZC) has demonstrated its ability to manage the requirements of site interface arrangements and that these arrangements are adequate for licensing.

# Conclusions and Recommendations

## Conclusions

1. This report presents the findings of the SZC site inspector covering site activities and licence compliance cornerstone.
2. I conclude that NNB GenCo (SZC) has suitable arrangements in place to comply with the standard nuclear site licence conditions for licensing and as the construction project evolves. The maturity of the arrangements will need to be sampled to ensure they have evolved in-line with regulatory expectations as the project progresses.
3. I conclude that ONR accepts that:

NNB GenCo (SZC) has developed adequate arrangements for compliance with those conditions attached to the standard NSL required for design, procurement, manufacture, construction and installation of two EPR™ units at SZC.

ONR should exclude clause 4 of the standard LC2 - Marking the licensed site boundary - until such time as it is both safe and practicable for NNB GenCo (SZC) to mark the site boundary by fences or other appropriate means

ONR accepts NNB GenCo (SZC)’s commitment to the timely development and implementation of detailed arrangements for compliance with those conditions attached to the standard NSL required for commissioning, operation and decommissioning

ONR accepts that the status of NNB GenCo (SZC)’s arrangements for complying with the 36 conditions attached to the standard NSL is adequate for the purposes of granting a licence to install and operate two EPRTM reactor units at SZC.

## Recommendations

I recommend that from a site activities and licence compliance perspective a nuclear site licence should be granted to NNB GenCo (SZC) to construct and operate a nuclear power station at Sizewell C.

# Bibliography

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| [43] | 2022/ 10218 ONR-NR-CR-21-523 - SZC - CHS1, CHS2, LC19 Intervention - Construction (Design and Management) Regulations 2015 and LC 19 arrangements for SZC - 11-13 January 2022 - Sarah Wadham. |
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| [53] | 2022/6090 ONR-OFD-CR-21-1007 - SZB and SZC interface meeting - 27 January 2022. |
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1. CM9 revision to be identified upon completion of activity and incorporation of any changes to document. [↑](#footnote-ref-2)
2. Hard-copy of document signed-off, CM9 version updated with authors / approver / acceptor names and dates and record finalised [↑](#footnote-ref-3)