



Wylfa Newydd Project

6.2.7 ES Volume B - Introduction to the environmental assessments B7 - Soils and geology

PINS Reference Number: EN010007

Application Reference Number: 6.2.7

June 2018

Revision 1.0

Regulation Number: 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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7 Soils and geology

7.1 Introduction

- 7.1.1 This chapter provides an introduction to the technical basis for the soils and geology assessment for the Wylfa Newydd Project. It includes a summary of legislation, policy and guidance; key points arising in consultation that have guided the soils and geology assessment; and assessment methodologies and criteria.
- 7.1.2 In the context of the soils and geology chapters, 'soils' should be taken to mean Holocene¹/recent unconsolidated deposits and artificial geology (made ground or filled ground) which may be affected by the Wylfa Newydd Project. 'Geology' should be taken to mean both superficial deposits² and bedrock geology which may be affected by the Wylfa Newydd Project, including listed sites of geological importance and mineral resources/reserves.
- 7.1.3 The assessment of effects for soils and geology is included in the following relevant chapters:
- D7 (Application Reference Number: 6.4.7) for the WNDA Development;
 - E7 (Application Reference Number: 6.5.7) for the Off-Site Power Station Facilities;
 - F7 (Application Reference Number: 6.6.7) for the Park and Ride;
 - G7 (Application Reference Number: 6.7.7) for the A5025 Off-line Highway Improvements; and
 - H7 (Application Reference Number: 6.8.7) for the Logistics Centre.

7.2 Legislation, policy and guidance

- 7.2.1 The following legislation, policy and guidance have been used to inform the scope and content of the soils and geology assessment; assist in the identification of potential effects and mitigation; and influence the design of the Wylfa Newydd Project to reduce the significance of effects.

Key legislation

- 7.2.2 The relevant legislation and how it relates to the soils and geology assessment are set out in table B7-1.

¹ The time period from approximately 11,700 years ago to the present day.

² Material which overlies the bedrock geology and has typically been derived and deposited by glacial and fluvial processes (typically less than approximately 2.6 million years ago).

Table B7-1 Summary of key legislation

Legislation	Description
Environmental Protection Act 1990 Part 2A	This Part sets out the legislative responsibilities and liabilities for local authorities, agencies, landowners and appropriate persons with regards to contaminated land, the pollution of controlled waters and release of contaminating substances.
Environmental Liability Directive (2004/35/EC)	This EU Directive introduces a framework of environmental protection based on the 'polluter pays' principle with the aim of both preventing, and remedying, environmental damage caused by operational activities. The regulations apply to actual or potential damage – they do not apply to historical damage or contamination. The Directive has been amended three times through Directive 2006/21/EC, Directive 2009/31/EC and Directive 2013/30/EU.
The Environmental Permitting (England and Wales) Regulations 2016	These Regulations seek to ensure that authorised activities and their discharges do not endanger the environment or human health; Environmental Permits must be sought from Natural Resources Wales (NRW) and the Environment Agency. The regulations combine the requirements for an integrated waste management approach and for hazardous waste management. This provides a framework for regulation that enables NRW and the Environment Agency to assess permitting and compliance with a common approach.
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003	The Directive sets out a series of objectives for fluvial, lacustrine, groundwater and coastal water bodies within Wales. These include improving the water environment to achieve good/high status, maintaining existing good/high status and implementing mitigation to support the water environment at a catchment and water body scale. New modifications have to be assessed in line with the legislation and the water body objectives. The Water Framework Directive assessment is presented within the surface water and groundwater chapters but the Directive is of relevance here because controlled water receptors form part of the assessment of land contamination.
Environment (Wales) Act 2016	This Act introduces a new approach to sustainable management of natural resources at a national and local level. Principles of sustainable management of natural resources are set out which provide NRW with a general purpose. 'Natural resources', as

Legislation	Description
	defined by the Act, include the following of relevance: water, soil, minerals, and geological features and processes.

Key policy

- 7.2.3 The relevant national and local plans and policies, and how these relate to the soils and geology assessment, are described in table B7-2.

Table B7-2 Summary of key policy

Policy	Description
<i>Overarching National Policy Statement for Energy (EN-1)</i> [RD1]	EN-1, paragraph 5.3.7 states that development should aim to avoid significant harm to geological conservation interests and identify mitigation where possible; effects on sites of geological interest should be clearly identified. It also states in paragraph 5.10.8 that the impacts to soil quality and Best and Most Versatile (BMV) land should be clearly identified and minimised. Applicants should ensure that they have considered the risk posed by land contamination (paragraph 5.10.8). Paragraph 5.10.9 states applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use.
<i>National Policy Statement for Nuclear Power Generation (EN-6)</i> [RD2].	EN-6, paragraph 3.7.8 states that mitigation for the potential contamination of soils and water resources should be identified in the Environmental Impact Assessment (EIA) process and possibly managed through environmental management plans. It is also stated (see paragraph 3.5.3) that seismic risk (vibratory ground motion) will be considered at the time of the Development Consent Order (DCO) (Application Reference Number: 3.1) application by the Office for Nuclear Regulation.
<i>Planning Policy Wales (Edition 9)</i> [RD3]	Chapter 4 'Planning for Sustainability' considers the provision of mineral resources, conservation and enhancement of the environment and BMV Agricultural Land Classification (ALC) Grades 1 and 2 and Subgrade 3a, and minimisation of risks posed by contaminated land. Chapter 5 'Conserving and Improving Natural Heritage and the Coast' establishes objectives for the preservation of soil, non-statutory designations and Sites of Special Scientific Interest (SSSIs), with an emphasis on their protection.

Policy	Description
	<p>Chapter 13 'Minimising and Managing Environmental Risks and Pollution' requires that appropriate consideration should be given to reducing the risks from land contamination and stresses the need for consistency with Part 2A of the Environmental Protection Act 1990.</p> <p>Chapter 14 'Minerals' states that the identification and safeguarding of mineral deposits are key issues in protecting the economic health of Wales.</p>
<p><i>Technical Advice Note 5: Nature Conservation and Planning</i> [RD4]</p>	<p>The Technical Advice Note provides guidance on how the planning system should protect and enhance geodiversity and geological conservation. This includes key principles of positive planning for nature conservation, procedures for nature conservation during development, and guidance on development affecting designated sites.</p>
<p><i>Minerals Technical Advice Note 1: Aggregates</i> [RD5]</p>	<p>The Technical Advice Note provides detailed advice on how policy for aggregates extraction by mineral planning authorities and the aggregates industry should be delivered. The main aim is to ensure the sustainable supply of aggregates, balancing environmental, economic and social considerations, whilst reducing any impacts to interests of acknowledged importance (e.g. SSSIs).</p>
<p><i>Anglesey and Gwynedd Joint Local Development Plan 2011 – 2026</i> (Adopted version) [RD6]</p>	<p>Policy AMG 3 (Protecting and enhancing features and qualities that are distinctive to the local landscape character) states that a proposal will be granted provided it does not have significant adverse impact upon features and qualities that are unique to the local landscape, including in terms of geological aspects.</p> <p>Policy AMG 6 (Protecting sites of regional or local significance) states that proposals that are likely to cause direct or indirect significant harm to Regionally Important Geodiversity Sites (RIGS) will be refused unless there is an overriding social, environmental and/or economic need for the development and there are no other suitable sites that would avoid a detrimental impact on sites of local geological importance. Where development is granted, it will be necessary to ensure that appropriate mitigation measures are in place.</p> <p>Strategic Policy PS 5 (Sustainable development) states that proposals should reduce effects on local resources, including by protecting soil quality.</p>

Policy	Description
	<p>Strategic Policy PS 19 (Conserving and where appropriate enhancing the natural environment) states that development will be managed so as to conserve and where appropriate enhance the distinctive natural environment, which includes the UNESCO designated GeoMôn Geopark. Developments that have a significant adverse effect will be refused unless the need for and benefits of the development clearly outweigh the value of the site.</p> <p>Strategic Policy PS 22 (Minerals) states that identified mineral resources will be safeguarded from non-mineral developments.</p>
<i>New Nuclear Build at Wylfa: Supplementary Planning Guidance [RD7]</i>	GP20 states that SSSIs, RIGS and the Geopark status of Anglesey should not be subjected to significant adverse impacts, or if they are, sufficient mitigation should be implemented. GP26 highlights that agricultural land should be reinstated where development is temporary.

Key guidance

- 7.2.4 The soils and geology assessment has been undertaken in line with a number of key technical guidance documents. These guidance documents are widely used across the UK and represent standard good practice for the assessment for the various consenting regimes. These are summarised in table B7-3.

Table B7-3 Summary of key guidance

Guidance	Description
<i>Contaminated Land Statutory Guidance for Wales [RD8]</i>	This guidance is intended to explain how local authorities in Wales should implement the Environmental Protection Act 1990 Part 2A, including how they should decide whether land is contaminated in a legal sense.
<i>Contaminated Land Report 11: Model Procedures for the Management of Land Contamination [RD9]</i>	This publication provides a technical framework for structured decision-making regarding land contamination. The report includes guidance on risk assessment, options appraisal and development and implementation of the remediation strategy.
<i>The Definition of Waste: Development Industry Code of Practice.</i>	This Code of Practice provides a regulator-supported framework to determine on a site-by-site basis whether excavated materials are classified as waste or not and to

Guidance	Description
<i>Version 2. [RD10]</i>	determine when treated excavated waste can cease to be waste for a particular use.
<i>Local Geodiversity Action Plans – Setting the context for geological conservation [RD11]</i>	This research report provides the rationale for Local Geodiversity Action Plans, which aim to achieve geoconservation. Comparisons are drawn with Local Biodiversity Action Plans, and case studies examined to highlight differences in approaches to geoconservation at local levels.
<i>Geological Conservation: A Guide to Good Practice [RD12]</i>	This guide provides good practice guidance on how planning authorities can deliver planning policies and comply with legal requirements associated with geological and geomorphological conservation. The guide is aimed at anyone involved in geological conservation, especially at a site level.
<i>The Geological Conservation Review (GCR) Series [RD13] and GCR database [RD14]</i>	The GCR is an initiative to identify and describe the most important geological sites in Britain. The results are published in a series of 45 volumes to provide a public record of geological SSSIs, or those being considered for this status. These sites underpin statutory geological site conservation in Britain.
<i>RIGS Handbook [RD15]</i>	This handbook provides an overview of the information, resources, techniques and best practice associated with RIGS; it is intended for RIGS groups and associated members.
<i>Construction Code of Practice for the Sustainable Use of Soils on Construction Sites [RD16]</i>	This is the overarching guidance governing the management of soil in construction. The aim is to assist everyone involved in the construction sector with the protection and enhancement of the soil resource.
<i>Agricultural Land Classification of England and Wales – Revised Guidelines and Criteria for Grading the Quality of</i>	These revised guidelines provide a consistent framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use.

Guidance	Description
<i>Agricultural Land [RD17]</i>	
<i>Good Practice Guide for Handling Soils [RD18]</i>	This guide provides comprehensive advice on soil handling to operators, soil-moving contractors and others involved in soil handling and management. Each sheet provides detailed information on best practice methods for soil stripping, stockpiling, excavation from storage mounds, replacement, decompaction and cultivation using different machinery combinations.
<i>Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 11: Geology and Soils [RD19]</i>	The DMRB provides guidance on the environmental assessment of highway projects. This outlines specific guidance in relation to effects on soils and geology, including assessment methods, forecasting techniques, design detail and consultation requirements, assessment of mitigation and enhancement measures and reporting requirements.
<i>DMRB Interim Advice Note 153/11, 2011: Guidance On The Environmental Assessment Of Material Resources [RD20]</i>	Provides supplementary guidance to DMRB Volume 11 regarding the assessment of environmental effects associated with material resource use and waste in construction projects.

7.3 Consultation

- 7.3.1 This section provides a topic-specific account of scoping, statutory and non-statutory consultation undertaken to support the assessment. For a full overview of the environmental consultation activities undertaken for the Wylfa Newydd Project, refer to chapter A6 (EIA Scoping Report and Addendum) (Application Reference Number: 6.1.6) and chapter A7 (consultation with environmental stakeholders) (Application Reference Number: 6.1.7).

Planning Inspectorate Scoping Opinion

- 7.3.2 In March 2016, Horizon submitted an updated Wylfa Newydd Project EIA Scoping Report to the Planning Inspectorate. In May 2017, Horizon submitted an Addendum to the March 2016 Wylfa Newydd Project EIA Scoping Report to the Planning Inspectorate. Following a period of consultation with stakeholders, a further Scoping Opinion was received from the Secretary of State (SoS) (via the Planning Inspectorate) on 14 June 2017.
- 7.3.3 The Wylfa Newydd Project EIA Scoping Report, Addendum and the subsequent Scoping Opinions inform the approach to the assessment. Table

B7-4 provides an account of how comments raised by stakeholders in the Scoping Opinion have been considered in the soils and geology assessment.

Table B7-4 Key issues raised through Scoping

Key issue raised	Action taken
The SoS, the Isle of Anglesey County Council (IACC) and NRW stated that the rationale behind the study area for the WNDa Development was unclear.	The study area has since been refined to a 250m buffer around the Wylfa Newydd Development Area. This change was introduced in the May 2017 Addendum to the Wylfa Newydd Project EIA Scoping Report. The rationale and evolution of the study area is clarified within chapter D7 (Application Reference Number: 6.4.7).
The SoS queried the discrepancy between the study area and the scope of the ALC survey for the WNDa Development.	The scope of the ALC survey was limited to the Wylfa Newydd Development Area as no effects are expected to occur on soil quality within the wider study area; further clarification is provided within chapter D7 (Application Reference Number: 6.4.7).
The SoS stated that details of the onshore and offshore Ground Investigations should be included in the Environmental Statement and possible sources and pathways of contamination should be identified for the WNDa Development.	Details of the applicable onshore and offshore Ground Investigations for the Wylfa Newydd Development Area are provided in chapter D7 (Application Reference Number: 6.4.7) and sources and pathways are considered in detail in the Land Contamination Risk Assessment and Remediation Strategy appendix D7-2 (Application Reference Number: 6.4.25). Details of Ground Investigations relevant to soils and geology, where they have been undertaken for other sites, are provided in chapters E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7) and their associated appendices.

Key issue raised	Action taken
The SoS observed that it was unclear how impacts on designated sites of geological importance would be assessed.	The approach to assessing effects on sites of geological importance is set out in section 7.4.
The SoS and the IACC stated that potential effects related to the sterilisation of the Category 2 Aggregates Safeguarding Area in the Wylfa Newydd Development Area should be considered.	The potential sterilisation of Aggregates Safeguarding Area resources within the Wylfa Newydd Development Area is considered in chapter D7 (Application Reference Number: 6.4.7), whilst this potential effect is also considered for other mineral resources within chapters E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7).
The SoS: “It is unclear how the significance of impacts will be assessed. The ES [Environmental Statement] should set out a clear methodology providing this detail with reference to any guidance that is used.”	The approach to the assessment of the significance of impacts is set out in chapter B1 (introduction to the assessment process) (Application Reference Number: 6.2.1) and section 7.4 of this chapter. This includes a clear methodology and reference to guidance where applicable.
The SoS: “The Scoping Report provides detail of the ALC in the vicinity of the proposed development however does not set out the survey methodology or how impacts on agricultural land will be assessed. The ES [Environmental Statement] should set out the details of such an assessment.”	The methodologies for the ALC surveys/appraisals at each site are set out in chapters D7 (Application Reference Number: 6.4.7), E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7); the approach to the assessment of effects on soil quality is detailed in section 7.4 of this chapter. Effects on agricultural land from a socio-economic perspective are discussed in chapter B2 (socio-economics) (Application Reference Number: 6.2.2).

Key issue raised	Action taken
<p>The SoS noted that the Mobile Emergency Equipment Garage is proposed to be located on land (at Llanfaethlu) which until recently included facilities for commercial heavy goods vehicle repairs. The Environmental Statement therefore should assess whether the proposed works at this location could mobilise any contaminants and propose mitigation measures if necessary.</p>	<p>It is now proposed that all Off-Site Power Station Facilities would be located on the site at Llanfaethlu.</p> <p>Potential on-site contamination resulting from past site use has been assessed, with mitigation measures proposed to reduce the potential risks from contamination (see chapter E7, Application Reference Number: 6.5.7).</p>
<p>“The SoS welcomes the preparation of a Materials Management Plan, an Environmental Management Plan, a Site Waste Management Plan and a remediation strategy. A draft of these plans should be provided within the ES [Environmental Statement] and they should be suitably secured.”</p> <p>The IACC also stated that a draft materials management plan should be submitted with the Environmental Statement.</p> <p>NRW noted the references to the environmental management plan, site waste management plan and materials management plan, but advised that the Environmental Statement should include sufficient information to assess the likely impacts and should also provide details of the specific mitigation measures which would form part of these plans.</p>	<p>A remediation strategy for the WNDA Development is provided in appendix D7-2 (Application Reference Number: 6.4.25). Draft materials management plans, environmental management plans and site waste management plans have not been submitted with the Environmental Statement.</p> <p>However, the Wylfa Newydd Code of Construction Practice (CoCP) (Application Reference Number: 8.6) and sub-CoCPs for the Main Power Station Site (Application Reference Number: 8.7), Marine Works (Application Reference Number: 8.8), Off-Site Power Station Facilities (Application Reference Number: 8.9), Logistics Centre (Application Reference Number: 8.11) and A5025 Off-line Highway Improvements (Application Reference Number: 8.12), identify strategies and mitigation measures for environmental management, materials management, site waste management and land contamination. The aspects of these strategies and mitigation measures of relevance to the assessments of effects on soils and geology are described in chapters D7 (Application Reference Number: 6.4.7), E7 (Application</p>

Key issue raised	Action taken
	Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7).
The SoS advised that the applicant give consideration to assessing seismic risks within the Environmental Impact Assessment.	Seismic risks are considered in chapters D7 (Application Reference Number: 6.4.7) and E7 (Application Reference Number: 6.5.7), as these are the only sites for which they are relevant.
The IACC noted that the EIA should acknowledge and identify the status of the Category 2 Aggregates Safeguarding Areas in policy terms.	The status of the resources in policy terms, including Category 2 Aggregates Safeguarding Areas, is set out in chapters D7 (Application Reference Number: 6.4.7), E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7).
The IACC observed that the use of construction methods which utilise the Category 2 aggregates from the Wylfa Newydd Development Area could be balanced against the sterilisation of mineral resources and justified within the proposal for the Power Station.	The proposed construction methods are outlined in chapter D1 (proposed development) (Application Reference Number: 6.4.1). Discussion of the potential sterilisation and reuse of mineral resources is provided within the assessment of effects in chapter D7 (Application Reference Number: 6.4.7).
“NRW advise that assessment of impacts arising from disturbing Areas of Potential Concern (APC) should be based on surveys characterising the APCs, and should not be reliant on desktop studies ...The above investigatory approach should follow that recommended in CLR11.”	Ground Investigation data have been used to underpin the assessment of effects set out in chapter D7 (Application Reference Number: 6.4.7) and the Ground Investigations were pursued with due consideration of <i>Contaminated Land Report 11: Model Procedures for the Management of Land Contamination</i> [RD9].
NRW advised that Horizon should follow the risk management framework provided in <i>Contaminated</i>	These documents have been considered and followed where appropriate within the assessment

Key issue raised	Action taken
<i>Land Report 11: Model Procedures for the Management of Land Contamination</i> [RD9], <i>GPLC1 – Guiding Principles for Land Contamination</i> [RD21] and <i>Groundwater Protection: Principles and Practice (GP3)</i> [RD22].	of effects for each soils and geology chapter and their associated appendices, noting that GP3 was withdrawn on 14/03/2017 and replaced with web-based guidance pages [RD23].
NRW advised that it is undertaking a review of GCR sites in the area to the north and east of the Wylfa Newydd Development Area, including the areas currently identified as RIGS along the north-west coastline of the site.	Consultation with NRW and GeoMôn has been pursued to discuss this; further details are provided in table B7-10, chapter D7 (Application Reference Number: 6.4.7) and appendix D7-1 (Soils and Geology Baseline Condition Report) (Application Reference Number: 6.4.24).
Public Health England advised that they would expect the applicant to provide details of any hazardous contamination present on-site (including ground gas).	Details of contamination present (including ground gas) are provided in each soils and geology chapter and their associated appendices, noting that Ground Investigation data are not available for some sites, in which case desk-based information has been consulted.
Public Health England: “Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed and the potential impact on nearby receptors and control and mitigation measures should be outlined.”	The potential for land contamination (both historical and new) to give rise to issues or impact nearby receptors has been considered, and control and mitigation measures have been identified, in each soils and geology chapter and their associated appendices.
Public Health England: “Relevant areas outlined in the Government’s Good Practice Guide for EIA include: <ul style="list-style-type: none"> • effects associated with ground contamination that may already exist • effects associated with the potential for polluting substances 	These aspects have been considered in each soils and geology chapter and their associated appendices. The disposal of materials off-site is considered in chapter C6 (waste and materials management) (Application Reference Number: 6.3.6).

Key issue raised	Action taken
<p>that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination</p> <ul style="list-style-type: none"> impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.” 	
<p>Public Health England: “Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used”.</p>	<p>Appropriate criteria have been used to assess risks to human health, wherever quantitative data are available to assess against, within the relevant appendices for each soils and geology chapter.</p>
<p>“The SoS notes that site walkovers and ALC surveys will be undertaken for the logistics centre ‘if found necessary’. It is not explained how this would be determined. The SoS expects information on the approach that is applied to be provided in the ES [Environmental Statement].”</p>	<p>A site walkover has been undertaken for the Logistics Centre. It was determined that an ALC survey was not required based on the results of the site walkover and a desk-based appraisal of the likely ALC grades present [RD24]; refer to chapter H7 (Application Reference Number: 6.8.7) and appendix H7-1 (Soils and Geology Baseline Conditions Report) (Application Reference Number: 6.8.15) for further details.</p>
<p>It was proposed in the Addendum to the 2016 Scoping Report that impacts on geological receptors would be scoped out of chapters E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7</p>	<p>The importance of the GeoMôn Geopark is acknowledged and it is discussed in each soils and geology chapter. However, sites of geological importance have been identified as the receptors within the Geopark, which have not been identified within the study areas for</p>

Key issue raised	Action taken
<p>(Application Reference Number: 6.8.7). The SoS did not agree with this proposal due to the international importance of the GeoMôn Geopark. They also stated that it was not clear whether there has been any engagement with representatives from the United Nations Educational, Scientific and Cultural Organisation (UNESCO).</p>	<p>chapters E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7). Impacts on non-designated geology have not been assessed and this has been agreed in principle with the IACC and NRW, as the assessment criteria have been agreed with these parties (see table B7-10).</p> <p>Engagement with GeoMôn has been pursued throughout the EIA, which is assisted by UNESCO in overseeing the Geopark.</p>
<p>The SoS noted that the Park and Ride study area is within an area at moderate risk from unexploded ordnance, and that consideration of this should be included in the Environmental Statement.</p>	<p>The risks associated with unexploded ordnance are considered for the Park and Ride in chapter F7 (Application Reference Number: 6.6.7), and also within other soils and geology chapters where relevant.</p>
<p>The SoS noted that the Environmental Statement should consider the potential sterilisation of aggregates safeguarding areas, as the A5025 Off-line Highway Improvements would cross or be in close proximity to several such areas.</p>	<p>Potential effects on Aggregates Safeguarding Areas are considered in every soils and chapter, including chapter G7 (Application Reference Number: 6.7.7) for the A5025 Off-line Highway Improvements.</p>
<p>The SoS advised that explanation and justification should be provided within the Environmental Statement as to why it is not necessary to undertake Ground Investigations to inform the EIA for the Off-Site Power Station Facilities and Park and Ride.</p>	<p>Ground investigations would be undertaken prior to the commencement of construction of the Off-Site Power Station Facilities and Park and Ride, but it is considered that adequate assessment of the potential effects has been provided for the EIA by adopting conservative approaches to the potential risks using desk-based information sources; refer to the limitations section of section 7.4 for further explanation.</p>
<p>The SoS noted that potential mitigation measures should be fully</p>	<p>Details of the mitigation measures pertinent to soils and geology are</p>

Key issue raised	Action taken
described in the Environmental Statement and secured in the application for development consent. They also stated that documents containing mitigation measures proposed in the Environmental Statement should be cross-referenced to and either appended to the Environmental Statement or contained within the documentation provided as part of the application for development consent.	provided in chapters D7 (Application Reference Number: 6.4.7), E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7), with further information provided in the Wylfa Newydd CoCP and sub-CoCPs (Application Reference Numbers: 8.7 to 8.12) to be submitted with the Environmental Statement.
The SoS noted that seismic activity has been scoped into the assessment and will be discussed in the soils and geology chapters, but no reference was made to seismic activity in the soils and geology section of the Addendum to the 2016 Scoping Report. They stated that seismic activity should be addressed within the Environmental Statement.	Seismic risks are considered in chapters D7 (Application Reference Number: 6.4.7) and E7 (Application Reference Number: 6.5.7), as these are the only sites for which they are relevant.

Statutory consultation

Pre-Application Consultation Stage One

- 7.3.4 The aim of Pre-Application Consultation Stage One, undertaken in late 2014, was to share information available at the time with Horizon's key consultees and stakeholders, in order to consider feedback in ongoing design development. Table B7-5 outlines how key issues raised during Pre-Application Consultation Stage One have been considered in the assessment.

Table B7-5 Key issues raised during Pre-Application Consultation Stage One

Key issue raised	Action taken
The IACC noted that the cooling water outfall has the potential to affect the Porth Wnal Dolerite RIGS. It also noted that access to this location and the Wylfa Head RIGS may be restricted. It sought further clarification and evidence to ensure that effects are avoided, mitigated or compensated.	Following consultation with the IACC, NRW and GeoMôn, the location of the cooling water outfall was moved to reduce the effects on the Porth Wnal Dolerite RIGS. Further discussion, including of the potential loss of access to the RIGS, is presented in chapter D7 (Application Reference Number: 6.4.7).

Key issue raised	Action taken
The IACC indicated that it wished to be involved in the definition of a revised study area for the WND A Development.	A revised study area was agreed with NRW and the IACC during a meeting in March 2015; see table B7-10. This has since been refined to a 250m buffer around the Wylfa Newydd Development Area, with this change introduced in the May 2017 Addendum to the Wylfa Newydd Project EIA Scoping Report; see chapter D7 (Application Reference Number: 6.4.7) for details.

Pre-Application Consultation Stage Two

- 7.3.5 In September 2016, Horizon shared a Preliminary Environmental Information Report as part of Pre-Application Consultation Stage Two. This presented preliminary details of the predicted environmental effects and mitigation measures for any adverse effects identified. Table B7-6 outlines how key issues raised during Pre-Application Consultation Stage Two have been considered in the assessment.

Table B7-6 Key issues raised during Pre-Application Consultation Stage Two

Key issue raised	Action taken
The IACC requested the provision of a materials management plan, soil management strategy, soil management plan and environmental management plan with the Environmental Statement.	The Wylfa Newydd CoCP and sub-CoCPs (Application Reference Numbers: 8.7 to 8.12) identify strategies and mitigation measures for materials management, soil management and environmental management.
The IACC sought clarification on the areas to be stripped of topsoil and subsoil, the location of stockpiles and proposals for topsoil reuse for the WND A Development.	The areas to be stripped of topsoil and subsoil, stockpile locations and proposals for topsoil reuse are clarified within chapters D1 (Application Reference Number: 6.4.1) and D7 (Application Reference Number: 6.4.7).
The IACC stated that mitigation for the effects of cooling water outfalls on the RIGS, including loss of educational access, should be agreed with the IACC, GeoMôn and NRW and included in the Environmental Statement.	Mitigation measures have been discussed with the IACC, GeoMôn and NRW and are identified in chapter D7 (Application Reference Number: 6.4.7).

Key issue raised	Action taken
The IACC sought confirmation that the pumping station would be located away from the RIGS.	As set out in chapter D7 (Application Reference Number: 6.4.7), if any new foul water outfalls are required during construction or operation, they would be located to the west/southwest of the Existing Power Station and thus would not affect any sites of geological importance.
The IACC requested that the management of land contamination procedure be submitted with the Environmental Statement, and noted that other remediation options should be considered besides removing contaminated soils not suitable for use from site, such as treatment and reuse on the Wylfa Newydd Development Area.	Mitigation options for contamination at the Wylfa Newydd Development Area are identified in chapter D7 (Application Reference Number: 6.4.7) and secured by the Wylfa Newydd CoCP (Application Reference Number: 8.6). An options appraisal, which took into account a range of viable remediation methodologies, is included within appendix D7-2 (Application Reference Number: 6.4.25).
The IACC stated that: “Consideration needs to be given to the potential negative impacts of remediation, e.g. effects on construction workers involved in the remediation, use of resources etc.”	The potential negative effects of remediation have been considered in chapter D7 (Application Reference Number: 6.4.7). It is not anticipated that the remediation works would use a significant quantity of resources based upon current proposals.
The IACC stated that the logic was unclear behind the assessment of effects on the igneous rock resources around Porth-y-pistyll, as their reuse on site was assessed as offsetting the adverse effect of the potential sterilisation of mineral resources on other parts of the site due to loss of access.	This assessment was based upon a comment received from the IACC within the Scoping Opinion, which stated that the use of construction methods which utilise Category 2 aggregates could be balanced against the sterilisation of mineral resources (see table B7-4). The potential effects on the igneous resources are clarified in chapter D7 (Application Reference Number: 6.4.7).
The IACC: “Consideration needs to be given to possible indoor inhalation of any	Appendix D7-2 (Application Reference Number: 6.4.25) considers all potential pollutant linkages that may be present on

Key issue raised	Action taken
volatile contaminants present and permeation of water supply pipes.”	site and includes an assessment of risks to human health from contamination.
The IACC identified that risks from dusts arising from contaminated soils on the Wylfa Newydd Development Area need full consideration.	Risks from airborne soil contaminants are considered in chapter D7 (Application Reference Number: 6.4.7). Risks from dusts are assessed in chapter D5 (air quality (excluding emissions from traffic)) (Application Reference Number: 6.4.5).
The IACC stated that elevated levels of chlorinated solvents require remediation within APC7, and that all ten APCs shall each be afforded an assessment that is based upon best practice guidance utilising methodologies such as CL:AIRE [RD10].	Appendix D7-2 (Application Reference Number: 6.4.25) sets out the proposed measures for addressing identified contamination on-site, including chlorinated solvents in APC7, and considers all identified APCs.
The IACC: “As there is the possibility of donor/receiver sites between Power Station Site and Associated Development sites with the transfer of mineral and materials it is considered that soil and geology surveys should be undertaken for all Associated Development sites and projects.”	Ground Investigations have been completed for the A5025 Off-line Highway Improvements and the Logistics Centre; they will also be undertaken for the Off-Site Power Station Facilities and the Park and Ride prior to construction. The outcome of these surveys will be used to inform the materials management strategy set out in the Wylfa Newydd CoCP (Application Reference Number: 8.6).
Welsh Government: “Land in the area is known to be contaminated and construction will reduce soil quality in the area. Remediating existing on-site contamination would benefit health and the environment, but construction poses a risk of pollution or unexpected contamination which could harm health and the environment. A Materials Management Plan and Management of Made Ground and	The potential beneficial effects associated with the remediation of contamination for the Wylfa Newydd Development Area are assessed in chapter D7 (Application Reference Number: 6.4.7), as are potential adverse effects related to pollution and unexpected contamination. A materials management strategy is set out within the Wylfa Newydd CoCP (Application Reference Number: 8.6). Mitigation measures for contamination are identified in chapter D7 (Application Reference

Key issue raised	Action taken
Land Contamination Procedure would allow the reuse of suitable materials, whilst also ensuring that any contamination is dealt with safely."	Number: 6.4.7), set out in detail in appendix D7-2 (Application Reference Number: 6.4.25) and committed to within the Wylfa Newydd CoCP (Application Reference Number: 8.6) and Main Power Station Site sub-CoCP (Application Reference Number: 8.8).
Welsh Government: "The footprint of the existing building housing the reactors and ancillary equipment do not appear to have been targeted for investigation in this report. It is assumed therefore that consideration of this area will be undertaken as part of future decommissioning?"	Ground Investigation for the Existing Power Station has not been undertaken, as its decommissioning is covered by a separate Environmental Statement. However, where Horizon proposes to utilise parts of the Existing Power Station site, intrusive investigations will be undertaken where required.
Welsh Government: "Reference to the requirement of a remediation strategy is made within the Non-Technical Summary document. We assume that any remediation undertaken would also need to be verified."	A verification report would be produced in accordance with the requirements set out in Contaminated Land Report 11: Model Procedures for the Management of Land Contamination [RD9].
NRW (in relation to the A5025 Off-line Highway Improvements): "NRW recommend that substantive drafts of the proposed mitigation plans specified within paragraph C8.36 are submitted in support of the planning applications. It will only be on review of this documentation that we will be able to determine whether the plans include acceptable protective and mitigation policies and practices. We advise that NRW are consulted on drafts of these plans in advance of planning submission."	The comment referred to a Construction Environmental Management Plan, soil management strategy, soil management plan, unexpected contamination plan, site waste management plan and materials management plan. Strategies and mitigation measures with respect to environmental, soil, materials, contamination and waste management are set out within the Wylfa Newydd CoCP (Application Reference Numbers: 8.6) and sub-CoCP for the A5025 Off-line Highway Improvements (Application Reference Number: 8.12).

Key issue raised	Action taken
<p>NRW (in relation to the Park and Ride):</p> <p>“Consideration must be given to the materials used to develop the sites, long term intention for site following end of use as Wylfa park and ride site. A developed plan must include aspects such as removal of material and restoration of sites at the end of their use. This should include any waste management requirements from removal of any imported hard core etc. This could be included for consideration within the proposed Materials Management Plan within paragraph F7.40.”</p>	<p>The Wylfa Newydd CoCP and sub-CoCPs (Application Reference Numbers: 8.6 to 8.12) provide details of the materials management strategies for each site.</p>
<p>NRW:</p> <p>“Table 6.2 of the PEIR [Preliminary Environmental Information Report] Appendices refers to 'Definition of magnitude' and includes topic-specific criteria that will be used to evaluate each measure of magnitude. For example, one of the criteria for defining a large magnitude of impact in terms of contamination is 'Soils certain to be deemed as Part 2A (Category 1 in Part 2A Guidance [RD25]) and/or considered unsuitable for use'. However, there are no criteria for defining the magnitude of impact on controlled waters. This needs to be addressed and incorporated into Table 6.2.”</p>	<p>The following magnitude of impact for controlled waters has been added into the 'large' criteria: “significant pollution, or significant possibility of pollution of controlled waters as defined in Contaminated Land Statutory Guidance for Wales [RD8]”.</p> <p>These criteria are set out in full in table B7-12.</p>
<p>NRW:</p> <p>“Paragraphs B6.92–B6.93 refer several times to a Construction Environmental Management Plan (CEMP) and Environmental Management Plan (EMP), however, no details are included on the mitigation measures to be included therefore NRW is unable to advise further as part of this consultation. Please note that the ES [Environmental Statement] submitted</p>	<p>The mitigation measures are set out with greater specificity within chapters D7 (Application Reference Number: 6.4.7), E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7), with further information included within the Wylfa Newydd</p>

Key issue raised	Action taken
as part of the DCO application should include sufficient information to assess the likely impacts and should also provide details of the mitigation measures to be undertaken (and which form part of these plans/strategies) i.e. only referencing the required plans/strategies in the ES [Environmental Statement] will not be sufficient.”	CoCP and sub-CoCPs (Application Reference Numbers: 8.6 to 8.12).
“NRW note that there have been on-going discussions on possible mitigation measures in relation to the RIGS (and proposed GCR). However, no detail [sic] on possible mitigation measures are included in the PEIR [Preliminary Environmental Information Report] documents. If the GCR site is designated in advance of DCO consent, NRW would expect appropriate mitigation measures to be secured in the DCO to ensure that the geological interest will be maintained.”	Mitigation has since been discussed with NRW, the IACC and GeoMôn. The measures are outlined in chapter D7 (Application Reference Number: 6.4.7).
GeoMôn provided comments on the geological text within the Preliminary Environmental Information Report, including suggested rewording.	The suggestions have been incorporated into the baseline information within chapter D7 (Application Reference Number: 6.4.7).

Pre-Application Consultation Stage Three

- 7.3.6 Table B7-7 outlines how key issues raised during Pre-Application Consultation Stage Three have been considered in the assessment.

Table B7-7 Key issues raised during Pre-Application Consultation Stage Three

Key issue raised	Action taken
NRW reiterated its comment in response to Pre-Application Consultation Stage Two (see table B7-6) that it would expect appropriate mitigation measures to be secured in the DCO if the proposed GCR were designated in advance of application for development consent. NRW also stated that it can provide further	Mitigation has been discussed with NRW, the IACC and GeoMôn. The measures are outlined in chapter D7 (Application Reference Number: 6.4.7).

Key issue raised	Action taken
advice on the mitigation that would be expected for a GCR site.	
The Welsh Government stated that ALC survey data had been submitted to it for validation and that further surveys were to be submitted for the route realignment of Section 1 of the A5025 Off-line Highway Improvements and the Logistics Centre.	Existing survey data have been used to interpolate ALC grades where the realignment of Section 1 is concerned; refer to chapter G7 (Application Reference Number: 6.7.7) for further details. A desk-based appraisal of the likely ALC grades present has been undertaken for the Logistics Centre; refer to the limitations subsection of section 7.4 and chapter H7 (Application Reference Number: 6.8.7) for further details.
The Welsh Government noted that a soil management plan would be developed.	The Wylfa Newydd CoCP (Application Reference Number: 8.6) includes a soil management strategy with details of how soil resources would be managed, rather than a soil management plan.

Consultation on Additional Land

7.3.7 In February 2018, Horizon undertook consultation on additional land that had not been consulted on previously. The additional land was required to:

- accommodate proposals to create or enhance wetland sites across Anglesey as Ecological Compensation Sites;
- create two new ecological mitigation areas, and minor changes to the connection to the national grid at the Wylfa Newydd Development Area; and
- update the order limits for the A5025 Off-Line Highway Improvements, and minor refinements to the boundaries of the Off-Site Power Station Facilities and Logistics Centre.

7.3.8 The feedback from the consultation has been reviewed and the following points were noted with respect to the Ecological Compensation Sites:

- North Wales Wildlife Trust commented that retention of large volumes of topsoil on site is a waste of a valuable resource, which could be very effectively reused elsewhere as would be indicated by a CL:AIRE approach to materials management. Retention of topsoils even in the short term (up to 3 years) will create management issues not only of sediments but of nutrient flushing and management of invasive/undesirable species.

- NRW raised a concern at the distance of the spoil heaps from the topsoil stripping areas as the haul tracks in-between could become quagmires. Advance planning will be needed in the form of temporary roadways which do not impact on existing habitat; these should also be shown in the proposals.
- The IACC advised that if topsoil is to be stockpiled for a considerable period of time, the stockpile should be seeded to prevent the loss of nutrient through leaching as a result of rainfall percolating through it. The IACC said that this will ensure that when the soil is eventually re-used, e.g. in landscaping, it will remain of sufficient quality to encourage growth of plant material.
- NRW noted the potential for increased transmission of Invasive Non-Native Species (INNS) through increased connectivity.

- 7.3.9 An assessment of soils and geology effects covering the points noted above is provided in appendix D1-2 (Ecological Compensation Sites: Assessment of Environmental Effects) (Application Reference Number: 6.4.18) for each of the Ecological Compensation Sites.
- 7.3.10 Detailed soil surveys were undertaken by Horizon at Cors Gwawr and Cae Canol-dydd in January 2018. Horizon is planning to commence hydrological monitoring at both these sites in March 2018 in accordance with the hydrological monitoring strategy reviewed by the Tre'r Gof SSSI Compensation Technical Advisory Group (TAG). The results of these surveys and monitoring will be used to inform detailed design of the scheme.
- 7.3.11 Topsoil storage will be located and managed so as to avoid adverse impacts on sensitive receptors. The assessment is based on the assumption that excavated topsoil would be stored on site for up to three years before being utilised on-site or being transported for use elsewhere. Topsoil storage mounds would be vegetated with a suitable grassland seed mix.
- 7.3.12 To prevent the introduction and spread of plants listed on Schedule 9 of the Wildlife and Countryside Act 1981, Horizon would prepare a Biosecurity Risk Assessment and Method Statement setting out how areas with the presence of Schedule 9 plant species would be demarcated, and how the contaminated materials would be appropriately managed throughout the works. This would include details of appropriate disposal, and how the transfer of viable propagules of invasive non-native species by people or vehicles would be prevented. This measure is detailed in the Main Power Station Site sub-CoCP (Application Document Reference: 8.7).

Non-statutory consultation

EIA Progress Report

- 7.3.13 An EIA Progress Report was provided to the IACC and NRW in 2016 with updated information on the design development and associated environmental assessment. Table B7-8 outlines how key issues raised in feedback from these stakeholders have been considered in the assessment.

Table B7-8 Key issues raised in response to the EIA Progress Report

Key issue raised	Action taken
NRW: “Please clarify where and how topsoil be stored, and what are the associated environmental impacts” [in relation to the WNDA Development].	Topsoil storage proposals are discussed in chapters D1 (Application Reference Number: 6.4.1) and D7 (Application Reference Number: 6.4.7).
NRW noted some anomalies in the criteria for determining the value of soils and geology receptors.	These errors have been corrected and the updated criteria are provided in table B7-11.
NRW: “An omission from the report is an acknowledgement of the potential for the Wylfa Head rock exposures (including both the Porth Wnal RIGS) to merit Geological Conservation Review status. The proposed review of geological designations along this part of the coast (from Wylfa in the west to Llanbadrig and Dinas Gynfor in the east) by NRW (and partners) has been highlighted to Horizon.”	Information on the proposed GCR review is included in chapter D7 (Application Reference Number: 6.4.7).
NRW noted that the description of GeoMôn’s relationship to NRW was unclear and suggested some rewording.	This rewording has been incorporated into chapter D7 (Application Reference Number: 6.4.7).
NRW highlighted some misconceptions and errors within the soils and geology chapter regarding the complex geology of Anglesey and suggested some rewording for several paragraphs.	The suggested rewording has been incorporated into chapter D7 (Application Reference Number: 6.4.7).
NRW highlighted that there would be many excavations during construction on the Wylfa Newydd Development Area which have the potential to provide important geoscience information and data. They stated that it would be helpful if Horizon could offer supervised access to the most significant excavations for relevant academic geologists, which would form a mitigation measure.	This mitigation has been discussed with NRW, the IACC and GeoMôn and measures are identified in chapter D7 (Application Reference Number: 6.4.7).

Draft Environmental Statement

7.3.14 During September 2017, draft Environmental Statement chapters were provided to statutory and key non-statutory stakeholders. Table B7-9 outlines key issues raised and how these have been addressed within the Environmental Statement.

Table B7-9 Key issues raised in response to the Draft Environmental Statement

Key issue raised	Action taken
With respect to chapter D7 (Application Reference Number: 6.4.7), NRW provided the following comment. "In relation to the section on Additional mitigation, and as discussed at the Level 4 Mitigation on the Porth Wnal RIGS meeting held on 14.06.2017, NRW recommend that a committment [sic] is made that geological display (possibly exhibiting rock cores retrieved from geological investigations on the Wylfa site) be set up in the visitor centre. This would highlight the importance of the geology of Wylfa Head, not just the Porth Wnal Dolerite RIGS. Regarding the installation of geological information boards on Wylfa Head, it was also agreed that a capacity to update the boards (at appropriate times during the construction) should be built into the project. This would allow for advances in geological understanding provided by, for example, site excavations and the proposed LiDAR [Light Detection and Ranging] survey of the Porth Wnal Dolerite RIGS, to be incorporated on the boards."	The Visitor Centre does not form part of the application for development consent application and therefore it is not possible to include commitments related to this facility. Mitigation does include for the provision of geological information boards at Wylfa Head, but there is currently no specific intention to update these boards during construction. It is anticipated that the LiDAR survey would be completed prior to construction; therefore, the findings from this survey can be incorporated into the boards as appropriate when they are established.
NRW commented that the depth of peat at the Tre'r Gof SSSI is known to be greater than appendix D7-1 (Application Reference Number: 6.4.24) suggested and that references in appendix D8-5 (Tre'r Gof Hydroecological Assessment, Application Reference Number: 6.4.30) suggested it was at least 7m deep.	Appendix D7-1 (Application Reference Number: 6.4.24) has been updated to align with appendix D8-5 (Application Reference Number: 6.4.30) which is based on recent information and site surveys.
NRW noted that the entirety of Tre'r Gof is not underlain by lacustrine deposits, as was implied in section 5 of appendix D7-1 (Application Reference Number: 6.4.24).	Appendix D7-1 (Application Reference Number: 6.4.24) has been updated to accurately reflect the nature of the superficial deposits beneath

Key issue raised	Action taken
	Tre'r Gof, based on the available data.
NRW recommended that diagram 2 of appendix D7-1 (Application Reference Number: 6.4.24) should be compared and revised in line with a similar diagram in appendix D8-5 (Application Reference Number: 6.4.30).	The diagram within appendix D7-1 (Application Reference Number: 6.4.24) has been updated and is now consistent with appendix D8-5 (Application Reference Number: 6.4.30).
NRW stated that it had not been provided with evidence that superficial deposits can be up to 30m thick away from the drumlins, as stated in appendix D7-1 (Application Reference Number: 6.4.24), which has implications for the Tre'r Gof conceptual model.	Appendix D7-1 (Application Reference Number: 6.4.24) has been updated to reflect that only a small number of these areas have been detected and that they are relatively small in extent.

Topic-specific stakeholder engagement

- 7.3.15 In addition to the three formal stages of consultation outlined above, topic-specific consultation has been undertaken with relevant stakeholders. Table B7-10 summarises the details of the consultation that has taken place with respect to the soils and geology assessment.

Table B7-10 Summary of topic-specific consultation

Date	Stakeholder	Title and format	Issues arising	Action taken
November 2014	Animal and Plant Health Agency	Wylfa Newydd Development Area and A5025 Off-line Highway Improvements: written enquiry. Request for information on the location of any animal burial pits within the study areas.	No burial records were held by the Animal and Plant Health Agency but general advice was provided.	No action required.
November 2014	GeoMôn	Site walkover (16 December 2014) and subsequent correspondence. Discussions and information sharing to obtain a clear understanding of the location and sensitivity of the RIGS surrounding the site.	Discussions and subsequent correspondence identified possible errors in sites of geological importance boundaries and suggested edits to reporting.	Information incorporated into assessment and reporting.
December 2014	NRW	Wylfa Newydd Development Area: written enquiry. Request for environmental information in relation to potentially contaminated sites, pollution incidents or permitted activities.	Information provided on waste management facilities, industrial processes, pollution incidents and site incidents.	Information incorporated into assessment and reporting.
December 2014	The IACC Contamination Team	Wylfa Newydd Development Area and A5025 Off-line Highway Improvements: written enquiry.	Information received from the IACC.	Information incorporated into assessment and reporting.

Date	Stakeholder	Title and format	Issues arising	Action taken
		Request for environmental information in relation to potentially contaminated sites, pollution incidents or permitted activities.		
January 2015	The North Wales Minerals and Waste Planning Team	A5025 Off-line Highway Improvements and Wylfa Newydd Development Area: written enquiry. Request for information regarding identified mineral resources within the study areas.	Minerals safeguarding map provided, as well as <i>Hard Rock and Sand and Gravel Safeguarding Areas in Ynys Môn</i> [RD26] and an extract from <i>Britpits</i> [RD27] listing all the quarries on Anglesey	Information incorporated into assessment and reporting.
March 2015	NRW and the IACC	Soils and geology; materials management; and fluvial and coastal geomorphology and Water Framework Directive workshop: meeting.	Meeting to discuss the topic scope and relationships with other topics; the assessment criteria and methodologies; the likely mitigation measures; and to define the study area.	Appropriate justification of the 250m buffer was provided in the scoping report and the topic scope, methodologies and study area were agreed.
June 2015	The IACC Contamination Team, the North Wales Minerals and Waste Planning Team, NRW Contamination	Level 4 land contamination and minerals: meeting.	Meeting to agree assessment methodology and 2015 Ground Investigation scope.	Assessment methodology and 2015 Ground Investigation scope were agreed.

Date	Stakeholder	Title and format	Issues arising	Action taken
	n, Hydrology and Hydrogeology officers			
June 2015	British Geological Survey (BGS)	Request for information on BGS progress updating geological mapping for Anglesey: telephone and email correspondence.	Information and data were provided.	Information incorporated into assessment and reporting.
July 2015	The IACC and GeoMôn	Level 4 Porth Wnal Dolerite RIGS: meeting.	Meeting to discuss potential effects and mitigation on the Porth Wnal Dolerite RIGS.	Mitigation options were identified and an alternative cofferdam location was discussed with the stakeholders.
March 2016	GeoMôn, the IACC and NRW	Request for opinion on proposed rock excavation areas (Wylfa Newydd Development Area): written enquiry.	The excavations would not impinge on the RIGS and thus there is no issue from the perspective of NRW and GeoMôn. However, prior warning of the excavations would be helpful so that geologists could study any temporary exposures and features of interest.	These rock outcrops would no longer be excavated and thus no action is required.
March 2016	The IACC	Request for opinion on the potential loss or sterilisation of mineral resources (Wylfa Newydd Development Area): written enquiry.	Response stated that the EIA should acknowledge that a large degree of pre-extraction and utilisation of	Response considered within assessment of effects in chapter D7

Date	Stakeholder	Title and format	Issues arising	Action taken
			Category 2 aggregates will occur as part of the Wylfa Newydd Project.	(Application Reference Number: 6.4.7).
April 2016	GeoMôn	<p>Wylfa Newydd Associated Development and Off-Site Power Station Facilities: written enquiry.</p> <p>Information regarding non-listed geological features that may be affected (Off-Site Power Station Facilities and Park and Ride).</p>	<p>GeoMôn confirmed that there are no geological SSSI, GCR sites or RIGS within or close to the site boundaries.</p> <p>Should the construction proposals eventually go ahead, the excavations might produce temporary exposures of interest for geologists to study. GeoMôn (and potentially other geologists) would therefore be grateful to have notice of the construction and then access to study any such temporary exposures if they are created.</p>	<p>Mitigation measure agreed to and included within chapters E7 (Application Reference Number: 6.5.7) and F7 (Application Reference Number: 6.6.7).</p>
April 2016	IACC	Wylfa Newydd Associated Development and Off-Site Power Station Facilities – Request for environmental information: written enquiry.	The IACC information confirmed that there are no statutory areas of Contaminated Land (Part 2A) and no Pollution Prevention and Control Act 1999 permit holders within	Information incorporated into chapters E7 (Application Reference Number: 6.5.7) and F7 (Application Reference Number: 6.6.7).

Date	Stakeholder	Title and format	Issues arising	Action taken
		Information regarding potential sources of contamination and any other desk-study information held (Off-Site Power Station Facilities and Park and Ride).	the study areas for either site, but potential contamination sources were identified.	
April 2016	North Wales Minerals and Waste Planning Team	Wylfa Newydd Associated Development and Off-Site Power Station Facilities – Request for mineral resources information: written enquiry. Request for information regarding mineral resource information on or near the sites (Off-Site Power Station Facilities and Park and Ride).	The response confirmed that Category 2 resources are identified on the BGS and Welsh Government Aggregates Safeguarding Map and are present within the study areas for both sites.	Information incorporated into chapters E7 (Application Reference Number: 6.5.7) and F7 (Application Reference Number: 6.6.7).
April 2016	NRW	Information regarding potential sources of contamination and any other desk-study information held: written enquiry. (Off-Site Power Station Facilities and Park and Ride).	NRW stated that it had no additional comments to those made by GeoMôn.	No action required.
September 2016	NRW and GeoMôn	Level 4 review of geologically protected sites: meeting.	Meeting to discuss the proposed GCR of sites around Cemaes Bay and the implications for the EIA.	Text drafted for the GCR review and sent to NRW for comment. Amendments received and incorporated into

Date	Stakeholder	Title and format	Issues arising	Action taken
				chapter D7 (Application Reference Number: 6.4.7).
May 2017	NRW	Written comments received on the Contaminated Land Risk Assessment and Remediation Strategy (Revision 4) as part of the Site Preparation and Clearance s61Z consultation.	NRW raised a number of technical queries relating to the findings of the report.	Written response to NRW SPC s61Z comments regarding the Land Contamination Risk Assessment and Remediation Strategy Report. Amendment of the Contaminated Land Risk Assessment and Remediation Strategy Report.
June 2017	NRW, GeoMôn and the IACC	RIGS mitigation: teleconference.	Teleconference to discuss mitigation measures for the Porth Wnal Dolerite RIGS, updates to the design and progress with the GCR of sites around Cemaes Bay.	The consultees were broadly in agreement with the mitigation measures, although actions were taken away from the meeting to refine aspects. It was agreed in principle that a meeting would be held on-site to discuss the location of the cofferdam. It was advised that the GCR is currently in its early stages.

Date	Stakeholder	Title and format	Issues arising	Action taken
July 2017	GeoMôn	Cofferdam location review: site walkover.	Visit to Porth Wnal to discuss in detail potential cofferdam locations based on latest engineering design.	It was concluded that the most likely cofferdam location would avoid the key features of the RIGS.

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7.4 Topic-specific methodologies and assessment criteria

Introduction

7.4.1 The overarching approach to the EIA, including the approach to the assessment of cumulative effects, is provided in chapter B1 (Application Reference Number: 6.2.1). This section outlines the specific methodology used to assess the effects of the Wylfa Newydd Project on soils and geology. It outlines the methods and criteria used to:

- define the study area and identify topic receptors;
- establish the environmental baseline for topic receptors; and
- determine the value/sensitivity of receptors, the magnitude of change and significance of effect.

Assessment of parameters

7.4.2 As outlined in chapter B1 (Application Reference Number: 6.2.1), the approach adopted for the design of the WNDA Development, Off-Site Power Station Facilities and Associated Development is to set parameters, where necessary, for the extent of the development and key aspects of that development. The final design and construction methodology would be limited to these parameters and limits of deviation. As these parameters and limits of deviation vary between the various developments in the Wylfa Newydd Project they are considered on a site specific basis in chapter 7 within volumes D (Application Reference Number: 6.4.7), E (Application Reference Number: 6.5.7), F (Application Reference Number: 6.6.7), G (Application Reference Number: 6.7.7) and H (Application Reference Number: 6.8.7).

Identification of study areas

7.4.3 The majority of the potential effects for each site would be associated with the direct disturbance of ground conditions, although there is also the potential for the migration of contamination to/from the wider area. A 250m buffer around each site is considered sufficient to capture any such migration of contamination. Therefore, the study areas for each site have been identified as the sites plus 250m buffers around them.

7.4.4 The WNDA Development study area was originally larger in extent; this is discussed in chapter D7 (Application Reference Number: 6.4.7).

Identification of receptors and sources

7.4.5 The information gathered to inform the understanding of the baseline has resulted in the identification of a number of receptor groups for soils and geology within the study areas. The receptors were selected based on an understanding of the potential for direct or indirect effects from each development. The groups are as follows:

- soil quality – defined by ALC grade and further informed by the soil type;

- receptors of contamination – comprising human health, controlled waters and property which may be affected by contamination;
- sites of geological importance – statutory or non-statutory sites designated for their geological importance, e.g. SSSIs and RIGS; and
- geological resources – geological deposits which have a potentially viable economic value by virtue of the resource type, or the amount of a specific deposit present.

7.4.6 Within these groups, specific receptors are identified as appropriate in chapters D7 (Application Reference Number: 6.4.7), E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7), G7 (Application Reference Number: 6.7.7) and H7 (Application Reference Number: 6.8.7), based on the baseline information relevant to each respective development.

Identification of baseline conditions

- 7.4.7 The baseline conditions for soils and geology have been determined through a combination of desk-based research and review of previous reports, commercially and publicly available data, field surveys and interpretation of conditions encountered during Ground Investigations. These data sources are summarised below and are set out in detail within chapters D7 (Application Reference Number: 6.4.7), E7 (Application Reference Number: 6.5.7), F7 (Application Reference Number: 6.6.7) and G7 (Application Reference Number: 6.7.7).
- 7.4.8 In addition, as outlined in table B7-10, consultation has been undertaken with a range of stakeholders to obtain information to inform the baseline conditions.

Data sources

Soil quality

- 7.4.9 Soil types were determined using commercially available data from the National Soil Resources Institute and the Soil Survey of England and Wales [RD28].
- 7.4.10 The economic resource value of soil is primarily measured by its ability to support agricultural uses. This is quantified by its ALC, which is determined through climatic, topographical and interactive soil limitations.
- 7.4.11 Site-specific ALC surveys were undertaken for all of the sites, and provisional ALC data [RD29] were used where site-specific data were not available, for instance in the 250m buffer of the Power Station Site.

Land contamination

- 7.4.12 Baseline conditions for land contamination were identified through review of historical mapping, environmental data, aerial photographs, published geological mapping, potentially contaminative land use data received from consultation with the IACC and NRW, and previous contamination assessments and Ground Investigations (where available).

Sites of geological importance

- 7.4.13 Baseline conditions for listed sites of geological importance have been determined through a review of geological mapping and memoirs and consultations with the IACC and GeoMôn in order to identify important geological features which may be affected by the Wylfa Newydd Project.

Geological resources

- 7.4.14 Baseline conditions for the presence and importance of geological mineral resources have been determined through consultation with the North Wales Minerals and Waste Planning Team, and a review of the following reports, maps and data:
- *GeoSure V7 and Mineral Resources Wales Digital Data* [RD30];
 - *Hard Rock and Sand and Gravel Safeguarding Areas in Ynys Môn* [RD26];
 - *North West Wales Mineral Resource Map* [RD31]; and
 - *North West Wales Aggregates Safeguarding Map* [RD32].

Assessment of effects

- 7.4.15 In the absence of specific guidance, the assessment of potential effects on soils and geology receptors is based on the EIA methodology outlined in chapter B1 (Application Reference Number: 6.2.1), as well as professional judgement and experience, informed by the baseline information. The assessment of effects is receptor-based.
- 7.4.16 The following sections describe the criteria used for evaluating the environmental effects. These criteria are based on the generic criteria presented in chapter B1 (Application Reference Number: 6.2.1), and were agreed with the IACC and NRW during meetings held in 2015 (see table B7-10).

Value of receptors

- 7.4.17 The criteria used to determine the value and sensitivity of receptors specific to the topic are set out in table B7-11.

Table B7-11 Criteria for determining the value/sensitivity of soil and geology receptors

Value / sensitivity	Topic-specific criteria
High	<p>Soil quality:</p> <ul style="list-style-type: none"> • ALC Grade 1 – excellent quality soil (BMV); • ALC Grade 2 – very good quality (BMV) soil; and • ALC Subgrade 3a – good quality (BMV) soil. <p>Contamination:</p>

Value / sensitivity	Topic-specific criteria
	<ul style="list-style-type: none"> • Human receptors i.e. construction workers, future site users, maintenance workers, adjacent land users and future construction workers. • Controlled waters³, which for this sensitivity include: <ul style="list-style-type: none"> - Tre'r Gof catchment⁴; - nationally or internationally important sites i.e. Ramsar sites, Special Areas of Conservation, Special Protection Areas and SSSIs; - nationally and regionally important watercourses; - public water supplies; and - principal or highly productive aquifers with high aquifer vulnerability. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> • Geology has a national designation (e.g. SSSI) and/or a very low capacity to accommodate change. <p>Geological resources:</p> <ul style="list-style-type: none"> • Category 1 Aggregates Safeguarding Area (national importance).

³ Details of the controlled water receptors present within the study area are provided in the Surface water and groundwater chapters D8 (Application Reference Number: 6.4.8), E8 (Application Reference Number: 6.5.8), F8 (Application Reference Number: 6.6.8), G8 (Application Reference Number: 6.7.8) and H8 (Application Reference Number: 6.8.8); they are not included within the soils and geology chapters. However, the presence and location of these receptors have been taken into account within the assessment of effects.

⁴ Surface water catchment receptors for the WNDa Development are provided for example only; full details of all surface water catchments present within the study area for the WNDa Development and their sensitivity are presented in chapter D8 (Application Reference Number: 6.4.8).

Value / sensitivity	Topic-specific criteria
Medium	<p>Soil quality:</p> <ul style="list-style-type: none"> • ALC Subgrade 3b – moderate quality soil. <p>Contamination:</p> <ul style="list-style-type: none"> • Controlled waters³ which for this sensitivity include: <ul style="list-style-type: none"> - Afon Cafnan catchment⁴; - main rivers within a catchment, locally important watercourses; - private water supplies serving three or more properties; and - secondary A aquifers. • Property, which for this sensitivity includes: <ul style="list-style-type: none"> - crops and domesticated animals (grazing livestock); and - buildings. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> • Geology has a local or regional designation (e.g. RIGS) and/or a low capacity to accommodate any change. <p>Geological resources:</p> <ul style="list-style-type: none"> • Category 2 Aggregates Safeguarding Area (local and regional importance).
Low	<p>Soil quality:</p> <ul style="list-style-type: none"> • ALC Grade 4 – poor quality soil; and • ALC Grade 5 – very poor quality soil. <p>Contamination:</p> <ul style="list-style-type: none"> • Controlled waters³, which for this sensitivity include: <ul style="list-style-type: none"> - Power Station catchment⁴; - minor watercourses or water bodies; - low productivity aquifer (frequently designated as a Secondary B aquifer); and - private water supplies located within the vicinity of a mains water supply or used for agricultural purposes and not for drinking water purposes. <p>Sites of geological importance:</p> <ul style="list-style-type: none"> • Geology not listed but possessing key characteristics which may be locally important and/or has a high capacity to accommodate change. <p>Geological resources:</p> <ul style="list-style-type: none"> • No mineral resources identified.
Negligible	<p>Soil quality:</p> <ul style="list-style-type: none"> • No soil present. <p>Contamination:</p> <ul style="list-style-type: none"> • Controlled waters³, which for this sensitivity include:

Value / sensitivity	Topic-specific criteria
	<ul style="list-style-type: none"> - Unproductive strata that are generally unable to provide usable water supplies. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> • Geology is non-distinctive and/or is likely to tolerate the proposed change, or there are no listed sites. <p>Geological resources:</p> <ul style="list-style-type: none"> • No mineral resources identified.

Magnitude of change

7.4.18 The criteria used to determine the magnitude of change are set out in table B7-12, and are a measure of the scale or extent of the change in the baseline condition. In determining magnitude, the change would be considered in the context of other factors such as the spatial extent of the effect, the likelihood of effect, the timescale over which the effect occurs and whether the effect is temporary or permanent.

Table B7-12 Criteria for determining magnitude of change for soils and geology receptors

Magnitude of change	Topic-specific criteria
Large	<p>Soil quality:</p> <ul style="list-style-type: none"> • Permanent loss or sterilisation of identified BMV soil resources. <p>Contamination:</p> <ul style="list-style-type: none"> • soil contamination is considered to pose a high risk to potential receptors with one or more pollutant linkages certain to be present; • soils likely to be deemed as 'Category 1: Human Health' contaminated land as defined in <i>Contaminated Land Statutory Guidance for Wales</i> [RD8] and/or likely to be considered unsuitable for reuse; • significant pollution, or significant possibility of pollution of controlled waters as defined in <i>Contaminated Land Statutory Guidance for Wales</i> [RD8]; and/or • removal of all identified pollutant linkages that pose a risk to identified receptors. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> • severe damage to the site so that it is unrecognisable compared to baseline conditions; or • Improvement of the site so that key characteristics/features are significantly enhanced or new features of interest are exposed. <p>Geological resources:</p>

Magnitude of change	Topic-specific criteria
	<ul style="list-style-type: none"> • Total loss/sterilisation of the identified reserve/resource or extraction and beneficial reuse of the identified reserve/resource.
Medium	<p>Soil quality:</p> <ul style="list-style-type: none"> • reduction in quality of the BMV soil resources; and/or • loss or sterilisation of other soil resources. <p>Contamination:</p> <ul style="list-style-type: none"> • soil contamination considered to pose a moderate risk to potential receptors with one or more pollutant linkages present; • soils likely to be deemed 'Category 2: Human Health' contaminated land as defined in <i>Contaminated Land Statutory Guidance for Wales</i> [RD8] and/or considered unsuitable for reuse; and/or • removal of the majority of identified pollutant linkages so that risks to receptors are reduced. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> • partial loss of the key characteristics of the site; or • improvements to the key characteristics of the site. <p>Geological resources:</p> <ul style="list-style-type: none"> • permanent sterilisation of a significant part (>50%) of the identified reserve/resource or extraction and beneficial reuse of a significant part (>50%) of the identified reserve/resource; and/or • loss of access to the whole of the identified resource (although the reserve/resource remains intact).
Small	<p>Soil quality:</p> <ul style="list-style-type: none"> • Measurable reduction in quality of other soil resources. <p>Contamination:</p> <ul style="list-style-type: none"> • soil contamination is considered to pose a low risk to potential receptors with one or more pollutant linkages possibly present; • soils possibly deemed as 'Category 3/4: Human Health' contaminated land as defined in <i>Contaminated Land Statutory Guidance for Wales</i> [RD8]. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> • Noticeable but insignificant changes to sites of importance. <p>Geological resources:</p> <ul style="list-style-type: none"> • Permanent loss/sterilisation of a part (<50%) of the identified reserve/resource or extraction and beneficial reuse of a minor part (<50%) of the identified reserve/resource.

Magnitude of change	Topic-specific criteria
Negligible	<p>Soil quality:</p> <ul style="list-style-type: none"> No measurable change to quality of soil resources. <p>Contamination:</p> <ul style="list-style-type: none"> soil contamination is considered to pose a very low risk to potential receptors with one or more pollutant linkages unlikely to be present; soils unlikely to be deemed as 'Category 4: Human Health' contaminated land as defined in <i>Contaminated Land Statutory Guidance for Wales</i> [RD8]. <p>Listed sites of geological importance:</p> <ul style="list-style-type: none"> No noticeable change to site of importance. <p>Geological resources:</p> <ul style="list-style-type: none"> Loss of access to a minor part (<50%) of the identified resource (although the reserve/resource remains intact).

Assessment of significance

7.4.19 Across the Wylfa Newydd Project, the approach in general is to consider that an environmental effect may be significant if, in the professional judgement of the expert undertaking the assessment, it would meet at least one of the following criteria:

- it leads to an exceedance of defined guidelines or widely recognised levels of acceptable change;
- it is likely that the consenting authority will reasonably consider applying a planning condition, requirement or legal agreement to the consent to require specific mitigation to reduce or overcome the effect;
- it threatens or enhances the viability or integrity of a receptor or receptor group of concern; or
- it is likely to be material to the ultimate decision about whether or not the consent application should be approved.

7.4.20 The degree of significance is a function of the value of a receptor (using the criteria in table B7-11) and the magnitude of change (using the criteria in table B7-12). The assessment matrix illustrated in figure B1-2 (see chapter B1, Application Reference Number: 6.2.1), has been used to derive the degree of significance, with professional judgement used to moderate the significance ratings as required. This Environmental Statement considers an effect to be 'significant' with respect to the EIA Regulations if it is identified to have a 'major' or 'moderate' degree of significance.

DMRB assessment methodology for the A5025 Off-line Highway Improvements

7.4.21 With regards to the A5025 Off-line Highway Improvements, consideration has been given to the guidance within *DMRB Volume 11, Section 3, Part 11*

Geology and Soils [RD19] in defining the assessment scope. However, the approach and assessment criteria remain consistent with those used in the assessments for other proposed developments described elsewhere in this chapter for soils and geology.

- 7.4.22 A 'simple' materials assessment has also been undertaken for excavated materials in accordance with *DMRB Interim Advice Note 153/11, 2011: Guidance On The Environmental Assessment Of Material Resources* [RD20]; see chapter G7 (Application Reference Number: 6.7.7). This entails identifying the anticipated materials resource use and waste arisings that are likely to be generated during the construction and operation of the A5025 Off-line Highway Improvements, and assessing the environmental effects to inform the final design and assessment.

Limitations

WNDA Development

- 7.4.23 Due to the inherent variability in ground conditions, a degree of uncertainty will always remain over the interpretation of geology and land contamination conditions from Ground Investigations. Notwithstanding, it is considered that the Ground Investigations to date are sufficient to adequately characterise the Wylfa Newydd Development Area for the purposes of the EIA and to carry out an adequate assessment of the effects. This conclusion has been reached based on the anticipated and encountered land contamination conditions, as well as the findings of the Land Contamination Risk Assessment and Remediation Strategy (appendix D7-2, Application Reference Number: 6.4.25).

Off-Site Power Station Facilities and Park and Ride

- 7.4.24 The assessments for the Off-Site Power Station Facilities and the Park and Ride are based on data available at the time of writing. It should be noted that Ground Investigations have not yet been completed at the sites. Therefore, the conceptual site models are informed by desk-based reviews of information and conservative approaches have been adopted concerning the potential risks. It is considered that this approach allows the potential effects to be adequately assessed for the purposes of the EIA. Ground Investigations would be completed prior to commencing the construction of the proposed developments.

A5025 Off-line Highway Improvements

- 7.4.25 Ground Investigation data are available for the majority of the A5025 Off-line Highway Improvements but there are areas where limited or no Ground Investigation data are available, including the realignment of the route for Section 1; see chapter G7 (Application Reference Number: 6.7.7) for further details. Therefore, a conservative approach has been taken for the assessment of effects. It is considered that this approach allows the potential effects to be adequately assessed for the purposes of the EIA.

Logistics Centre

- 7.4.26 Third-party Ground Investigation data are available for the site of the Logistics Centre. Due to the inherent variability in ground conditions, a degree of uncertainty will always remain over the interpretation of geology and land contamination conditions from Ground Investigations. Notwithstanding, it is considered that the Ground Investigations to date are sufficient to adequately characterise the site for the purposes of the EIA and to carry out an adequate assessment of the effects. This conclusion has been reached based on the anticipated and encountered land contamination conditions.
- 7.4.27 Information on ALC grade for the Logistics Centre is limited to that obtained from a desk-based appraisal of available data [RD24], which was supplemented by data obtained through site reconnaissance. This is considered adequate for this site based on the limited presence of natural soils and site conditions, including shallow rock outcrops and steeply-sloping land; refer to chapter H7 (Application Reference Number: 6.8.7) for further details.

7.5 References

Table B7-13 Schedule of references

ID	Reference
RD1	Department of Energy and Climate Change. 2011. <i>Overarching National Policy Statement for Energy (EN-1)</i> . London: The Stationery Office.
RD2	Department of Energy and Climate Change. 2011. <i>National Policy Statement for Nuclear Power Generation (EN-6)</i> . London: The Stationery Office.
RD3	Welsh Government. 2016. <i>Planning Policy Wales</i> (Edition 9). Cardiff: Welsh Government.
RD4	Welsh Assembly Government. 2009. <i>Technical Advice Note 5: Nature Conservation and Planning</i> . Cardiff: Welsh Assembly Government. [Online]. [Accessed: November 2016]. Available from: http://gov.wales/docs/desh/policy/100730tan5en.pdf .
RD5	Welsh Assembly Government. 2004. <i>Minerals Technical Advice Note 1: Aggregates</i> . Cardiff: Welsh Assembly Government. [Online]. [Accessed: October 2016]. Available from: http://gov.wales/docs/desh/policy/040331aggregatesmtanen.pdf
RD6	Isle of Anglesey County Council and Gwynedd Council. 2017. <i>Anglesey and Gwynedd Joint Local Development Plan (2011–2026), Written Statement</i> . [Online]. [Accessed: September 2017]. Available from: http://www.anglesey.gov.uk/planning-and-waste/planning-policy/joint-local-development-plan-anglesey-and-gwynedd/ .
RD7	Isle of Anglesey County Council (IACC). 2014. <i>New Build at Wylfa: Supplementary Planning Guidance</i> [Online]. [Accessed: May 2016]. Available from: http://www.anglesey.gov.uk/download/39341 .
RD8	Welsh Assembly Government. 2012. <i>Contaminated Land Statutory Guidance for Wales</i> . Cardiff: Welsh Government. [Online]. [Accessed: April 2017]. Available from: http://gov.wales/docs/desh/publications/130712contaminated-land-statutory-guidance-2012-en.pdf .
RD9	Department for Environment, Food and Rural Affairs and Environment Agency. 2004. <i>Contaminated Land Report 11: Model Procedures for the Management of Land Contamination</i> . Bristol: Environment Agency.
RD10	Contaminated Land: Applications in Real Environments (CL:AIRE). 2011. <i>The Definition of Waste: Development Industry Code of Practice. Version 2</i> . London: CL:AIRE.

ID	Reference
RD11	Burek, C. and Potter, J. 2006. <i>Local Geodiversity Action Plans – Setting the context for geological conservation</i> . English Nature Research Reports, No. 560.
RD12	English Nature. 2006b. <i>Geological Conservation: A Guide to Good Practice</i> . Ref: ST118.
RD13	Joint Nature Conservation Committee. 2015. <i>The Geological Conservation Review (GCR) Series</i> . [Online]. [Accessed: October 2016]. Available from: http://jncc.defra.gov.uk/page-2947 .
RD14	Joint Nature Conservation Committee. 2011. <i>Geological Conservation Review (GCR) Database</i> . [Online]. [Accessed: October 2016]. Available from: http://jncc.defra.gov.uk/page-2949 .
RD15	GeoConservation UK. 2000, amended 2008. <i>RIGS Handbook</i> . [Online]. [Accessed: October 2016]. Available from: http://wiki.geoconservationuk.org.uk/index.php5?title=Downloads#RIGS_Handbook_Downloads .
RD16	Department for Environment, Food and Rural Affairs. 2009. <i>Construction Code of Practice for the Sustainable Use of Soils on Construction Sites</i> . London: Defra.
RD17	Ministry of Agriculture, Fisheries and Food. 1988. <i>Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land</i> . London: MAFF. [Online]. [Accessed: October 2016]. Available from: http://webarchive.nationalarchives.gov.uk/20130402151656/http://archive.defra.gov.uk/foodfarm/landmanage/land-use/documents/alc-guidelines-1988.pdf .
RD18	Ministry of Agriculture, Fisheries and Food. 2000. <i>Good Practice Guide for Handling Soils</i> (version 04/00). Cambridge: Farming and Rural Conservation Agency.
RD19	Highways Agency. 1993. <i>Design Manual for Roads and Bridges</i> . Volume 11. Section 3. Part 11 Geology and Soils.
RD20	Highways Agency. 2011. <i>Design Manual for Roads and Bridges</i> . Interim Advice Note 153/11, 2011: Guidance On The Environmental Assessment Of Material Resources.
RD21	Environment Agency. 2010. <i>GPLC1 – Guiding Principles for Land Contamination</i> . [Online]. [Accessed: May 2017]. Available from: http://webarchive.nationalarchives.gov.uk/20140328084622/http://cdn.environment-agency.gov.uk/geho1109brgy-e-e.pdf
RD22	Environment Agency. 2013. <i>Groundwater Protection: Principles and Practice (GP3)</i> .

ID	Reference
RD23	Environment Agency. 2017. <i>Groundwater Protection</i> . [Online]. [Accessed: May 2017]. Available from: https://www.gov.uk/government/collections/groundwater-protection .
RD24	Reading Agricultural Consultants Limited. 2017. Parc Cybi Logistics Centre, Holyhead, Anglesey: Agricultural Land Classification Appraisal.
RD25	Department for Environment, Food and Rural Affairs. 2012. <i>Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance</i> . London: The Stationery Office.
RD26	Capita Symonds. 2010. <i>Hard Rock and Sand & Gravel Safeguarding Areas in Ynys Môn</i> . Isle of Anglesey County Council.
RD27	British Geological Survey. 2017. <i>BritPits</i> . [Online]. [Accessed: April 2017]. Available from: http://www.bgs.ac.uk/products/minerals/BRITPITS.html .
RD28	Soil Survey of England and Wales. 1984. <i>Soils of England and Wales – Sheet 2: Wales</i> . Scale 1:250,000. Hertfordshire: Soil Survey of England and Wales.
RD29	Ministry of Agriculture, Fisheries and Food. 1977. <i>1:250,000 Series Agricultural Land Classification: Wales</i> .
RD30	British Geological Survey. 2015. <i>GeoSure V7 and Mineral Resources Wales Digital Data</i> .
RD31	British Geological Survey and Welsh Assembly Government. 2010. <i>North West Wales Mineral Resources Map</i> . [Online]. [Accessed: April 2017]. Available from: http://www.bgs.ac.uk/mineralsuk/planning/resource.html#MRW .
RD32	British Geological Survey and Welsh Assembly Government. 2012. <i>North West Wales Aggregates Safeguarding Map</i> . [Online]. [Accessed: April 2017]. Available from: http://www.bgs.ac.uk/mineralsuk/planning/resource.html#MRW

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