



Pennant Walters

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# Mynydd y Llanhilleth Wind Farm

Draft Environmental Statement

Appendix 10D WFD Assessment



This report was prepared by WSP Environment & Infrastructure Solutions UK Limited (formerly known as Wood Environment & Infrastructure Solutions UK Limited), company registration number 02190074, which is carrying out these services as a subcontractor and/or agent to Wood Group UK Limited

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# Contents

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<b>1.</b>	<b>Introduction</b>	<b>5</b>
1.1	Purpose of this document	5
1.2	Context	5
1.3	The legislative context – Water Framework Directive	6
1.4	Structure of the WFD assessment	7
<b>2.</b>	<b>Overview of the WFD assessment approach</b>	<b>8</b>
2.1	Overview of the WFD assessment approach	8
2.2	Available guidance	9
2.3	Assessment Process	9
	Introduction	9
	Screening and Scoping	10
	Further Assessment	10
	Identification and evaluation of measures	11
	Article 4.7 considerations	11
<b>3.</b>	<b>Screening and scoping assessment</b>	<b>12</b>
3.1	Proposed Development and associated activities	12
<b>4.</b>	<b>Water Framework Directive Baseline</b>	<b>14</b>
4.1	Introduction	14
4.2	WFD waterbodies included in the assessment	14
4.3	Baseline summary	14
	Groundwater	14
	Surface water	14
<b>5.</b>	<b>Further assessment and measures</b>	<b>15</b>
5.1	Overview	15
5.2	Further assessment	15
5.3	Embedded environmental measures	15
<b>6.</b>	<b>Conclusions</b>	<b>17</b>
6.1	Overview	17
6.2	Will the Proposed Development lead to deterioration in WFD status of any water body in the Study Area?	17
6.3	Will the Proposed Development compromise the achievement of good status in any WFD water body in the Study Area?	17
6.4	Will the Proposed Development contribute towards a cumulative deterioration of WFD status (in combination with other projects) or prevent the cumulative enhancement of status (up to 2027)?	17

6.5	Will the Proposed Development compromise the achievement of Protected Area objectives?	17
<hr/>		
	Table 3.1 Proposed Development activities and the WFD	12
	Table 5.1 Summary of embedded environmental measures and their relevance regarding potential affects	15
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# 1. Introduction

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## 1.1 Purpose of this document

- 1.1.1 This document presents the Water Framework Directive (WFD) (EC; 2000/60/EC) Assessment for the proposed Mynydd Llanhilleth Wind Farm, hereafter referred to as ‘the Proposed Development’. The purpose of this appendix is to identify whether the Proposed Development is compliant with the objectives of the WFD. A single document to cover all aspects of WFD compliance is presented, as it has the benefit of being able to draw conclusions on WFD compliance based on the relevant technical assessments in the Draft Environmental Statement in **Chapter 10: Water Environment**.

## 1.2 Context

- 1.2.1 Pennant Walters (‘the Applicant’) is proposing to develop Mynydd Llanhilleth Wind Farm (‘the Proposed Development’) located approximately 3km southeast of Abertillery and 4.5km northwest of Pontypool. The Proposed Development comprises the Wind Farm Development (wind turbines and crane pads, access tracks, temporary construction compound (TCC) and substation), and the grid connection corridor (underground cable), which are collectively referred to as the Proposed Development. The assessment of WFD compliance in this document is provided separately for the Wind Farm Development and the grid connection corridor (underground cable).
- 1.1.1 Natural Resources Wales (NRW) is the relevant permitting authority in relation to its role in issuing Environmental Permits under the Environmental Permitting (England and Wales) Regulations 2010 (as amended), and other consents. Local Planning Authorities may also be required to make decisions on applications for permissions associated with the Project. Each of these bodies is required to take account of the requirements of the Water Framework Directive (WFD) in making their regulatory decisions.
- 1.2.2 A single WFD assessment to cover all aspects of WFD compliance has been prepared to facilitate the regulatory decision-making process. This is true of the Proposed Development, which has the potential to affect river, and groundwater water bodies. A single WFD assessment also has the benefit of being able to make conclusions on WFD compliance based on the outputs of numerous ES chapters in one dedicated place.
- 1.2.3 The Wind Farm development area and wider study area, as defined in the Draft ES **Chapter 10: Water Environment**, are underlain by a WFD reportable groundwater body identified as the SE Valleys Carboniferous Coal Measures (GB40902G201900). It also identified that the Wind Farm development area and wider study area crosses three WFD surface water body catchments which have a hydrological connectivity with the Proposed Development, namely:
- The Afon Lwyd (GB109056032912 source to Mon and Brecon Canal) surface water body to the east of the Proposed Development area;
  - The Afon Ebwy Fach (GB109056032880 source to confluence with Afon Ebwy) surface water body to the west of the Proposed Development area; and
  - The Afon Ebwy (GB109056026910 confluence of Afon Ebwy Fach to Maes-glas) surface water body to the southwest of the Proposed Development Area;
- 1.2.4 The proposed grid connection corridor (underground cable) is also underlain by the SE Valleys Carboniferous Coal Measures (GB40902G201900) (a WFD reportable

groundwater body) and the Afon Lwyd (GB109056032912 source to Mon and Brecon Canal) surface water body.

- 1.2.5 In Wales, whilst the responsibility for ensuring that the WFD is implemented lies with NRW, all public bodies have a duty to 'have regard' to the objectives of the WFD in exercising their functions. Public bodies include Blaenau Gwent County Borough Council and Torfaen County Borough Council – the Lead Local Flood Authorities (LLFAs) who are responsible for consenting works in Ordinary Watercourses<sup>1</sup> associated with the Project. Failure to take account of WFD requirements by any permitting authority could provide grounds for a challenge to a decision to consent the planning application.

## 1.3 The legislative context – Water Framework Directive

- 1.3.1 The WFD<sup>2</sup> came into force in 2000 and was transposed into UK law in 2003, with the principal aims of protecting and improving the water environment and promoting the sustainable use of water. Environmental Quality Standards (EQSs) for priority substances were set by the daughter directive to the WFD (the EQS Directive<sup>3</sup> and subsequent amendments<sup>4 5</sup> (EQSD)) and the Groundwater Directive<sup>6</sup>. The environmental objectives of the WFD and its daughter directives are to:

- protect, enhance and restore water bodies to good status; which is based on ecology (with its supporting hydromorphological and physico-chemical factors) and chemical factors for surface water, and water quantity and chemical status for groundwater;
- comply with water related standards and objectives for environmentally protected areas established under other European Union (EU) legislation;
- progressively reduce pollution from priority substances and cease or phase out discharges from priority hazardous substances; and
- prevent or limit input of pollutants into groundwater and reverse any significant or sustained upward trends in the concentration of any groundwater pollutant.

- 1.3.2 The WFD sets a default objective for all rivers, lakes, estuaries, groundwater and coastal water bodies to achieve good status by 2027 at the latest. Where it is not possible to achieve good status by 2027, alternate water body objectives can be set. The current (baseline) status, and the measures required to achieve the 2027 status objective are set out, for each water body, in the relevant river basin management plans (RBMPs), as prepared by the EA every six years. The first RBMPs were published in 2009, and the

<sup>1</sup> Works in, near or liable to affect watercourses will be subject to control via an NRW Flood Risk Activities Permit for Main Rivers or a LLFA Land Drainage Consent for Ordinary Watercourses

<sup>2</sup> European Commission (2000). Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (the Water Framework Directive). (Online) Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32000L0060> (Accessed May 2022).

<sup>3</sup> European Commission (2008). Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council (the Priority Substances Directive). (Online) Available at: <https://eur-lex.europa.eu/eli/dir/2008/105/oj> (Accessed October 2022).

<sup>4</sup> European Commission (2013). Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013 amending Directives 2000/60/EC and 2008/105/EC as regards priority substances in the field of water policy. (Online) Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32013L0039> (Accessed May 2022).

<sup>5</sup> UK Government (2015). *The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015*. (Online) Available at: [https://www.legislation.gov.uk/uksi/2015/1623/pdfs/ukiod\\_20151623\\_en\\_auto.pdf](https://www.legislation.gov.uk/uksi/2015/1623/pdfs/ukiod_20151623_en_auto.pdf) (Accessed October 2022).

<sup>6</sup> European Commission (2006). Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration (the Groundwater Directive) including Commission Directive 2014/80/EU which amends Annex II of the original Directive 2006/118/EC. (Online) Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32006L0118> (Accessed October 2022).



Cycle 2 RBMPs were published in December 2015. The draft River Basin Management Plans for the third cycle (2021 – 2027) are currently under consultation, and the latest interim draft Cycle 3 2021 data have become available. The plans provide the baseline condition of the water environment at the time of publication, and indicate the measures needed to achieve their target status.

- 1.1.2 For surface water bodies (rivers, lakes, estuaries and coastal waters), overall waterbody status has an ecological and a chemical component. Ecological status is measured on the scale of high, good, moderate, poor and bad. Chemical status is measured as good or fail, based on the presence or absence of priority substances which present a risk to the environment. Good ecological status (GES) is defined as a slight variation from undisturbed natural conditions, with minimal distortion arising from human activity. The ecological status of water bodies is determined by examining biological elements (e.g. fish, invertebrates, plants) and a number of supporting elements and conditions, including physico-chemical (e.g. metals and organic compounds), and hydromorphological (e.g. depth, width, flow, and 'structure') factors.
- 1.3.3 Whilst GES is defined as a slight variation from undisturbed conditions in 'natural' water bodies, surface waterbodies can also be designated as artificial and heavily modified water bodies (AWBs and HMWBs) where there has been significant human influence on the nature of the water body. These waterbodies are considered to be unable to achieve GES. Instead, AWBs and HMWBs have a target to achieve good ecological potential (GEP), which recognises their important uses, whilst making sure ecology is protected as far as possible. The ecological potential for AWBs and HMWBs is also measured on the scale high, good, moderate, poor and bad. The chemical status of these water bodies is measured in the same way as for natural water bodies.
- 1.1.3 For groundwater bodies, good status has a quantitative and a chemical component. Together these provide a single final classification: good or poor status. Quantitative status is evaluated on the basis of overall aquifer water balance, impacts of abstraction on dependent surface waters or wetlands and potential for saline intrusion. Chemical status is evaluated on the basis of evidence for impacts of poor water quality on dependent surface waters or wetlands or deterioration of the quality of groundwater used for potable supply.

## 1.4 Structure of the WFD assessment

- 1.4.1 The WFD assessment is structured as follows:
- Section 1 discusses the legislative requirements and context of the WFD in relation to the Proposed Development;
  - Section 2 provides an overview of the methodology adopted in order to undertake the WFD assessment;
  - Section 3 sets out the process followed to 'screen' the Proposed Development activities to gain a better understanding of those that are low risk ('screened out') and those that require further assessment ('screened in');
  - Section 4 sets out the WFD baseline for the surface water, and groundwater water bodies in the study area;
  - Section 5 sets out the process used to undertake a further / detailed assessment on those relatively 'high-risk' activities that were screened in as part of Section 4; and
  - Section 6 takes the outputs from Sections 4 and 5 and provides a statement of compliance with the objectives of the WFD.

## 2. Overview of the WFD assessment approach

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### 2.1 Overview of the WFD assessment approach

- 2.1.1 The assessment of impacts in **Chapter 8: Biodiversity** and **Chapter 10: Water Environment** of the Draft ES concludes that effects on individual WFD elements as a result of the Proposed Development are **Not Significant**. This assessment has been combined in a single WFD Assessment report presented here. The assessment methodology is described below.
- 2.1.2 All aspects of construction and operation of the Proposed Development have been assessed to determine whether they will have an effect on WFD water bodies. Decommissioning effects are likely to be similar to, but of a lower magnitude than, construction stage effects. They have been assessed as such in the WFD assessment and against a future baseline environment. Accordingly, the WFD assessment needs to consider the following key questions:
- At the water body level, on a non-temporary basis, will the Proposed Development result in deterioration of any of the WFD classification components from one status class to the next, (e.g. from good to moderate) irrespective of whether or not it results in the lowering of overall status?
  - Will the Proposed Development prevent the assessed water body from achieving GES or GEP or, where relevant, any alternative objective?
  - Will the Proposed Development, in combination with other projects, contribute towards a cumulative deterioration of WFD status or prevent the cumulative enhancement of status in the long term (up to 2027)?
  - Will the Proposed Development compromise the achievement of the WFD objectives in multiple water bodies that are hydrologically linked?
  - Can the Proposed Development assist in the delivery of any RBMP measures as part of achieving water body objectives?
- 2.1.3 Assessment against WFD objectives may include consideration of additional or more stringent standards applied to protected areas if these are present, including standards set by other relevant legislation. For example, a new scheme would not be considered to be compliant with the WFD if it will have an adverse impact on the conservation objectives of a Natura 2000 protected area (unless the tests for overriding public interest under Article 6.4 of the Habitats Directive are met) or designated bathing waters.
- 2.1.4 The potential impact has been assessed for each specific component of the Proposed Development that may interact with or pose a potential risk to a water body or protected area. Interactions between these components in terms of effects on water bodies have also been assessed.



## 2.2 Available guidance

- 2.2.1 At present the principal source of relevant guidance on WFD Compliance Assessment in the UK is the Environment Agency (EA) *Clearing the Waters for All*<sup>7</sup> and PINS Advice Note 18<sup>8</sup>. The EA's guidance *Clearing the Waters for All* relates specifically to activities in estuarine or coastal water bodies that require a Marine Licence, which would not be required as part of the Proposed Development as it is an entirely onshore and land based development. The guidance interprets the 'no deterioration criterion' as applying to each element as well as the overall status classification of the water body. This approach is consistent with a recent European Court of Justice case<sup>9</sup> (known as the 'Bund' case) on dredging activities in Germany, where deterioration of supporting elements that do not lead to overall water body status deterioration was in fact ruled to be in breach of the objectives of the WFD.
- 2.2.2 The Cycle 3 RBMPs indicate that within-class deterioration of any constituent element (i.e. an effect that results in the lowering of the quality of an element that does not result in a lowering of the status of that element) is permissible, but should be limited as far as practicable. There are two exceptions to this: first, where the water body is at the lowest possible class (bad ecological status/potential) where no such within class deterioration is allowed and, second, elements that are at high status (with the exception of morphology), which may be allowed to deteriorate to good status provided a number of additional conditions are met.

## 2.3 Assessment Process

### Introduction

- 2.3.1 The assessment of impacts provided in **Chapter 8: Biodiversity** and **Chapter 10: Water Environment** of the Draft ES has been used to fulfil the assessment steps below taking into account any statutory consultation comments received.
- 2.3.2 The WFD assessment considers the potential for both short-term and long-term impacts on WFD water bodies which have a connection to the Proposed Development.
- 2.3.3 The WFD assessment comprises the following stages:
- Stage 1: Screening;
  - Stage 2: Scoping;
  - Stage 3: Further assessment; followed by, if required;
  - Stage 4: Identification and evaluation of measures; and
  - Stage 5: Article 4.7 considerations.

<sup>7</sup> Environment Agency (2016) *Clearing the Waters for All: How to assess the impact of your activity in estuarine (transitional) and coastal waters for the Water Framework Directive (WFD)*. [Online] Available at: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters> [Accessed October 2022]

<sup>8</sup> The Planning Inspectorate (2017). *Advice Note Eighteen: The Water Framework Directive Version 1*. [Online] Available at: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-18/> [Accessed October 2022]

<sup>9</sup> Earll, B (2015). *Definition of deterioration under the Water Framework Directive: implications for new projects* – Jan Brooke [Online] Available at: <http://www.cmscoms.com/?p=4281> and also the official summary of the case at: <http://curia.europa.eu/jcms/upload/docs/application/pdf/2015-07/cp150074en.pdf> [Accessed October 2022]

## Screening and Scoping

- 2.3.4 Certain types of proposals do not require specific applications for permission but can be undertaken under existing general powers and provisions, such as developments authorised through the General Permitted Development Order. Such proposals can be identified at the screening stage as not requiring a WFD assessment. Furthermore, certain types of maintenance activity do not require assessment. All such activities would not require a WFD assessment.
- 2.3.5 However, the Proposed Development has the potential to have effects on the water environment. Moreover, it is not a continuation of a previously permitted activity. Therefore, it is clear that a WFD compliance assessment is required to support applications for Environmental Permits and potentially other permissions.
- 2.3.6 The focus of the screening and scoping stages is to identify component activities of the Proposed Development that have the potential to cause an impact to the WFD quality elements.
- 2.3.7 Each water body potentially affected directly or indirectly by the Proposed Development is considered. Water bodies are screened out at this stage if it can be robustly demonstrated that there will be no impacts.
- 2.3.8 The screening stage includes identifying risks from the Proposed Development's activities to receptors based on the relevant (screened in) water bodies and their water quality elements. In terms of screening new physical works, the EA 488\_10 guidance<sup>10</sup> provides a protocol for rapid screening of development proposals based upon the type and scale of activities that are being undertaken. A similar process is set out for scoping activities against water quality elements, based on the likelihood of potential risks posed towards WFD objectives. The scoping process is based on the type and extent of activities, providing a traffic light screening and scoping outcome depending on the level of potential risk against different elements. Proposed Development activities / infrastructure types that are considered unlikely to cause any risk to the delivery of WFD objectives are given a green traffic light (screened/scoped out).
- 2.3.9 Proposed Development activities / infrastructure types that are considered likely to carry a significant risk to the delivery of WFD objectives are given a red traffic light (screened/scoped in for further assessment). Proposed Development activities / infrastructure types that carry a possible risk to the delivery of WFD objectives are given an amber traffic light (screened/scoped in on precaution for further assessment). The screening and scoping do not consider the implementation of design principles and environmental measures.

## Further Assessment

- 2.3.10 For the activities / infrastructure types that are 'Screened / 'Scoped in' a further assessment is required. The aim of this is to provide a proportionate view on: (i) the likelihood of a new development causing non-temporary water body-scale deterioration in WFD status and (ii) whether the development may preclude the ability of the water body to achieve its target status. Those activities / infrastructure types that are eliminated at the screening and scoping stage are not carried forward to the further assessment stage.
- 2.3.11 The further assessment process involves the examination of sources of potential effect, pathways by which water bodies could be affected, and consideration of effects on each

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<sup>10</sup> Environment Agency (2015) position 488\_10 "Protecting and improving the water environment: WFD compliance of physical works in rivers", Doc No. 488\_10.

WFD quality element for each WFD water body type (river, coastal, estuarine, or groundwater), taking into account embedded environmental measures.

## Identification and evaluation of measures

2.3.12 Where the assessment identifies an activity which would cause a risk of non-compliance with the WFD but which may become compliant with some form of bespoke mitigation (i.e. above and beyond the embedded design principles and environmental measures that are considered during the further assessment stage), the mitigation required is described. Where mitigation cannot be identified that would result in WFD compliance and no suitable alternatives can be identified, the provisions of Article 4.7 of the WFD would apply (below).

## Article 4.7 considerations

2.3.13 The provisions of Article 4.7 will only apply where:

- failure to meet good groundwater status, GES or GEP or to prevent deterioration in status arises from new modifications to the physical characteristics of the water body or alteration of groundwater levels; or
- failure to prevent deterioration from high to good overall status of a surface water body is the result of new sustainable human development activities.

## 3. Screening and scoping assessment

### 3.1 Proposed Development and associated activities

- 3.1.1 A full description of the Proposed Development is provided in **Chapter 4: Description of the Proposed Development**.
- 3.1.2 The Proposed Development activities/ infrastructure types that are proposed within each individual water body catchment and have the potential to impact the water environment are presented in **Table 3.1** below.

**Table 3.1 Proposed Development activities and the WFD**

WFD Waterbody Receptor	Planned activity/Infrastructure type	Potential changes and effects
<b>Construction Phase</b>		
<b>Wind Farm Development</b> <ul style="list-style-type: none"> <li><b>Afon Ebwy</b> (GB109056026910)</li> <li><b>Afon Ebwy Fach</b> (GB109056032880)</li> <li><b>Afon Lwyd</b> (GB109056032912)</li> </ul> <b>Grid Connection</b> <ul style="list-style-type: none"> <li>Afon Lwyd (GB109056032912)</li> </ul>	<ul style="list-style-type: none"> <li>Enabling works (construction of new access tracks, upgrades to public roads, establishment of site compounds)</li> <li>Development of site infrastructure elements</li> </ul>	<p>Temporary increase in sediment-loading of surface water runoff or dewatering activities from construction areas leading to deterioration in the surface water quality environment, deterioration in the status of WFD surface water bodies.</p> <p>Potential effects on the hydromorphology and flow conveyance as a result of increased sediment inputs or direct watercourse disturbance leading to deterioration in the status of WFD surface water bodies.</p>
<b>Wind Farm Development</b> <ul style="list-style-type: none"> <li>Afon Ebwy (GB109056026910)</li> <li>Afon Ebwy Fach (GB109056032880)</li> <li>Afon Lwyd (GB109056032912)</li> <li>SE Valleys Carboniferous Coal Measures (GB40902G201900)</li> </ul> <b>Grid Connection</b> <ul style="list-style-type: none"> <li>Afon Lwyd (GB109056032912)</li> <li>SE Valleys Carboniferous Coal Measures (GB40902G201900)</li> </ul>	<ul style="list-style-type: none"> <li>Enabling works (Construction of new access tracks, upgrades to public roads, establishment of site compounds)</li> <li>Development of site infrastructure elements</li> </ul>	<p>Accidental release of pollution into surface water or ground by leaks/spillages of oil/fuel, leaching from excavated soils and concrete leaching leading to deterioration in the surface water and groundwater quality environment, deterioration in the status of WFD surface water and groundwater bodies.</p> <p>Discharge of potentially polluted water generated from construction activities (e.g., dewatering/water ingress activities, concrete batching, surface water runoff) into surface water or groundwater leading to deterioration in the surface water and groundwater quality environment, deterioration in the status of WFD water bodies</p>

WFD Waterbody Receptor	Planned activity/Infrastructure type	Potential changes and effects
<p><b>Wind Farm Development</b></p> <ul style="list-style-type: none"> <li>• Afon Ebwy (GB109056026910)</li> <li>• Afon Ebwy Fach (GB109056032880)</li> <li>• Afon Lwyd (GB109056032912)</li> <li>• SE Valleys Carboniferous Coal Measures (GB40902G201900)</li> </ul> <p><b>Grid Connection</b></p> <ul style="list-style-type: none"> <li>• Afon Lwyd (GB109056032912)</li> <li>• SE Valleys Carboniferous Coal Measures (GB40902G201900)</li> </ul>	<p>Enabling works (dewatering of excavations (e.g. turbine foundations, underground cable)</p>	<p>Potential drop in groundwater levels due to dewatering activities leading to decrease in groundwater baseflow to aquatic environment receptors and deterioration in the status of WFD surface water and groundwater bodies.</p>
<b>Operational Phase</b>		
<p><b>Wind Farm Development</b></p> <ul style="list-style-type: none"> <li>• Afon Ebwy (GB109056026910)</li> <li>• Afon Ebwy Fach (GB109056032880)</li> <li>• Afon Lwyd (GB109056032912)</li> <li>• SE Valleys Carboniferous Coal Measures (GB40902G201900)</li> </ul>	<p>Servicing and emergency repairs</p>	<p>Accidental spillage of pollutants (fuel or oil) during maintenance activities leading to deterioration in the surface water and groundwater quality environment, deterioration in the status of WFD surface water and groundwater bodies..</p>
<b>Decommissioning</b>		
<p>It is envisaged that similar potential changes and effects to the construction phase will be anticipated.</p>		

## 4. Water Framework Directive Baseline

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### 4.1 Introduction

4.1.1 This section provides a summary of the baseline water environment and sets out the approach to the screening of water bodies for the WFD Assessment. More detail on the wider baseline context can be found in the Draft ES **Chapter 10: Water Environment**.

### 4.2 WFD waterbodies included in the assessment

4.2.1 The approach to the screening of WFD water bodies is as follows:

- All freshwater surface water bodies that overlap the Site boundaries, and the downstream transitional water bodies, and;
- All groundwater bodies which underlie the Site.

4.2.2 The Proposed Development area and wider study area are underlain by a WFD reportable groundwater body identified as the SE Valleys Carboniferous Coal Measures (GB40902G201900).

4.2.3 The Wind Farm development area and wider study area crosses three WFD surface water body catchments which have a hydrological connectivity with the Wind Farm development:

- The Afon Ebwy Fach (source to confluence with Afon Ebwy) surface water body to the west of the Proposed Development area;
- The Afon Ebwy (confluence of Afon Ebwy Fach to Maes-glas) surface water body to the southwest; and
- The Afon Lwyd (source to Monmouthshire and Brecon Canal) surface water body to the east of the Proposed Development area.

4.2.4 The proposed grid connection corridor (underground cable) crosses the Afon Lwyd (source to Monmouthshire and Brecon Canal) WFD surface water body.

### 4.3 Baseline summary

#### Groundwater

4.3.1 The groundwater body has an Overall WFD status of 'Good'. However, it is classified as 'Poor' in terms of its Chemical status. A summary of the WFD groundwater waterbody status is provided in **Table 10.10** of the Draft ES **Chapter 10: Water Environment**.

#### Surface water

4.3.2 The Afon Ebwy and Afon Lwyd WFD surface water bodies achieved an overall classification of 'Moderate' in the 2021 WFD classification (Cycle 3), whilst the Afon Ebwy Fach achieved a classification of 'Poor'. A summary of the WFD surface waterbodies is provided in **Table 10.11** of the Draft ES **Chapter 10: Water Environment**.



## 5. Further assessment and measures

### 5.1 Overview

- 5.1.1 The screening and scoping of activities / infrastructure types that was undertaken in **Section 3** did not include a consideration of any embedded environmental measures that will be implemented as part of the Proposed Development. However, in practice these measures will be incorporated in order to manage any potential effects on the water environment to an acceptable level.
- 5.1.2 This section provides a further assessment on the potential impacts to WFD receptors and a summary of the key mitigation that is incorporated into the development proposals in order to avoid, reduce or compensate for the potential adverse effects on the WFD water bodies identified in **Section 3**.

### 5.2 Further assessment

- 5.2.1 Further assessment of the potential effects to WFD receptors can be found in **Section 10.9** of the Draft ES **Chapter 10: Water Environment**, taking into consideration the embedded environmental measures outlined in **Section 10.6** and summarised below.
- 5.2.2 The assessment concludes that the significance of potential effects to the WFD surface water bodies is **Not Significant**.

### 5.3 Embedded environmental measures

- 5.3.1 The environmental measures and assessments of effects are captured in the Draft ES **Chapter 10: Water Environment**, the relevant sections of these documents are listed in the table below.

**Table 5.1 Summary of embedded environmental measures and their relevance regarding potential affects**

WFD element	Potential effect on WFD element	Embedded environmental measures to manage potential effect in Draft ES
<b>Hydromorphology</b>	Alteration of flow regime – via input to watercourses and via indirect changes within the catchment	<b>Chapter 10: Water Environment, Table 10.15:</b> ID1 (Good working practices) ID2 (Water Management Plan) ID3 (Water Discharges) ID4 (Materials Management Plan) ID5 (Soil Stockpiles) ID6 (Standoff distance) ID7 (Watercourse/surface water flow path crossings) ID10 (Detailed Drainage Design)
<b>Hydromorphology</b>	Alteration of channel morphology	<b>Chapter 10: Water Environment, Table 10.15:</b> ID2 (Water Management Plan)

WFD element	Potential effect on WFD element	Embedded environmental measures to manage potential effect in Draft ES
<b>Chemical and Physico – chemical</b>	<p>Mobilisation of sediment or contaminated sediment / material in the catchment that has the potential to enter the watercourse network.</p> <p>Introduction and / or mobilisation of sediment or contaminated sediment / material within the channel that has the potential to be transported downstream</p>	<p>ID3 (Water Discharges) ID7 (Watercourse/surface water flow path crossings) ID10 (Detailed Drainage Design)</p> <p><b>Chapter 10: Water Environment, Table 10.15:</b> ID1 (Good working practices) ID2 (Water Management Plan) ID3 (Water Discharges) ID4 (Materials Management Plan) ID5 (Soil Stockpiles) ID6 (Standoff distance) ID9 (Fuel, oil and chemicals storage – construction phase) ID10 (Detailed Drainage Design) ID11 (Fuel, oil and chemicals storage – operational phase)</p>
<b>Biological Quality</b>	<p>Mobilisation of sediment or contaminated sediment / material in the catchment that has the potential to enter the watercourse network and have a potential knock on impact on the habitats of fish, macrophytes, phytobenthos and invertebrates.</p> <p>Introduction and / or mobilisation of sediment or contaminated sediment / material within the channel that has the potential to be transported downstream and have potential knock on impact on the habitats of fish, macrophytes, phytobenthos and invertebrates.</p>	<p><b>Chapter 10: Water Environment, Table 10.15:</b> ID1 (Good working practices) ID2 (Water Management Plan) ID3 (Water Discharges) ID4 (Materials Management Plan) ID5 (Soil Stockpiles) ID6 (Standoff distance) ID7 (Watercourse/surface water flow path crossings) ID9 (Fuel, oil and chemicals storage – construction phase) ID10 (Detailed Drainage Design) ID11 (Fuel, oil and chemicals storage – operational phase)</p>
<b>Groundwater Quantity</b>	Alteration to groundwater quantity	<p><b>Chapter 10: Water Environment, Table 10.15:</b> ID1 (Good working practices) ID2 (Water Management Plan) ID3 (Water Discharges)</p>
<b>Groundwater Chemical</b>	Alteration to groundwater quality	<p><b>Chapter 10: Water Environment, Table 10.15:</b> ID3 (Water Discharges) ID9 (Fuel, oil and chemicals storage – construction phase) ID11 (Fuel, oil and chemicals storage – operational phase)</p>

## 6. Conclusions

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### 6.1 Overview

- 6.1.1 Each WFD water body was considered to have activities/ infrastructure types resulting from the Proposed Development within them or in close enough proximity that could cause some degree of risk to the delivery of the WFD objectives. Upon assessment of these activities/ infrastructure types, and taking into account the effectiveness of mitigation in managing any effects, it can be concluded that the Proposed Development is compliant with the WFD. Therefore, there is no requirement for an Article 4.7 assessment.

### 6.2 Will the Proposed Development lead to deterioration in WFD status of any water body in the Study Area?

- 6.2.1 Based on the assessment provided in this document, along with the findings presented in the Draft ES **Chapter 10: Water Environment**, no components or phases of the Proposed Development would lead to a deterioration of any WFD elements or the WFD status of any water body in the study area. It is concluded that the mitigation package presented in **Section 4** would avoid deterioration as a result of the Proposed Development.

### 6.3 Will the Proposed Development compromise the achievement of good status in any WFD water body in the Study Area?

- 6.3.1 Based on the assessment provided in this document, no components or phases of the Proposed Development would compromise the ability of any WFD water body to attain WFD target status.

### 6.4 Will the Proposed Development contribute towards a cumulative deterioration of WFD status (in combination with other projects) or prevent the cumulative enhancement of status (up to 2027)?

- 6.4.1 The standard mitigation measures committed to as part of the Proposed Development will ensure that there is no potential for the Proposed Development to contribute to any cumulative effects, and, as such, cumulative effects will not preclude the delivery of WFD objectives.

### 6.5 Will the Proposed Development compromise the achievement of Protected Area objectives?

- 6.5.1 Based on the information provided in the Draft ES **Chapter 10: Water Environment** and the findings within this document, no components or phases of the Proposed Development would compromise the conservation objectives of any protected areas.

