SIMEC ATLANTIS ENERGY

Uskmouth Battery Energy Storage System (BESS)

EIA Screening Report

Quality Management

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1 Introduction

1.1 This screening report submitted on behalf of (the applicant) SIMEC Uskmouth Power Limited (SUP) provides information to support a request for a screening opinion that is being made under Regulation 6(1) of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 ('the EIA Regulations').

1.2 The request for a screening opinion concerns the proposed development of a 230 MW Uskmouth Battery Energy Storage System (BESS) project to be located on the former coal stockyard at Uskmouth B Power Station, Nash, Newport. The 230 MW BESS is to be connected with import-export cables to the existing Uskmouth 132 kV substation on the site of the Uskmouth Power Station.

1.3 The BESS charges with electricity from the grid during periods of low demand and then discharges that electricity during periods of high demand. The BESS is able to contribute to grid stability by offering frequency control services to the National Grid. Effective energy storage will allow significant increases in intermittent renewable generation from wind and solar onto the UK electricity system by allowing the balance of supply and demand.

1.4 The proposed development would comprise the following elements of external construction ;

- Laying out of containerised battery units along with associated inverters, switchgear units, closed loop cooling units, control units and associated electrical infrastructure mounted on concrete piers.
- Laying out of containerised substation units and associated electrical infrastructure mounted on concrete piers.
- Transformers within bunded compounds.
- Auxiliary power supplies for the batteries, control systems mounted on concrete piers.
- Security palisade fence around the BESS substation and battery compound with access gates to the compound entrance from the internal road network.
- Erection of CCTV cameras.
- Laying out of a hard surfaced site access into to the BESS substation and battery compound from the internal road network. Car parking bays. Uncompacted gravel as a surface cover between the containerised units and equipment. Construction laydown area.
- Landscaping.

1.5 In addition to the proposed development the applicant would seek to install underground cable connections between the BESS substation and the existing Uskmouth 132kV substation. Electricity would be imported and exported between the BESS substation and the existing 132 kV substation These cable runs are intended to be underground (where possible) utilising existing ducts and conduits within land owned by the power station. The final route of the power connection has not yet been confirmed. Planning permission is not sought for these local underground cable connection works.

1.6 The Uskmouth BESS project is completely independent of the Uskmouth Conversion Project (Section 2) and would not involve alterations to the existing Uskmouth B power station.

1.7 Figure 1 shows the proposed development site location plan as required by paragraph 2(a) of regulation 6. The following sections of this screening report provide the remaining information required by paragraph 2, as follows.

- Section 2: Development Site and Existing Environment [6(2)(b)(ii)].
- Section 3: Proposed Development [6(2)(b)(i)].
- Section 4: Environmental Effects Screening [6(2)(c) and (d)].
- Table 2 in Section 4 lists those specific features of the proposed development that avoid or prevent potential for significant adverse environmental effects [6(2)(e)].

1.8 The proposed BESS project would have beneficial effects by supporting Welsh Governments transition to a lower carbon electricity system by increasing the level of intermittent generation on the UK electricity system, storing electrical energy when output is higher than demand and discharging energy when demand outstrips supply [1]. This report will screen for likely significant negative environmental effects from the proposed development that could require EIA.

1.9 In July 2021 BESS and Ofgem published policy paper "*Transitioning to a net zero energy system: smart systems and flexibility plan 2021*", that sets how the UK will transition to a smart, flexible, decarbonised energy system [2]. The UK government aims to change the consenting process for battery storage projects in England and Wales, and remove barriers for the deployment of electricity storage projects. These changes will take battery storage schemes over 50MW out of the national infrastructure consenting scheme and development consent orders and place decision making with local planning authorities, with the aspiration to enable large battery storage projects to be developed faster, with lower up front development costs.

1.10 Planning Policy Wales Edition 11 (Feb 2021) [3] confirms in 5.7.12 *Energy storage has an important part to play in managing the transition to a low carbon economy. The growth in energy generation from renewable sources requires the management of the resultant intermittency in supply, and energy storage can help balance supply and demand. Proposals for new storage facilities should be supported wherever possible.*

1.11 Under the EIA Regulations, it is necessary to consider first, whether the proposed development is of a type listed in Schedule 1, for which EIA is mandatory. If it does not fall within Schedule 1, then types of development listed in Schedule 2 must be considered. If the development does not fall within the relevant types and criteria in either Schedule 1 or Schedule 2, is not in a defined 'sensitive area' and would have no likely significant environmental effects, then EIA is not required.

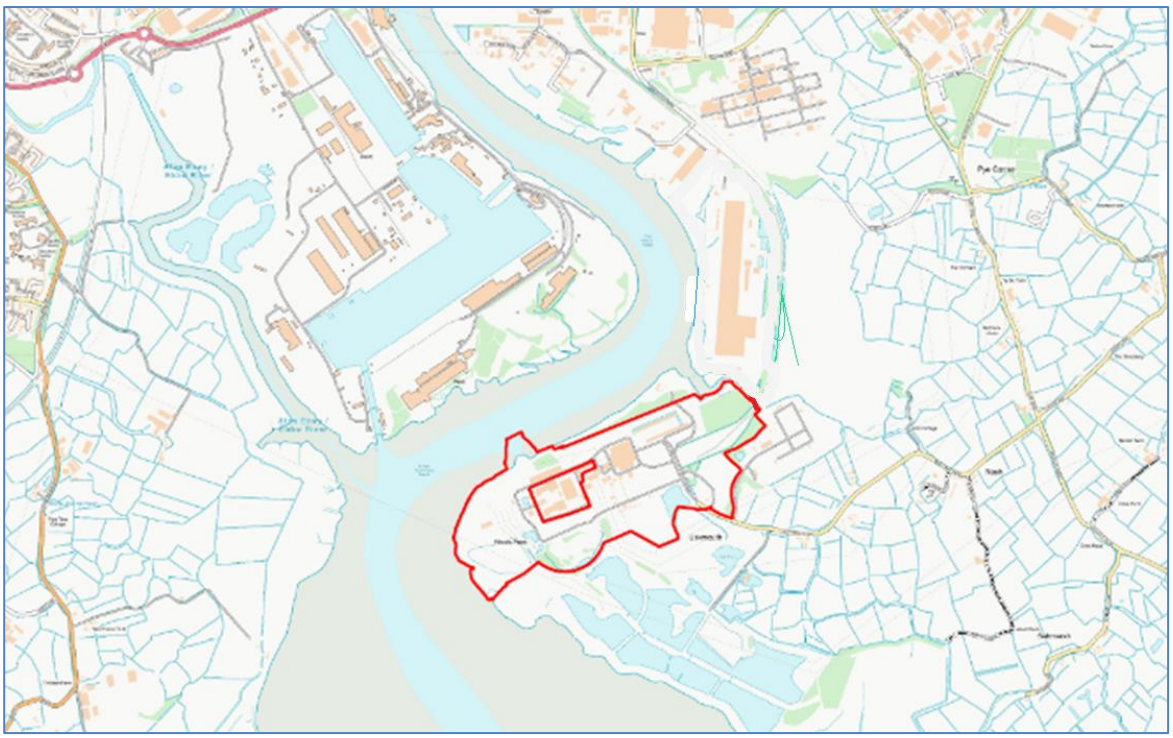

Figure 1 Site Location Plan

1.1 In addition to the proposed development the applicant would seek to install underground cable connections between the BESS substation and the existing Uskmouth 132kV substation. Electricity would be imported and exported between the BESS substation and the existing 132 kV substation These cable runs are intended to be underground (where possible) utilising existing ducts and conduits within land owned by the power station. The final route of the power connection has not yet been confirmed. Planning permission is not sought for these local underground cable connection works.

1.2 In addition to the proposed development the applicant would seek to reconfigure the existing Uskmouth 132 kV substation in order to connect to the BESS substation via underground cable connections. Planning permission is not sought for these electrical works.

Schedule 1 development screening

1.3 The proposed development would not meet the definitions of any development type listed in Schedule 1 of the "EIA Regulations"

1.4 The proposed development would involve the construction of the Uskmouth BESS on the former coal stockyard. The proposed development would not involve modification to the existing Uskmouth power station. The proposed development would comprise the following elements of external construction;

- Laying out of containerised battery units along with associated inverters, switchgear units, closed loop cooling units, control units and associated electrical infrastructure mounted on concrete piers
- Laying out of containerised substation units and associated electrical infrastructure mounted

on concrete piers

- Transformers within bunded compounds
- Auxiliary power supplies for the batteries and control systems mounted on concrete piers
- Security palisade fence around the BESS substation and battery compound with access gates to the compound entrance from the internal road network .
- Erection of CCTV cameras.
- Laying out of a hard surfaced site access into to the BESS substation and battery compound from the internal road network. Car parking bays. Uncompacted gravel as a surface cover between the containerised units and equipment. Construction laydown area.
- Landscaping

1.5 The Proposed Site Plan is shown in Figure (2).

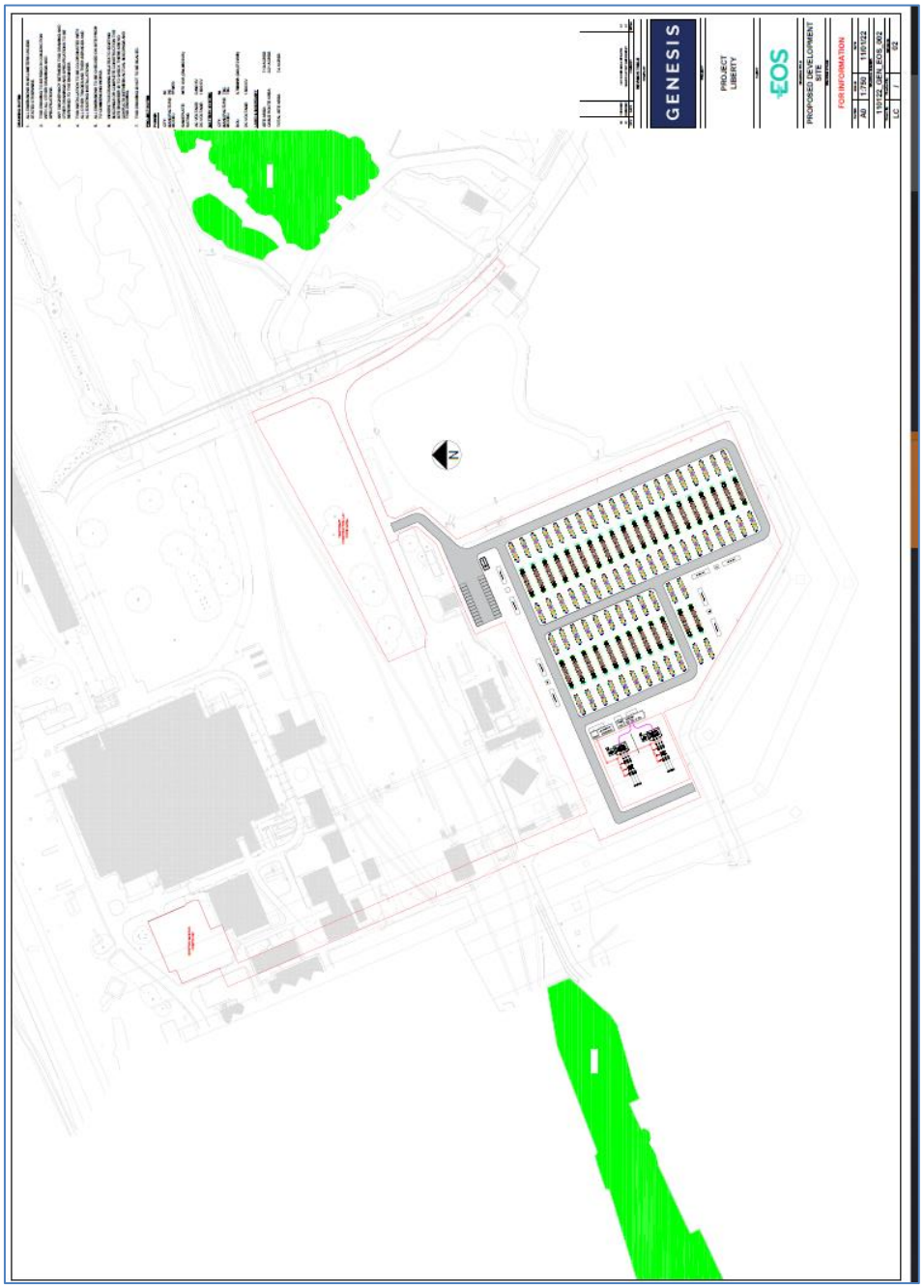

Figure 2 Proposed Site Plan

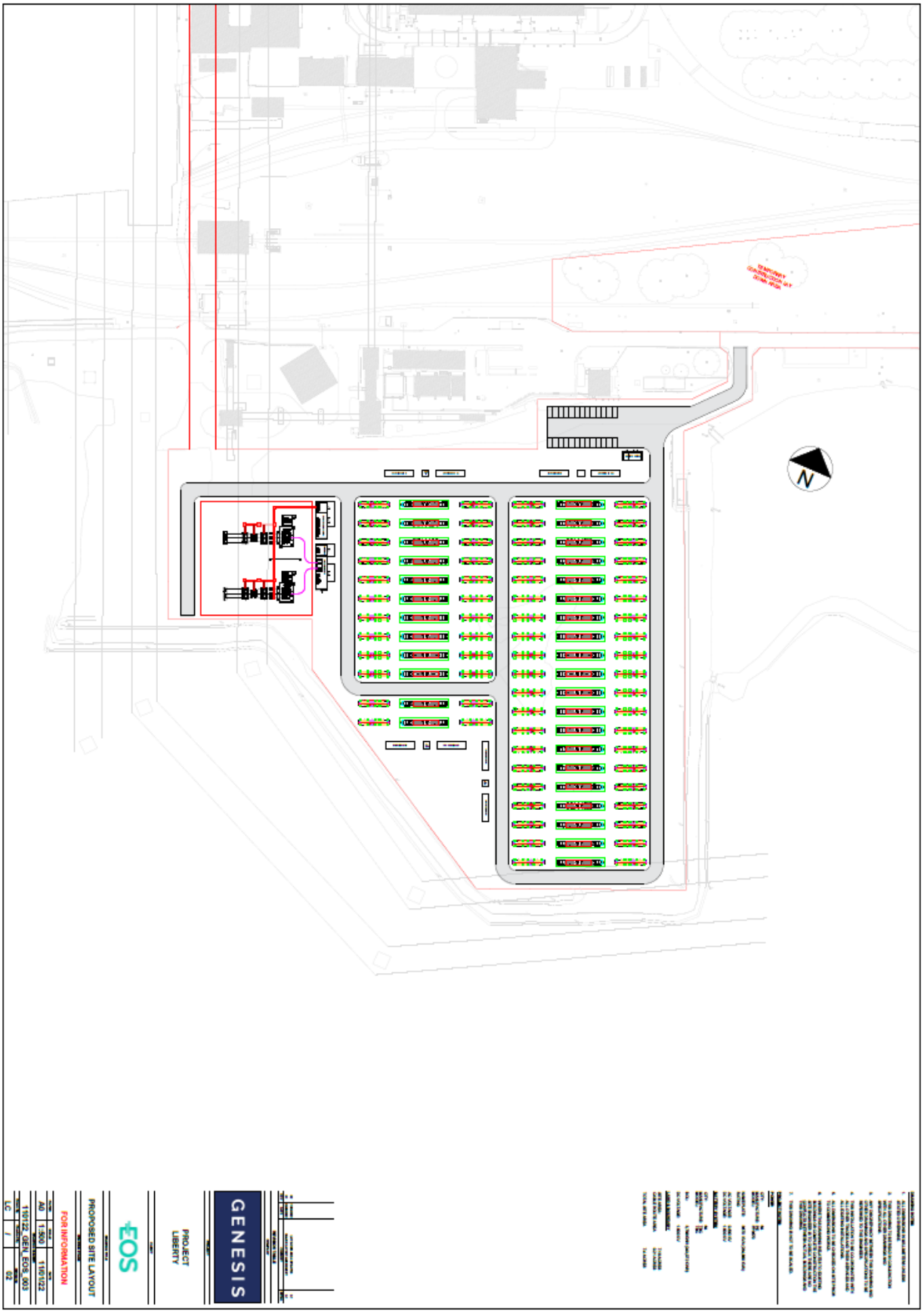

Figure 3 Indicative layout of proposed development

1.6 **For these reasons, the proposed development is not considered to fall within the definition of Schedule 1 development.**

Schedule 2 development screening

1.7 Schedule 2 development is defined in the EIA Regulations as development, other than exempt development, of a description mentioned in Column 1 of the table in Schedule 2 where:

(a) any part of that development is to be carried out in a sensitive area; or

(b) any applicable threshold or criterion in the corresponding part of Column 2 of that table is respectively exceeded or met in relation to that development.

1.8 The description of development in Schedule 2, Column 1, that may be applicable is:

(3) Energy industry (a) Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1);

1.9 The proposed development does not fall within a sensitive area as defined by the EIA Regulations. Therefore, the proposed development does not fall within paragraph (a) above.

1.10 With respect to paragraph (b) The applicable thresholds and criteria for 3 (a) Column 2, the area of the development exceeds 0.5 hectare. The proposed development area exceeds 3 hectare.

1.11 A Schedule 2 development does not require EIA to be undertaken in all cases, but must be considered against the criteria provided in Schedule 3 of the Regulations to establish whether significant effects on the environment are likely. Schedule 3 criteria include the characteristics and location of the development and the characteristics of the potential impact.

1.12 The subsequent sections of this report consider the potential for significant adverse environmental effects on the environment by the proposed development, taking into consideration the criteria in Schedule 3.

2 Development Site and Existing Environment

Development site and setting

2.1 The proposed development, excluding the construction laydown area would be located on the former coal stockyard of the Uskmouth B coal-fired power station. The construction laydown area lies just to the north of the former coal stockyard.

Figure 4 Uskmouth Power Station and former coal stockyard

2.2 The Uskmouth power station site is located on the eastern bank of the River Usk, close to the confluence with the Severn Estuary, around 4 km south of central Newport. The grid reference for the centre of coal stockyard is ST 32967 83534 and the site address is Simec Uskmouth Power, West Nash Road, Nash, Newport, NP18 2BZ. Figure 1 shows the site location plan.

2.3 Uskmouth B power station was constructed in the 1960s and has not generated electricity since April 2017. The main power station buildings comprise; single exhaust stack, furnaces, boilers, steam turbines and electrical generators. External to main power station buildings are; offices, workshop buildings, car parking, two linear banks of cooling towers, ash storage area, material handling infrastructure, railway tracks, electrical export equipment and the former coal stockyard. The proposed development would be located on the former coal stockyard and would be developed independently of Uskmouth Conversion Project.

2.4 In December 2019, Simec Uskmouth Power Ltd (SUP) applied to Natural Resources Wales (NRW) for a permit variation for the Uskmouth Conversion Project to permit a change in fuel from coal to waste derived fuel pellets. The Uskmouth permit variation was called in by the Welsh Ministers for determination in October 2021, SUP are working with Planning Environment Decisions Wales (PEDW) to progress the permit call in process. The permit variation call in time table has not yet been set.

2.5 In August 2020, SUP applied to Newport City Council (NCC) for planning permission (20/0748) to construct the “operational development” comprising the following elements of external construction of: fuel storage silos, conveyor systems, pellet de-dusting building (planned for the former coal stockyard). Improved rail unloading facilities, updated internal road network and drainage, vessels and infrastructure for the delivery, storage and removal of flue gas treatment reagents and residues. In April 2021 SUP received notification from NCC that planning application (20/0748), was referred to the Welsh Ministers for determination.

2.6 In February 2022, SUP contacted PEDW to confirm the withdrawal of the called in planning application (20/0748). The withdrawal of the planning application terminated plans for the Uskmouth Conversion “operational development”. The proposed development would be located upon the site of the former coal stockyard.

2.7 A Lawful Development Certificate for a peaking power plant and advanced conversion technology power plant (ACT, a gasification process for waste) on parts of land within the Uskmouth B power station site was granted in April 2016 (Newport City Council reference 16/0257). The peaking power plant has been constructed. The applicant currently considers it unlikely that the ACT development would be constructed, but both developments have nevertheless been included in the screening of potential cumulative impacts in Section 4.

2.8 Immediately to the west, the site adjoins the Severn Power combined cycle gas turbine (CCGT) power station, constructed in 2007 on the site of the former Uskmouth A coal-fired power station.

2.9 Immediately to the north is the River Usk and, in the north-east, Newport Uskmouth Sailing Club; to the east is the railway line, a mixture of land with vegetation, hardstanding and a sewage treatment works; and to the south, former ash pits (now vegetated), beyond which is the Newport Wetlands national nature reserve.

2.10 The wider site setting is industrialised to the north, with the Liberty Steel works and industrial estates on the east bank of the River Usk stretching from the proposed development site to the A48 ‘Southern Distributor Road’ dual carriageway through the outskirts of Newport and onto the M4 corridor. In June 2019 Welsh Government blocked plans for the new M4 ‘Corridor Around Newport’ (M4 CaN) motorway development, which will not be progressed.

2.11 The River Usk and the Severn Estuary lie beyond the CCGT power station and Newport Wetlands to the west and south. On the west bank of the Usk is Alexandra Docks, with commercial and industrial land-uses.

2.12 To the east, the wider setting is rural, with farmland, minor roads, drainage channels and individual or small groups of houses. The nearest settlement is the village of Nash, is just over 1 km from the proposed development site.

Environmental sensitivities of site and setting

2.13 The footprint of the proposed development site (described in Section 3) is located on the former coal stockyard, this is a brownfield land, which has been extensively utilised, and has low environmental sensitivity. The construction laydown area would be located just to the north of the former coal stockyard on parts of the site that are currently landscaped, with amenity grassland and individual trees.

2.14 In addition to the proposed development, the applicant would seek to reconfigure the existing Uskmouth 132 kV substation and connect to the BESS substation compound by installing underground cables. Planning permission is not sought for these works, they would be conducted on previously developed land.

2.15 There is known existing asbestos contamination and potential for other existing ground contamination at the wider site, given its history of industrial use, though it is understood that the former coal stockyard is mainly on made ground formed of pulverised fuel ash and clay. All economically recoverable coal was removed from the coal stockyard in 2019, compacted carpet coal remains on the surface of the former coal stockyard.

2.16 The proposed development site is not within or near to any existing or proposed Air Quality Management Area (AQMA) or Newport 'air quality planning buffer' zone, the nearest being in central Newport around Chepstow Road and Air Quality Management Area: George Street 4 km from the proposed development site [4].

Landscape and historic environment sensitivities

2.17 The coastal landscape south of Newport, east and west of the River Usk, forms National Landscape Character Area 34, the Gwent Levels. The proposed development site is within the Caldicot Level section of this landscape [5].

2.18 The Gwent Levels are described as a distinctive example of reclaimed wetland and inter-tidal landscape, characterised by low, flat agricultural land with patterns of reens and drainage ditches, with an archaeological record showing successive periods of reclamation dating to Roman settlement. Recent developments include: steelworks, power stations, motorway and mainline railway. The urban expansion of Newport is apparent in the landscape [6].

2.19 Much of the landscape east of the proposed development site is designated as the Gwent Levels registered Historic Landscape of Outstanding Interest, with the area closest to the proposed development forming the Nash / Goldcliff historic landscape characterisation area. The proposed development site itself is not within the registered historic landscape area.

2.20 There are no World Heritage Sites within 5 km of the proposed development site. The nearest Scheduled Monuments are the Goldcliff Moated House, around 3 km to the east, and Goldcliff Pill Anti-Invasion Defences on the coast around 3.3 km to the east. The nearest Listed Buildings are the Church of St Mary in Nash (around 1 km east), Fair Orchard Farm and Barn, and Pye Corner Farm at Pye Corner, both around 1.8 km north-east [7]

2.21 The landscape and historic environment setting are considered to have moderate to high sensitivity, with an unusual landscape character that is designated also for its historic interest and

archaeology, although already influenced by surrounding industrial and infrastructure developments and with no nearby Scheduled Monuments.

Geological and hydrogeological sensitivities

2.22 Beneath the reclaimed salt-marsh landscape, the superficial geology is tidal flat deposits of clay and silt overlying Mercia Mudstone sedimentary bedrock [8]. The site is within the general area of Carboniferous Limestone principal aquifer [9] but more specifically characterised as a low-productivity area [10] . The site is not within a groundwater source protection zone [11].

2.23 The proposed development site and surroundings are not in an area of mineral resources or an aggregates safeguarding zone [12, 13].

Hydrological sensitivities

2.24 The proposed development site is on the bank of the River Usk and around 300 m from an inlet of the estuary fed by Julian's Reen, between the development site and Liberty Steel Newport (LSN). Within the site are a number of drainage ditches and a pond adjacent to the former coal stockyard

2.25 A protected wetland environment with salt marshes and ponds is to the south-west, and in general, the hydrological landscape is characterised by frequent drainage reens.

2.26 The River Usk has an overall 'moderate' Water Framework Directive status and the catchment area around the proposed development site has 'moderate' status where assessed [14]. The nearest monitoring point is at the outfall of Julian's Reen to the Usk, just north of the powerstation site.

2.27 The Natural Resources Wales (NRW) flood risk and development advice maps [15, 16] indicate that the sections of the proposed development site are in flood zone 2 and at low risk of flooding from rivers or the sea, other sections are in flood zone 3 and at medium or high risk of flooding. Some limited and isolated areas of low or medium surface water risk are shown in the NRW mapping, reflecting local topography (i.e. drainage ditches in and around the site).

2.28 Much of the proposed development site lies in development advice zone C1 ('areas of the floodplain which are developed and served by significant infrastructure, including flood defences') with some areas such are in zone B ('areas known to have been flooded in the past').

2.29 In Q4 2021 Planning Policy Wales published Technical Advice Note 15: Development and Flood Risk, December 2021 [17]. The revised TAN 15 (Dec 2021) and flood map for planning demonstrates that the proposed development would be located within TAN 15 defended zone.

2.30 The coming into force of the new TAN 15 and Flood Map for Planning on 1 December 2021 has been suspended until 1 June 2023 "*The Minister for Climate Change has written to local authorities in order to provide an update and further information on this position. Full consideration of flood risk and its management in the planning system remains of the highest priority. During the 18 month pause period, the existing policy framework of Planning Policy Wales, TAN 15 and the Development Advice Map (DAM), along with TAN 14 will remain in place"* [18].

2.31 Overall, the setting is considered to have high hydrological sensitivity due to its close proximity to controlled waters and the importance of hydrology to the ecology and landscape character of nearby designated habitats.

Ecological sensitivities

2.32 Within a 5 km radius of the proposed development site are five Sites of Special Scientific Interest (SSSIs), two Special Areas of Conservation (SACs), one Special Protection Area (SPA), one Ramsar site and one National Nature Reserve (NNR) [19]. Many of these designations are conterminous or have areas of overlap.

2.33 To the south, east and west of the proposed development site, much of the land and foreshore is designated as a series of SSSIs that together form the Gwent Levels SSSI group along the coast. The nearest of these is the Newport Wetlands SSSI and NNR with wetland, reedbed and estuarine habitats. North of this is the Nash and Goldcliff SSSI, and further east is the Whitson SSSI. Across the River Usk to the west is the St Brides SSSI.

2.34 The Severn Estuary is an SAC, and the foreshore or intertidal zone is also designated as a Ramsar site, SSSI and SPA. The lower part of the River Usk is an SAC and SSSI.

2.35 These designated sites support a variety of rare and/or ecologically valuable habitats and species, including mudflats and coastal marshes with wading bird populations and the reclaimed marsh and reen landscape with important plant, invertebrate and mammal populations.

2.36 While the power station site itself and land to the north have generally low ecological sensitivity, as brownfield industrially-developed sites, the surrounding landscape and water environment in all other directions have high sensitivity as evidenced by much of it being nationally or internationally designated.

Human environment and transport sensitivities

2.37 The proposed development site is located within a corridor of industrial and power generation development along the east bank of the River Usk, between a CCGT power station, sewage treatment works and Liberty Steel Newport plant.

2.38 The nearest residential receptor is at around 750 m distance as the crow flies from the nearest new structure proposed. The nearest settlement is Nash, around 1 km away, and in general the area is sparsely populated.

2.39 No public rights of way cross the proposed development site. A section of the Wales Coast Path runs through the Newport Wetlands NNR and is close to the edge of the proposed development site on the coal stockyard and existing site entrance, from which clear views can be gained of the power station site over low hedges.

2.40 Given the distance to residential receptors and low population of the area, it is considered to have fairly low sensitivity. However, as the existing access to the site is via the rural Nash Road and West Nash Road, which pass through the village of Nash and other groups of houses, the setting is considered to have higher sensitivity to potential road traffic impacts.

3 Proposed Development

3.1 The proposed development would comprise the following elements of external construction ;

- Laying out of containerised battery units along with associated inverters, switchgear units, closed loop cooling units, control units and associated electrical infrastructure mounted on concrete piers
- Laying out of containerised substation units and associated electrical infrastructure mounted on concrete piers
- Transformers within bunded compounds
- Auxiliary power supplies for the batteries, control systems, mounted on concrete piers
- Security palisade fence around the BESS substation and battery compound with access gates to the compound entrance from the internal road network .
- Erection of CCTV cameras.
- Laying out of a hard surfaced site access into to the BESS substation and battery compound from the internal road network. Car parking bays. Uncompacted gravel as a surface cover between the containerised units and equipment. Construction laydown area.
- Landscaping

Figure 5 Example of BESS project

3.2 The proposed development would be modest in scale relative to buildings on the existing power station site and the neighbouring CCGT. The BESS battery and substation compound would occupy an estimated 3 hectares footprint on the former coal stockyard. The BESS project would entail the design and installation of modular units and have a notional capacity of up to 230MW, consisting of up to 110 containers, subject to detailed design.

3.3 The construction laydown area would be located just to the north of the former coal stockyard on parts of the site that are currently landscaped, with amenity grassland and individual trees.

3.4 Construction would include all civils and engineering works for the foundations for the proposed development and all the electrical works to lay down and connect the electrical infrastructure, which would be mounted on concrete piers, with new transformers located within bunded compounds. Uncompacted gravel acts as a surface cover between the containerised units and equipment. A construction barrier would be formed so that the natural habitat and wildlife would not be disturbed.

3.5 Transport to and from site for the duration of the construction would be managed inline with a safe program of works. Once the project has been completed and commissioned the operational transport to site would be minimal and for maintenance only.

3.6 The proposed development would be much lower height than the industrial structures in the vicinity. The containerised units would be up to 3 m in height, mounted on piers up to 2m high. The design and height of the piers would be subject to detailed design. The new transformers would be bunded. The BESS substation would be up to 12 m in height subject to detailed design. The main power station building is around 46 m in height and the stack around 130 m in height.

3.7 The existing power station buildings, exhaust stack, conveyor systems and railway infrastructure would remain in situ, as it is required for the Uskmouth Conversion Project, subject to approval by Welsh Government .

3.8 No demolition is required for the proposed development. Construction of the proposed development is anticipated to take up to 12 months.

BESS batteries

3.9 BESS battery compound, the majority of the former coal stockyard would contain bays of containerised high efficiency, battery energy storage units, inverters, transformers and associated electrical infrastructure, arranged in rows. Each bay of batteries is approximately 3.8 MW each, there are an estimated 64 bays, each with a height of 3m, mounted on piers up to 2m high.

BESS substation

3.10 The BESS substation compound would contain 2 sets of 115MW, 132/33 kV transformer and associated switchgear to enable transmission to and from the existing Uskmouth 132 kV substation.

Auxiliary power supplies

3.11 Auxiliary power supplies are provided for the batteries, control systems and cooling systems.

Control room

3.12 A small battery control room would be installed to allow local control of the electrical infrastructure in order to permit site maintenance. The site can be controlled remotely during normal operation and would normally be unmanned.

Security fencing

3.13 The above equipment is sited within a compound with security fencing of around 3.5m in height.

CCTV

3.14 Motion sensor CCTV would be provided. At this stage, the location of the poles has not been determined. It is possible that lighting would be required for emergency purposes. At this stage, the location and luminance levels have not been determined and it is suggested that details are agreed by condition.

Road Access

3.15 Access to the BESS battery and substation compound would be provided by a hardcore access track connecting into the existing internal road network.

Car parking

3.16 Car parking spaces are provided

Lay down area

3.17 A construction lay down is located just to the north of the BESS battery and substation compound.

Landscaping

3.18 Ecological enhancement would be delivered as an integral part of BESS project. In addition to habitat retention and protection, the landscaping scheme would restore habitats where possible.

Access and road traffic

3.19 The existing site access via West Nash Road and Nash Road would be used, providing direct access to the strategic highway network at the A48 Southern Distributor road, passing mainly through industrial estates with limited non-industrial traffic. The existing access is shown in Figure 6 The railway line would remain in place.

3.20 All economically viable coal was removed from the former coal stockyard in 2019. However this site would be remediated prior to construction of the proposed development. Broadly suitable development levels are available at the former coal stockyard and access road locations. The construction method would be confirmed after ground condition survey.

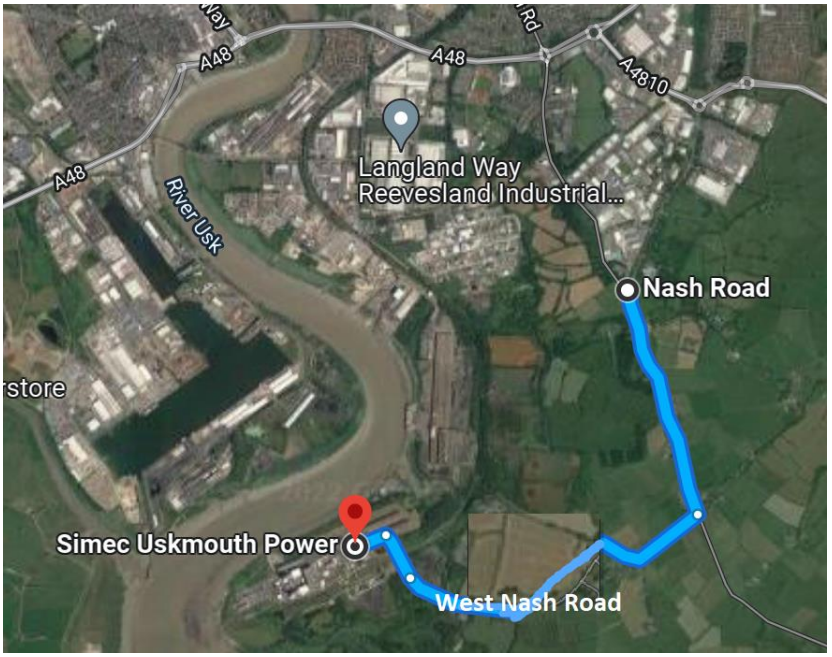

Figure 6 Existing Access

Construction traffic

3.21 Construction traffic would use the existing access via West Nash Road. It is anticipated that there would be approximately up to 4,720 HGV vehicles (two-way movements) accessing the site over the 12 month construction period, approximately 9 HGV vehicles in and out per day for 1 year.

Operational traffic

3.22 During operation there would be limited traffic movements, estimated at 4 light commercial vehicles per month on average.

Drainage

3.23 In terms of the drainage, surface water from the site would run off directly into uncompacted gravel between the units and equipment and into the existing site drainage system. The proposed development, associated hardstanding and internal access road spurs would only add a small amount of additional impermeable surface relative to the existing power station site (illustrated on Figure 2). The existing power station drainage system is considered to have adequate capacity to manage runoff from the additional impermeable surface. There is also no foul water emanating from the site.

Additional works

3.24 In addition to the proposed development the applicant would seek to install underground cable connections between the BESS substation and the existing Uskmouth 132kV substation (Figure 7). Electricity would be imported and exported between the BESS substation and the existing 132 kV substation, these cable runs are intended to be underground (where possible) utilising existing ducts and conduits within land owned by the power station. The final route of the power connection has not yet been confirmed. Planning permission is not sought for these local underground cable connection works.

Figure 7 Existing Uskmouth 132kV substation

3.25 In addition to the proposed development the applicant would seek to reconfigure the existing Uskmouth 132 kV substation (Figure 7) in order to connect to the BESS substation via underground cable connections. Planning permission is not sought for these electrical works.

4 Environmental Effects Screening

Landscape and visual amenity

4.1 The size and appearance of existing power station buildings, including the stack, would not be changed by the proposed development.

4.2 The majority of the proposed development is located on the former coal stockyard, the containerised components would be up to 3m in height, mounted on piers up to 2m in height, The height of the piers would be subject to detailed design. The BESS substation compound would be up to 12 m in height, significantly lower than the existing power station buildings (around 46 m for the boiler house, 38 m for the turbine house and 130m for the main stack). The footprint of the proposed development (shown in Figure 2) would have significantly less massing than the existing power station buildings. The laydown area just to the north of the coal stockyard and access track would have negligible impact on visual amenity. For completeness, there would be no change to the visual amenity of the 132kV Uskmouth substation.

4.3 Views of the proposed development are set against the industrial landscape of the larger power station buildings from potential viewpoints to the south and east and possibly in views from the north and west (i.e. from the River Usk and across on its far bank).

4.4 The site is screened by existing vegetation to the south and east. The scale of the proposed development is significantly smaller than the surrounding industrial developments and in context with the existing power station buildings, cooling towers and the wider industrial developments to the north and south.

4.5 The proposed development site has a long history of industrial use for power generation, and this land use is acknowledged to have been a long-standing influence on landscape character as described in Section 2. The proposed development is set between Liberty Steel Newport steel works to the north and a CCGT power station adjacent to the south.

4.6 No significant additional visual amenity or landscape character effects from the proposed development, are therefore considered likely.

Archaeology and cultural heritage

4.7 The wider Uskmouth site is located within industrial developments on the east bank of the Usk that are acknowledged to form a part of the existing historical landscape character. No significant additional effects on the landscape due to the proposed BESS development are considered likely.

4.8 The nearest Listed Buildings are at more than 1 km distance and the nearest Scheduled Monuments at more than 3 km. Taking into account the lack of likely significant visual or landscape character effects of the proposed development, significant effects on the settings of these heritage assets are considered unlikely.

4.9 The proposed development site lies in the archaeologically sensitive area of the Gwent Levels, and it has been noted in comments from the Glamorgan-Gwent Archaeological Trust on nearby planning applications on the Liberty Steel site and Julian's Reen crossing (see cumulative developments section below) that remains of significant prehistoric and Roman activity have previously been found in the vicinity. The proposed development would be or wholly on previously-developed land of the power station site, so additional disturbance of below-ground archaeology is considered relatively unlikely.

4.10 No significant additional effects on archaeology or cultural heritage from the proposed development are considered likely.

Ecology

On-site habitats

4.11 The former coal stockyard on which the proposed development would be constructed is considered to have very low potential for any ecological value. All economically recoverable coal was removed in 2019.

4.12 A section of the amenity grassland and row of trees east of the main power station buildings would be used for construction laydown, and is considered unlikely to have more than site or local ecological value. However, depending on the current management regime of the grass, there may be potential for invertebrate and reptile species to be present and the trees could provide nesting for breeding birds.

4.13 Areas of scrub around the railway line may have higher habitat value. The access track would connect to the existing internal road network and would not present additional land-take requirement in this area.

4.14 The existing crossing of Julian's Reen is not expected to be utilised, prior surveys for otter and water voles were undertaken in 2019 as both species are known to be present in the area.

4.15 Existing ponds and watercourses on and around the power station site would not be affected by the proposed development, and no impact on habitats or species present in these water bodies is foreseen.

4.16 The existing power station buildings and conveyors have been in relatively recent active use and would not be modified as a result of the proposed development. The buildings are therefore not considered to have significant bat roost potential that would be affected by the proposed development.

4.17 A Phase 1 habitat survey would be conducted and provided with the planning application. This would recommend any appropriate species or habitat protection measures, or enhancement measures elsewhere on site if necessary to compensate for habitat of value being lost. If the construction of elements of the proposed development requiring tree or scrub loss were undertaken during the bird breeding or wintering seasons, nesting checks would be undertaken in advance by a qualified ecologist.

4.18 Habitat protection would be provided by construction fencing around the perimeter of the construction area, to protect adjacent habitats, within the coal stockyard, this would include a stand off from the interceptor ditch to protect habitats beyond. The boundary ditch habitat, would be retained. Ecological enhancement would be delivered as an integral part of the BESS project. In addition to habitat retention and protection, the landscaping scheme would restore habitats where possible. The programme for habitat creation, establishment and landscaping would be provided following further ecological studies and presented as part of the planning application.

4.19 Subject to the findings and mitigation recommendations of the proposed habitat and if appropriate species surveys, no significant additional effects on on-site ecology from the proposed development, are considered likely.

Off-site habitats

4.20 As discussed in Section 2, the proposed development site is set among protected habitats with national and European designations, and although these do not extend to the development site itself, there is direct connectivity via land, water and dispersion of air pollutants.

4.21 No significant changes in air pollutant emissions, operational noise, surface water discharge or risk of water contamination are considered likely.

4.22 A Habitats Regulations Assessment Screening Report would be provided with the planning application, if necessary. Following the judgement in *People Over Wind* (CJEU case C-323/17), it is understood that measures intended to avoid or reduce the harmful effects of a plan or project on a site designated under the Habitats Directive cannot be considered in HRA screening, and therefore an Appropriate Assessment to consider such measures may also be required. Information would be provided such that the Appropriate Assessment can consider potential effects through air, land and water pathways, including construction noise and vibration effects of impact piling (if proposed). The construction method would be confirmed after ground condition survey.

4.23 Nevertheless, for the reasons set out above and elsewhere in this section concerning such pathways, no significant effects on European designated habitats that cannot be mitigated are considered likely and this is expected to be confirmed via the HRA screening and, if required, Appropriate Assessments.

Traffic and transport

4.24 Road access to the proposed development during construction and operation would be via West Nash Road and Nash Road (Figure 6). During operation and construction traffic would be routed through the existing access via West Nash Road. During operation, 1 two-way light goods vehicle movements per week, are expected.

4.25 During construction traffic flows would be around 4,720 two way trips over 52 week construction period, equivalent to 18 two trips per day or 9 HGV per day.

4.26 The proposed development's daily traffic flow during construction and operation is well below indicative threshold for a Transport Assessment (100 or more two-way vehicle movements per day

or 30 per hour) in the withdrawn Department for Transport Guidance on Transport Assessment [20], superceded by DfT Guidance on Transport Assessments and Statements, March 2014. [21]

4.27 A Transport Statement would be prepared as part of the Construction Management Plan, in accordance with the Welsh Government publication TAN18 (Mar 2007), and would be presented to support the planning application.

4.28 No public rights of way cross the development site or would be directly affected by proposed development .

4.29 Subject to the findings of the Transport Statement, no significant additional effects on the road network or road safety from the proposed development, are considered likely.

Air quality and odour

4.30 The proposed development has no emissions to air.

4.31 HGV traffic generation by the proposed development would not exceed the indicative threshold for when air quality assessment may be required in the IAQM and EPUK *Planning for Air Quality* guidance [22]. The threshold is a traffic flow change of more than 100 annual average daily vehicles in areas away from an AQMA.

4.32 Newport City Council's NO_2 monitoring is partly targeted at areas using a risk-based approach for potential areas of high pollutant concentrations [23] No monitoring is undertaken in the area south of the A48 where the proposed BESS development site is located, suggesting that these are at low risk of poor air quality [24].

4.33 For the Uskmouth power station location in 2022, the NO2 average is 8.4 (µg.m-3) micrograms per cubic metre as an annual mean, well below the Air Quality Objective levels of 40 µg.m-3. PM10 is 10.8 (µg.m-3) micrograms per cubic metre well below the Air Quality Objective levels of 40 µg.m-3. PM2.5 is 7.0 (µg.m-3) micrograms per cubic metre, well below the Air Quality Objective level of 25 µg.m-3.

4.34 Given the moderate background air pollutant concentrations, the fact that the proposed development's traffic generation would not affect an AQMA, and that its main traffic flows would be generated along on the A48 (already used by substantial flows of heavy vehicles from surrounding industrial land-uses) Nash Road and West Nash Road, it is not considered that significant additional air pollution effects due to road traffic generation for construction or operation are likely.

4.35 The proposed development would not give rise to any odour.

4.36 No significant additional effects on the air quality or odour from the proposed development, are considered likely.

Noise and vibration

4.37 Ventilation and cooling fans within condensing units are located within the containerised battery units, however the noise profile is very low, (below 65dBA at 10 m). Given the site's location away from residential properties and other sensitive uses, there would be no impact on residential or

local amenity.

4.38 In the construction phase, no demolition is required, however there may be limited need for bulk earthworks, as the existing site levels would be suitable. The final foundation design would be confirmed after further site investigation. Construction work would therefore involve mainly assembly of pre-manufactured components, with noise from vehicles such as cranes. Depending on ground condition survey and foundation design, impact piling could be required.

4.39 Given the distance to noise-sensitive residential receptors (at least 750 m), no significant noise or vibration effects from temporary construction activity or during operation are considered likely.

4.40 Road traffic generated during operation would be routed via West Nash Road, no significant noise effects from additional operational road traffic are considered likely.

Water resources and flood risk

4.41 The proposed development would not alter the existing power station's process water treatment and discharge. No new risk of surface water contamination would be caused by the proposed development.

4.42 The proposed development would mainly comprise containerised units mounted on concrete piers with uncompacted gravel between the units and equipment, the new transformers would be bunded with no potential for runoff contamination. Risk of surface water contamination would therefore be very low.

4.43 No additional water resources would be required due to the proposed development:

4.44 Part of the proposed development site lies within flood zone C1 (served by significant infrastructure, including flood defences) [16]. New impermeable hardstanding area would be added by the proposed development. The proposed development lies within TAN 15 Defended Zones, Revised in Dec 2021 [17]

TAN 15 Defended Zones	Areas in Zones 2 and 3 (rivers and the sea) where defences have a minimum standard of protection of 1:100 for rivers and 1:200 for sea	Similar policy purpose to zone C1 (areas served by significant infrastructure including flood defences), but new zone has a more transparent, consistent and robust definition

Table 1 TAN 15 defended zone (Dec 2021)

4.45 A flood consequence assessment (FCA) would therefore be undertaken and submitted with the planning application, following the guidance of TAN 15 [17]. The FCA would consider flood risks to the development and elsewhere within the flood plain. The FCA would recommend any necessary mitigation to avoid unacceptable flood risk impact (including climate change allowance) to on or off site receptors.

4.46 The applicant intends to build flood risk mitigation into the design by mounting containerised electrical infrastructure up to 3m in height on concrete piers up to 2m in height. The height of the piers would be subject to detailed design. The new transformers would be bunded to mitigate flood risk. It is anticipated that uncompacted gravel would be used as surface cover between the containerised units and equipment.

4.47 The final detailed design would be subject to the findings of FCA and ground condition survey and would be provided as part of the planning application.

4.48 It should be noted that potential for surface water runoff to increase downstream flood risk is minimal given the presence of the adjacent tidal River Usk and Severn Estuary for discharge, with flows of a volume that could not be measurably affected by any clean surface water discharge from the development site.

4.49 With regard to flood risk to the development site itself, NRW flood zone mapping as discussed in Section 2 indicates that the majority of the site is at low risk of pluvial, fluvial or coastal flooding due to existing flood defences. Extensive modelling of coastal flood risk to the Caldicot Levels has been undertaken in recent years, associated with the M4 CaN proposal, which indicates increased risk to properties and infrastructure including Uskmouth Power station after 2030 if existing coastal defences were not to be upgraded. Welsh Government in the Severn Estuary Shoreline Management Plan 2 has defined a 'hold the line' policy for the next 100 years, and the draft Severn Estuary Flood Risk Management Strategy identifies a high benefit to cost ratio for future upgrading of flood defences for the Caldicot Levels, meaning that this can reasonably be expected to be undertaken.

4.50 Overall therefore, subject to the findings and implementation of any mitigation recommendations of the flood consequence assessment, it is considered likely that coastal flood risk to the proposed development would remain within acceptable standards of protection over its operating lifetime (around 35 years), and also that the small areas of pluvial or fluvial flood risk identified in NRW mapping would not significantly affect the proposed development.

4.51 No significant additional effects due to flood risk or water contamination on or from the proposed development, are therefore considered likely.

Geology, hydrogeology and land contamination

4.52 Due to the longstanding industrial use of the site for power generation, the adjacent railway and steel works land-uses, ground contamination may be present on the former coal stockyard. Asbestos is understood to be present in the existing power station buildings and there are known areas of buried asbestos on the wider site, therefore wider asbestos contamination of soil on site is possible.

4.53 Prior to construction of the proposed development a ground condition survey would inform the detailed design of the foundations and confirm the requirement for piling . Construction activities have the potential to mobilise soil contamination present or create preferential pathways to groundwater.

4.54 It is expected therefore that a Phase 1 desk-based geo-environmental report would be submitted with the planning application, which would recommend any further necessary intrusive site investigation, risk assessment and remediation work to be undertaken prior to development.

4.55 During operation, the proposed development would mainly comprise containerised units mounted on concrete piers with uncompacted gravel between the units and associated equipment , the new

transformers would be bunded, there is no potential for ground or groundwater contamination from the proposed development.

4.56 Existing ground contamination, if present, can be routinely managed through remediation and appropriate construction working methods. Subject to the findings of the further risk assessment and appropriate remediation if required. No significant additional effects due to ground contamination associated with the proposed development are therefore considered likely.

Climate change

4.57 Net greenhouse gas (GHG) emissions are not emitted during operation of the proposed development. A key attribute of the BESS project is the GHG emission benefits from energy storage during periods of low demand.

4.58 The principal climate change risk to the proposed development is flooding, which has been discussed above. Other expected climatic changes over its approx. 35 year operating lifetime (potential increases in peak summer temperatures and drought conditions, changes in winter extremes and storm events, changes in humidity) are not expected to be of a magnitude to significantly affect the development or lead to additional adverse environmental effects.

Socio-economic, population and human health

4.59 The proposed development would provide employment opportunities during construction and operation, with potential for beneficial socio-economic effects.

4.60 As discussed under the relevant pathway headings in this section (e.g. air quality, road traffic, water or ground contamination). No significant adverse effects via environmental pathways that could affect human health are considered likely.

Accidents and disasters

4.61 The principal natural disaster with potential to influence environmental effects of the proposed development is coastal flooding. As discussed above, this has a low risk of occurrence and low potential for adverse environmental consequences. Flood risk mitigation would be provided by FCA and is likely to entail protection from flood waters by mounting the containerised electrical infrastructure on concrete piers and bunding the new transformers.

4.62 It is expected that the containerised batteries would contain an integrated Fire Detection and Suppression System.

4.63 No significant additional environmental effects due to accidents or natural disasters affecting the proposed new development, are therefore considered likely.

Natural resources, material assets and waste

4.64 The BESS charges with electricity from the grid during periods of low demand and then discharges that electricity during periods of high demand. The BESS is able to support UK and Welsh Government policy to contribute to grid stability by offering frequency control services to National

Grid. Effective energy storage will allow significant increases in renewable generation on the UK electricity system by allowing the balance of supply and demand against intermittent generation from wind and solar [2,3].

4.65 The proposed development would be constructed mainly upon the former coal stockyard. The construction laydown area would be located just to the north of the former coal stockyard on parts of the site that are currently landscaped, with amenity grassland and individual trees.

4.66 In addition to the proposed development the applicant would also seek to install underground cable connections between the BESS substation compound and the existing Uskmouth 132kV substation, and reconfigure the 132kV substation. Planning permission is not sought for these works.

4.67 There would be no loss of agricultural land or land with high ecological value.

4.68 No significant additional adverse effects on or from natural resources, material assets or waste from the proposed development, are therefore considered likely.

Radiation, heat and light

4.69 The proposed development would not cause any additional emission of radiation, heat or light.

4.70 No significant additional effects due to radiation, heat or light from the proposed development, are therefore considered likely.

Cumulative effects with other developments

4.71 A search has been made for consented developments that may have potential for cumulative construction or operational impacts with the proposed development. Planning applications in the Lliswerry Ward (within which the proposed development site is located) listed on the Newport City Council (NCC) planning website in the last three years (i.e. from January 2019) have been reviewed. Nationally Significant Infrastructure Projects listed on the National Infrastructure Planning website in the Newport area have also been reviewed.

4.72 In August 2020, SUP applied to NCC for planning permission (20/0748), to construct the “operational development” comprising the following elements of external construction: fuel storage silos, conveyor systems, pellet de-dusting building (on former coal stockyard); Improved rail unloading facilities; Altered and updated internal road network and drainage; Vessels and infrastructure for the delivery, storage and removal of flue gas treatment reagents and residues. n 3rd April 2021 SUP received notification from NCC that the Uskmouth Power Station planning application (20/0748), was referred to the Welsh Ministers for determination. In February 2022, SUP contacted Welsh Ministers to confirm the withdrawal of the called in planning application (20/0748). The withdrawal of the planning application (20/0748) terminated plans for the Uskmouth Conversion “operational development” on the site of the former coal stockyard.

4.73 Development of a battery storage facility off Traston Road close to Corporation Road is consented (ref.16/0855). UK Power Reserve have submitted a S73 application to extend the time limit to

commence development by 5 years in respect of planning permission. Due to distance from the proposed development, no significant cumulative effects are considered likely.

4.74 Alexandra Docks partial discharge (21/1054) of planning permission (20/0237) for construction of plasterboard manufacturing facility. Due to distance from the proposed development, no significant cumulative effects are considered likely.

4.75 Llanwern Solar and Battery Storage (DNS/3213968), is approved, Welsh Government granted consent for the first renewable energy scheme to receive planning permission as a DNS in 2018. The Llanwern Solar by Gwent Farmers Community Solar Scheme will be located on land on the Caldicot Levels to the south of the Llanwern Steelworks. Due to distance from the proposed development, no significant cumulative effects are considered likely.

4.76 A Lawful Development Certificate for a peaking power plant and ACT plant within the power station site was granted in April 2016 (16/0257) and the peaking plant has been constructed. Both developments were screened as non-EIA and so are unlikely to have significant cumulative environmental impacts with the proposed development. The applicant does not at present expect that the ACT plant will be constructed. Cumulative air pollutant emissions would not occur as the proposed development would not create emissions to air.

4.77 In June 2019 Welsh Government blocked plans for the new M4 ‘Corridor Around Newport’ (M4 CaN) motorway development which will not be progressed

4.78 Major redevelopment is being undertaken at the Glan Llyn (‘Celtic Business Park’) site on the former Llanwern steelworks site, but due to distance from the proposed development, no significant cumulative effects are considered likely.

4.79 Re-grading and creation of an access track to the flood defence sea doors at the crossing of Julian’s Reen was consented in 2018 (18/0027). It is unlikely that the short construction period would overlap with that of the proposed development and lead to cumulative impacts or any potential significant cumulative effects. There would be no potential for cumulative effects after construction.

Transboundary effects

4.80 There is no potential for transboundary effects, due to the site location and lack of significant environmental effects as set out above.

Summary of development features that avoid potential significant environmental effects

4.81 Table 2 lists those specific features of the proposed development that avoid or prevent potential for significant adverse environmental effects

Development feature	Purpose
Re-use of existing grid connection	Largely avoids demolition/construction impacts and use of resources; no significant change in visual impact;
Proposed development contained within existing powerstation boundary on former coal stockyard	No land-take with loss of protected habitat around sites
Utilises existing highways	Utilises existing highway network limited traffic during operation
Energy storage	Supports WG and UK battery storage policies. Important component in transition to net zero

Table 2 Summary of development features that avoid potential significant environmental effects

5 Conclusion

5.1 The proposed development does not meet the definitions of any development type listed in Schedule 1 of the EIA Regulations (Wales) 2017. It does meet a definition in Schedule 2, and this EIA Screening Report has therefore considered whether EIA is necessary due to likelihood of significant effects on the environment, taking into account the criteria in Schedule 3.

5.2 The characteristics of the proposed development, have been considered, and the potential for significant environmental effects (taking into account the sensitivity of the site and surrounding environment) has been evaluated. Potential effects from the cumulative impacts of other consented developments have also been evaluated.

5.3 Subject to certain further environmental surveys and where appropriate any resulting mitigation recommendations, which would be undertaken to support the planning application as set out in the body of this report, no significant environmental effects are considered likely and it considered that the proposed development should be screened as a non-EIA project.

5.4 A formal screening opinion from Newport City Council is requested under Regulation 6 of the Regulations.

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