ECOLOGY MANAGEMENT AND MONITORING PLAN (EcMMP)

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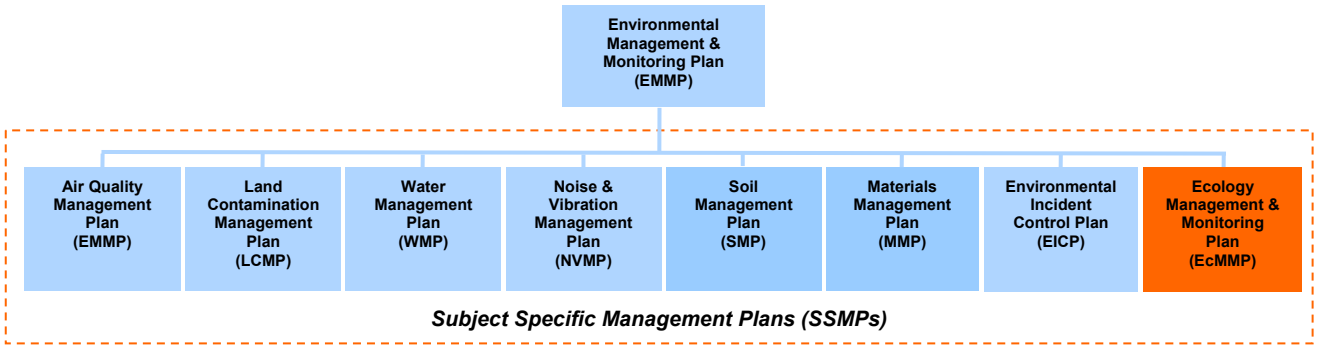
EXECUTIVE SUMMARY

NNB Generation Company Limited (Company Number 06937084), part of EDF Energy, is the Company that will lead the new nuclear programme in the United Kingdom. For the purpose of this application for Development Consent, NNB Generation Company Limited is referred to as EDF Energy.

This Ecological Management and Monitoring Plan (EcMMP) relates to the construction, operational and post-operational phases (where relevant) of the off-site associated developments proposed in connection with the Hinkley Point C (HPC) Project.

As illustrated in Plate 1.1 below (*orange box*) the EcMMP is a Subject Specific Management Plan that is directly associated with the associated development **Environmental Management and Monitoring Plan** (EMMP).

Plate 1.1: Structure of the Management Plans



The EcMMP has been based upon the relevant assessments and surveys undertaken to support the **Environmental Statement** which supports the application for Development Consent submitted to Infrastructure Planning Commission (IPC). Relevant guidance and legislation has also been taken into account when preparing this EcMMP.

The measures to be implemented to control the impact of work activities during the various phases are defined within this plan.

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1. INTRODUCTION

1.1 Scope

1.1.1 NNB Generation Company Limited (Company Number 06937084), part of EDF Energy, is the Company that will lead the new nuclear programme in the United Kingdom. For the purpose of this application for Development Consent, NNB Generation Company Limited is referred to as EDF Energy.

1.1.2 This Ecological Management and Monitoring Plan (EcMMP) relates to the construction, operational and post-operational phases (where relevant) of the off-site associated developments proposed in connection with the Hinkley Point C (HPC) Project.

1.1.3 This EcMMP will be applied to the following work sites:

- Bridgwater A accommodation campus (BRI-A);
- Bridgwater C accommodation campus (BRI-C);
- Combwich Wharf and Freight Laydown Facility (Combwich);
- Cannington Bypass;
- Cannington Park and Ride Facility (CPR);
- Williton Park and Ride Facility (Williton);
- Junction 23 Park and Ride Facility; Freight Management Facility; Consolidation Facility for Postal/Courier Deliveries; and Induction Centre (J23); and
- Junction 24 Park and Ride, Freight Management Facility and Temporary Courier Consolidation Facility and Induction Centre (J24).

1.2 Conclusions from the Environmental Impact Assessments

1.2.1 Potential impacts on biodiversity which may arise from the construction works have been assessed as part of the Environmental Impact Assessment (EIA) process and reported within the relevant volumes of the **Environmental Statement**. These have concluded that the potential biodiversity impacts associated with the construction, operation and post-operational phases (where relevant) are not likely to be significant provided certain controls are put in place. These control measures are described in the sections below and in the terrestrial ecology and ornithology chapters of the relevant volumes of the **Environmental Statement** (i.e. **Chapter 14, Volumes 3** to **10**).

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2. ECOLOGICAL CONTROL MEASURES

2.1 Generic Design Control Measures

2.1.1 Potential impacts on ecological receptors have been avoided in respect of each of the proposed off-site associated developments through the iterative scheme design process, wherever this has been achievable. Further detail on those design measures, which are relevant to ecology, is provided in the following sections. All the design measures have followed these general principles:

- avoidance of key habitats (such as places used for breeding);
- creation of suitable habitat for biodiversity receptors;
- creation or retention of features to allow safe movement of wildlife through and within the sites; and
- adoption of a lighting strategy that has been designed to adhere to the principles of the Bat Conservation Trust's (BCT) Bats and Lighting publication (Ref. 1).

2.2 Generic Control Measures

a) Timing of Vegetation Removal and Management

2.2.1 At all sites, vegetation clearance and/or management shall, wherever possible, be completed outside of the breeding bird season (which unless otherwise advised is considered to be March to August inclusive). In any instances where this is not possible, a suitability qualified ecologist would be required to survey the vegetation, prior to the work commencing, in order to check for the presence of any active nests. If an active nest was found, then it would be left undisturbed until the young have fledged.

b) Construction Site Best Practice

2.2.2 A number of measures would be implemented in order to protect accidental or reckless harm to all wildlife which may be present within and around the construction sites. These measures are as follows:

- ensuring that all trenches left overnight are either completely covered or provide a means of escape (e.g. via one shallow-angled, sloped side);
- demarcating retained and created habitats or sensitive ecological zones (including tree root protection zones) using appropriate fencing to prevent accidental egress and potential damage;
- if the works are unexpectedly delayed, a site walkover would be undertaken by an appropriately experienced ecologist to ensure that the ecological baseline of the site and adjacent land has not changed;
- ensuring that the ecological control measures described below are completed an at appropriate time of year, where possible; and

- should any protected species, or suspected protected species, be encountered by personnel all works on site would cease and the EDF Energy's appointed Ecological Specialist would be consulted to determine the appropriate way forward.

c) Appointment of EDF Energy Ecological Clerk of Works (ECoW)

2.2.3 An Ecological Clerk of Works (ECoW) would be appointed to supervise the following activities:

- all vegetation clearance works; and
- any other activities which have the potential to adversely affect wildlife.

d) Habitat Management

2.2.4 The retained and created habitats within the associated development sites would be subject to appropriate management for the duration of the development. These management prescriptions would be detailed in site-specific Habitat Management Plans that would be produced prior to the start of construction. These prescriptions may include actions such as less frequent/rotational hedgerow and grassland cutting and vegetation clearance from and adjacent to ditches and ponds.

2.2.5 Habitat creation would, where appropriate, use species-rich mixes of grass/wildflowers/shrubs/trees and where possible use locally sourced seed or stock. All areas of habitat creation would be subject to a period of aftercare management, which may include watering, provision of rabbit proof-fencing and replacement of failing stock.

2.3 Site-Specific Design Control Measures

a) Bridgwater A

i. Habitat Retention

2.3.1 The area of scrub and mature trees in the southern part of the site (in the vicinity of Bath Bridge) is one of the areas that would be retained throughout the proposed development. A number of mature trees along the site boundary with the A39 (Bath Road) would also be retained. The proposals for habitat retention have been designed to ensure suitable habitat persists throughout the development phase for, *inter alia*, reptiles and invertebrates.

ii. Habitat Creation and Enhancement

2.3.2 Extensive native tree and shrub planting would take place around the edges of the site. This would include a dense line of mature broad-leaved trees between the western boundary and the new rhyne, as well as along the eastern boundary of the site. There would be further tree planting along the south-eastern edge of the site, associated with a grass swale. Scattered areas of landscape planting would also be provided in the central part of the proposed development, whilst approximately 4.2ha of green open space, managed as amenity grassland, would be created around the edges of the proposed development. The largest of these would be in the northern part of the site, with smaller areas in the eastern and southern parts of the site.

2.3.3 A gabion-lined rhyne (approximately 635m in length) would be created along the western and northern site boundaries. Whilst during operation of the site it would be gabion-lined, it has been designed to allow, during the post-operational phase, coir rolls to be placed on the gabion ledges within the channel and planted with native emergent and marginal plant species. The liner would also be removed at this stage to allow groundwater to fill the channel and, eventually, it would be connected to the wider rhyne network as part of the North-East Bridgwater development.

b) Bridgwater C

i. Habitat Retention

2.3.4 The scrub and mature trees along the northern boundary of the site would be retained and protected from damage by fencing.

ii. Habitat Creation and Enhancement

2.3.5 Trees and shrubs would be planted along the site's eastern and western boundaries, as well as through the centre of the site. 0.04ha of wildflower grassland would be sown along the eastern site boundary and would comprise a diverse range of native plant species.

c) Cannington Bypass

i. Habitat Retention

2.3.6 The scheme has been designed to minimise the extent of hedgerow and tree loss that would be required, as well as to minimise the extent of watercourse affected. The on-site water body and surrounding vegetation would also be retained throughout, whilst all retained habitat features would be protected by fencing during construction. These measures would ensure that impacts on species such as badger (*Meles meles*) and great crested newt (*Triturus cristatus*) would also be minimised.

ii. Habitat Creation and Enhancement

2.3.7 An extensive landscape planting scheme has been designed to deliver a wide variety of biodiversity benefits. This includes the creation of approximately 1.16ha of species-rich rough grassland, 1.42ha of native scrub and woodland planting, 2,626m of species-rich hedgerow planting and a northern balancing pond that, whilst having an attenuation function for managing surface water run-off, would be designed to provide habitat for a variety of wetland species. Species-specific design measures (including, for example, great crested newt hibernacula) would also be provided in these areas of habitat creation, and the management regime would be designed to deliver benefits to a wide range of species groups, including, *inter alia*, great crested newts, slow-worms (*Anguis fragilis*), foraging bats, invertebrates and badgers.

2.3.8 Measures, described below, have been designed into the scheme to maintain safe wildlife movement routes across the site, through the provision of safe crossing points.

- an 'otter ledge' would be provided within the box culverts at the Mill Stream crossings which would allow otter (*Lutra lutra*), and other fauna, continued safe passage along this watercourse;

- two permanent bat 'hop-over' crossing points would be established to maintain the existing bat commuting routes along Brymore School main drive and to the south of Sandy Lane.
- a 2.5m diameter underpass would be provided in the northern part of the site to provide a safe crossing point for a variety of bat species, as well as other species, including amphibians, badgers and other small mammals.
- one 600mm diameter underpass would be located in the centre of the site along the line of a well-used badger path. It would enable wildlife such as badgers, amphibians, reptiles and small mammals to safely cross beneath the bypass. Two additional flood culverts (1m wide, 0.6m high and 8.3m long) located adjacent to Mill Stream would provide additional connectivity across the site for wildlife.
- wildlife-proof fencing would be installed to guide species to the crossing points described above and prevent species such otters and badgers from straying on to the road where they would be at risk of traffic collision.

iii. Lighting

2.3.9 In addition to the general principles of lighting described above, at the bat crossing point on Brymore School main drive, the lighting columns would be lowered to 6m (from 10m) to ensure that a proportion of the canopy remains unlit and available to commuting bats.

iv. Drainage

2.3.10 The drainage strategy has been designed to, *inter alia*, channel greenfield run-off from fields to the north-west of the bypass (and the embankment slope on the southern side of the carriageway) into the existing water body in the northern part of the site. This would secure hydrological input to this water body, which would be a permanent benefit, given that it currently suffers from a lack of water during the summer.

d) Cannington Park and Ride

i. Habitat Retention

2.3.11 All watercourses and hedgerows within the site would be retained, except for a 35m section of hedgerow and tree-belt along the southern boundary that would be removed for the construction of the access road. All retained habitat features would have an adjacent 'no construction' buffer, which is at least 10m wide and which would be clearly demarcated throughout the construction phase. Along the eastern boundary of the main part of the site, this 'exclusion zone' extends a minimum of 20m from the existing field boundary hedgerow (to provide an 'ecological zone').

ii. Habitat Creation and Enhancement

2.3.12 The retained hedgerows within the site would be strengthened by additional hedgerow planting to permanently infill all existing gaps. All the hedgerows within the site would also be subject to an altered management regime for the duration of the development, which would be designed to enhance their value for biodiversity.

2.3.13 Along the eastern boundary of the main part of the site, additional hedgerow planting would fill a large existing gap and immediately to the west of this hedgerow, an area of rough grassland would be created. This area has been designed to provide suitable receptor habitat for slow-worms translocated from the affected sections of A39 verge. In the post-operational phase the hedgerow planting and a strip of hedge-bottom rough grassland would be retained in this location and, as such, would maintain habitat connectivity between this area and the habitats that would be restored in the verge of the A39 during this phase of development.

2.3.14 Temporary landscape planting would be established along the eastern edge of the park and ride area. This would be partly on bunds and would comprise native, fast-growing species such as willow. The hedgerow boundary to the east of the main site area will also be reinforced with additional native tree-planting.

2.3.15 A 600mm diameter badger tunnel would be installed underneath the internal access road early during the construction phase. Badger exclusion fencing would also be installed around the perimeter of the developed site, including the spoil mounds, temporary landscape planting and the internal access road.

iii. Lighting

2.3.16 In addition to the general principles of lighting described above, the lighting strategy for this site has also been designed to deter bats from crossing the access road from the A39 at the southern boundary of the site during the operational phase of development.

e) Combwich

i. Habitat Retention

2.3.17 The location of the laydown component of the site has been offset from the Severn Estuary SPA/Ramsar site and Bridgwater Bay SSSI by approximately 150m to minimise disturbance to inter-tidal birds. For a similar reason, the existing hedgerow/tree belt along the Combwich Brick Pits County Wildlife Site (CWS) boundary would remain unaffected by the proposed development to minimise disturbance to birds within the CWS.

2.3.18 All hedgerows (except those sections at the road crossing points) and watercourses within the site would be retained with a minimum of a 10m wide habitat buffer to either side. These areas would be fenced to restrict access. Additional landscape planting around the edges of the laydown area would also strengthen these existing corridors. These scheme design measures would ensure that the existing habitat corridors are maintained and enhanced and continue to be available to wildlife.

2.3.19 The wharf component of the scheme has been designed to minimise impacts on coastal habitats. All retained coastal habitats would be fenced in order to restrict access to these habitats by contractors during the construction phase, which could otherwise result in accidental/incidental damage to these habitats.

ii. Habitat Creation and Enhancement

2.3.20 The habitats created and enhanced have been designed, and would be managed, to provide good quality foraging habitat for bats and other wildlife, with the result that at

the end of the construction phase there would be a greater extent of good quality habitat within the site than in the absence of development.

2.3.21 Permanent, native landscape planting, including groups of scrub and trees (totalling approximately 2ha), would be undertaken around the perimeter of the laydown area and the contractors' compound at the wharf. This planting would strengthen existing habitat corridors around the site. Temporary native species-rich grassland (approximately 5.39ha) and scrub planting would also be created on the flood and noise attenuation bunds to the north and west of the laydown area.

2.3.22 Of the six watercourse culverts required within the laydown area, two would be specifically designed to accommodate otter movement, including in flood conditions. This would be achieved by using box culverts incorporating otter ledges.

2.3.23 To further facilitate otter movement through the site, and avoid the potential for traffic collisions, otter underpasses would be installed underneath the existing access road to the wharf. These underpasses would be located above the flood level and would be 600mm high x 1200mm wide. To encourage otters to find and use these underpasses, otter fencing would be installed along the ditches and road near to the underpass location. All culverts, underpasses and fencing have been designed with reference to the Design Manual for Roads and Bridges – Nature Conservation Advice in Relation to Otters (Ref. 2). Furthermore, the lighting strategy and the 10m buffer zone to either side of each watercourse have been designed to reduce the potential for disturbance of commuting otters.

2.3.24 The noise and flood defence bunds, and the proposed landscape planting along the north-western boundary of the laydown area, would minimise disturbance of the reedbed bird community within the Combwich Brick Pits CWS. Existing and proposed landscape screening to the south and west of the contractor's compound in the wharf area would also minimise disturbance to the CWS from activities in this location (which is approximately 100m to the north of the CWS).

f) Junction 23 Park

i. Habitat Retention

2.3.25 The existing water body in the southern part of the site would be retained with a minimum 10m 'no construction' buffer of existing vegetation around it. All the other on-site water features that support great crested newt within and adjacent to the development have also been avoided by the proposed development.

2.3.26 The watercourses and associated hedgerows have been avoided wherever possible. All retained habitat features have a 10m wide 'no construction' buffer on each side, which, where possible, would be managed as a corridor of species-rich grassland. The buffer zones would be demarcated using fencing to protect them from accidental damage during all phases of the development.

2.3.27 The scheme has avoided removal of the tree that was identified as supporting a probable, but infrequently used, bat roost.

ii. Habitat Creation and Enhancement

2.3.28 A number of habitat enhancement and creation measures have been designed in to the scheme. These include the following:

- planting of three new species-rich hedgerows (465m in total);
- a change in the management regime of hedgerows which are already present, which will promote a better hedgerow structure;
- creation of a new drainage rhyne;
- creation of three new wildlife ponds as well as a permanent detention pond; and,
- establishment of 8.10ha of grassland that is infrequently managed to create species and structural diversity within the sward.

2.3.29 It is anticipated that as well as enriching the habitat value of the site, these features will provide benefits to bats, invertebrates, great crested newts and reptiles.

g) Junction 24

2.3.30 All relevant points are covered in the general design-stage measures in Section 3.1.

h) Williton

2.3.31 All relevant points are covered in the general design-stage measures in Section 3.1.

2.4 Site Specific Operational Control Measures

a) Bridgwater A

i. Implementation of an Appropriate Building Demolition Strategy

2.4.1 A precautionary building demolition strategy would be implemented to ensure that, in the unlikely event that any bats are present, none are killed or injured. This strategy would involve a combination of pre-demolition update surveys, fitting of exclusion devices, supervision of the demolition by experienced bat ecologists and removal by hand (soft-stripping) features that could support roosting bats. In the event that a bat, or bat roost is encountered, all works that could result in disturbance to bats would cease while advice is sought from Natural England on the need for a licence to continue demolition.

ii. Implementation of a Reptile Mitigation Strategy

2.4.2 Although the potential impacts on reptiles have been minimised by the scheme design, some suitable habitats do remain within the construction footprint. A reptile mitigation strategy would be implemented to ensure that no reptiles are killed or injured during construction. This would involve phased vegetation clearance of the areas within which reptiles may be present during the period April - early October, under the supervision of a suitably qualified ecologist. The phasing of this habitat clearance work would be designed to encourage reptiles to move, of their own accord, into receptor habitats that would be retained during all phases of development. Any reptiles observed during the supervision of the vegetation clearance would be relocated by hand to the retained receptor habitats.

b) Bridgwater C

2.4.3 Other than those specified in Section 3.2, no additional operational control measures are required at this site.

c) Cannington Bypass

i. Implementation of a Great Crested Newt Mitigation Strategy

2.4.4 A great crested newt mitigation scheme would be designed for the site and would be implemented (prior to the commencement of construction activities) under licence from Natural England. The scheme would involve the trapping of great crested newts using pitfall traps, refugia and drift fencing (over a minimum of 60 days), and translocation of newts from within the construction footprint to newly-created and enhanced receptor habitats around the retained pond. Purpose-designed herpetofauna exclusion fencing would be erected around the construction footprint to avoid the newts returning to the site.

ii. Implementation of a Reptile Mitigation Strategy

2.4.5 Although the potential impacts on slow-worms have been reduced by the scheme design, some suitable habitats do remain within the construction footprint. Phased vegetation clearance would be carried out within these areas during the period April - early October, under the supervision of a suitably qualified ecologist. This clearance work would encourage slow-worms to move, of their own accord, into adjoining retained sections of hedgerow outside of the construction footprint. Any reptiles observed during the supervision of the vegetation clearance would be relocated by hand to the retained receptor habitats.

iii. Measures to Prevent the Spread of Himalayan Balsam

2.4.6 Any works in areas of the site supporting Himalayan balsam (*Impatiens glandulifera*) (i.e. works in the vicinity of the Mill Stream) would include measures to prevent the spread of this species. Measures would be specific to the activities occurring but are likely to include spraying, removal and disposal to an appropriately licensed site.

iv. Pre-Construction Badger Survey

2.4.7 At least three months prior to the commencement of construction, a re-survey of the site would be completed to determine the current status of the badger setts recorded during the baseline surveys and to identify any newly constructed setts that could be affected by the works. Should any active setts be sufficiently close to the construction footprint that they could be damaged or disturbed by the works, and if there is no opportunity to avoid these impacts, a licence would be obtained from Natural England to enable the works, and any required mitigation measures, to proceed.Installation of Temporary Structures for Bats

2.4.8 Three locations have been assessed as requiring temporary structures to facilitate movement of bats across the site during construction works. The design of these structures would meet the specification set out in the DMRB Interim Advice Note in relation to bats 116/08 (Ref. 3) and would comprise either: netting suspended along the flight-line above the construction area; or containers of tall woody vegetation that would be moved into position at the end of each working day.

d) Cannington Park and Ride

i. Implementation of a Reptile Mitigation Strategy

2.4.9 Although the potential impacts on slow-worms have been reduced by the scheme design, some habitats that support this species do remain within the construction

footprint, namely those within the verge of the A39 and associated with the short section of hedgerow and tree-belt that would be removed on the southern boundary. A reptile mitigation strategy would therefore be submitted to, and agreed by, Natural England prior to commencement of any works in these habitats. The key components of this mitigation strategy would be as follows.

- Slow worms would be moved from the construction footprint by a combination of phased vegetation clearance (during the period in which they are active, April – October, and under the supervision of a suitably qualified ecologist) and trapping/exclusion within the verge of the A39. The trapping/exclusion exercise would be designed to comply with the guidelines set out in Natural England's *Technical Information Note TIN102: Reptile mitigation guidelines* (Ref. 4).
- Slow worms would be translocated, within the site, to the newly enhanced rough grassland habitat along the hedgerow on the eastern boundary of the main part of the site. This area would be managed to provide optimal slow worm habitat for the duration of the development, with the area of habitat managed for slow worms to be greater than that lost during construction.

ii. Pre-Construction Kingfisher Survey

2.4.10 If construction activity is required in the period during which kingfisher (*Alcedo atthis*) breeds, March to August, a survey for evidence of breeding kingfisher would be undertaken prior to commencement of any works on site. In the event that a kingfisher nest is located within a distance that it could be disturbed by construction (likely to be less than 25m dependent upon site-specific conditions), the construction method and timing would be reviewed and, if necessary, amended compliance with the relevant legislation.

iii. Pre-construction Badger Survey

2.4.11 At least three months prior to the commencement of construction, a re-survey of the site would be completed to determine the current status of the badger setts recorded during the baseline surveys and to identify any newly constructed setts that could be affected by the works. Should any active setts be sufficiently close to the construction footprint that they could be damaged or disturbed by the works, and if there is no opportunity to avoid these impacts, a licence would be obtained from NE to enable the works, and any required mitigation measures, to proceed.

e) Combwich

i. Implementation of a Reptile Mitigation Strategy

2.4.12 Although the potential impacts on slow-worm and grass snake (*Natrix natrix*) have been reduced by the scheme design, some habitats that support these species do remain within the construction footprint. A reptile mitigation strategy would therefore be submitted to, and agreed by, Natural England prior to commencement of any works in these habitats. The key components of this mitigation strategy, which has been designed to comply with the guidance provided in Natural England's *Technical Information Note TIN102: Reptile mitigation guidelines* (Ref. 5) would be as follows:

- Vegetation clearance required for construction would be directly supervised by a suitably qualified ecologist in all habitats that are suitable for reptiles. Vegetation clearance would be carried out in a phased manner, allowing reptiles to move out

of the affected areas and in to adjoining suitable habitat of their own accord. Such works would only be undertaken between April and early October.

- Reptile exclusion fencing would be installed around the outer edge of the soil storage mounds and flood bunds at the end of the construction phase and then maintained throughout the operational phase. This would prevent colonisation of temporary habitats by reptiles and avoid the potential for harm or disturbance to reptiles during the post-operational phase.

ii. Pre-construction Survey and Exclusion of Water Voles from Temporary Habitats

2.4.13 At least three months prior to the commencement of construction, a re-survey of the site would be completed to determine the current status of the water vole (*Arvicola Amphibius*) population using the ditches within the site. Should any water vole burrows be within the construction footprint or sufficiently close that they could be damaged or disturbed by the works, and if there is no opportunity to avoid these impacts, a mitigation strategy would be produced in consultation with NE to enable the works, and any required mitigation measures, to proceed.

2.4.14 At the end of the construction phase, water vole exclusion fencing would be installed around the temporary attenuation ponds and would then be maintained throughout the operational phase. This would prevent colonisation of these temporary habitats by water voles and avoid the potential for harm or disturbance to water vole during the post-operational phase.

f) Junction 23

i. Pre-construction Survey for Wigeon

2.4.15 If works to the drainage outfall are scheduled to take place in the period between October and March, an ornithologist would be required to undertake a survey for wigeon (*Anas penelope*) prior to the start of each working day. Works that may disturb waterbirds would only proceed if wigeon are not present within 250 metres of the works footprint on that day in numbers that exceed 1% of the SPA population.

ii. Pre-construction Re-surveys

2.4.16 Pre-construction re-surveys would be required to determine the current status on-site of the following species/species groups;

- bats (in respect of potentially suitable roosting structures only);
- badger; and,
- water vole.

2.4.17 These surveys would be conducted at least three months prior to construction, to allow appropriate measures to be designed, implemented and licensed as necessary.

iii. Implementation of a Great Crested Newt Mitigation Strategy

2.4.18 The potential impact of the proposed development on great crested newts would be reduced by the retention of aquatic (breeding) and terrestrial habitat within the site and the creation of additional good quality grassland and aquatic habitats. In addition, great crested newts within the construction footprint would be trapped using

pitfall traps, refugia and drift fencing (over a minimum of 60 days), and translocated to newly created and enhanced receptor habitats located off-site. Purpose-designed herpetofauna exclusion fencing would be erected around the construction footprint to prevent newts returning to the site. The trapping and translocation proposals would be carried out under a licence from Natural England.

iv. Implementation of a Reptile Mitigation Strategy

2.4.19 To minimise the risk of harm or injury to grass snakes, a mitigation strategy would be implemented in conjunction with the great crested newt mitigation scheme. The mitigation measures would involve a programme of habitat creation and enhancement, followed by a trapping and exclusion exercise to relocate grass snakes from the construction footprint to the retained, newly created and enhanced receptor habitats.

v. Wildlife Exclusion Fencing

2.4.20 In order to minimise the risk of protected wildlife straying on to site, appropriate exclusion fencing would be erected around the development footprint prior to commencement of construction activities. Exclusion fencing would be required in respect of badgers, great crested newts and reptiles (grass snake). As described above, great crested newts and reptiles would be actively removed from the site after appropriate exclusion fencing has been erected.

g) Junction 24

2.4.21 No specific control measures, other than those included as generic control measures, are required during the construction, operational or post-operational stages.

h) Williton

2.4.22 No specific control measures, other than those included as generic control measures, are required during the construction, operational or post-operational stages.

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3. ECOLOGICAL AUDITING, MONITORING AND INSPECTIONS

3.1 Generic Monitoring

3.1.1 The EDF Energy appointed Ecological Clerk of Works (ECoW) would carry out inspections of the implementation of the control measures described above across all the associated development sites, as required, although no specific monitoring is proposed for Bridgwater A, Bridgwater C, Junction 24 or Williton.

3.2 Site Specific Monitoring

a) Bridgwater A

3.2.1 No specific ecological monitoring is proposed at this site.

b) Bridgwater C

3.2.2 No specific ecological monitoring is proposed at this site.

c) Cannington bypass

3.2.3 A monitoring plan would be implemented for the construction phase, and for a minimum of four years post-construction. The programme of monitoring would include the following elements.

- in respect to great crested newts, an annual six-visit population assessment would be undertaken, as well as qualitative checks including egg-searching in spring and visits to monitor permanence of the breeding pond. For the duration of the construction phase the ECoW would regularly visit the pond and surrounding terrestrial habitats to monitor and ensure compliance with this EcMMP. Key areas of terrestrial and aquatic habitat would remain under EDF Energy's ownership during construction and for a specified period post-development, enabling EDF Energy to commit to remedial management action as and when necessary;
- the effectiveness of the temporary and permanent bat hop-overs and the bat underpass in the northern part of the route would be monitored by undertaking bat activity surveys at each feature. Surveys would be conducted during the season in which bats are most active (roughly April to October) at a frequency and for a time period defined on an iterative basis, dependent on the results of the surveys; and
- the condition of all wildlife exclusion fencing would be regularly checked by the ECoW or equivalent, in accordance with published guidance. Remedial action would be undertaken as and when necessary.

d) Cannington Park and Ride

3.2.4 A detailed monitoring plan would be implemented for the construction and operational phases of development. The programme of monitoring would include the following elements.

- the badger underpass and wildlife exclusion fencing would be regularly checked and if necessary, remedial action would be undertaken; and
- in line with the guidance set out in Natural England's reptile mitigation guidelines in respect to a medium population of slow worms, a slow worm presence/absence monitoring survey would be undertaken each year during the operational phase of development and would continue one year post-development.

e) Combwich

3.2.5 A detailed monitoring plan would be implemented for the construction and operational phases of development. The programme of monitoring would include the following elements.

- the condition of all wildlife exclusion fencing would be regularly checked by the ECoW or equivalent, in accordance with published guidance. Remedial action would be undertaken as and when necessary.

f) Junction 23

3.2.6 A detailed monitoring plan would be implemented for the construction and operational phases of development and, in respect to great crested newts (GCN), for a minimum of four years post-development. The programme of monitoring would include:

- an annual six-visit population assessment, as well as qualitative checks including egg-searching in spring and visits to monitor pond permanence. For the duration of the construction phase the on-site ECoW would regularly visit all GCN breeding ponds and surrounding terrestrial habitats to monitor and ensure compliance with the EcMMP. Key GCN habitats would remain under EDF Energy ownership both during construction and post-development, enabling EDF Energy to commit to remedial management action as and when necessary.
- The condition of the great crested newt and reptile exclusion fencing would be regularly checked in accordance with published guidance. Remedial action would be undertaken as and when necessary.

g) Junction 24

3.2.7 No specific ecological monitoring is proposed at this site.

h) Williton

3.2.8 No specific ecological monitoring is proposed at this site.

3.3 Auditing & Reporting

3.3.1 Compliance with the requirements of this EcMMP and statutory legislation with regard ecological protection will be monitored through routine auditing and inspections. Periodic checks and inspections will be carried out and/or arranged by EDF Energy appointed specialists to ensure the mitigation measures or specific protected species licence conditions are being complied with and all control measures outlined within the EcMMP are being complied with.

References

1 Bat Conservation Trust [BCT]. Bats and Lighting in the UK. 2009.

2 Highways Agency. Design Manual for Roads and Bridges (DMRB). Volume 10: Environmental Design. Section 3, Part 4, Nature Conservation Advice in Relation to Otters. 2001.

3 Highways Agency. Nature Conservation Advice in Relation to Bats (DMRB) Interim Advice Note 116/08. 2008.

4 Natural England. Reptile Mitigation Guidelines (Natural England Technical Information Note TIM102). 2011.