



Ecological Mitigation and Management Plan

LONDON ARRAY OFFSHORE WIND FARM PROJECT
AND ASSOCIATED GRID CONNECTION WORKS

Version / Date :	Ver 1.00 / October 2007
Prepared by :	Tim Proudler / Keith Henson
Authorised by :	Richard Rigg
Signature :	

Important Note

THE ECOLOGICAL MITIGATION AND MANAGEMENT PLAN (EMMP) IS PRINCIPALLY INTENDED TO PROVIDE AN AGREEMENT ON THE DETAIL OF THE VARIOUS ECOLOGICAL MEASURES ABOVE AND BELOW MEAN HIGH WATER SPRINGS (MHWS), NEEDED TO SAFEGUARD THE INTEGRITY OF THE SWALE SPA AND RAMSAR. RESPONSIBILITY FOR ENFORCING MITIGATION BELOW MHWS FALLS TO DEFRA, WHILST ABOVE MHWS IT IS TO BE SWALE BOROUGH COUNCIL (SBC).

THE CONSENT APPLIED FOR BY NATIONAL GRID UNDER SECTION 37 ELECTRICITY ACT 1989 WILL ALSO INCLUDE A REQUIREMENT FOR AN EMMP. FOR CONSISTENCY, *THIS* EMMP HAS BEEN PREPARED TO INCLUDE ONSHORE THE REQUIREMENTS ANTICIPATED UNDER SECTION 37. WHILST NO FURTHER CHANGES ARE ANTICIPATED, THE EMMP WILL BE CHECKED FOR COMPLETENESS ON ISSUE OF THE CONSENT, AND CONFIRMATION OF THIS (OR THE DETAILS OF ANY AMENDMENTS) INCLUDED WITHIN A SUBMISSION TO SWALE BOROUGH COUNCIL IN DISCHARGING THE EMMP SECTION 37 CONDITION.

THE EMMP DOES NOT INCLUDE REFERENCE TO THOSE MITIGATIONS WHICH ARE APPLIED TO THE MAIN OFFSHORE ELEMENTS OF THE LONDON ARRAY PROJECT, RELATING FOR EXAMPLE TO THE RED THROATED DIVER (*GAVIA STELLATA*) AND MORE GENERALLY TO THE MARINE ENVIRONMENT. THESE MITIGATIONS ARE ALREADY CAPTURED IN THE FEPA LICENCE.

1. Introductory

1.1 Background, Appropriate Assessment and Consenting Authorities

Following a public inquiry, onshore planning permission under the Town and Country Planning Act 1990 (T&CP) was granted to London Array Limited (LAL) by the Department for Communities and Local Government (DCLG) in a joint decision with the Department for Business Enterprise & Regulatory Reform (DBERR). The permission has a number of conditions attached to it. This includes the following from Annex B, Condition 4:

“No development shall take place until there has been submitted to and approved in writing by the local planning authority an Ecological Mitigation and Management Plan.”

Section 37 (S37) consent under the Electricity Act (1989) is required for overhead line diversion works needed to facilitate the connection between the substation and the overhead 400KV power cables. The requirement for a detailed Ecological Mitigation and Management Plan (from here on referred to as the EMMP) will also extend to the S37 consent.

Swale Borough Council (SBC) has confirmed that it would be acceptable to construct an access road and bellmouth junction, from Seasalter Road to advance National Grid’s works, utilising LAL’s planning permission, in advance of the remainder of the actual London Array substation. The EMMP will apply to the two organisations in the following way:

- To LAL in terms of discharging the conditions of LAL’s T&CP permission in relation to the substation works
- To National Grid in terms of discharging the conditions of LAL’s T&CP permission in relation to the construction of the bellmouth access and ditch culvert
- To National Grid in terms of discharging conditions attached to S37 consent in relation to the overhead line works

The works listed above potentially affect the Swale SPA and RAMSAR site, the designation of which arises from its over-wintering bird population.

In such cases, Regulation 48 of the Conservation (Natural Habitats &c) Regulations 1994 (from here on referred to as the ‘Habitat Regulations’), sets out the requirement for an appropriate assessment to be undertaken by the competent authority in order to ascertain no adverse effect on site integrity (AESI) before any consent is granted. In June 2005, LAL applied to construct the offshore wind farm and associated works, and during the consultation process that followed, Natural England advised that, with appropriate ecological mitigation, the works would not have an AESI of the Swale SPA and RAMSAR.

The table below lists the various works, licensing regimes and the associated regulators. In each case, the competent authority for the purposes of the appropriate

assessment is highlighted. The final column identifies which regulator will assume responsibility for enforcing the ecological conditions.

Note that with the exception of ornithology, for which a specific planning condition has been imposed, Canterbury City Council (CCC) is understood to have adopted the outcome of DEFRA's appropriate assessment, leaving the enforcement of other mitigation measures to DEFRA through the FEPA conditions. Note also that SBC will enforce conditions on behalf of DBERR for the S.37 consent.

Table 1 – Summary of regulators, competent authorities and enforcing bodies.

	Brief description of works	Licensing regime	Regulator	Competent Authority ¹	Enforcing Body
1	Laying cables in the marine environment below MHWS	Section 5 FEPA 1985 ² Section 34 CPA 1949 ³	DEFRA	DEFRA	DEFRA
2	Installation of cables in the marine environment within the jurisdiction of Canterbury City Council below MHWS.	Section 57 T&CP 1990 Section 34 CPA 1949	CCC	CCC	CCC (ornithology) DEFRA
3	Installation of cables within the jurisdiction of Swale Borough below MHWS	Section 57 T&CP 1990 Section 34 CPA 1949	SBC	SBC	DEFRA
4	Installation of works onshore within the jurisdiction of Swale Borough above MHWS	Section 57 T&CP 1990	SBC	SBC	SBC
5	Works above MHWS associated with a diversion of the existing 400kV overhead line to accommodate the substation	Section 37 Electricity Act 1989	DBERR	DBERR	SBC

¹ Compenent Authority for purposes of Habitat Regulations

² Was Secretary of State (DCLG in conjunction with DBERR) during the appeal process and for the purposes of issuing a decision, now SBC for the purposes of discharging conditions

³ Section 34 Coast Protection Act 1949

1.2 Ecological Mitigations

Various ecological mitigation measures have been identified and agreed to safeguard the integrity of the Swale SPA and RAMSAR sites. These have been arrived at through :

- Advice provided by Natural England in response to London Array's Environmental Statement (particularly in response to appendix A2-14 which was specifically written to inform the appropriate assessment process), and through subsequent discussion and correspondence which has since clarified and amended these requirements, specifically
 - Letter to SBC dated 14th July 2005. This letter also included information to inform the appropriate assessment for the section 37 application made by National Grid⁴, plus:
 - Letter from London Array to Natural England dated 22nd February 2007 recording key points of a meeting held on the same date to discuss and clarify the mitigation measures
 - Letter from Natural England to London Array dated 28th February 2007 confirming changes to the mitigation (by reference to the original letter of 14th July 2005)
 - E-mail correspondence from London Array dated 29th March 2007 and from Natural England dated 2nd April 2007 further clarifying a point in respect of the duration of section 37 works.
 - Letter to CCC dated 14th July 2005
 - Letter to DTI (copied to DEFRA) dated 22nd July 2005 as a joint response to both the section 36 and FEPA applications.
- Advice in relation to National Grid works provided by Natural England in correspondence to SBC (as above)
- Consultation between DBERR and Natural England in relation to the appropriate assessment of National Grid's overhead line works
- Advice in relation to water vole mitigation through discussions with the Environment Agency dated 4th September 2007
- The offshore appropriate assessment carried out by DEFRA in consultation with Natural England and CEFAS (these ecological mitigation requirements were then written as conditions directly into the FEPA licence)

In addition to ecological mitigations necessary for the protection of the Swale SPA and RAMSAR, a number of other mitigations have been proposed and agreed, and these have also been included for in this document to provide a more comprehensive list.

1.3 The Ecological Mitigation and Management Plan (EMMP)

In its advice, Natural England suggested drawing together the various ecological measures required to preserve the integrity of the Swale SPA and RAMSAR Site as well as any other ecological measures, into a single EMMP. The Plan provides clarity

⁴ A separate appropriate assessment has been undertaken by DBERR with consultation from Natural England. Refer to 'Important Note' at start of document for further information on the S37 consent and EMMP.

on the detail of the ecological conditions, and on who has responsibility for their enforcement (given the overlapping regimes).

LAL and SBC agreed a planning condition (adopted by DCLG in issuing the planning permission following the public inquiry) requiring the EMMP to be approved before commencement of development. A similar condition would be written into the consent for the overhead line diversion under section 37 Electricity Act 1989. Under the FEPA licensing regime, DEFRA has already imposed conditions to take account of Natural England's required mitigations below MHWS.

The EMMP is contained in Section 2 of this document and schedules have been included where detailed clarification is required in relation to specific mitigation measures. The EMMP is split into mitigations below and above MHWS. Distinctions are made within the EMMP for mitigations which are directly linked to advice received, to support the appropriate assessment. A distinction is given in the 6th column of Section 2 between the various LAL and National Grid works as follows:

- T&CP (for main LAL works) – relates to permanent access works, substation construction and cable laying
- T&CP (NGT access works) – relates to bellmouth at Seasalter Road and access required for line diversion / reconductoring beyond and including the crossing of a secondary sea defence (counter wall)
- S37 – relates to National Grid's line diversion works

The extent of the National Grid works under the LAL T&CP permission is shown in the figure included in Appendix B.

The EMMP does not include reference to those mitigations which are applied to the main offshore elements of the London Array project, relating for example to the Red Throated Diver (*Gavia stellata*) and more generally to the marine environment. These mitigations are already captured in the primary offshore consents issued in December 2006, principally Section 36 and FEPA, with the inclusion of appropriate conditions..

Section 2. London Array and National Grid Ecological Mitigation and Management Plan – Schedule of Mitigation Measures

Above Mean High Water Springs

Ref	Mitigation Measure	How achieved	Principal Derivation	Appropriate Assessment measure?	Applies to What License/ Consent?	Project responsibility	Enforcing body
1	No works to be undertaken within The Swale SPA and Ramsar site or within 500 metres of its seawall boundary during the period 1 October – 31 March with the following exceptions: a) temporary and permanent overhead line diversions and associated works b) the works associated with the clearance of vegetation along the route of any underground cables installed during the summer months, which will commence in March in order to deter birds from nesting in areas that may be disturbed later in the year.	Seasonal restriction on works within 500m of the seawall boundary will be clearly stated in the terms of the construction contracts, and will therefore become an enforceable contractual commitment. The location of and protocol for advanced clearance of the underground cable route is detailed in Schedule 1 .	Natural England	Yes	All	LAL	SBC, Natural England
2	The foreshore shall be protected from damage that may be caused by the movement of plant/vehicles or storage of materials; vehicular	Requirement to be clearly stated in the terms of inter-tidal and onshore construction contracts, and	Natural England	Yes	T&CP(for main LAL works)	LAL	SBC, Natural England

Ref	Mitigation Measure	How achieved	Principal Derivation	Appropriate Assessment measure?	Applies to What License/ Consent?	Project responsibility	Enforcing body
	movements and such storage restricted to protected areas; and material used to protect the foreshore removed on completion of works	will therefore become an enforceable contractual commitment.					
3.0	Ornithological surveys of selected onshore areas where access road and overhead line diversion works are occurring, should be carried out between October 2007 and March 2008	Monitoring to be undertaken by London Array in accordance with Schedule 2A during overhead line works and access road.	Natural England	Yes	T&CP (NGT access works), S37	LAL	SBC, Natural England
3.1	Ornithological surveys of the foreshore, inter-tidal and onshore areas should be carried out between October and March during each year of construction and for at least one year following completion of works	Monitoring to be undertaken by London Array in accordance with Schedule 2B for LAL substation works and cable installation	Natural England	Yes	T&CP (for main LAL works)	LAL	SBC, Natural England CCC
4	Reed rhizomes and sediment should be removed from areas of borrow pit affected by cable or conduit installation and stored appropriately pending reinstatement upon completion of works on the borrow pit	Borrow pit works to be undertaken in accordance with method statement in Schedule 3 . This method statement to form part of onshore construction contract and will therefore become an enforceable contractual commitment.	Natural England	Yes	T&CP (for main LAL works)	LAL	SBC, Natural England
5	Seed should be collected from any scarce or rare species occurring on areas of vegetated shingle that would be affected by the works,	Search and translocation to be undertaken by London Array in accordance with protocol in	Natural England	Yes	T&CP (for main LAL works)	LAL	SBC, Natural England

Ref	Mitigation Measure	How achieved	Principal Derivation	Appropriate Assessment measure?	Applies to What License/ Consent?	Project responsibility	Enforcing body
	stored appropriately and sown, at the appropriate time of year	Schedule 4					
6	No works shall be carried out until measures with regard to the handling and storage of potentially hazardous substances, response to spillages and provisions for surface water drainage have been approved by the appropriate regulatory bodies	Submission of details to SBC in consultation with Environment Agency once information available. (Appears as agreed condition 8 to SBC planning permission).	Natural England	Yes	T&CP (for main LAL works and NGT access works)	LAL/NGT	SBC, Environment Agency
7	Staff/contractors working on site should be briefed on the locations of environmentally sensitive features, and on the working practices required to safeguard these features	Briefing sessions to be held with contractors before work commences	Natural England	Yes	T&CP (for main LAL works and NGT access works), S.37	LAL/NGT	SBC, Natural England
8	Losses of ditches and borrow pit should be temporary with these features being reinstated after the completion of works.	This is a commitment to be carried out by LAL and NGT in accordance with Schedule 3	RSPB (relates to discussions with Kent Wildlife Trust)	No	T&CP (for main LAL works and NGT access works)	LAL/NGT	SBC (RSPB Recommendation)
9	Protection of Great Crested Newt population at Graveney Hill Farm.	Mitigation to be implemented by LAL/National Grid in accordance with Schedule 5 . Works associated with fencing and trapping to be undertaken under appropriate licence. At the location of the replacement tower and access road a hand search	Obligation under Conservation (Natural Habitats, &c.) Regulations 1994 to protect Great Crested Newts from, <i>inter alia</i> , killing, disturbance, damage or destruction to	No	T&CP (for main LAL works and NGT access works)	LAL/NGT	SBC (If under licence – DEFRA)

Ref	Mitigation Measure	How achieved	Principal Derivation	Appropriate Assessment measure?	Applies to What License/ Consent?	Project responsibility	Enforcing body
		followed by destructive search would also be conducted. Any newts found during this exercise would be relocated to a safe location. If Great Crested Newts were found, the project ecologist would seek guidance from Natural England before proceeding with works at the location of the sighting. It is unlikely that Great Crested Newts would be found in the agricultural field and none were recorded in the pond in this field during survey or ditches along the location of the access road. It is therefore unnecessary to conduct these works under licence.	breeding sites				
10	Precautionary protection of reptile populations that may be present in habitat adjacent to Seasalter Road	As a precautionary measure, areas of habitat suitable for reptiles along the proposed access route will be checked during vegetation clearance works. Any reptiles caught will be relocated to a	Obligation under Wildlife & Countryside Act (1981) (as amended) to protect common reptiles species from <i>inter alia</i> ,	No	T&CP (NGT access works)	NGT	SBC (in consultation with Natural England)

Ref	Mitigation Measure	How achieved	Principal Derivation	Appropriate Assessment measure?	Applies to What License/ Consent?	Project responsibility	Enforcing body
		suitable receptor site. these works, including preconstruction surveys to be undertaken by NGT, will be conducted in accordance with Schedule 6	killing and injury				
11	Checking of watercourses and water features for water voles prior to commencement of construction.	Preconstruction surveys to be undertaken by LAL/NGT in accordance with Schedule 7	Environment Agency	No	T&CP (for main LAL works and NGT access works)	NGT/LAL	SBC (in consultation with Environment Agency)
12	Marking the boundary of the SPA and Ramsar Site adjacent to Seasalter Road and associated construction areas to avoid accidental incursion or damage by construction workers or traffic.	LAL/NGT to brief contractors prior to commencement of works, high visibility tape to be used to mark SPA, SSSI boundary(s)	Natural England	Yes	T&CP (for main LAL works and NGT access works), S.37	LAL/NGT	SBC
13	Fitting of bird diverters to permanent overhead power cables between ZV165 to ZV168 to provide a visual reference to birds of where the power lines are suspended	This is a commitment to be carried out by National Grid	RSPB advice	Yes	S.37	NGT	SBC
15	Use of native tree scrub and plant species as part of the Landscaping scheme.	LAL to instruct landscape architect	Commitment in Environmental Statement (7.5.184 of Vol 2)	No	T&CP (for main LAL works)	LAL	SBC

Below Mean High Water Springs

Ref	Mitigation Measure	How achieved	Principal Derivation	Appropriate Assessment measure?	Applies to What License?	Enforcing body
14	No works to be undertaken within The Swale SPA and Ramsar site, or within 500 meters of their seaward boundary, during the period 1 October – 31 March.	As per item 1. FEPA condition 9.19 ties this into the inner 25km of cable installation	Natural England	Yes	FEPA	MFA (FEPA condition 9.19)
15	No works shall carried out at any time within areas supporting eelgrass beds or within the main mussel beds (as indicated in Figure 6.25 of Volume 2 of the ES) – this encompasses all works associated with cable laying, including the positioning of the anchor points for barges (if needed)	Requirement to be clearly stated in the terms of inter-tidal construction contracts	Natural England	Yes	FEPA	MFA (FEPA condition 9.20)
16	Cables installed across the intertidal area should be buried to a depth of not less than 1 metre, and normally installed by means of ploughing or trenching (the installation method should be agreed with the appropriate regulatory authority/ies before the commencement of works). If trenching is used within the inter-tidal area, excavation and subsequent	Requirement to be clearly stated in the terms of inter-tidal construction contracts. Method statement will also require agreement with MFA 4 months prior to construction.	Natural England	Yes	FEPA	MFA (FEPA conditions 9.38 – 9.41 and 9.44)

	<p>backfilling of the cable trench should be carried out in such a way as to maintain the sediment profile; i.e. surface sediments should be replaced at the surface and not mixed with those excavated from the bottom of the cable trench.</p> <p>Jetting should only be considered as an exceptional technique subject to prior written approval and appropriate monitoring.</p>					
17	Ornithological surveys of the foreshore, inter-tidal and onshore areas should be carried out between October and March in each year of construction and for at least one year following completion of works	Refer to Schedule 2	Natural England	Yes	FEPA	MFA, CCC
18	No works shall be carried out until measures with regard to the handling and storage of potentially hazardous substances, response to spillages and provisions for surface water drainage have been approved by the appropriate regulatory bodies	Scope to be drafted. Note that FEPA condition 9.52 requires a Marine Pollution Contingency plan for spills. This will form part of a broader Environmental Management Plan for approval by MFA.	Natural England	Yes	FEPA	MFA (see FEPA 9.48 – 9.52)
19	Staff/contractors working on site should be briefed on the locations of environmentally sensitive features, and on the working practices required to safeguard these features	Briefing sessions to be held with contractors before work commences.	Natural England	Yes	FEPA	MFA

20	Inter-tidal cable laying methods should be selected that reduce the liberation of suspended sediment to a minimum (to avoid damage to seagrass and mussel beds).	Requirement to be clearly stated in the terms of inter-tidal construction contracts. Method statement will also require agreement with MFA 4 months prior to construction.	RSPB recommendation	No	FEPA	MFA (Condition 9.44 see also related condition 9.40 and 9,41)
21	Construction activities should be undertaken in a way that minimises disturbance to birds, for example, techniques such as directional lighting should be used.	Requirement to be clearly stated in the terms of inter-tidal construction contracts. Method statement will also require agreement with MFA 4 months prior to construction.	RSPB recommendation	No	FEPA	MFA (Condition 9.44)

Appendix A – Summary of Schedules:

Schedule 1: Location and protocol for clearance of vegetation along the onshore cable route

Schedule 2: Onshore ornithological monitoring

Schedule 3: Works within borrow pits and ditches

Schedule 4: Seed collection for rare and scarce species

Schedule 5: Great Crested Newt mitigation strategy

Schedule 6: Reptile habitat clearance and pre-construction surveys

Schedule 7: Pre-construction surveys for Water Voles

Appendix B – The extent of the National Grid works under the LAL T&CP permission



ACCESS ROAD TO THE WEST OF THIS POINT TO BE CONSTRUCTED UNDER NATIONAL GRIDS PERMITTED DEVELOPMENT RIGHTS.

TEMPORARY ACCESS ROAD

High Point of Road Level with Top of Banking

SEASALTER ROAD

BANKING

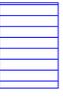
Swept Path for Transporter

ZVI 68



Key to symbols

Area of SSSI



Proposed Working Area



Reference drawings

Notes

Rev	Date	Drawn	Description	Chk'd	App'd
P2	24.10.07	BJ	Issued for Discussion	JM	PLF
P1	19.10.07	BJ	Preliminary Issue		

Mott MacDonald

Victory House
The Quadrant
Brimpton BN1 4PY
United Kingdom
Tel: +44 (0)1273 365000
Fax: +44 (0)1273 365100
Web: www.mottmac.com

Client
London Array Ltd

Title
Cleve Hill 400kV Substation
Temporary Working Area for Construction of Road Access

Designed	J.M.	Eng. Chk.	P.F.
Drawn	BJ	Coordination	
Dwg. Chk.	J.M.	Approved	P.F.

Scale at A1
1:500
Project 230468
CAD file 230468_01E_003

Rev	Status
P2	Pre

© Mott MacDonald Limited
This document should not be relied on or used in circumstances other than those for which it was originally prepared and for which Mott MacDonald Ltd was commissioned. Mott MacDonald Ltd accepts no responsibility for this document to any other party other than the person by whom it was commissioned.

Cad Reference: YORR\POWER\PROJECTS\230468-CLEVE HILL\DRAWINGS\230468_01E_003_P2.DWG