



LIGHTSOURCE  
RENEWABLE ENERGY LIMITED

# CONSTRUCTION, DECOMMISSIONING AND TRAFFIC MANAGEMENT METHOD STATEMENT



LAND EAST OF YAPTON LANE,  
WALBERTON, BN18 0DW

DOC REFERENCE: Lower Farm, Binsted  
CDTMMS

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## 1 INTRODUCTION

This Construction, Decommissioning and Traffic Management Method Statement has been prepared in support of a planning application for a 5MW Solar Farm at land East of Yapton Lane, Walberton, BN18 0DW (referred to as Lower Farm, Binsted). A detailed description of the proposed solar farm is provided in the accompanying Planning and Design and Access Statement.

This document addresses the activities involved in constructing the solar farm, and decommissioning it at the end of its operational life.

## 2 PARTIES INVOLVED

- The planning application is being submitted by Lightsource Renewable Energy.
- The landowner is Mr Wishart
- The EPC (Engineering, Procurement and Construction) firm that will undertake the final detailed design and build the solar farm has yet to be selected.
- Contractors for the decommissioning work will be selected closer to the end of the solar farms operational life.

## 3 TRAFFIC MANAGEMENT

### 3.1 SITE ACCESS

The proposed access to the site during both construction and decommissioning is via an existing access directly off Yapton Lane to the west of the site, as shown in blue on the aerial below.



The access will be the sole access to the site during the construction and decommissioning periods and for the limited access required when the site is operational. The proposed construction traffic route to the site along public highways will be finalised upon engaging an EPC to complete detailed design and construct the solar farm. This information will be provided to the Council as soon as it is available, and prior to construction starting.

The top soil from the access path will be removed to a depth of 150-200mm (this may increase in areas of soft ground). A geotextile membrane will be laid in the excavated access path and filled with 200-250mm of 75mm CR stone, which will then be compacted in order to provide a suitable surface for vehicles. The access path will be between 3.5-4m in width. Below are photos of similar access paths constructed at our solar farms.

A temporary compound and crane area will be created by levelling and compacting the existing ground to ensure stable conditions for storage infrastructure, when necessary.



As the access arrangements will not involve the introduction of impermeable hard surfacing, no additional drainage measures are required for the access. The access arrangements will not result in any increase in flood risk on or beyond the site.

All access tracks within the site will be kept free of obstacles and trip hazards during the period of installation.

### 3.2 DELIVERIES AND TRAFFIC

During the construction and decommissioning phases, traffic movement to and from the site will be minimised as much as possible.

Deliveries will be restricted to the following hours:

- 8am to 6pm Monday to Friday.
- 8am to 1pm Saturday.

Deliveries will also be scheduled to avoid peak traffic times, i.e. avoiding rush hours and before and after school pick up/drop off times.

All delivery vehicles will be able to enter the site and unload within the compound area. There will be no queuing, parking or unloading within the public highway. The EPC will be

required to select a suitable layby or motorway service station on route to the site for delivery vehicles to wait at if required. This can be used to coordinate deliveries.

Details on the expected number of deliveries are provided below. In total:

- 150 HGVs expected during construction.
- 170 HGVs expected during decommissioning.

Staff working on the site will travel to the site via van or standard cars. It is anticipated that the total likely to be on site at any one time during both construction and decommissioning would not exceed 10. They will park within the construction compound area identified in the Layout Plan.

### 3.2.1 CONSTRUCTION DELIVERIES

A total of 150 HGVs are required to deliver the construction equipment and infrastructure to site:

| Transport                               | Estimated number of vehicles |
|-----------------------------------------|------------------------------|
| Delivery of Mounting Frames             | 40                           |
| Delivery of Modules                     | 55                           |
| Delivery of Cabinets                    | 10                           |
| Delivery of Cables                      | 20                           |
| Delivery of Plant Equipment             | 20                           |
| Delivery of Gravel / Hard Core Material | 5                            |
| <b>Total number of HGV's</b>            | <b>150</b>                   |

The total construction period is typically 6-8 weeks. The deliveries will be spaced across the construction period, with typically up to 4 a day throughout construction.

### 3.2.2 PLANT EQUIPMENT

Plant equipment would include but not be limited to the following:

| Equipment   | Primary Function |
|-------------|------------------|
| JCB Diggers | Trenching        |
| Dump Trucks | Earth Removal    |

|                               |                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------|
| Vibrating Roller              | Compacting access track / compound area                                             |
| Piling machine (s)            | Ramming piles                                                                       |
| Telehandler (s) / Crawler (s) | Distributing materials                                                              |
| Crane                         | Capable of lifting cabinets / housing into place, and setting up welfare facilities |
| Fuel Bowser and Generators    | Refuel and power plant as required                                                  |

### 3.2.3 DECOMMISSIONING REMOVALS

The number of HGVs required is slightly higher than for the construction phase, because the materials will not be as neatly packed as when first packaged and shipped for construction, and therefore will take up more space.

Removal of the components from the site will require approximately 170 HGV truckloads in total, or roughly a maximum of 6 per day.

Standard 40ft HGVs will be used for the removal of equipment from site.

| Transport                                 | Estimated number of vehicles |
|-------------------------------------------|------------------------------|
| Removal of Mounting Frames                | 50                           |
| Removal of Modules                        | 65                           |
| Removal of Cabinets                       | 10                           |
| Removal of Cables                         | 20                           |
| Bringing top soil to site for backfilling | 15                           |
| Removal of Hard Core / Gravel             | 10                           |
| <b>Total number of HGV's</b>              | <b>170</b>                   |

## 3.3 PUBLIC HIGHWAY CONDITION

### 3.3.1 HIGHWAY CONDITION SURVEY

Once the construction programme is confirmed the Lightsource Project Manager will contact the County Highways Engineers to discuss it. Lightsource, or its selected contractor,

will also undertake a video or photographic survey of the condition of the public highway for the route to the site prior to construction starting.

On completion of the construction works, a post-construction road survey will be undertaken and any remediation works required agreed between all relevant parties, the access route will then be made good from any damage caused by construction movement.

The same will apply to the decommissioning of the site – any damage to the public highway caused by decommissioning traffic will be made good following completion of the decommissioning work.

### **3.3.2 COMPOUND MANAGEMENT**

During construction delivery vehicles will be constrained to the gravel site access tracks and construction compound area. Certain vehicles will be working within the site, including the piling rig and small vehicles for onsite transport of equipment.

In order to avoid muddying the highway, the construction compound will be managed to keep vehicles that will be exiting the site separate from muddier areas used by on-site vehicles.

No vehicle parking, loading or unloading will take place within the public highway. The construction compound area, which will be reinstated for decommissioning as well, will be used for all parking, turning, unloading / loading.

### **3.3.3 WHEEL WASHING FACILITIES**

All vehicles exiting the site during construction and decommissioning will require wheel washing. Depending on the time of year, and conditions on site, wheel washing facility requirements will vary.

- During summer or dry conditions, wheel washing facilities should include a pressure washer with suitable drainage as a minimum.
- During winter or wet conditions, wheel washing facilities should include ride on/off wheel washers if required

The site construction manager will monitor the public highway conditions and will assess if further measures are required to maintain road cleanliness, such as road sweeping.

## **3.4 TRAFFIC SIGNAGE**

Prior to construction starting traffic signage will be put in place for the following:

- Caution signs warning of works and construction traffic ahead
- Signage denoting the construction traffic access to the site

## 4 STORAGE

No long-term on-site storage of materials is required during either the construction or decommissioning phases.

During construction the HGVs will provide the materials at regular intervals throughout the construction period as construction progresses, rather than being delivered all in one go. Thus, infrastructure can be unloaded in the construction compound from the HGVs, and transported directly to where it is needed using smaller internal vehicles. Short term storage of materials can be accommodated within the construction compound until it is required.

During decommissioning HGVs will arrive at the site to remove infrastructure from the compound area at regular intervals.

## 5 SAFETY AND SECURITY

The appointed Site Manager will be in charge of Health and Safety on site. A Health and Safety board identifying potential hazards will be updated daily with all visitors required to sign in and adhere to on-site Health and Safety practices. All personnel working on site will be required to wear a high visibility vest or jacket, steel cap boots, and a hard hat as well as any other activity-specific safety wear.

It is intended that the security fence that will surround the solar farm for the duration of its life will be erected prior to the construction phase of the solar farm, thus ensuring the site is secure during this phase. However, if this is not possible, the site will have 24 hour security on patrol in order to adhere to health and safety regulations as well as prevent crime.

## 6 CONSTRUCTION SPECIFIC INFORMATION

### 6.1 CONSTRUCTION ACTIVITIES

During the construction period the following activities will be undertaken:

- Site preparation will involve mowing the site if required and marking out the site;
- Erecting the security fence, creating internal access roads, compound and crane area;
- Piling the frames into the ground and installing mounting frames;
- Affixing the panels to the mounting frames;
- Trenching for the cable runs to a depth of approximately 1m, and laying cables;
- Pouring the concrete base for the electrical housing / cabinets (Switchgear, Transformer, Inverters etc.);
- Installation of the housing / cabinets;
- Erecting pole mounted CCTV cameras;

- Connecting all the cables up and backfilling the cable trenches;
- Landscaping works in accordance with Planting Plan.

## 6.2 NOISE MANAGEMENT

Noise associated with construction is an unavoidable reality for most development projects. There will always be some noise associated with a building project, however this will be temporary and can be controlled by limiting the hours of noise generating activities to limit disruption for neighbouring properties.

When constructing a solar farm, the noisiest activity is the piling of the mounting frames into the ground. The piling will be undertaken at the start of the construction process, lasting a few weeks.

In order to limit potential noise impacts, noise generating construction and decommissioning works shall only be undertaken between:

- 0800 and 1800 Monday to Friday; and
- 0800 to 1300 on Saturdays.

Only manual works will be undertaken outside of those hours.

Contractors will be required to conform to the construction noise code of practice BS 5228.

## 6.3 AIR QUALITY AND DUST MANAGEMENT

Given the ground condition of the site, we do not anticipate any significant dust issues to arise during construction or decommissioning. If conditions on site are very dry then water misting/spraying will be employed to dampen ground to avoid any dust nuisance.

## 6.4 WASTE

The specialist EPC hired to construct the solar farm will ensure that all waste is disposed of responsibly from the site during and immediately following construction.

The potential waste generated during the construction process will primarily be related to packaging, and will include:

- **The pallets that the solar panels are packaged in.** These will be either wood crates, or cardboard boxes. These will be removed from the site on a regular basis. If they arrive on wooden pallets, then these have a value and will either be returned to the manufacturer/distributor, or collection by a local contractor will be arranged. If they arrive packaged in cardboard boxes, then these will be removed from site on a regular basis, either through a hired skip, or through trips to the closest appropriate recycling station.

- **Packing materials for various components, such as screws, cabling, and mounting frames.** Any non-recyclable waste will be stored in a skip for regular removal to an appropriate landfill.
- **Food waste from workers.** Personal rubbish will be collected along with non-recyclable packaging materials, for disposal at an appropriate landfill.
- **Portable toilets** will be hired for the duration of the construction period; therefore there will be no human waste issues.
- **Excavated soil.** The site involves some ground works for access tracks, cable trenching, cabinet platforms. Excavated soil will be used for backfilling activities. Topsoil will be managed as detailed in 6.6 below. Excess subsoil will be removed from the site and disposed of at an appropriate landfill or sold to a landowner needing additional soil.

## 6.5 MANAGEMENT AND PROTECTION OF ECOLOGICAL RESOURCES

The site is currently arable land, which is typically considered to have low wildlife values. Wildlife on site is likely to be concentrated around boundary hedges and trees. There is however the possibility of ground nesting birds being located within the construction area on the site. The following measures will be employed to manage and protect onsite ecological resources during construction:

- The boundary hedges are to be retained with all works set back from the hedges.
- The security fence will be installed inside the boundary vegetation, and all subsequent construction and deconstruction work will take place inside the security fence, thus the construction area will be isolated from any animals traversing the site.
- If the construction works are to be undertaken within the nesting season (March to August), then prior to this the site will be mown regularly to discourage nesting on site. Checks for nesting birds will be undertaken immediately prior to works taking place. If any birds are found to be nesting on the ground in locations where planned works will disturb them, then those works will be delayed until nesting is complete, i.e. when the young have fledged (departed) the nest, or when a nesting attempt has been abandoned. It is likely that 1 month would be the maximum period works in any area would need to be delayed if birds are found to be nesting on the ground.
- Pre-commencement badger surveys are proposed to ensure any new badger activity is noted and mitigated for prior to construction commencing.
- A series of pre-construction measures to protect against harm to reptiles and Great Crested Newts (refer to Ecological Appraisal for full detail)

## 6.6 MANAGEMENT OF TOPSOIL

Earthworks will be required to create stable, level platforms for the cabinets, and to create the trenches for the cables.

Topsoil will be removed from the relevant areas and set aside separately from any subsoil. When backfilling the cable trenches, the subsoil will be replaced first, followed by the topsoil.

Any topsoil not required for backfilling will be used to build up areas where new planting is to be undertaken in accordance with the solar farm Planting Plan, and the remainder will either be thinly spread on the site, or delivered to other areas of the wider farm for re use where there is a need for additional top soil.

Once construction is complete, the site will be seeded in accordance with the proposed Biodiversity Management Plan.

## 7 DECOMMISSIONING SPECIFIC INFORMATION

### 7.1 DECOMMISSIONING ACTIVITIES

During decommissioning all infrastructure introduced to the site for the development of the solar farm will be removed, requiring the following work:

- The **solar panels** will be unscrewed from the mounting frames and packaged either to send to a solar recycling depot, or if they are still operational they may be sold as second hand. Since January 2014, PV panels in the UK have been covered by the WEEE (Waste Electrical and Electronic) Regulations, which require recycling of the panels at the end of their operational life.
- The **mounting frame** horizontal poles will be removed and the piles will be pulled from the ground, the dismantled framework will be bundled and taken for recycling. Because of the slim line 'H' shape of the piles, they will not leave holes like fence posts and therefore only minimal soil back filling is likely to be required, if any.
- The **cable** trenches will be reopened, with the top soil set aside, and the cables and ducts will be removed. As the cables are removed, the trenches will be backfilled with the soil that has been set aside. The cables will be bundled and taken for recycling or sale to a scrap metal yard, and the ducts will be disposed of at an approved landfill.
- The **inverter, transformer and switchgear cabinets / housing** will all be removed from the site using a crane and HGVs for transportation. They can then be broken down off site, and any reusable parts salvaged for second hand or scrap metal sale, with the remainder disposed of at an approved landfill. The concrete bases for the cabinets / housing will be broken up and removed, this will either be on-sold to aggregate suppliers, or disposed of at an approved landfill. The area where concrete has been removed will then be backfilled with good quality soil.
- The **fencing and CCTV equipment** will be removed from the site, and sold on as second hand for reuse. Any holes left by the fence posts and poles will be backfilled with soil.

Following removal of all solar farm infrastructures from the site, and backfilling with soil of any areas requiring it, the site will be seeded in grass (i.e. areas that have been backfilled with soil).

There will be no elements of the solar farm left on the site either above or below ground – all infrastructures will be removed for recycling, reuse, or disposal at an approved landfill.

## 7.2 DECOMMISSIONING FINANCIAL STRATEGY

Under the terms of the lease Lightsource holds with the landowner, the tenant (Lightsource) is responsible for full reinstatement and repair of the site at the end of the lease, requiring it to be returned to its original condition.

The scrap/recycle value of the raw materials used in the construction of a solar farm exceeds the cost of removing the materials from the park and undertaking minor site restoration. The frames are aluminium or steel, the cabling and transformers have copper components, and these can all be sold for scrap, therefore there will be a high incentive to remove the infrastructure at the end of the solar farms operational life in order to release this capital. In Germany and Italy, where solar markets are more established, solar farm owner/operators typically base their business models on this (i.e. decommissioning is financed by the resale value of scrap materials from the site).

To protect against the risk that raw material prices slump vs. labour costs and therefore the above does not remain the case, at the 20 year point Lightsource will obtain 3 quotes for the removal of the solar farm. If the average cost exceeds the estimated scrap value of the material the company will accrue sufficient funds over the following 5-10 years to fund the removal of the equipment.

Given the nature of solar developments, with high upfront development and build costs but low operating costs, there will be sufficient operating margin over these years to fund all removal and site restoration costs.

We are sometimes asked what would happen if Lightsource were to go bankrupt. Lightsource's projects are funded by a large retail investment company called Octopus Investments so the ownership model of the system is very stable. The high value, high quality solar assets we develop and construct are an attractive long term investment for other investors such as utilities, banks and pension funds, and if for any reason Lightsource or Octopus were to get into financial trouble then these assets could be easily sold on to another investor who would also take over the operations, maintenance and decommissioning obligations under the planning permission and lease.