

USKMOUTH POWER STATION CONVERSION PROJECT

Lighting Statement



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2

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REPORT

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1 INTRODUCTION

RPS Building Services has been requested to develop a lighting strategy for the construction stage and permanent lighting installation associated with the installation of plant and equipment to enable the power station to convert from coal to bio-fuel.

Following ecological surveys, the presence of water voles, otters and bats has been identified along with green corridors which should not be affected by the installation of artificial lighting.

2 ECOLOGICAL CONSTRAINTS

2.1 Green Corridor

Evidence of water voles is detailed in the drawing below.



Figure 2.1 – Green Corridor

2.2 Dark Corridors

The areas of required dark corridors are detailed below. The red block detailed is a flyover which has been found to contain a significant number of bat roosts in its structure.

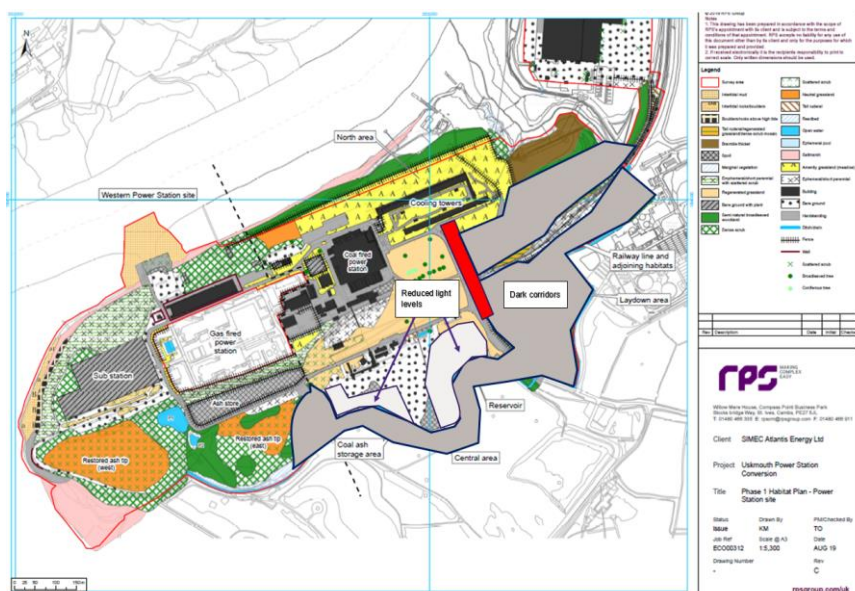


Figure 2.2 – Dark Corridors

2.3 Area of Lighting Survey

Using the information outlined in clauses 2.1 and 2.2 above the following routes were investigated by carrying out a day time site walk over and a night time assessment of existing illumination levels.

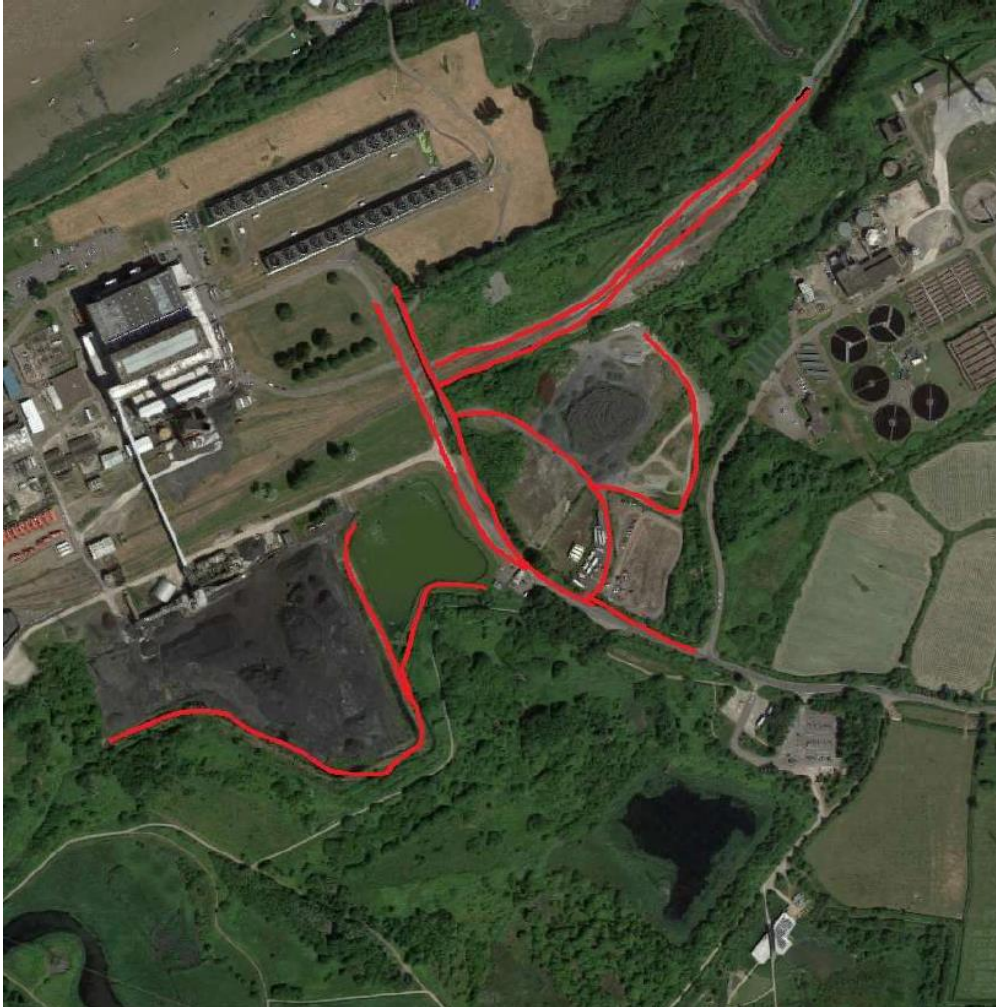


Figure 2.3 – Extent of Lighting Survey

3 LIGHTING SURVEY RESULTS

The results of the lighting survey are located in Appendix A.

	Description	Location	Function	Approximately 51 possible lighting points were found on site. Most of these were found to be not working when the evening survey was undertaken. As the lighting is reported to be photocell controlled any inoperable fittings was as a result of reduced maintenance.
1	6 metre column road lantern	Railway	Not working	
2	6 metre column road lantern	Railway	Not working	
3	6 metre column road lantern	Railway	Not working	
4	6 metre column road lantern	Railway	Not working	
5	6 metre column road lantern	Railway	Not working	
6	6 metre column road lantern	Railway	Not working	
7	6 metre column road lantern	Railway	Not working	
8	6 metre column road lantern	Railway	Not working	
9	6 metre column road lantern	Railway	Not working	
10	6 metre column road lantern	Railway	Not working	
11	6 metre column road lantern	Railway	Not working	
12	6 metre column road lantern	Railway	Not working	
13	6 metre column road lantern	Highway	Not working	
14	6 metre column road lantern	Highway	Not working	
15	10 metre column flood lights	Highway	Not working	
16	6 metre column road lantern	Highway	Not working	
17	6 metre column road lantern	Highway	Not working	
18	6 metre column road lantern	Highway	Not working	
19	6 metre column road lantern	Highway	Not working	
20	6 metre column road lantern	Highway	Not working	
21	6 metre column road lantern	Highway	Working	
22	6 metre column road lantern	Highway	Not working	
23	6 metre column road lantern	Highway	Not working	
24	8 metre column flood lights	Highway	Working	
25	8 metre column flood lights	Highway	Working	
26	8 metre column flood lights	Highway	Working	
27	8 metre column flood lights	Highway	Working	
28	8 metre column flood lights	Highway	Working	
29	8 metre column flood lights	Highway	Working	
30	8 metre column flood lights	Highway	Working	
31	8 metre column flood lights	Highway	Not working	
32	8 metre column flood lights	Storage	Not working	
33	8 metre column flood lights	Laydown	Not working	
34	8 metre column flood lights	Laydown	Not working	
35	8 metre column flood lights	Laydown	Not working	
36	8 metre column flood lights	Laydown	Not working	
37	8 metre column flood lights	Laydown	Not working	
38	8 metre column flood lights	Laydown	Not working	
39	8 metre column flood lights	Laydown	Not working	
40	8 metre column flood lights	Laydown	Not working	
41	6 metre column road lantern	Highway	Working	
42	6 metre column road lantern	Highway	Not working	
43	6 metre column road lantern	Highway	Working	
44	6 metre column road lantern	Highway	Not working	
45	6 metre column road lantern	Highway	Not working	
46	25 metre high mast	Yard	Not working	
47	25 metre high mast	Yard	Not working	
48	10 metre column flood lights	Storage	Not working	
49	10 metre column flood lights	Storage	Not working	
50	10 metre column flood lights	Storage	Not working	
51	10 metre column flood lights	Storage	Not working	

3.1 Summary

Very few external lighting fittings were in operation at the time of the survey. No fittings in the dark corridor areas (the railway, laydown, reservoir, central area and coal as storage areas) were operable thus maintaining the required dark areas.

4 LIGHTING STRATEGY

4.1 Construction Stage

- 4.1.1 The majority of construction work will be undertaken within standard working hours would be 07:00 to 19:00 hours Monday to Friday, 07:00 to 13:00 hours on Saturday and at no time on Sundays or on public or bank holidays. Work outside these hours would be kept to a minimum, the local planning authority would be notified of any requirement to deviate from these indicative working hours.
- 4.1.2 The construction of the storage silos may require the slip-form casting technique. This construction activity is conducted continuously for the duration of the concrete pouring and progresses 24/7 until complete. The conversion contractor will provide further detail and timings.
- 4.1.3 Supplementary lighting will be required to construction areas and compound to facilitate the safe movement of traffic and personnel.
- 4.1.4 The lighting strategy will address the following:-
- Provide target minimum illumination levels to the areas that are necessary to the safe operation of the construction site.
 - Prevent blanket lighting of areas; light only areas which need lighting applied to them. BS EN 12464-2 - Light and lighting — Lighting of work places provides guidance on the average illumination levels required for construction areas as 50 lux.
 - Minimise mounting heights of lighting equipment to not be visible to external observers (i.e. below the level of temporary buildings and landscape bunds).
 - Minimise visibility of bright sources therefore orientation of equipment towards the centre of the site where possible away from the dark corridors.
 - Minimise tilt and therefore upward light spill by the use of flat glass lanterns.
- 4.1.5 Phasing construction works will require lighting to be temporary in nature and lighting units will be moved to suit the site works.
- 4.1.6 Additional task lighting may be required at certain stages in construction should enhanced construction activities, e.g. erection of steelwork, occur after normal working hours.

4.2 Permanent Occupation

- 4.2.1 It is not anticipated that the new operational areas of the proposed development (silos, de-dusting building and conveyors) will require continuous external lighting during hours of darkness.
- 4.2.2 Task lighting will be associated with silos, de-dusting building and conveyors in the event that operation and maintenance activities are required during the hours of darkness.
- 4.2.3 The use of the existing railway for deliveries is to be re-established. This will require the existing lanterns running alongside the railway to be re-instated. The design of this lighting will be in accordance with Clause 4.2.5 below.
- 4.2.4 Lighting along the walkways and roads will be comparable to the existing lighting scheme. The Uskmouth conversion project will avoid lighting to perimeter drainage reens to minimise disturbance to wildlife.
- 4.2.5 In order to comply with the ecological requirements of lighting the following will be incorporated:-
- Use of warm-white LEDs.
 - Lighting units pointed towards the ground below the horizontal (ideally below 70°) and into the working area.
 - Designing out light spill onto boundaries.

- Dimming in conjunction with timeclock and photocell control.
- Location and spacing of units.

4.2.6 The areas of dark corridor and reduced light levels are detailed below on the proposed plan.

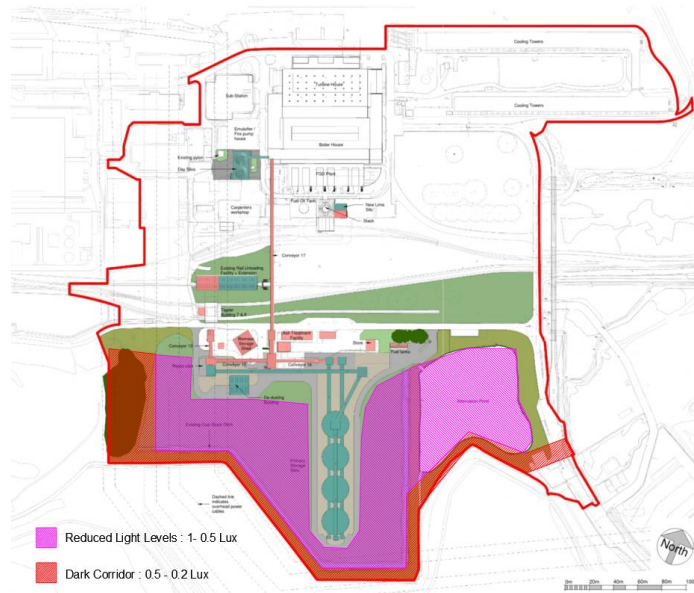


Figure 4.2.6 – Proposed Site Plan

Appendix A

Survey Results

NW

Key

- ✖ Lighting Point - Not Working
- ✔ Lighting Point - Working



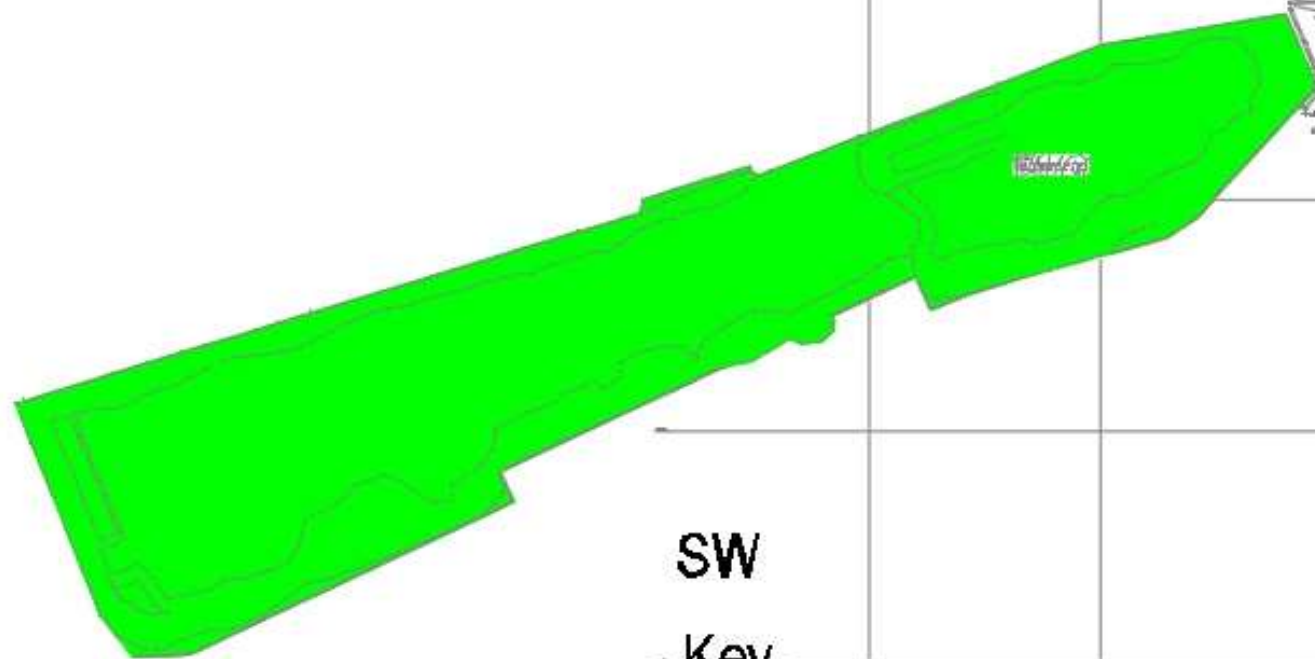




SE

Key

-  Lighting Point - Not Working
-  Lighting Point - Working



SW

Key

- ✗ Lighting Point - Not Working
- ✗ Lighting Point - Working

