Appendix 9.2 – Glint and Glare Modelling Details and Assumptions

Postcombe and Lewknor Solar Farm Environmental Statement

Postcombe and Lewknor Solar Farm Limited

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Table of Contents

9. Glint and Glare Modelling Details and Assumptions 9-1
9.1 Receptors 9-1
9.2 Modelling Assumptions 9-2

Tables

Table 9.1 – Ground-based receptor considered for G&G Assessment. 9-1
Table 9.2 - Site Configuration Parameters 9-1
Table 9.3 - Solar PV Array Parameters 9-3
Table 9.4 - Receptors Parameters 9-3

9. Glint and Glare Modelling Details and Assumptions

9.1 Receptors

9.1.1 **Table 9.1** below highlights the receptor details that serve as input to the glint and glare (G&G) model.

Table 9.1 - Ground-based receptor considered for G&G Assessment

Receptor ID	Lat (°)	Lon (°)	Observation height from ground (m)
Route 1	Varies	Varies	1.5
Route 2	Varies	Varies	1.5
Route 3	Varies	Varies	1.5
OP1	51.67	-0.97	4.5
OP2	51.67	-0.97	4.5
OP3	51.67	-0.97	4.5
OP4	51.67	-0.97	4.5
OP5	51.67	-0.97	4.5
OP6	51.67	-0.97	4.5
OP7	51.68	-0.97	4.5
OP8	51.68	-0.97	4.5
OP9	51.68	-0.99	4.5
OP10	51.68	-0.99	4.5
OP11	51.68	-0.99	4.5
OP12	51.68	-0.99	4.5
OP13	51.68	-0.99	4.5
OP14	51.68	-0.99	4.5
OP15	51.69	-0.98	4.5
OP16	51.69	-0.98	4.5
OP17	51.69	-0.98	4.5
OP18	51.69	-0.98	4.5
OP19	51.69	-0.97	4.5
OP20	51.69	-0.97	4.5
OP21	51.69	-0.97	4.5
OP22	51.69	-0.97	4.5
OP23	51.68	-0.96	4.5
OP24	51.68	-0.96	4.5
OP25	51.68	-0.96	4.5
OP26	51.68	-0.96	4.5

Receptor ID	Lat (°)	Lon (°)	Observation height from ground (m)
OP27	51.67	-0.96	4.5
OP28	51.67	-0.98	4.5
OP29	51.67	-1.00	4.5
OP30	51.67	-0.99	4.5
OP31	51.69	-1.00	4.5
OP32	51.69	-0.98	4.5
OP33	51.69	-0.98	4.5
OP34	51.69	-0.98	4.5
OP35	51.69	-0.97	4.5
OP36	51.69	-0.97	4.5
OP37	51.69	-0.97	4.5
OP38	51.69	-0.97	4.5
OP39	51.69	-0.97	4.5
OP40	51.69	-0.98	4.5

9.2 Modelling Assumptions

9.2.1 **Table 9.2**, **9.3** and **9.4** shows the modelling assumptions used within the simulation.

Table 9.2 - Site Configuration Parameters

Parameter	Details
Subtended angle of the sun	9.3mrad (0.5°). This is the default setting given by the software.
Direct Normal Irradiance (DNI)	DNI scales with the position of the sun and has a peak value of 1,000 W/m².
Ocular transmission coefficient	This is the radiation absorbed in the eye before reaching the retina. Value of 0.5 (default figure recommended by the software).
Pupil diameter	This is the diameter of the pupil when daylight is present. Value of 2 mm (default figure recommended by the software).
Eye focal length	This is the projected image size on the retina from a given glare source for a given subtended angle. Value of 1.7 cm. This is the default figure recommended by the software.
Time interval	Value of 1 to represent 1 minute.

Table 9-3 - Solar PV Array Parameters

Parameter	Details
Mounting Details	Single Axis Tracker (SAT)
Max. Tracking Angle (°)	60
Resting Angle (°)	0 (i.e. when outside of tracking range of +/-60°, modules reset to 0° facing upwards)
Backtracking Type	Shade-slope
Axis Orientation	South
Module Orientation	East to west
Solar PV module material category	Category 1. Defined as smooth glass with anti-reflective coating. Module details provided by client within technical datasheet.
Rated power	52.5 MWp
Slope error value	A value of ‘varies’ to imply that this depends on the PV material selected. In this case, material category 1 was selected.
Reflectivity value	A value of ‘varies’ to imply that this depends on the PV material selected. In this case, material category 1 was selected.
Pitch (m)	5

Table 9-4 - Receptors Parameters

Parameter	Details
Route receptors	Three routes
Observation points	40 OPs, all of them outside of red-line boundary