



MINIMUM SUBSTATION ELECTRICAL CLEARANCES TO NGTS 2.1 FOR 400 kV	
P-E PHASE TO EARTH	2800mm
P-P PHASE TO PHASE	3600mm
MINIMUM SUBSTATION SAFETY CLEARANCES TO NGTS 2.1	
Ih INSULATION HEIGHT	2400mm
Sd SAFETY DISTANCE	3100mm
Ds DESIGN SAFETY CLEARANCE	5500mm
Dsh DESIGN SAFETY CLEARANCE (Horizontal)	4600mm
Db DESIGN CLEARANCE FOR MEWP OPERATION (Horizontal)	7500mm
Da DESIGN CLEARANCE MEWP OPERATION (Horizontal)	6600mm
MINIMUM HEIGHT OF CONDUCTORS ABOVE SUBSTATION ROADWAYS TO ELECTRICITY SUPPLY REGULATIONS 1988	
	7300mm

IT IS GENERAL PRACTICE, WHERE POSSIBLE, TO APPLY THE VERTICAL DESIGN CLEARANCE Ds IN ALL DIRECTIONS

- NOTES**
- SUBSTATION HAZARD PLAN SHALL BE FOLLOWED DURING ALL STAGES OF WORK.
 - GIS SUPPORTS SHOWN FOR INDICATION PURPOSES ONLY.
 - GIS EQUIPMENT TO BE NON SF6.

- LEGEND**
- EXISTING EQUIPMENT
 - NEW EQUIPMENT
 - EQUIPMENT TO REMOVE
 - FUTURE EQUIPMENT

- REFERENCE DRAWINGS**
- PDD-100504-SLD-101 Single Line Diagram
 - PDD-100504-ELE-101 Substation Elevations East
 - PDD-100504-ELE-102 Substation Elevations West
 - PDD-100504-ELE-103 Substation Elevations South
 - PDD-100504-ELE-104 Substation Elevations North



ILLUSTRATIVE DRAWING

Rev	Description	Cre'd	Chk'd	App'd	Date	
P06	Environmental Statement * APPF Regulation: 5(2)(a) *		JK	HC	AC	02/02/22
P05	Issued for DCO		JK	HC	AC	17/12/21
P04	Revised after DA and NG Comments		JK	HC	AC	24/11/21
P03	Issued For Comments		JK	HC	AC	10/09/21
P02	Issued For Comments		OH	HC	AC	03/09/2021
P01	Preliminary Issue		SHY	HC	AC	03/08/2021

nationalgrid

Investment No: 100504 Project No: 201083 Site: Bulls Lodge
Investment Name: Longfield Solar Farm Connection

Document Title: Bulls Lodge Substation Extension Layout Plan

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REF	DESCRIPTION
1	400kV SINGLE PHASE POST INSULATOR
2	CABLE SEALING END
3	400kV CAPACITIVE VOLTAGE TRANSFORMER
4	400kV EARTHING SWITCH
5	400kV SURGE ARRESTOR
6	LANDING GANTRY
7	400kV GIS BUSHINGS
8	GIS SUPPORT
9	GIS/IBS CABLE SEALING END
10	GIS BUILDING
11	SF6 BOTTLE STORAGE AREA
12	SF6 WASH DOWN AREA
13	CONTROL ROOM/PERMIT
14	RELAY ROOM
15	TELECOMS ROOM
16	LVAC ROOM
17	BATTERY ROOM
18	MOBILE DG PARKING AREA
19	DIESEL GENERATOR
20	HEIGHT BARRIER
21	LONGFIELD PORTABLE RELAY ROOM
22	OFFICE AREA
23	400kV LOW LEVEL CURRENT TRANSFORMER
24	400kV HIGH LEVEL RCP DISCONNECTOR
25	400/25kV TRACTION TRANSFORMER
26	400kV HIGH LEVEL FREE STANDING EARTH SWITCH 2 Phase
27	400kV LOW LEVEL POST INSULATOR
28	400kV LOW LEVEL FREE STANDING EARTH SWITCH 2 Phase
29	400kV LIVE TANK DISCONNECTING CIRCUIT BREAKER
30	25kV LOW LEVEL SURGE ARRESTOR
31	25kV LOW LEVEL CURRENT TRANSFORMER
32	25kV LOW LEVEL CAPACITOR VOLTAGE TRANSFORMER
33	72.5kV LOW LEVEL RCP DISCONNECTOR
34	25kV LOW LEVEL CABLE SEALING END
35	CAR PARKING

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