

OpenLV Substation Site Survey

Site Details		Result	Photograph
1	Substation ID		<input type="checkbox"/>
2	Substation type	Indoor <input type="checkbox"/> Outdoor (fence) <input type="checkbox"/> Outdoor (walled) <input type="checkbox"/> GRP Enclosure <input type="checkbox"/>	<input type="checkbox"/>
3	Date and Time	Date:	
		Time:	
		EA Technology Representatives:	
		WPD Representatives:	

Substation Checks			
4	Identify location to install mobile antenna (5m cable).		<input type="checkbox"/> <i>(Proposed location)</i>
5	Confirm mobile reception signal strengths <i>Make measurements with antenna in substation, revert to interior mounting or external location if signal strength is poor.</i>	O2	<input type="checkbox"/> Analyser screen.
		EE	
		3	
6	Confirm space to install OpenLV enclosure		<input type="checkbox"/>

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Substation Checks			
	<i>(Wall mounting / asset mounting / secure location)</i>		<i>(Proposed location)</i>
7	Viable escape route from substation (including when enclosure is open) once equipment is installed?		
8	Verify suitability of oil pocket for the installation of thermal monitoring.		<input type="checkbox"/>
9	Identify the thread type of the oil pocket cap.		<input type="checkbox"/>
10	Transformer rating.	Rated Power (kVA): Rated Current (A):	<input type="checkbox"/>
11	Identify outgoing circuit/way to be meshed. <i>Verify using WPD Data Portal.</i>		<input type="checkbox"/>
12	Fuse ratings. <i>(315A or 400A required for ALVIN Reclose™ replacement.)</i>		<input type="checkbox"/>
13	Confirm space to install ALVIN Reclose™ units. <i>Will existing fuse carriers fit the ALVIN Reclose™ or are new carriers needed?</i>	ALVIN Reclose™ Compatible Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <i>(Existing fuse board)</i>

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Substation Checks			
		<p>ALVIN Reclose™ unit's available for the OpenLV Project are only compatible for 92mm fuses.</p> <p><i>Note that Schneider manufacture 'deep doors' that can replace the standard LV enclosure doors and enable the installation of ALVIN Reclose™ units. These doors are compatible with LV enclosure with white plastic covers and phase barriers, manufactured by EMMCO or their successors from around 1990 onwards.</i></p>	
14	Confirm space to install ambient temperature sensor	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<input type="checkbox"/> <i>(Proposed location)</i>
15	Is an indoor air temperature sensor required? <i>Is transformer inside a building / kiosk?</i>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	
16	Confirm ability to install flexible Rogowski coils on transformer tails / busbar connections. Maximum 5m cable on Rogowski sensors, although 3m lengths preferred.	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<input type="checkbox"/> <i>(Proposed location)</i>
17	Confirm ability to install current sensors on identified outgoing way. (<i>GridHound (preferred) / Rogowski coil sensors</i>). <i>We have a number of GridHound sensors that will be used first where possible, reverting to flexible sensors where necessary and once the GridHound units are all deployed.</i>	<p>GridHound <input type="checkbox"/> Flexible Rogowskis <input type="checkbox"/></p> <p>3m <input type="checkbox"/> 5m <input type="checkbox"/></p> <p>How many required? (Monitoring all ways is required if unable to monitor transformer tail or busbars.)</p>	<input type="checkbox"/>
18	Confirm space to install Gridkey MCU520; include location details.		<input type="checkbox"/> <i>(Proposed location)</i>

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Substation Checks			
19	Identify and measure cable route: OpenLV enclosure to Gridkey MCU520.		<input type="checkbox"/> (Proposed route)
20	Determine method to provide 3-phase voltage connections to GridKey MCU520.	Modified fuse carriers <input type="checkbox"/> G-Clamps <input type="checkbox"/> Is there a free way for use? Yes <input type="checkbox"/> No <input type="checkbox"/>	
21	Identify location for socket to supply OpenLV enclosure		<input type="checkbox"/>
22	Identify and measure cable route: Mains supply socket to OpenLV enclosure	Measured cable route length:	<input type="checkbox"/> (Proposed route)

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Protection Settings					
23	Transformer name plate parameters	Vector Group		Additional Information (Tap drawing, set position, oil volume)	<input type="checkbox"/> <i>(name plate)</i> <i>Confirm all values are legible.</i>
		Impedance			
		Power rating			
		HV Volts			
		LV Volts			
		Earthing Arrangement			
		Earthing resistor / reactor value			
24	Substation Single Line Diagram (S.L.D.)	Where available take a photo of the substation SLD.		<input type="checkbox"/> <i>(SLD)</i>	
25	HV Cable information <i>(Where available)</i>	Type, No. Cores, X-sec area, conductor, insulation type, lengths.			
26	LV Cable information <i>(Where available)</i>	Type, No. Cores, X-sec area, conductor, insulation type, lengths.			

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Protection Settings					
27	Transformer HV Protection	Location		Additional Information (Cortec Codes, Operating Voltage, etc)	<input type="checkbox"/> <i>(Settings clearly visible)</i>
		Device Name / Model			
		Protection Function (EF/OC)			
		CT Ratio			
		Curve Characteristic			
		Current Setting			
		Time Multiplier Setting			
		Instantaneous Setting			
28	Transformer HV protection	Location		Additional Information (Cortec Codes, Operating Voltage, etc)	<input type="checkbox"/> <i>(Settings clearly visible)</i>
		Device Name / Model			
		Protection Function (EF/OC)			
		CT Ratio			
		Curve Characteristic			
		Current Setting			
		Time Multiplier Setting			
		Instantaneous Setting			

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Protection Settings					
29	LV Outgoing Feeder protection.	Location			<input type="checkbox"/> <i>(Settings clearly visible)</i>
		Device type			
		Rating			

Network Checks					
30	NOP located.				<input type="checkbox"/> <i>(Location)</i>
31	Condition acceptable for closing links? <i>Asset in good condition.</i>				<input type="checkbox"/> <i>(Interior)</i>
32	Network phases suitable for inter-connection.				
33	Network known for regular faults?				

Overall site assessment					
34	3 - Fully usable (e.g. LV-CAP™ & ALVIN deployment)				

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	2 - Partial usability (e.g. LV-CAP™, no meshing capability, multiple strong mobile networks)	
	1 - Partial usability (e.g. LV-CAP™, no meshing capability, one strong mobile network)	
	0 - Unsuitable	

Notes	
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