



## MEGAPACK DESIGN REVIEW CHECKLIST

### Overview

To help ensure that your project is successful, your Tesla project engineer will review your design documents. Before you submit your project for permitting, fill out this checklist and submit your design documents via email to your assigned Tesla project engineer. If you don't know who your Tesla project engineer is, contact your account manager.

### Reference Documents

- *Megapack 2 XL Design and Installation Manual* - [https://partners.tesla.com/home/en-US/content/download/Megapack\\_2\\_XL\\_Design\\_and\\_Installation\\_Manual.pdf](https://partners.tesla.com/home/en-US/content/download/Megapack_2_XL_Design_and_Installation_Manual.pdf)
- *Megapack 2 Design and Installation Manual* - [https://partners.tesla.com/home/en-us/content/download/megapack\\_2\\_design\\_and\\_installation\\_manual.pdf](https://partners.tesla.com/home/en-us/content/download/megapack_2_design_and_installation_manual.pdf)
- *Megapack Site Design Manual* - [https://partners.tesla.com/home/en-US/content/download/Megapack\\_Site\\_Design\\_Manual.pdf](https://partners.tesla.com/home/en-US/content/download/Megapack_Site_Design_Manual.pdf)
- *SCADA Design Manual* - [https://partners.tesla.com/home/en-US/content/download/SCADA\\_Design\\_Manual.pdf](https://partners.tesla.com/home/en-US/content/download/SCADA_Design_Manual.pdf)
- *Customer Breaker Status Override Request Form* - [https://partners.tesla.com/home/en-US/content/download/Customer\\_Breaker\\_Status\\_Override\\_Request\\_Form.pdf](https://partners.tesla.com/home/en-US/content/download/Customer_Breaker_Status_Override_Request_Form.pdf)
- *Application Note: Tesla Site Controller Emulator* - [https://partners.tesla.com/home/en-us/content/download/tesla\\_powerpack\\_controller\\_emulator.pdf](https://partners.tesla.com/home/en-us/content/download/tesla_powerpack_controller_emulator.pdf)
- *Application Note: Grounding Transformer Considerations* - [https://partners.tesla.com/home/en-US/content/download/Grounding\\_Transformer\\_Considerations\\_AppNote.pdf](https://partners.tesla.com/home/en-US/content/download/Grounding_Transformer_Considerations_AppNote.pdf)



## Project Information

Record the project information below.

Project	Name	
	Address	
Dates	Expected Delivery	
	Planned Construction	
	PTO / COD	
Nameplate power (kW)		
Nameplate energy (kWh)		
Type of augmentation or Capacity Maintenance Agreement (CMA), if applicable (LV, MV, CMA, N/A)		
Connecting utility and ISO (if applicable)		
NECR-CIP compliance required? (Yes/No)		
Site configuration (on-grid, on/off-grid, off-grid only)		



**Contact Information**

Record details of principal contacts for the project.

<b>SCADA Engineer Contact Details</b>	Name	
	E-Mail Address	
	Telephone	
<b>Electrical Engineer Contact Details</b>	Name	
	E-Mail Address	
	Telephone	
<b>Structural Engineer Contact Details</b>	Name	
	E-Mail Address	
	Telephone	
<b>Civil Engineer Contact Details</b>	Name	
	E-Mail Address	
	Telephone	



**Planned Control System (On-Grid)**

Indicate which on-grid equipment and/or system controls are present on site (check all that apply).

Tesla Opticaster	
Site Control Mode	
Customer-provided controller	
On-grid PV inverter curtailment	
Tesla Autobidder	
Power Factor (PF)	
Voltage control	
Frequency / Watt (Freq-Watt)	
Volt-VAR	
Always Active	
Heat Mode	
Others:	

**Planned Control System (Off-Grid)**

Indicate which off-grid equipment and/or system controls are present on site (check all that apply).

Islanding Controller (SEL700G)	
Other islanding controller (Modbus) -- if checked, please also submit the <i>Customer Breaker Status Override Request Form</i>	
Generator behind ATS	
PV curtailment via frequency / watt (droop)	
Tesla Microgrid Controller	
Paralleling diesel generator	
PV inverter	
Third-party microgrid controller	



## Civil Design

Confirm civil design meets all criteria, as applicable at site.

Design Detail	Confirmed	N/A
Structural design is completed by customer's civil engineer and complies with the relevant <i>Design and Installation Manual</i> .		
Structural design includes assessment of whether Megapack coupling is required per requirements in the relevant <i>Design and Installation Manual</i> .		
Anchor point locations are positioned appropriately and based on Tesla-provided drawings.		
All clearances are compliant with the requirements listed in the <i>Clearance</i> section of the relevant <i>Design and Installation Manual</i> .		
Conduit windows are noted and are the correct orientation.		
Surfaces surrounding Megapack (including vaults and paths of travel) are rated to support 5-ton forklifts as required by Access Requirements in the relevant <i>Design and Installation Manual</i> .		
Distance to building, egress, and lot lines complies with local codes.		
Augmentation or CMA clearances are verified.		

Installation Logistics / Access Detail	Confirmed	N/A
Roadways to site are sufficient to allow Megapack delivery and crane access.		
Delivery access such as bearing capacity, turning radius, and road service is verified to be suitable for required equipment.		
No overhead obstructions present to impact installation (crane lift).		
Logistics plan and vehicle path of travel studies have been provided to Tesla.		

Maintenance / Service Access Detail	Confirmed	N/A
Maintenance site access is compliant with guidelines in the relevant <i>Design and Installation Manual</i> .		
Drawings have been provided to Tesla for the review of appropriate access for service.		
Access exists for forklift or crane to site.		
Auxiliary outlets are provided and located per guidelines in the relevant <i>Design and Installation Manual</i> .		



## Electrical Design

Confirm electrical design meets all criteria, as applicable at site.

Design Detail	Confirmed	N/A
If an MV (1-35,000 V AC) fuse in transformer is used to protect LV (50-1,000 V AC) conductors to Megapack, ensure proper modeling was done to provide adequate protection on the LV circuit.		
Megapack cable (including grounds) ampacity is verified including any derating factors as applicable. Cable should be sized per application and may require a cable ampacity study.		
Cable and conduit schedule for all power and control circuits have been provided in the drawings.		
Any transformers connected to Megapack have approved vector configurations per instructions in the appropriate <i>Design and Installation Manual</i> .		
Electrical design considers <i>Application Note: Grounding Transformer Considerations</i> .		
Megapack default circuit breaker settings have been reviewed by customer for protection coordination and changes proposed as necessary.		
If UPS is included, it is sized appropriately to support all protected loads.		
Inverter settings sheet has been provided to Tesla.		
Power systems model checklist has been provided to Tesla.		
Utility available short circuit > 3x the battery system short circuit rating.		

Electrical Studies as Applicable at Site Have Been Provided to Tesla	Provided	N/A
Load flow study.		
Short circuit study.		
Protection coordination study.		
Arc flash study.		
Insulation coordination study.		
Grounding study in accordance with local standards such as IEEE-80.		
Photometric study.		
Transformer energization study.		
Lightning protection study.		



**Meter Design**

Confirm meter design, as applicable at site.

Design Detail	Confirmed	N/A
Meter design provides for battery meter(s).		
Meter design provides for site meter(s).		
Meter design provides for solar meter(s).		
Meter design provides for generation meter(s).		
Meter design provides for load meter(s).		
All planned meters are located appropriately and the design provides for communication with the Tesla System Controller.		



## Networking and Tesla System Controller

Confirm criteria below, as applicable at site.

Design Detail	Confirmed	N/A
Tesla System Controller is present in the design and has appropriate AC power supply and backup power if applicable.		
Tesla System Controller has communications with each Megapack per communications cable requirements in the relevant <i>Design and Installation Manual</i> .		
The entire project site is covered by compatible cellular carriers with adequate signal strength.		
The <i>Application Note: Tesla Site Controller Emulator</i> has been reviewed and emulator testing is planned/scheduled for prior to onsite testing of the customers interface (Modbus, DNP, REST) with the Tesla System Controller.		
Network physical interface parameters (for example: Ethernet or serial) and intended communication protocols (such as Modbus or DNP) have been provided in the drawings for meters and other network-connected devices.		
Are devices connected to the LAN 1 port?	Yes:	No:
If Yes, specify desired Tesla System Controller LAN 1 IP address:	_____	
- LAN 1 address <i>DHCP</i> or <i>static</i> ?:	DHCP	Static
- Gateway IP address:	_____	
External SCADA System Interfaces:	DNP3	Modbus Map
		REST API
Powerhub version used by end-customer:	Powerhub Cloud	Powerhub Local

## Tesla Remote Connection

Confirm criteria below, as applicable at site.

Design Detail	Confirmed	N/A
Tesla's remote connection has been designed in accordance with the requirements in the <i>SCADA Design Manual</i> .		
The firewall has been designed in accordance with the requirements in the <i>SCADA Design Manual</i> .		
The data proxy server has been designed in accordance with the requirements in the <i>SCADA Design Manual</i> .		
The jump server has been designed in accordance with the requirements in the <i>SCADA Design Manual</i> .		





## SCADA Design

Record details and confirm criteria below, if SCADA is applicable.

Design Detail	Confirmed	N/A
Device IP addresses have been provided in the drawings and as specified in <i>Appendix A - IP Address List</i> . Devices may include but are not limited to network switches, RTACs, IO devices, UPSs, and meters.		
A SCADA/network diagram showing all devices on the Customer Network and the Tesla Network has been provided.		
Design provides for all meters required for control modes.		
Points list has been provided (or <i>Appendix B - Points List</i> has been completed).		
A controls narrative has been provided to Tesla.		



## Additional Criteria

Complete these sections as relevant per site design.

Miscellaneous	Confirmed	N/A
Latest revisions of <i>Reference Documents</i> downloaded from Partner Portal.		
Transformer I/O requested via Tesla-supplied field network enclosure.		
Remote Megapack breaker monitoring, operation required.		

Draft Test Plans	Confirmed	N/A
Test plan reflects required test items from ISO and grid operator (see tariff and interconnection agreement).		
Draft customer I/O / interconnection commissioning plan has been provided to Tesla.		
Other applicable test plans have been shared with Tesla.		
Draft SCADA interface commissioning plan has been provided to Tesla.		

Storage - Upon delivery, Tesla equipment will be:	
Immediately installed.	
Stored outside for:	1 month 3 months 6 months Longer than 6 months
Stored in a warehouse for:	1 month 3 months 6 months Longer than 6 months



### Appendix A - IP Address List

Document device IP addresses using the template below if a separate list has not been provided.

Location	Name / Device	Model / Description	LAN 1 / LAN 2	IP Address	Subnet Mask
POI SCADA Cabinet					
MV Switchgear					
FNE 1					
FNE 2					



**Appendix B - Points List**

Complete relevant points list below if a separate list has not been provided.

Point Description	Server Device	Server Owner	Client Device	Client Owner	Protocol	Analog / Digital	Notes