

PROJECT:

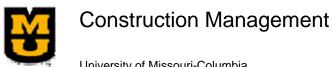
Planning, Design & Construction **Campus Facilities** 117 General Services Building Columbia, MO 65211-3200

PHONE (573) 882-1133 FAX (573) 882-1175

Date:

Low Voltage Switchgear Construction Checklist (under 500 kVA)

Project:								
Date:								
Building:								
Location:								
Submittal / Approvals								
Submittal. The above equipment and systems integral to them are complete and ready for functional testing. The checklist items are complete and have been checked off <u>only by parties having direct knowledge of the event</u> , as marked below, respective to each responsible contractor. This construction checklist is submitted for approval, subject to an attached list of outstanding items yet to be completed. A Statement of Correction will be submitted upon completion of any outstanding areas. None of the outstanding items preclude safe and reliable functional tests being performed List attached.								
Electrical Contractor		Date	General Contractor	Date				
Construction checklist items are to be completed as part of startup & initial checkout, preparatory to performing test procedures.								
 This checklist does not take the place of the manufacturer's recommended checkout and startup procedures or report. If this form is not used for documenting, one of similar rigor shall be used. Contractors assigned responsibility for sections of the checklist shall be responsible to see that checklist items by their subcontractors are completed and checked off. 								
Approvals. This filled-out checklist has been reviewed. Its completion is approved with the exceptions noted below.								
Commissioning A	Authority	Date	Owner's Representative	Date				



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	Switch	gear Informat	ion				
Equipment Tag		Location					
System (Circle one)	Power or Lighting	208-120 or 480-277			77	Normal or Emergenc	у
Manufacturer		Model Nui	mbe	r			_
Serial Number		Short Circ	uit (Сара	city		
Volts/Phase Rating		Main Bus					
Service Area		Other					
Comments:							
	Assoc	ciated Checkli	ists				
Transformer	Other				Other		
Requested (documentation submitted		Re	c'd		Comments	
Manufacturer's cut sheets			Г				
Installation and startup m							
motanation and otartap in	nanual and plan						
O&M manuals	nanual and plan						
	nanual and plan						
O&M manuals	`						
O&M manuals Factory test results	`						
O&M manuals Factory test results Sequences and control s	`						
O&M manuals Factory test results Sequences and control s Warranty Certificate	strategies						
O&M manuals Factory test results Sequences and control s Warranty Certificate Comments:	strategies	ar Enclosure/Ca				Commont	
O&M manuals Factory test results Sequences and control s Warranty Certificate Comments: Check if Acceptak	Switchgea ble; Provide comment if una	cceptable		etry		Comment	
O&M manuals Factory test results Sequences and control s Warranty Certificate Comments: Check if Acceptate Equipment installed per ma	strategies	acceptable specifications	abine			Comment	



Construction Management

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Inspect for physical, electrical and mechanical condition of equipment and cabinet - no damage evident		
Inspect panels and doors for proper fit and alignment		
Equipment labels permanently affixed		
Panel is clean and clear of dust or dirt		
Verify the application of manufacturer recommended torque values applied to bolted connections		
Verify correct circuit breaker sizes and types per the specifications and manufacturer's drawings		
Seismic anchoring installed and functional where applicable (non-short circuiting)		
Verify that all manufacturer control wiring between shipping splits is properly connected per manufacturer's drawings and specifications		
Inspect insulators, barriers and shields for damage or contamination		
Verify that ground bus is properly bonded to enclosure, enclosure is grounded and resistance to ground meets grounding specifications		
Verify three or four wire configuration		
Metering transformer nameplate matches specified and approved transformer		
Transformer installed per manufacturer's instruction, plans and specifications		
Inspect metering transformer cables and connections for defects or physical damage		
Verify metering transformer connections are correct per the single line		
Verify all grounding and shorting connections for the metering transformer are in place		
Verify correct fusing for the metering transformer primary and secondary		
Verify the metering transformer taps are in accordance with the manufacturer's nameplate and specifications		
Verify the vents and air inlets are free and unobstructed. Clean air filters installed (if required)		
Megger test of bus – phase to phase and phase to ground. Test voltage per manufacturer's recommendations		
Hi-potential test of bus – phase to phase and phase to ground. Test voltage per manufacturer's recommendations		
Main Circuit Brea	ker	
Installed per manufacturer's instructions, plans and specifications		
Verify all maintenance and service clearances are maintained		
Verify no physical damage		
Verify voltage and current rating of circuit breaker are per plans and specifications		



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Confirm correct application of manufacturer's recommended lubricant						
Verify that primary and secondary contact wipe dimensions are correct						
Verify breakers are mounted securely and operates smoothly						
Verify wire is properly installed and suitable size for breaker						
Check cell fit and element alignment						
Check racking mechanism						
Megger test of circuit breaker – phase to phase and phase to ground. Test voltage per manufacturer's recommendations						
Inspect shutter operation						
Verify that vacuum contact wipe dimensions are correct						
Hi-potential test of circuit breaker – phase to phase and phase to ground. Test voltage per manufacturer's recommendations						
Feeder Circuit Brea	kers					
Installed per manufacturer's instructions, plans and specifications						
Verify all maintenance and service clearances are maintained						
Verify no physical damage						
Verify voltage and current rating of circuit breaker are per plans and specifications						
Confirm correct application of manufacturer's recommended lubricant						
Verify that primary and secondary contact wipe dimensions are correct						
Verify breakers are mounted securely and operates smoothly						
Verify wire is properly installed and suitable size for breaker						
Check cell fit and element alignment						
Check racking mechanism						
Inspect shutter operation						
Verify that vacuum contact wipe dimensions are correct						
Megger test of circuit breaker – phase to phase and phase to ground. Test voltage per manufacturer's recommendations						
Hi-potential test of circuit breaker – phase to phase and phase to ground. Test voltage per manufacturer's recommendations						
Operational Checks						
Check if Acceptable; Provide comment if unacceptable			Comment			
Control power energized to switchgear line-up						
A full listing of all relay settings per the coordination study is provided and relays are programmed / set and tested						



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	uit breakers exercised in manual est position and fully engaged p applied)				
Terminations are torqued	erminated and "ABC" phasing is , checked, stress cones are pro nergized surfaces are insulated	operly			
Specified sequences of o provided with all variation	peration and operating schedu s documented	les have been			
Specified point-to-point codocumentation record su	necks have been completed and bmitted for this system	nd			
Comments					
Comments:					
*Fill out all form fiel	ds before signing!				
Name	Organization	Title			Signature
					
Un	iversity of Missouri Comn	nissioning Aut	thori	<u>ty</u>	
					(Place Digital Locking Stamp Here)