



PROJECT:

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

Low Voltage Motor Control Center Construction Checklist

| | |
|------------------|--|
| 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 only by parties having direct knowledge of the event, 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 Authority | Date | Owner's Representative | Date |



Construction Management

University of Missouri-Columbia

Planning, Design & Construction Campus Facilities

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| MCC Information | | | |
|---------------------------|--|-------------------------------|--|
| Equipment Tag | | Location | |
| System | | Service Area | |
| Manufacturer | | Model Number | |
| Serial Number | | Short Circuit Capacity | |
| Volts/Phase Rating | | Main Bus Amperage | |
| Other | | Other | |
| Comments: | | | |

| Associated Checklists | | | |
|-----------------------|--------------------------|-------|--------------------------|
| Unit Substation | <input type="checkbox"/> | Other | <input type="checkbox"/> |
| | | Other | <input type="checkbox"/> |
| Comments: | | | |

| Requested documentation submitted | Rec'd | Comments |
|--|--------------------------|----------|
| Manufacturer's cut sheets | <input type="checkbox"/> | |
| Installation and startup manual and plan | <input type="checkbox"/> | |
| O&M manuals | <input type="checkbox"/> | |
| Factory test results | <input type="checkbox"/> | |
| Sequences and control strategies | <input type="checkbox"/> | |
| Warranty Certificate | <input type="checkbox"/> | |
| Comments: | | |

| MCC Enclosure/Cabinetry | | |
|---|--------------------------|---------|
| Check if Acceptable; Provide comment if unacceptable | NA | Comment |
| Equipment installed per manufacturer's instructions and specifications | <input type="checkbox"/> | |
| Equipment installed agrees with shop drawings and specifications | <input type="checkbox"/> | |
| Verify mounting, location and clearances are per plans and specifications | <input type="checkbox"/> | |



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|--|--------------------------|--------------------------|--|
| Inspect for physical, electrical and mechanical condition of equipment and cabinet - no damage evident | <input type="checkbox"/> | <input type="checkbox"/> | |
| Inspect panels and doors for proper fit and alignment | <input type="checkbox"/> | <input type="checkbox"/> | |
| Equipment labels permanently affixed | <input type="checkbox"/> | <input type="checkbox"/> | |
| Panel is clean and clear of dust or dirt | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify the application of manufacturer recommended torque values applied to bolted connections | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify correct circuit breaker sizes and types per the specifications and manufacturer's drawings | <input type="checkbox"/> | <input type="checkbox"/> | |
| Seismic anchoring installed and functional where applicable (non-short circuiting) | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that all manufacturer control wiring between shipping splits is properly connected per manufacturer's drawings and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Inspect insulators, barriers and shields for damage or contamination | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that ground bus is properly bonded to enclosure, enclosure is grounded and resistance to ground meets grounding specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify three or four wire configuration | <input type="checkbox"/> | <input type="checkbox"/> | |
| Neutral bus isolated from cabinet | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that bottom feed conduits align with appropriate openings in MCC and can accommodate seismic motion | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that MCC is properly grounded and resistance to ground meets grounding specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Metering (if provided) matches specified | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify the vents and air inlets are free and unobstructed. Clean air filters installed (if required) | <input type="checkbox"/> | <input type="checkbox"/> | |
| Megger test of bus – phase to phase and phase to ground. Test voltage per manufacturer's recommendations | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | | |
| Main Circuit Breaker (if provided) | | | |
| Installed per manufacturer's instructions, plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify all maintenance and service clearances are maintained | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify no physical damage | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify voltage and current rating of circuit breaker are per plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Confirm correct application of manufacturer's recommended lubricant | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that primary and secondary contact wipe dimensions are correct | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify breakers are mounted securely and operates smoothly | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify wire is properly installed and suitable size for breaker | <input type="checkbox"/> | <input type="checkbox"/> | |
| Check cell fit and element alignment | <input type="checkbox"/> | <input type="checkbox"/> | |
| Check racking mechanism | <input type="checkbox"/> | <input type="checkbox"/> | |



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| Megger test of circuit breaker – phase to phase and phase to ground. Test voltage per manufacturer's recommendations | <input type="checkbox"/> | <input type="checkbox"/> | |
| Inspect shutter operation | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that vacuum contact wipe dimensions are correct | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | | |
| Feeder Circuit Breakers | | | |
| Installed per manufacturer's instructions, plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify all maintenance and service clearances are maintained | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify no physical damage | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify voltage and current rating of circuit breaker are per plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Confirm correct application of manufacturer's recommended lubricant | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that primary and secondary contact wipe dimensions are correct | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify breakers are mounted securely and operates smoothly | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify wire is properly installed and suitable size for breaker | <input type="checkbox"/> | <input type="checkbox"/> | |
| Check cell fit and element alignment | <input type="checkbox"/> | <input type="checkbox"/> | |
| Check racking mechanism | <input type="checkbox"/> | <input type="checkbox"/> | |
| Megger test of circuit breaker – phase to phase and phase to ground. Test voltage per manufacturer's recommendations | <input type="checkbox"/> | <input type="checkbox"/> | |
| Inspect shutter operation | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify that vacuum contact wipe dimensions are correct | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | | |
| Motor Starters | | | |
| Installed per manufacturer's instructions, plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify voltage and current rating of Motor Circuit Protectors (MCP's) are per plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| Verify motor starter sizes (NEMA) are per plans and specifications | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | | |

| Operational Checks | | | |
|--|--------------------------|--------------------------|---------|
| Check if Acceptable; Provide comment if unacceptable | <input type="checkbox"/> | NA | Comment |
| Verify proper phasing (A, B, C) | <input type="checkbox"/> | <input type="checkbox"/> | |
| Specified sequences of operation and operating schedules have been provided with all variations documented | <input type="checkbox"/> | <input type="checkbox"/> | |
| Specified point-to-point checks have been completed and documentation record submitted for this system | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | | |

Comments:



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***Fill out all form fields before signing!**

| Name | Organization | Title | Signature |
|------|--------------|-------|-----------|
| | | | |
| | | | |
| | | | |

University of Missouri Commissioning Authority

(Place Digital Locking Stamp Here)