



MISSION CRITICAL PROJECTS COMPLIANCE CHECKLIST

WISCONSIN DATA CENTERS, MANUFACTURING & CRITICAL INFRASTRUCTURE

Use this checklist to reduce project risk, avoid compliance surprises, and keep your mission-critical project on schedule.

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PLANNING & DESIGN

- ☐ Define the facility's operational requirements
- ☐ Determine required redundancy (N, N+1, 2N, etc.)
- ☐ Identify applicable building occupancy classification
- ☐ Determine emergency power requirements
- ☐ Identify hazardous locations (if applicable)
- ☐ Engage electrical, controls, mechanical, and fire protection engineers early
- ☐ Coordinate with the Authority Having Jurisdiction (AHJ)
- ☐ Identify all permits required
- ☐ Confirm applicable Wisconsin DSPS requirements
- ☐ Develop an initial compliance plan

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CODES & STANDARDS

- ☐ Wisconsin Commercial Building Code
- ☐ National Electrical Code (NFPA 70)
- ☐ NFPA 70E Electrical Safety
- ☐ NFPA 110 Emergency Power
- ☐ NFPA 75 (Data Centers)
- ☐ International Building Code (IBC)
- ☐ International Fire Code (IFC)
- ☐ OSHA Requirements
- ☐ UL 508A (Industrial Control Panels)
- ☐ UL 698A (Hazardous Locations if required)
- ☐ Owner-specific engineering standards

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ELECTRICAL INFRASTRUCTURE

- ☐ Electrical one-line diagrams complete
- ☐ Load calculations completed
- ☐ Grounding & bonding reviewed
- ☐ SCCR verified
- ☐ Selective coordination study completed
- ☐ Arc Flash Study completed
- ☐ UPS systems verified
- ☐ Generator controls reviewed
- ☐ Transfer switches specified
- ☐ Power distribution reviewed
- ☐ Backup power tested

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INDUSTRIAL CONTROL PANELS

- ☐ UL 508A-certified panel builder selected
- ☐ Control panel drawings approved
- ☐ PLC architecture reviewed
- ☐ HMI screens approved
- ☐ Safety circuits verified
- ☐ Network architecture documented
- ☐ Panel labeling completed
- ☐ Spare capacity reviewed
- ☐ Documentation package prepared

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AUTOMATION & CONTROLS

- ☐ PLC programming complete
- ☐ HMI functionality verified
- ☐ Alarm strategy reviewed
- ☐ Communication testing completed
- ☐ Device addressing documented
- ☐ Network redundancy verified
- ☐ SCADA/BMS integration tested
- ☐ Cybersecurity requirements reviewed
- ☐ Backup files stored
- ☐ Operator interfaces validated

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FACTORY ACCEPTANCE TESTING (FAT)

Before equipment ships:

- ☐ Visual inspection completed
- ☐ Wiring verified
- ☐ PLC program tested
- ☐ HMI tested
- ☐ I/O testing completed
- ☐ Alarm testing completed
- ☐ Safety circuits verified
- ☐ Communication between devices verified
- ☐ Customer witness testing completed
- ☐ FAT documentation approved

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INSTALLATION

- ☐ Equipment installed per drawings
- ☐ Electrical connections inspected
- ☐ Cable labeling completed
- ☐ Grounding verified
- ☐ Mechanical interfaces inspected
- ☐ Fire protection coordinated
- ☐ Network infrastructure installed
- ☐ Documentation updated for field changes

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SITE ACCEPTANCE TESTING (SAT)

- ☐ Equipment energized safely
- ☐ PLC functionality verified
- ☐ HMI verified
- ☐ Instrument calibration complete
- ☐ Communication testing passed
- ☐ Safety devices tested
- ☐ Existing equipment integration verified
- ☐ SAT documentation completed

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COMMISSIONING & INTEGRATED SYSTEMS TESTING (IST)

Simulate real operating conditions:

- ☐ Utility power failure
- ☐ Generator startup
- ☐ Automatic transfer switch operation
- ☐ UPS transition
- ☐ Cooling redundancy
- ☐ Fire alarm response
- ☐ Emergency shutdown sequence
- ☐ Building automation response
- ☐ Alarm notifications
- ☐ Generator load testing
- ☐ Final integrated systems testing completed

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DOCUMENTATION

Ensure you receive:

- ☐ One-line diagrams
- ☐ Control schematics
- ☐ Wiring diagrams
- ☐ Panel schedules
- ☐ PLC source code
- ☐ HMI software
- ☐ Network architecture
- ☐ Alarm list
- ☐ FAT report
- ☐ SAT report
- ☐ Arc Flash Study
- ☐ Coordination Study
- ☐ Equipment manuals
- ☐ Maintenance procedures
- ☐ Warranty information
- ☐ Spare parts list
- ☐ Operator manuals



FINAL COMPLIANCE REVIEW

- ☐ All permits approved
- ☐ Final inspections passed
- ☐ Occupancy approval received
- ☐ Operator training completed
- ☐ Maintenance team trained
- ☐ Documentation handed over
- ☐ Cybersecurity documentation complete
- ☐ Backup files archived
- ☐ Preventive maintenance schedule established
- ☐ Facility ready for operation



COMMON MISTAKES TO AVOID

- ☐ Waiting too long to involve controls engineers
- ☐ Assuming code compliance guarantees reliability
- ☐ Skipping Factory Acceptance Testing
- ☐ Choosing non-certified control panels
- ☐ Incomplete documentation
- ☐ Poor coordination between contractors
- ☐ Designing without future maintenance access
- ☐ Waiting until commissioning to identify problems

McIVER ENGINEERING & CONTROLS CAN HELP WITH

- ✓ UL 508A & UL 698A Control Panels
- ✓ PLC & HMI Programming
- ✓ Electrical Control System Design
- ✓ Factory Acceptance Testing (FAT)
- ✓ Site Acceptance Testing (SAT)
- ✓ Startup & Commissioning Support
- ✓ Automation Integration
- ✓ Legacy System Modernization
- ✓ Technical Documentation



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