

Field Equipment and Transformers <2000kVA, Substation Equipment, and Relays Inspection (Ready-for-Start)

ComEd Training and Reference Material (T&RM)
CM-CE-303002-R0003
Rev. 8

Revision as of 07-20-17 as a result of ACE Report # 01091518:

For any items on this Ready To Start (RTS) Checklist that cannot be completed OR have conditions that are questionable, the Person In Charge (PIC) is required to contact the appropriate ComEd Subject Matter Expert (SME) to determine the condition that must be achieved prior to Liveness. Any items that cannot be resolved prior to Liveness must be approved by the appropriate SME. That discussion shall be documented in the Comments section at the end of the RTS Checklist. Those Comments shall contain the date discussed, resolution, RTS Lead name and the name and position of the ComEd SME contacted.

Revision as of 12-28-15 to include verbiage to support NERC CIP v5 activities.

Work performed on assets identified as a BES CYBER SYSTEM shall adhere to:

- **RC-AC-PCS3-007 NERC CIP Configuration Control and Change Management Process.**
- **RC-AC-PGM3-003 NERC CIP Cyber Security Training Program**
- **RC-AC-PGM3-005 NERC CIP Access Management Program**

ComEd prohibits liveness of Protection System Equipment without verifying all Preventive Maintenance (PM) Work Orders in PassPort per AM-CE-9095.

Please Print

Location: _____

Equipment: _____

Work Orders and Task Numbers: _____

Checklist Completion Date: _____

Completed by: _____

Any questions, call your Supervisor.

The Supervisor and Person-in-Charge must review checklists for accuracy after completion of *Additions, Replacements, Maintenance, or Testing*, and verbally verify in person or by phone that each line item is completed before authorizing equipment to be energized and placed In-Service.

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IMPORTANT: The last person to release clearance shall ensure that each department has completed their related checklists where applicable.

Items must be initialed or marked *N/A*, and issues must be addressed before *Final Sign-off*.

Department	Checklist completed by (print first and last name)	FINAL SIGN-OFF (Signatures)	Start Date/Time	Completion Date/Time
SSM				
TG				
AO				
Other				

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Section 1 – Pre-livening



CALL 1 – Notify Designated Authority before working on the ComEd System.

#	Task	UG	SSM	Power Testing	TG	AO	Other	Peer or Self Check	Notes
1	When replacing equipment, confirm name plate data of original and new equipment match; resolve differences in name plate data.								
2	Verify mapping is completed and checked for accuracy by the DSO.								
3	Verify all Underground and Overhead de-energized work is completed as applicable.								
4	Remove all identified hazards and debris created during the work.								
5	Remove or park protective grounds and barriers to allow operation of switches and/or equipment. Note: If barriers prohibit switching, place an Abnormal Condition tag on the equipment lock.								
6	Verify Abnormal Condition tag placed on equipment lock; document this in the <i>Comments</i> section.								
7	Confirm equipment is clean, orderly and stenciled/labeled per specification to reflect current equipment identification nomenclature including test switches and relay panel labelling as applicable.								
8	Confirm equipment is tested for: <ul style="list-style-type: none"> proper system voltage (check nameplate) correct phasing of primary and secondary cable/wire shorts and fault conditions 								
9	Confirm CTs and/or meters are installed as required.								
10	Check position of switch/tap changer (if applicable).								

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11	Verify construction meets established company standards including but not limited to primary phase-to-phase and phase-to-ground electrical clearances.								
12	Verify all temp wiring is removed and or any electrical configuration changes from engineering design are documented on "as built" prints.								
13	Confirm safety issues addressed (e.g. leakers in vault).								
14	Verify Protective Relays have been properly acceptance tested, and results recorded in RTS according to AM-CE-P134.								
15	Verify SCADA testing is completed (Status, Analogues, Controls).								
16	Issue one line diagram to DSO, verified by appropriate departments (DT, SSO, and Testing).								
17	Complete Ready For Start in detail with signatures. (City of Chicago)								
18	Access to vault in off hours. (City of Chicago)								
19	Check customer availability for livening (voltage and rotation checks).								
20	Verify all temp jumpers/leads removed from back of panels.								
21	Verify no Battery grounds.								
22	Verify Test Switches are in proper configuration for livening.								
23	Verify all Communication Dials in proper configuration.								
24	Verify all Relay Targets clear.								
25	Verify WAL clear.								
26	Verify all ELOT and ADMT are in proper location/configuration.								
27	Verify alarms clear with Designated Authority.								
28	Verify all PM Work Orders exist for new equipment per AM-CE-9095.								
29	List each PM Work Order that must be closed in the <i>Comments</i> section.								

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Section 2 – Release to Designated Authority

 CALL 2 – After completing checklist Section 1, call the Designated Authority and complete this section. Communicate restore times if applicable. Dispatcher name: _____									
#	Task	UG	SSM	Power Testing	TG	AO	Other	Peer or Self Check	Notes
1	Communicate present state of equipment and any configuration changes from prints.								
2	Confirm Worker Alteration Log is cleared.								
3	Communicate that equipment is ready to be released for service.								
4	Check to ensure proper voltage, phasing and phase rotation (if applicable). Refer to OP-ED-142009, "Transformer Three-Phase, Radial and Feed Thru Compartmental Energizing".								
5	For equipment located inside Substations, PRIOR to releasing equipment back to service, the Person in Charge (PIC) shall contact their immediate Supervisor.								
6	Liven as directed by designated authority.								

Section 3 – Post-livening Equipment Review

This section may be completed after clearance is released to the Designated Authority. No call to Designated Authority is required if equipment liven as designated.

#	Task	UG	SSM	Power Testing	TG	AO	Other	Peer or Self Check	Notes
1	Equipment secured with established company locks and conforms to company security standards.								
2	Ensure operating instructions for all equipment are in the station Operating Instruction Manual.								

Return completed checklist to your Supervisor

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Operating Inspection

Completed by Operating Department: use additional sheets as required.

Transformers	Accepted	Not Accepted	N/A	Comments
Stenciling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Panels Fastened	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Matches Print	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grounding/Bonding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fuse Continuity Check	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Operating Instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Risers				
Labeling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Matches Print	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Conduits sealed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grounding/Bonding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Switchgear				
Stenciling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Operate (if manual)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Matches Print	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Conduits sealed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grounding/Bonding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Terminations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Operating Instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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I certify the equipment complies with ComEd standards, and is ready-for-service.

For Substation Equipment
Supervisor or Designee

Name: _____	Name: _____
Date: _____	Date: _____
Title: _____	Title: _____
Region: _____	Region: _____

Supervisor Review:

Before Supervisor authorizes equipment to be released for service, Supervisor shall obtain verbal confirmation either in-person or by phone from the Person-in-Charge that each applicable item on this checklist has been verified to be complete and complies with CM-CE-303002.

Review and address discrepancies/issues, and verify:

- Abnormal Conditions have been properly addressed or resolved, and documented.
- Checklist is completed and signed by the Person-in-Charge.
- Supervisor signs this checklist after completion by field personnel, and equipment has been placed in service.

Supervisor signs below after reviewing Checklist & Comments for accuracy and completion. All notes must be properly filled out and addressed.

Supervisor and Department	Signature to Authorize	Date
_____	_____	_____

Supervisor and Department	Signature to Authorize	Date
_____	_____	_____

