



AUTOMATED PRELIMINARY SCREENING

MOP Review

Report generated August 18, 2026

Prepared for	[REDACTED]
Job ID	SAMPLE-MOP-01
Order ID	SAMPLE — redacted production test run
Review type	Automated release

AT A GLANCE — 36 FINDINGS

19

CRITICAL

17

SIGNIFICANT

0

OBSERVATION

0

INFORMATION

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EXECUTIVE SUMMARY

What to look at first

36 findings across 2 severity levels — full detail begins on the following page.

SEVERITY DISTRIBUTION



■ Critical 19 ■ Significant 17

PRIORITY SHORTLIST

■ MOP-XREF-01-1 · cross check

The MOP and the drawing disagree on which section the 4000 A utility breaker is in

■ MOP-XREF-01-2 · cross check

The MOP and the redline disagree on what happens to CB-01

■ MOP-XREF-01-3 · cross check

CTM-02 and CTM-03 are operated on but appear in no equipment list and on no drawing

■ MOP-XREF-02-5 · cross check

Four conductors are demolished with no stated function and no impact assessment

BY CATEGORY

cross check	8
impact	5
equipment	2
personnel	2
prerequisites	1
sequence	5
back out	2
emergency	1
return to service	1
identification	1
communication	1
interrogation	7



MOP Review

Job SAMPLE-MOP-01 · Order SAMPLE — redacted production test run · Automated release

SAMPLE — redacted. Client name, address, personnel and contact details removed; equipment tags, manufacturer and model names pseudonymised. Engineering findings unchanged.

Read before relying on anything below.

****This review does not approve this procedure for execution.****

This is a structural and consistency review of a draft Method of Procedure against the single-line diagram and scope of work you submitted. It identifies gaps, inconsistencies, and questions requiring answers. It does not determine that the procedure is safe, complete, or correct, and it does not evaluate whether an electrically safe work condition can be established.

This review is limited to the documents provided. It cannot identify equipment, sources, or conditions absent from those documents, and it cannot verify field conditions. Absence of a finding does not indicate the procedure is adequate.

This procedure remains a draft requiring full review and approval by the responsible engineer and facility management before execution.

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Submission details

Report	MOP Review — Report MOP-01
Submittal reviewed	1. [draft MOP].docx — draft Method of Procedure
Client identity	Redacted for public release

CRITICAL (19)



MOP-XREF-01-1 · cross check · inconsistency

Critical

The MOP and the drawing disagree on which section the 4000 A utility breaker is in

MOP, Notable Equipment Summary: "52U ACB: Existing 4000A 3 Pole Automatic Circuit Breaker in A2 of the PMDC"

Drawing, section schedule:

RECOMMENDED ACTION

Resolve the section reference before this MOP is used. Confirm at the equipment, not from either document.

Source: page not applicable — MOP Notable Equipment Summary, 52U ACB entry; drawing section schedule rows A1 and A2 (both PDFs, sheet 1)

Code ref: none — general observation

Confidence: high

MOP-XREF-01-2 · cross check · inconsistency

Critical

The MOP and the redline disagree on what happens to CB-01

MOP step 3.03: "Label CB-01 a 'SPARE' and verify no wires are terminated on CB-01 load side. Verify line side wiring is installed and connected to the load side of CTM-01."

MOP Notable Equipment Summary: "CB-01 (Vendor C 1P 10 A C-curve MCB (Type M)): Existing 10A characteristic C circuit breaker installed in H3 of PMDC"

Drawing markup: "EXISTING: CTM-01 / NEW: Vendor C 2P 20 A D-curve MCB (Type M) / REPLACES: Vendor C 1P 10 A C-curve MCB (Type M)"

The markup says the Vendor C 1P 10 A C-curve MCB (Type M) is being replaced by an Vendor C 2P 20 A D-curve MCB (Type M). The MOP says the Vendor C 1P 10 A C-curve MCB (Type M) (CB-01) is retained in place and relabelled SPARE, and that the new breaker is a separate device, CB-02.

A third part number is also in play: the drawing elsewhere reads "To Vendor C Vendor C 1P 20 A D-curve MCB CB - L1 / NEW Vendor C Vendor C 1P 20 A D-curve MCB CB", and the MOP's Notable Equipment Summary and Appendix C both call the new breaker Vendor C 1P 20 A D-curve MCB. So the new device is variously Vendor C 2P 20 A D-curve MCB (Type M) (markup) and Vendor C 1P 20 A D-curve MCB (MOP and other drawing text). These are different device families — the Vendor C 2P MCB (Type M) is a two-pole modular device, the Vendor C 1P MCB a single-pole.

Three questions the responsible engineer must answer: is CB-01 retained or replaced; what is the correct catalogue number of the new breaker; and does the redline the MOP repeatedly calls controlling (steps 4.01 and 5.05) actually reflect the MOP's intent.

RECOMMENDED ACTION

Reconcile the redline against the MOP before either is issued. The redline is the document steps 4.01 and 5.05 verify against.

Source: page not applicable — MOP step 3.03 and Notable Equipment Summary; drawing markup on sheet 1 of both PDFs ("EXISTING: CTM-01 / NEW: Vendor C 2P 20 A D-curve MCB (Type M) / REPLACES: Vendor C 1P 10 A C-curve MCB (Type M)"); drawing annotation "NEW Vendor C Vendor C 1P 20 A D-curve MCB CB"; MOP Appendix C, "Branch breaker verified Vendor C 1P 20 A D-curve MCB ('D' curve)"

Code ref: none — general observation

Confidence: high



MOP-XREF-01-3 · cross check · inconsistency

Critical

CTM-02 and CTM-03 are operated on but appear in no equipment list and on no drawing

Steps 1.03 and 1.04 both instruct: "Verify absence of voltage (test-before-touch) at the 30A fuse block line and load terminals, at CTM-01/CTM-02/CTM-03, at CB-01, and at the Vendor E controller input terminals."

Appendix C carries the matching test line: "Absence of voltage proven at CTM-01 / CTM-02 / CTM-03 — PMDC H3".

CTM-02 and CTM-03 appear nowhere else. They are not in the Notable Equipment Summary, which lists CTM-01 only. They are not in any other step. And this review could not locate either on the submitted drawings.

Absence-of-voltage testing is the step on which the crew's safety rests. Two of the five test points named in that step cannot be located in any submitted document.

RECOMMENDED ACTION

Identify CTM-02 and CTM-03, add them to the equipment summary, and confirm they appear on the controlling drawing.

Source: page not applicable — MOP steps 1.03 and 1.04; MOP Appendix C, absence-of-voltage row; MOP Notable Equipment Summary (which lists CTM-01 only); the submitted drawings

Code ref: none — general observation

Confidence: high

MOP-XREF-02-5 · cross check · gap

Critical

Four conductors are demolished with no stated function and no impact assessment

Step 3.02: "Remove/demo wires designated: BUS-01A, BUS-01B, BUS-01C, BUS-01N, CKT-01, CKT-02, CO319, and CO320 from their equipment as well as wires disconnected from TM-01/TM-03, MVRM1/MVRM3, and 52U ACB."

Tracing each through the rest of the MOP:

Four conductors are cut out of the panel and never replaced. Nothing in the MOP says what they fed, what loses its supply when they are gone, or why their removal is correct. CKT-01 and CKT-02 in particular appear exactly once in the whole document — in the demolition list.

The MOP has no impact assessment section (finding 9), so there is nowhere else this could have been captured.

RECOMMENDED ACTION

State what each of BUS-01B, BUS-01C, CKT-01 and CKT-02 serves and confirm that removing it is intended. If any is a live circuit to something not in scope, this is the finding that catches it.

Source: page not applicable — MOP step 3.02; searched steps 3.03–3.15, §4 and §5 for each designation

Code ref: none — general observation

Confidence: high



MOP-XREF-03-6 · cross check · gap

Critical

The stated scope includes correcting overcurrent-protection deficiencies; no step addresses the fuse block that feeds the new branch

SCOPE & BOUNDARY: the MOP retrofits the PMDC "to the permanent design that separates the transformer fan-motor and Vendor E controller power from the utility voltage-sensing circuit and corrects the as-found overcurrent-protection and conductor deficiencies."

The new dedicated branch is built as: BCF → FB1 → CB-02 → TB10-4/5 → fan motor and Vendor E.

Steps 3.10 and 3.11 land the new branch on the existing BCF:

- > 3.10 — "Terminate FB1L and BUS-01A on BCF using one 10AWG twin wire ferrule."
- > 3.11 — "Terminate FB1N and BUS-01N on BCF using one 10AWG twin wire ferrule."

BCF is described in the Notable Equipment Summary as an "Existing 30A class CC fuse block" carrying 30 A time-delay control fuse fuses per step 2.01. The new downstream protection is a 20 A Class R fuse (20 A time-delay fuse, per Appendix C) and a 20 A D-curve breaker.

No step changes the BCF fuses. The new corrected branch remains fed through the existing 30 A Class CC fuses, and the MOP neither changes them nor states that leaving them is intended.

This is the check asking whether the scope has a corresponding step. The scope says overcurrent-protection deficiencies are corrected; the upstream device in the new branch is not touched.

RECOMMENDED ACTION

State whether the BCF fuses are within scope. If they are not being changed, the scope statement should say so rather than claiming the deficiencies are corrected.

Source: page not applicable — MOP SCOPE & BOUNDARY; Notable Equipment Summary, BCF entry; steps 2.01, 3.10, 3.11; Appendix C, "Branch fuse verified 20 A time-delay fuse installed" and "Fuse block verified Vendor G 30 A fuse block (Class R rejection)"

Code ref: none — general observation

Confidence: high

MOP-IMP-01-9 · impact · gap

Critical

No affected systems or loads are enumerated anywhere

The MOP has no impact assessment section. Nothing lists what systems or loads are affected by taking the PMDC down.

The drawings make the stakes legible: the PMDC feeds ATP 01, ATP 02 and ATP 03 through 2000 A busway (sections D1, E1, F1), plus GEN-AUX (section C5). Whatever those are, they lose supply. The MOP does not name them, does not say what they serve, and does not say who owns them.

The one place this could have been captured — the "HAVE YOU CONSIDERED?" checklist item "Affected working circuits" — is an unchecked box.

RECOMMENDED ACTION

Enumerate the affected systems and loads.

Source: page not applicable — MOP, whole document — searched SCOPE & BOUNDARY, ADMINISTRATIVE and the step register for an impact section; "HAVE YOU CONSIDERED?" checklist, "Affected working circuits" item; drawing section schedule rows C5, D1, E1, F1

Code ref: none — general observation

Confidence: high



MOP-IMP-02-10 · impact · gap

Critical

No redundancy state per phase and no duration

Nothing states what redundancy exists during any phase of the work, or for how long. The step table has a TIME column and it is empty for all 35 steps.

The PMDC is fully shut down and LOTO'd for the duration (per SCOPE & BOUNDARY), so the exposure window is the whole procedure — and the procedure does not say how long that is. An operations team reading this document cannot tell whether they are exposed for two hours or two days.

RECOMMENDED ACTION

State the redundancy condition during the outage and give a duration estimate per section.

Source: page not applicable — MOP SCOPE & BOUNDARY; step register TIME column, all 35 rows empty

Code ref: none — general observation

Confidence: high

MOP-IMP-03-11 · impact · inconsistency

Critical

Redundancy contradiction could not be checked

This check compares the declared redundancy state against what the drawing shows the described operations actually do. Neither input exists: the MOP declares no redundancy state (finding 10), and no single-line diagram was submitted (intake gate note).

Reported rather than skipped because the reviewer needs to see which checks were blocked and by what.

RECOMMENDED ACTION

Supply both inputs and re-run.

Source: page not applicable — MOP (no redundancy declaration); submitted drawings (no single-line)

Code ref: none — general observation

Confidence: high



MOP-PRE-05-14 · equipment · gap

Critical

PPE is required by the steps and defined nowhere

SCOPE & BOUNDARY states: "Isolation, racking, switching, LOTO application/removal, work area protection, required PPE, energization, energized functional testing, and return-to-service are NOT covered or defined herein and are performed or defined under separate procedures not provided by [DESIGN FIRM]."

Meanwhile steps 1.03 and 1.04 direct two people to "Verify absence of voltage (test-before-touch) at the 30A fuse block line and load terminals, at CTM-01/CTM-02/CTM-03, at CB-01, and at the Vendor E controller input terminals using a properly rated meter."

Absence-of-voltage testing is performed on conductors that must be treated as energized until proven otherwise. The MOP requires it, specifies the meter, requires two people with two meters and records the serial numbers — and defines no PPE, no arc flash boundary, no shock boundary, and no incident energy basis for the location where it happens.

The exclusion is stated, which is honest. It does not close the gap: the procedure directs the work, and the document that would define the protection for it is neither named nor attached.

No arc flash or shock PPE information appears anywhere in the submittal, and none of the submitted drawings carries an incident energy value or boundary for the PMDC.

RECOMMENDED ACTION

Name the governing PPE procedure by document number and confirm it covers the absence-of-voltage steps in this MOP.

Source: page not applicable — MOP SCOPE & BOUNDARY, exclusion list; steps 1.03 and 1.04; Appendix C, "Meter 1 make / model used for proving dead" and "Meter 2 make / model used for proving dead" rows

Code ref: none — general observation

Confidence: high

MOP-PRE-02-15 · personnel · gap

Critical

Roles are named; qualification requirements are not

The MOP names nine roles: Person 1, Person 2, MOP Supervisor, QC/Independent Verifier, Client Representative, Equipment Representative, Client's Designated Representative, Electrical Contractor Representative, MEP Engineer Representative.

No qualification requirement is stated for any of them. The words "qualified person" appear once — in step 1.02, referring to the *Client's* authorised person who applies LOTO, which is outside this MOP's boundary. Nothing states what qualification Person 1 or Person 2 must hold to perform absence-of-voltage testing on a 480 V-class panel, and nothing states what qualifies the QC/Independent Verifier.

The "HAVE YOU CONSIDERED?" checklist contains "Personnel experience" — unchecked.

RECOMMENDED ACTION

State the qualification each role requires.

Source: page not applicable — MOP ADMINISTRATIVE block (role list); APPROVALS block (role list); steps 1.03, 1.04, 4.04; "HAVE YOU CONSIDERED?" checklist

Code ref: none — general observation

Confidence: high



MOP-STEP-01-19 · sequence · gap

Critical

Installation steps state actions with no expected result

Section 3 contains sixteen steps and most state an action with no stated outcome. Examples:

RECOMMENDED ACTION

Add an expected result to each installation step.

Source: page not applicable — MOP steps 3.02, 3.04, 3.05, 3.06, 3.07, 3.12 — the DESCRIPTION OF WORK OPERATION column

Code ref: none — general observation

Confidence: high

MOP-STEP-04-20 · sequence · gap

Critical

The document defines a Safe Stop Point notation and never uses it

The footer legend reads: "SSP = Safe Stop Point \\\\ LOTO = Lock-Out / Tag-Out \\\\ A/R = As Required"

No step in the document is marked SSP. The notation is defined and applied nowhere across all 35 steps.

The consequence is that the MOP has essentially no hold points. The only decision gate is inside step 4.03 — "Investigate any reading below the acceptance threshold before proceeding" — which sits after all the physical work is complete. There is no gate between §1 (verify safe state) and §2 (document as-found), none between §2 and §3 (demolition and installation), and none between §3 and §4 (testing).

Step 3.02 demolishes conductors. Nothing gates entry into it.

RECOMMENDED ACTION

Mark the Safe Stop Points the legend anticipates, at minimum before step 3.02.

Source: page not applicable — MOP footer legend, "SSP = Safe Stop Point"; searched all 35 steps for the SSP marker

Code ref: none — general observation

Confidence: high

MOP-STEP-05-21 · sequence · gap

Critical

Back-out triggers are listed; abort authority is not

Step 5.01 lists observable triggers: "Identify the need for back-out (e.g. failed continuity/megger test, missing or incorrect material, schedule constraint)." Those are checkable conditions, which is the harder half of this check.

Who may invoke them is never stated. No step names an abort authority. Step 5.02 requires notifying "the Client's designated representative and MOP Supervisor" of time implications, but notification is not authority.

The APPROVALS block names five roles who approve the procedure. None is identified as holding stop-work authority during execution.

RECOMMENDED ACTION

Name the abort authority and say how that authority reaches the field in real time. See also interrogation finding IN-06.

Source: page not applicable — MOP steps 5.01, 5.02; APPROVALS block

Code ref: none — general observation

Confidence: high



MOP-B0-02-24 · back out · inconsistency

Critical

The back-out plan does not reverse most of what the forward sequence does

Comparing every forward state change against §5:

Step 5.05 is the only substantive restoration step: "Restore the as-found wiring per the documented as-found redline and the photographs taken in Section 2, including re-landing CB-01 and the original fuse/breaker if removed."

It addresses wiring and CB-01. It does not address the fabricated GPO-3 assembly, the DIN rail, FB1, CB-02, the fuse changes, or the SPARE label. And the wiring it does address was demolished, not disconnected — §2 photographs establish where conductors landed but do not restore cut wire.

The back-out plan is written as a narrative of intent (5.01 identify need, 5.02 notify, 5.03 assess extent, 5.04 safety, 5.05 restore, 5.06 verify, 5.07 confirm) rather than as a device-level reversal sequence. That structure is what this check is designed to catch.

RECOMMENDED ACTION

Rewrite §5 as a numbered device-level reversal with expected results, covering every item in the table above. Confirm that replacement conductor is on site for the demolished wires.

Source: page not applicable — MOP §3 steps 3.01–3.15 (forward state changes); §5 steps 5.01–5.07 (back-out); step 5.05 in particular

Code ref: none — general observation

Confidence: high

MOP-RTS-01-27 · return to service · gap

Critical

Return to service and post-work monitoring are excluded, and the boundary handoff is undefined

SCOPE & BOUNDARY: "The PMDC shall be shut down and LOTO applied and verified PRIOR to the start of this MOP. This MOP ENDS prior to re-energization and removal of LOTO." §5 (second instance) is headed "END OF PROCEDURE – LOTO REMAINS APPLIED."

The exclusion is stated clearly and consistently, which is better than leaving it ambiguous. The gap is what happens at the boundary:

RECOMMENDED ACTION

Add a closing step defining the completed end state and the handoff, and name the successor procedure by document number.

Source: page not applicable — MOP SCOPE & BOUNDARY; §5 (second instance) "END OF PROCEDURE – LOTO REMAINS APPLIED"; step 5.07 (the back-out end state, with no §4 equivalent)

Code ref: none — general observation

Confidence: high



MOP-INT-01-30 · interrogation · interrogate

Critical

When was the single-line last field-verified?

This review compared the MOP against the drawings submitted. If those drawings do not match the installed system, every equipment and section reference in this review is built on the wrong picture.

This question carries extra weight on this submission. No single-line diagram was submitted at all — the drawings provided are a manufacturer lineup schedule, control-wiring schematics and a transformer outline. The drawings that were provided are dated 2018–2019 (revision blocks: REV 01 12/06/2018 through REV 06 02/25/2019) and carry unincorporated hand markups on top of that. The MOP cites a drawing number that does not match the drawings supplied (finding 4).

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high

MOP-INT-02-31 · interrogation · interrogate

Critical

Does any equipment in this procedure have a source not shown on the drawings?

This review cannot identify sources absent from the submitted drawings. The categories most often absent:

UPS or static switch backfeed · standby or emergency generation · photovoltaic or battery energy storage · control power transformers · instrument transformers · capacitors or other stored energy · VFD DC bus · tie breakers or alternate feeds · station service

Three are specifically relevant here. The drawings show a generator incomer (52G) in section A2 — a second source into the same lineup. The control-wiring sheets show 230 V and 115 V control circuits, a Vendor F protection relay, and a BUSWAY — control power that may originate from a source not on the lineup schedule. And the MOP's own revision history for the drawings records "REMOVED CPT AND ADDED TB11, 12 TO LV END IN CONDUIT" — a control power transformer that was removed from the drawing, whose disposition in the field is unknown to this review.

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high



MOP-INT-04-33 · interrogation · interrogate

Critical

What single failure during this procedure causes a load loss, and is that risk accepted in writing?

The MOP contains no risk classification (finding 28) and no impact assessment (finding 9). Nothing in the submittal identifies a single-failure mode or records an acceptance of it.

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high

MOP-INT-07-36 · interrogation · interrogate

Critical

Has a qualified person walked down this procedure at the equipment?

Desktop review of a procedure is not a walkdown, and this review is desktop review of documents only.

Several findings in this report can only be closed at the equipment: the section location of 52U (finding 1), the identity and location of CTM-02 and CTM-03 (finding 3), the function of conductors BUS-01B, BUS-01C, CKT-01 and CKT-02 (finding 5), the disposition of CB-01 and the correct part number of the new breaker (finding 2), and whether the BCF fuses are being left as found (finding 6).

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high

SIGNIFICANT (17)

MOP-XREF-01-4 · cross check · inconsistency

Significant

Drawing reference in the MOP does not match the drawings submitted

MOP header: "[MODULE REF] PMDC \\\ Drawing Ref [DRAWING NO. A] \\\ Permanent – As-Built Change Rev B – 08/04/2026"

Drawing sheet: "To Drawing Number [DRAWING NO. B] Rev. 4 / Sheet 07 of 32 / Location - N9"

Three discrepancies: the numbering format differs ([DRAWING NO. A] versus [DRAWING NO. B]), the sheet differs (02 versus 07), and the revisions differ (Rev B versus Rev. 4).

The drawing also states it is sheet 07 of 32 — so a 32-sheet set exists and a subset was submitted.

RECOMMENDED ACTION

Cite the controlling drawing by its actual number, sheet and revision, and submit the sheets the MOP depends on.

Source: page not applicable — MOP header line; drawing sheet 3 of [equipment drawings].pdf, cross-reference block

Code ref: none — general observation

Confidence: high



MOP-XREF-03-7 · cross check · gap

Significant

Scope-to-step reconciliation is degraded by the missing scope document

These two checks compare an independently authored scope of work against the MOP's steps. No scope of work was submitted (see the intake gate note), so the MOP's own SCOPE & BOUNDARY section was used in its place.

That makes the comparison largely circular. Findings 6 and 8 are the two places where an internal inconsistency was visible even so — the scope claims a correction no step makes, and the scope claims a separation that steps 3.09 and 3.15 partly undo. Beyond those, this check cannot do its job.

Reported explicitly rather than silently skipped, because a customer receiving this report should know which check was degraded and why.

RECOMMENDED ACTION

Submit the subcontract scope of work. The MOP filename ("for_Subcontract") indicates one exists.

Source: page not applicable — MOP SCOPE & BOUNDARY, used as the scope-of-work substitute; the absence of a scope_of_work upload

Code ref: none — general observation

Confidence: medium

MOP-XREF-05-8 · cross check · inconsistency

Significant

The sequence re-couples circuits the stated purpose separates

The stated purpose is to "separate the transformer fan-motor and Vendor E controller power from the utility voltage-sensing circuit."

Step 3.09 then pulls new BUS-01A/BUS-01N from BCF to CTM-01, and step 3.15 (first instance) instructs: "Use twin wire ferrules as necessary to jumper between the line side of CTM-01, the line side of TM-01/TM-01/M3, and the line side of MVRM1/MVRM3."

So after the work: BCF feeds both the new FB1 branch (steps 3.10/3.11, twin ferrules) and CTM-01, and CTM-01's line side is jumpered to the TM and MVRM devices. Both the new fan/Vendor E branch and the voltage-sensing devices remain fed from the same BCF terminals.

The separation being achieved is downstream of BCF, not at the source. Whether that satisfies the design intent is a question for the responsible engineer — the point here is that the MOP states a separation and the steps produce a shared upstream point, and the document does not reconcile the two.

RECOMMENDED ACTION

Confirm the intended separation boundary and state it in the scope so the steps can be checked against it.

Source: page not applicable — MOP SCOPE & BOUNDARY; steps 3.09, 3.10, 3.11, 3.15 (first instance)

Code ref: none — general observation

Confidence: medium



MOP-IMP-04-12 · impact · gap

Significant

No load owner notification

Nothing identifies the owners of the affected loads or requires that they be notified. The "HAVE YOU CONSIDERED?" checklist item "Required support" is unchecked. §5.02 requires notification of the Client's designated representative and the MOP Supervisor only on back-out — not at start, not at completion.

RECOMMENDED ACTION

Identify load owners and when each is notified.

Source: page not applicable — MOP, whole document; "HAVE YOU CONSIDERED?" checklist; step 5.02

Code ref: none — general observation

Confidence: high

MOP-IMP-05-13 · impact · gap

Significant

No concurrent work check

Nothing requires confirmation that no conflicting work is executing on dependent systems, and nothing states how that would be confirmed. Step 1.05 covers materials and documents on site; there is no equivalent for concurrent activity.

RECOMMENDED ACTION

Add a prerequisite confirming no conflicting work.

Source: page not applicable — MOP §1 Pre-Work steps 1.01-1.05 — the section where a concurrent-work check would sit

Code ref: none — general observation

Confidence: high

MOP-PRE-04-16 · equipment · gap

Significant

Torque is specified on eight steps; torque tools and calibration are specified nowhere

The MOP specifies torque values with precision: 30 in-lb (3.05, GPO-3 flange bolt), 35 in-lb (3.08 and 3.13, FB1), 18 in-lb (3.09, 3.13, 3.14, CTM-01 and CB-02), 20 in-lb (3.10 and 3.11, BCF twin ferrules), 25 in-lb (3.14, TB10). Step 3.05 even explains why — "Torque to 30in-lbs to avoid delamination". Appendix C requires "All torques witness-marked", and step 4.04 requires a second person to verify all torques.

No torque tool is listed, no range or accuracy is specified, and no calibration currency is required. There is no bill of materials or tool list in the document at all — step 1.05 refers to "materials listed in the bill of materials" and the BOM is not attached.

The two meters are handled properly by contrast: make, model and serial recorded for each, with step 1.04 requiring "Verify the serial numbers are not the same before moving on." The same discipline is not applied to the torque tools that eight steps depend on.

RECOMMENDED ACTION

List the torque tools with required range and calibration currency, and attach the BOM.

Source: page not applicable — MOP steps 3.05, 3.08, 3.09, 3.10, 3.11, 3.13, 3.14; step 1.05 (BOM reference); step 4.04; Appendix C torque rows

Code ref: none — general observation

Confidence: high



MOP-PRE-01-17 · prerequisites · gap

Significant

Prerequisites are thin and the briefing has no owner

Prerequisites amount to three items: 1.01 pre-job brief, 1.02 LOTO applied and independently verified by the Client's authorised person, 1.05 materials and documents on site.

Missing: approval to start recorded on the document before work begins, change-freeze check, concurrent-work check (finding 13), and any environmental or load condition.

Step 1.01 requires a pre-job brief — "Hold a pre-job brief. Review the redlined changes, this MOP, the BOM, and the back-out plan" — but does not say who conducts it or require that it be documented.

The "HAVE YOU CONSIDERED?" block is an eighteen-item prerequisite checklist and every box is unchecked, including "Back-out procedure reviewed", "Emergency restoration plans", "Emergency equipment & procedures available", "Documents referenced in the MOP on-site", "Location of spare fuses" and "Before and after tests".

RECOMMENDED ACTION

Name the briefing owner, require it be documented, and complete the prerequisite checklist before issue.

Source: page not applicable — MOP steps 1.01, 1.02, 1.05; "HAVE YOU CONSIDERED?" checklist, all 18 items unchecked

Code ref: none — general observation

Confidence: high

MOP-PRE-03-18 · personnel · gap

Significant

Two-person requirement is implied but never stated

The MOP clearly intends two people: steps 1.03 and 1.04 assign "Person 1" and "Person 2", and step 4.04 requires "A second person should verify all torques, landings, and part numbers".

No minimum crew size is stated, and step 4.04 uses "should" rather than "shall" — the only verification requirement in the document phrased as a recommendation.

RECOMMENDED ACTION

State the minimum crew and change 4.04 to mandatory language.

Source: page not applicable — MOP steps 1.03, 1.04, 4.04

Code ref: none — general observation

Confidence: high



MOP-STEP-03-22 · sequence · gap

Significant

Compound and ambiguous steps, and two typographical defects in operative instructions

Compound steps. Step 3.01 is a single numbered step containing eight distinct disconnection operations plus a ninth instruction:

> "Disconnect: Line side of CTM-01 / Line and load side of BCF / Line side of PMDC TB10-4 / Line side of PMDC TB10-5 / Load side of CB-01 and open the breaker / Line side of TM-01/TM-03 / Line side of MVRM1/MVRM3 / VN on 52U ACB. Remove ferrules from disconnected wires."

One signature line covers all nine. A partially completed step 3.01 gets fully signed off. Step 3.02 has the same shape — eight conductor designations plus three device groups in one step.

Ambiguous language. Step 3.06: "Bolts should be tightened to a snug-tight condition" — undefined, in a document that specifies 30, 35, 25, 20 and 18 in-lb elsewhere.

Two typographical defects inside operative instructions:

- Step 3.15 (first): "jumper between the line side of CTM-01, the line side of TM-01/TM-01/M3, and the line side of MVRM1/MVRM3" — reads TM-01/TM-01/M3; the Notable Equipment Summary and step 3.01 both give TM-01/TM-03.
- Appendix C: "CB-03 'neutral loop check' resistance check" — the device is CB-01 everywhere else.

RECOMMENDED ACTION

Split 3.01 and 3.02 into individually signed steps, define snug-tight, and correct both device designations.

Source: page not applicable — MOP steps 3.01, 3.02, 3.06, 3.15 (first instance); Appendix C, neutral loop check row

Code ref: none — general observation

Confidence: high

MOP-STEP-06-23 · sequence · gap

Significant

No duration estimate on any step or phase

The step table has a TIME column. It is empty for all 35 steps. No section carries an estimated duration and no overrun trigger is defined — nothing says at what point a delay should trigger a back-out.

RECOMMENDED ACTION

Populate estimated durations and define an overrun trigger.

Source: page not applicable — MOP step register, TIME column, all rows

Code ref: none — general observation

Confidence: high



MOP-BO-03-25 · back out · gap

Significant

No point of no return, on a procedure that demolishes conductors in step 3.02

Nothing identifies the step past which back-out is no longer possible, and nothing states what governs the decision to cross it.

Step 3.02 demolishes eight conductors. Everything before it is reversible by reconnection; everything after it requires new wire and, for BUS-01B, BUS-01C, CKT-01 and CKT-02 (finding 5), a decision about circuits nobody has documented. Step 3.02 is the point of no return and the document does not say so.

Step 5.03 asks the crew to work it out under pressure: "Identify the current step reached and the extent of back-out required."

RECOMMENDED ACTION

Identify step 3.02 as the point of no return and state the go/no-go criteria for crossing it.

Source: page not applicable — MOP step 3.02; §5 steps 5.01-5.07 — no point-of-no-return statement appears

Code ref: none — general observation

Confidence: high

MOP-BO-04-26 · emergency · gap

Significant

No emergency operating procedure linkage

No EOP is referenced by document number or by name. Nothing states what applies if a failure occurs during execution.

The "HAVE YOU CONSIDERED?" checklist contains "Emergency equipment & procedures available" and "Emergency restoration plans" — both unchecked.

§5 is titled "EMERGENCY BACK-OUT" but its triggers (5.01) are failed tests, wrong material and schedule constraint — planned-contingency triggers, not emergency ones.

RECOMMENDED ACTION

Reference the applicable EOP by document number.

Source: page not applicable — MOP §5 heading and step 5.01; "HAVE YOU CONSIDERED?" checklist

Code ref: none — general observation

Confidence: high



MOP-ID-01-28 · identification · gap

Significant

Document control, risk classification and internal cross-references

Four items, grouped because they share a cause:

No MOP number. The header carries a *Drawing* Ref ([DRAWING NO. A]) and a *drawing* revision ("Permanent – As-Built Change Rev B"). The MOP has no identifier of its own. It cannot be referenced, superseded, or version-controlled.

Two conflicting dates. Header: 08/04/2026. Filename: 2026-06-22. Nothing reconciles them.

No risk classification. Nothing assigns a risk or criticality level, and no classification criteria appear. An unclassified MOP receives the same scrutiny as routine work.

Section cross-reference is wrong. Step 1.01 instructs the crew to review "this MOP, the BOM, and the back-out plan (Section 4)." Section 4 is PRE-ENERGIZATION TESTING. The back-out plan is Section 5. The crew is directed to the wrong section in the pre-job brief.

Section and step numbers are duplicated. Two sections are numbered 5 ("EMERGENCY BACK-OUT – ONLY IF REQUIRED" and "END OF PROCEDURE – LOTO REMAINS APPLIED"). Two steps are numbered 3.15 ("Replace wires disconnected from TM-01/TM-03, MVRM1/MVRM3, and 52U ACB..." and "Replace Fuses F3 and F4 with 10 A time-delay control fuse..."). A signature against "step 3.15" is ambiguous, and a reference to "Section 5" is ambiguous.

Approvals block is unsigned. Five roles are listed with Name, Company/Role, Signature and Date columns — all empty. The block states "No changes shall be made without the approval of [DESIGN FIRM], the Client, and the Electrical Contractor representatives", so approval is required and not recorded on the document.

Administrative block is empty. Start Date, Start Time, Completion Date, Completion Time, Client Representative, Equipment Representative, Client's Designated Representative, Electrical Contractor Representative, MEP Engineer Representative, MOP Supervisor — all blank.

RECOMMENDED ACTION

Assign a MOP number and revision, reconcile the dates, add a risk classification, correct the §4/§5 reference in step 1.01, renumber the duplicate section and step, and complete the approvals before issue.

Source: page not applicable – MOP header line; ADMINISTRATIVE block; step 1.01; section headings §4, §5 and §5; steps 3.15 and 3.15; APPROVALS block

Code ref: none – general observation

Confidence: high



MOP-COM-01-29 · communication · gap

Significant

Communication is addressed only on the back-out path

The only communication requirement in the document is step 5.02: "Determine time/duration implications and notify the Client's designated representative and MOP Supervisor" — and it fires only on back-out.

Missing: notification at start · notification at completion · notification at any hold point · communication method · escalation path if a contact is unreachable · named individuals with contact details (the ADMINISTRATIVE block has role lines and they are blank) · any consideration of whether the communication method depends on systems this work disrupts.

That last point is concrete here rather than theoretical: the work is in a PMDC that feeds ATP 01/02/03, and the MOP does not establish what those feed (finding 9). If any of them supports site communications, the method needs stating.

RECOMMENDED ACTION

Add a communication plan covering start, hold points, completion and abort, with named contacts, methods and an escalation path.

Source: page not applicable — MOP step 5.02; ADMINISTRATIVE block (blank role lines); searched §1-§4 for any notification requirement

Code ref: none — general observation

Confidence: high

MOP-INT-03-32 · interrogation · interrogate

Significant

What loses redundancy during each phase, and has each load owner been notified?

The MOP states no redundancy condition and names no affected load or load owner (findings 9, 10, 12). The drawings show the PMDC feeding ATP 01, ATP 02 and ATP 03 via 2000 A busway and GEN-AUX via section C5. What those serve, and who owns them, is not established by any submitted document.

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high

MOP-INT-05-34 · interrogation · interrogate

Significant

Is any other MOP executing concurrently on a system this procedure depends on?

The MOP contains no concurrent-work check (finding 13). Note that this MOP is scoped to "a single [MODULE REF] PMDC" and is described as a "Permanent Design Pilot", which implies further PMDCs receive the same rework — potentially on overlapping schedules.

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high



MOP-INT-06-35 · interrogation · interrogate

Significant

Who has authority to abort, and how is that authority communicated to the field in real time?

The MOP lists back-out triggers (5.01) but names no abort authority (finding 21), and its communication plan covers only the back-out notification path (finding 29). The ADMINISTRATIVE block that would name the individuals is blank.

Answer required from the responsible engineer.

RECOMMENDED ACTION

See description.

Source: page not applicable

Code ref: none — general observation

Confidence: high