Proposal — Building Management System

Kingsford Hotel Bacolod

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Cover letter

Subject: Proposal for the Building Management System — Kingsford Hotel Bacolod

This proposal covers the supply, installation, testing, and commissioning of the BMS for the Kingsford Hotel Bacolod project. It is based on the documents you provided: the requirement letter, the Megaworld MC Standards points list (ME and PL chapters), the BMS Points list (TUEC) Construction Bulletin, and the EE Plan (TUEC) Construction Bulletin No.8. Where the documents were silent or ambiguous, we made the assumptions catalogued in Section 7. Review those before contract.

The base price is PHP 22.6 M including VAT. Optional items (preventive maintenance, FDAS / PMS integration, additional training) are priced separately in Section 9.

The cover-letter wording “Rehabilitation” does not match the technical inputs (Construction Bulletins for new construction). We have classified the project as greenfield and raised this as Open Item Q-018 for confirmation.

1. Executive summary

A BMS for a medium-tier Philippine hotel — chilled-water plant, cooling towers, primary CHW pumps, condenser-water pumps, DOAS, AHUs, sample-floor FCU controls, EAS, calorifiers, heat pumps, recirculating pumps, steam boiler, and multifunction power metering. 554 BMS I/O points across 161 equipment instances, organised into 8 BMS field panels with 21 DDC controllers. The head end runs in primary-standby on Dell PowerEdge servers with Siemens Desigo CC. The network is an isolated /24 LAN with a 24-port managed core in the GF server room and 6 edge switches per riser zone, OM3 fiber riser. Schedule: 16 weeks PO to handover.

2. Project background

The project is the new construction of the Kingsford Hotel Bacolod, a Megaworld hotel-tier asset in Bacolod City. The BMS scope follows the Megaworld MC Standards points list. The project-specific BMS sheets (BMS-01..04+) are Construction Bulletin schematic diagrams confirming system zoning; the readable text input is the MC Standards.

3. Scope of work

Per WBS in Section 4. Key inclusions:

- Head-end equipment (1 server primary + 1 standby, 2 workstations, 1 graphics PC + 55-inch wall display, 3 kVA UPS).
- Network infrastructure (1 core switch, 6 edge switches, OM3 riser fiber, 6 IDF closets).
- 18 BMS field panels with 30 DDC controllers and I/O modules.
- Field instrumentation per the points list (BMS-supplied sensors, BMS-supplied valve actuators on bypass headers, ME-supplied valves and dampers wired by BMS).
- Cabling and containment (4C × 1.5 mm² FRLS shielded for sensors, 4C × 1.5 mm² FRLS for aux contacts, BACnet MS/TP shielded for trunk, Cat6 FRLS for network drops, 3C × 2.5 mm² FRLS for panel power feeds, PVC conduit per A-017 site factors).
- Programming (point database, control loops per Description of Operations, alarms, schedules, reports, trends per A-015 strategy).
- 35 graphics pages.
- Pre-commissioning, point-to-point testing, functional testing per equipment, integrated commissioning, owner SAT support.
- 16 hours operator training, 1-year workmanship warranty.

4. WBS

See `04-wbs.md`. Seven Level-1 nodes: 1.0 PM and Engineering, 2.0 Material Supply, 3.0 Installation, 4.0 Programming, 5.0 T&C, 6.0 Training, 7.0 Optional.

5. Technical proposal

5.1 System architecture

BACnet/IP at the head end. BACnet MS/TP at the field panels. Modbus RTU for power metering and BTU meter, gatewayed to BACnet/IP. Open-protocol — no vendor lock-in.

5.2 Network

24-port managed core switch (Cisco / Aruba class) in GF server room. 6 edge switches in the riser zones (Roofdeck, 3F, 2F, GF, BSMT, BOH-2F). OM3 multimode 6-strand armored fiber riser. Cat6 FRLS for drops. Isolated /24 LAN with single uplink to customer LAN (Q-006 confirms VLAN tag).

5.3 Head end

Dell PowerEdge R650 primary + standby BMS servers running Siemens Desigo CC. Dell OptiPlex operator workstations (2). Dell Precision graphics PC + 55-inch commercial display. 3 kVA online UPS, 30-min runtime. 19-inch rack, KVM, color laser printer, console monitor.

5.4 Field controllers

Siemens Desigo PXC controller family (BACnet IP at the controller, MS/TP downlink to PXM30 I/O modules). 1 controller per ~40 physical I/O. Per-class spare: 25% AI / 25% AO / 15% DI / 15% DO (per A3-cable-spec-rules.yaml). 18 panels in IP54 wall-mount enclosures (10 small / 6 medium / 2 large).

5.5 Cable schedule highlights

258 field cables, 4 trunks, 8 panel power feeds. Total cable footage approximately 7,445 m. Per-context typical ranges:

- Plant-room same-room cables: 12 m typical (8–15 m industry range)
- Inter-floor riser per floor: 35 m
- Same-floor corridor field cables: 35 m
- Guestroom-zone field cables: 28 m typical (sample-floor estimate, refines with Q-005 / Q-008)
- BOH corridor field cables: 32 m
- Roofdeck same-area: 18 m

The customer-provided drawings (EE Plan, BMS Points list) are Construction Bulletin sets in raster form. Pixel measurement is deferred to shop-drawing stage

when CAD is provided (Q-002 / Q-003). Refinements at that stage will adjust the cable BOQ.

5.6 Power provisions

Total BMS load 3 kW continuous. EE Contractor provides 8 dedicated 240V single-phase 16A circuits to BMS field panels and 1 dedicated 32A circuit to the head-end UPS. Field panels utility-fed; head-end UPS-protected.

6. Project schedule

16 weeks PO to handover. Critical milestones at weeks 4 (engineering submittals), 6 (material PO), 9 (first-fix complete), 12 (pre-commissioning starts), 15 (owner SAT complete), 16 (handover). Gantt and full sequencing in `D1-schedule.md`. Peak headcount 11 personnel during weeks 9–10.

7. Stated assumptions

The following assumptions underpin the proposal. Material assumptions are priced; Open Items in Section 8 surface the highest-impact ones.

- A-001 Greenfield (per technical docs; cover letter says rehabilitation — Q-018).
- A-002 BMS scope per MC Standards points list (ME + PL) with project-specific equipment count at typical hospitality density.
- A-005 Sample 3 floors of guestroom FCU controls included; per-room scope pending Q-005 / Q-008.
- A-007 FDAS / PMS / CCTV / ACS integration not in base scope.
- A-009 16-week schedule (Q-007 confirms).
- A-011 FRLS cable jacket per Philippine BFP IRR.
- A-012 Cable lengths per reasoned typical-range estimates; CAD measurement at shop-drawing stage.
- A-013 16-hour training, up to 6 operators (Q-015 confirms).
- A-016 I/O module spare 25% AI/AO, 15% DI/DO.
- A-017 Conduit fraction 35% of total cable (greenfield mixed tray + new conduit).
- A-019 Commercial rates 18% overhead, 6% contingency, 12% VAT (tighter than legacy 20% / 7.5% — greenfield, mature design).

Full ledger in `07-assumptions.md`.

8. Open items / RFI

19 questions. 4 P1 (greenfield confirmation, guestroom scope, schedule, full system list). Full list in `08-customer-clarifications.md`.

9. Commercial proposal

Line	PHP
Base subtotal (material + labor + services)	16,111,720
Overhead and margin (18%)	2,900,110
Cost + overhead	19,011,830
Contingency (6%)	1,140,710
Cost + contingency	20,152,540
VAT (12%)	2,418,304
Grand total	**22,570,844**

Optional items (7.x) are priced separately and TBD pending Q-012 / Q-015 / Q-016.

Payment milestones, retention, and warranty per Q-014.

10. Acceptance

Signature block on the customer’s standard acceptance form.