

Change Log to Owner Project Requirements (OPR)

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Purpose: Accompany OPR submission to the Uptime Institute / Issued for Design (IFD)

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Prepared By: Teymur Nasrullayev (Data Center Manager)

Approved By: Ramiz Mammadov (Chairman/Director)

1. Updates Based on Basis of Design (BoD)

- **Cooling System Strategy:** Confirmed hybrid cooling system using river-water free cooling and ground-thermal field. Supports PUE ≤ 1.5.
- **Power Topology:** Dual independent utility + HPP feeds, 2N transformer configuration, modular UPS with LiFePO₄ batteries.
- **Mechanical Redundancy:** N+1 dry coolers for GPU racks; auto-failover if river temperature exceeds 26°C.
- **Certification Target:** Tier III compliance confirmed with Tier IV-ready design features.
- **Structural Zoning:** Floor load capacities and slab-to-slab construction confirmed for critical zones.
- **Energy Source:** 3.7 MW Mtkvari HPP + city utility; 100% renewable baseline.
- **IT Capacity Breakdown:** 5.635 MW total; Quantum AI (2.5 MW), Enterprise Suites (1.47 MW), Hub (0.665 MW), VIP (1.0 MW).

2. Design Review Register-Driven Changes

- **Security Booth Relocation:** Lobby layout revised to position security booth closer to entrance.
- **Mantrap Addition:** Vestibule/mantrap added to main entrance with access control and intercom.
- **Bullet-Resistant Glass:** Security booth now includes impact/bullet-resistant glass.
- **Oversized Doors:** Clear door heights of 2.8–4.5 m confirmed for equipment access.
- **Office Area Optimization:** Office areas on IT floors reduced to prioritize critical space.
- **Transformer Sizing:** Transformer count reduced to align with actual IT load; future expansion space reserved.
- **UPS Coverage:** UPS protection extended to critical cooling equipment and BMS servers.
- **Switchgear Layout:** Electrical room layouts revised for efficiency and clarity.

- **Cable Routing:** UPS and switchgear proximity improved to reduce cable lengths.
- **Corridor Strategy:** Central corridor retained per Owner's directive; external wall insulation improved.
- **Room Labeling Corrections:** ER-A and ER-B labeling errors corrected; ER-C added.
- **Chiller Redundancy Clarification:** Revised to reflect N+1 scalable to 2N, correcting overbuilt 2N installation.

3. Physical Security Design Framework Integration

- **Security Zones Defined:** Violet, Blue, Yellow, Orange, Red, and Black zones established with Control Points (CP1–CP5).
- **Security Classification:** Facility classified as EN 50600-2-5 Security Class 3.
- **Multi-Factor Authentication (MFA):** Mandatory biometric authentication (iris) for transitions into Orange and Red Zones. Facial recognition reserved for VIP entry.
- **Visitor Management System (VMS):** Integrated with ACS; strict ID policy and escorting rules enforced.
- **Mantrap Protocols:** Single-person entry enforced with dual authentication and CCTV coverage at 125 ppfw.
- **Emergency Override Protocols:** Fire alarm overrides all other protocols; lockdown, flood, earthquake, and battery incidents integrated with ERP.
- **Security Control Room (SCR):** Redundant systems, 72-hour sustainment capability, and integrated command protocol with NOC.
- **CICO Checkpoint:** Mandatory screening, asset logging, and tamper-evident seals for tools and equipment.
- **Secure Network Infrastructure:** Physically isolated, UPS-backed, monitored network for ACS, CCTV, IDS.
- **Compliance & Governance:** GDPR-compliant biometric and CCTV systems; DPA and ROPA documentation mandated.
- **Maintenance Protocols:** Quarterly health checks, annual calibration, and 3-year log retention for all security systems.
- **Supplier Vetting:** ISO/IEC 27001-compliant supplier for lifecycle management and access control.
- **Design Intent Handover:** Formal process defined with certificate prerequisite for Security Operations Manual approval.

4. SSRP (Staffing Strategy & Recruitment Plan) Integration

- **FTE Revision:** Staffing reduced from 81 to 50 FTEs across 26 unique roles in 4 functional areas.
- **Role Adjustments:** CRCO removed; CISO scope expanded to include HPP; CCO now oversees SLA Team.
- **Security Staffing:** 12 Security Specialists moved to a subcontracting model.

- **Recruitment Strategy:** Dual-track approach—local recruitment for junior roles, international search for specialized positions.
- **Training Standards:** Tiered training structure (enterprise-wide, function-specific, role-specific) aligned with Tier III, ISO 27001, CDCP, CISSP, VCP.
- **Governance:** RACI model defined; quarterly reporting and KPI tracking implemented.
- **Succession Planning:** Framework mandated for mission-critical roles with career pathing and diversity goals.
- **Diversity & Inclusion:** Formal D&I targets, and inclusive sourcing channels established.
- **Budgeting:** Compensation benchmarking and budget planning tied to JD development.
- **Recruitment Timeline:** Phased hiring plan from Q1 2026 to Q2 2027.

5. Pre-Sales Engineering & Catalogue Alignment

- **Service Enablement Systems:** Engineering requirements mapped to catalogue offerings—DCIM, CRM, BMS, RMS, SIEM, VMS, API Gateway.
- **Security Systems:** SIEM, CCTV, Access Control, and VMS confirmed as high-priority foundational systems.
- **Customer Support Platform:** "Biliki.Support" platform defined for omni-channel support, SLA tracking, and infrastructure control.
- **Infrastructure Monitoring:** DCIM and BMS prioritized capacity planning and environmental control.
- **Service Fulfillment:** Automated orchestration platform required for Core Services provisioning.
- **Compliance Mapping:** ISO 27001, GDPR, NFPA, and EN 50600 standards integrated across service and infrastructure layers.

6. Updates Based on ERP, HSE Manual, and Legal & Compliance Assessment Report (LCAR)

- **Emergency Preparedness Integration:** ERP protocols for fire, incident, and evacuation incorporated into operational readiness.
- **Mock Drill Protocols:** Annual drills for offices/stores; quarterly for Data Center and HPP. Lessons learned to be documented.
- **Emergency Roles Formalized:** EC, ERO, ERS, Fire Wardens, and First Aiders roles defined with responsibilities and contact protocols.
- **ERP–BCP–DR Transition:** Formal handoff protocol established for seamless emergency-to-recovery transition.
- **ESG Emergency Annex:** Environmental (spill, flood), social (inclusive evacuation), and governance (incident KPIs, board oversight) safeguards embedded.
- **HSE Governance:** HSEQ Manager and HSE Board roles clarified; monthly review cycles and delegated authority for updates and audits.

- **Training Matrix:** HSE training matrix defined for all roles; includes emergency response, hazard awareness, and operational control procedures.
- **Operational Control Procedures:** Permit-to-work system, hazard elimination, and PPE provisioning formalized.
- **Legal Compliance Tracking:** Monthly legal compliance verification and register maintenance mandated.
- **Contractor Safety Compliance:** Contractors must undergo HSE induction and comply with Owner HSE standards; performance tracked via dedicated forms.
- **ESHIA Adoption:** ESHIA adopted as compliance baseline, exceeding Georgian EAC requirements by including SIA, HIA, SEP, and ESMP.
- **Certification Alignment:** Project design and documentation aligned with IFC PS, HSS, Verra VCS, and LEED frameworks.
- **Gap Closure Strategy:** Developer-led inputs (GHG modeling, biodiversity co-benefits, stakeholder benefit-sharing) identified for certification readiness.
- **Scoping Decision Protocol:** Voluntary EIA path confirmed; scoping decision to serve as binding ToR for ESHIA.
- **Public Participation Enhancements:** SEP and grievance mechanisms added to exceed EAC minimums and align with international standards.

7. Summary of Impact

These changes ensure:

- Full alignment with Tier III and Tier IV-ready design principles.
- Enhanced physical and cyber security posture.
- Compliance with international standards (ISO/IEC 27001, GDPR, EN 50600).
- Operational readiness and maintainability.
- Integration of ESG, staffing, and service delivery frameworks.