WBS DICTIONARY

National Currency Printing and Secure Banknote Production Facility Project (NCPBF)

Project Title:

National Currency Printing and Secure Banknote Production Facility Project (NCPBF)

Project Sponsor:

Central Bank

Prepared by: PMIC of Lazuli Pamir Consulting – for learning purpose only

WBS DICTIONARY

1.1 Governance and Project Management (Control Account)

WBS ID	Work Package Name	Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.1.1	Project Charter Finalization and Approval	Formal development, validation, and executive approval of the Project Charter defining authority, objectives, constraints, funding authorization, and governance structure.	Approved Project Charter; Sponsor signature; PM authority delegation	Signed by Project Sponsor; Authority formally delegated; Archived under configuration control	Project Sponsor; Project Manager; PMO	Business Case approval; Governance framework draft
1.1.2	Governance Framework Implementation	Implementation of the approved governance structure including decision rights, escalation paths, reporting lines, and segregation-of-duties enforcement.	Governance Framework Document; Authority Matrix; Oversight Committee Structure	Steering Committee operational; Governance matrix approved; Security oversight active	PMO; Sponsor; Governance Board	Charter approval
1.1.3	Integrated Schedule Development	Development of integrated master schedule including sequencing, milestones, dependencies, and stage-gates.	Approved Schedule Baseline; Critical Path; Milestone Register	Baseline approved; Dependencies validated; Stage-gates defined	Project Manager; Planning Lead; PMO	WBS approval; Scope baseline approval
1.1.4	Cost Baseline Development	Establishment of cost baseline including budget allocation, contingency reserves, and cost control thresholds.	Approved Cost Baseline; Budget Allocation Structure; Contingency Framework	Sponsor financial approval; Budget aligned with WBS; Cost reporting framework active	Project Manager; Finance Lead; PMO	WBS approval; Procurement strategy
1.1.5	Risk, Issue & Change Control Management	Implementation and maintenance of Risk Register, Issue Log, and formal Change Control Board operations.	Risk Register; Issue Log; Change Register; CCB Procedures	Monthly risk reviews; Change impact analysis mandatory; CCB operational	Risk Manager; PMO; Project Manager	Governance framework active

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1.1.6	Stage-Gate Reviews and Approvals	Execution of formal lifecycle control gates prior to phase transitions.	Stage-Gate Reports; Approval Memos; Phase Readiness Certification	Formal governance approval documented; No phase transition without authorization	Sponsor; Steering Committee; PMO	Completion of prior phase deliverables
1.1.7	Security Governance Oversight	Oversight of security-related decisions, classification enforcement, and segregation-of-duties validation.	Security Oversight Reports; Access Approval Logs; Security Audit Records	Security reviews completed per phase; Compliance confirmed before commissioning	Security Board; PMO	Governance framework implementation
1.1.8	Benefits Tracking Mechanisms	Implementation of benefits realization monitoring aligned with Business Case and Benefits Management Plan.	Benefits Register; Realization Dashboard; KPI Framework	Benefits metrics defined; Alignment with Business Case validated	PMO; Sponsor	Business Case approval
1.1.9	Configuration & Document Control	Establishment of controlled documentation repository with versioning, classification, and audit traceability.	Controlled Repository; Version Control Procedures; Audit Log	Baseline documents archived; Access rights enforced; Audit trail active	PMO; Configuration Manager	Governance framework active

1.2 Facility Design and Construction (Control Account)

WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.2.1	Secure Site Preparation	This work package includes all controlled pre-construction activities required to prepare the site for development of the secure production facility. Activities include geotechnical investigations, soil	Geotechnical reports; Environmental assessment; Cleared and graded site; Temporary	Soil certification approved; Environmental compliance validated; Temporary	Construction Manager; Security	Land authorization; Governance activation;

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
		testing, load-bearing analysis, environmental impact assessment, grading, excavation, drainage preparation, and secure boundary demarcation. Temporary access control systems, security fencing, guard posts, and surveillance coverage must be established before major construction begins. All activities must comply with approved HSE standards and security classification requirements, and material handling must follow strict chain-of-custody procedures.	security perimeter; Controlled entry points	perimeter operational; HSE audit passed	Manager; HSE Officer	Environmental clearance
1.2.2	Architectural & Engineering Design	This work package covers the complete architectural and structural engineering design of the facility. The design must incorporate reinforced structural systems, vibration-controlled flooring, classified zoning architecture, secure workflow layouts, fire protection systems, emergency evacuation routes, environmental resilience features, and segregation-of-duties principles. Independent engineering validation and security review are required before construction approval. All design documents must be maintained under configuration control to prevent unauthorized modifications.	Approved architectural drawings; Structural plans; Secure zoning layouts; Fire and safety systems design; Engineering validation reports	Independent engineering approval obtained; Security architecture validated; Regulatory compliance documented; Design stage-gate approval recorded	Lead Design Consultant; Structural Engineer; Security Oversight Board; PMO	Site preparation completed; Governance framework active
1.2.3	Physical Security Perimeter Construction	This package includes construction of the multi-layer external defense perimeter including reinforced fencing, anti-climb barriers, intrusion detection infrastructure, guard stations, controlled gates,	Reinforced perimeter fence; Guard stations; Access gates; Surveillance	Penetration testing passed; Surveillance coverage verified; Access control operational; Security	Security Engineer; Construction Manager;	Approved security design; Site

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
		perimeter lighting, and surveillance mounting structures. The perimeter must integrate with centralized monitoring systems and meet penetration resistance standards. Testing includes intrusion simulation and verification of surveillance coverage without blind spots.	infrastructure; Intrusion detection systems	authority approval documented	Surveillance Systems Lead	preparation complete
1.2.4	Structural Construction of Production Facility	This work package includes reinforced foundations, structural framing, secure production halls, machine load-bearing platforms, internal partitions, and vibration isolation systems. Construction must comply with approved engineering drawings and tolerances necessary for precision machinery installation. Quality inspections and material certifications must be documented at predefined control points.	Reinforced structure; Production halls; Structural inspection reports; Load certification	Structural integrity validated; Engineering compliance certificate issued; QA sign-off obtained; Stage-gate approval granted	Construction Manager; Structural Engineer; QA/QC Lead	Approved engineering design; Site preparation complete
1.2.5	Controlled Access Zone Construction	This package establishes internal classified zones based on operational sensitivity. It includes installation of reinforced doors, secure partitions, access-controlled corridors, authentication checkpoints, and zone separation barriers. Each zone must enforce role-based access control and segregation-of-duties principles. Access flow must be tested to prevent unauthorized cross-zone movement.	Classified internal zones; Access control hardware; Secure corridors; Authentication systems	Access matrix validated; Unauthorized access tests passed; Security approval documented; Configuration records updated	Security Manager; Construction Lead; Access Control Engineer	Structural works complete; Security architecture approved

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.2.6	Vault & Secure Storage Construction	This package includes design and construction of reinforced vaults and secure storage areas for sensitive materials and finished products. Vaults must include reinforced walls, secure locking systems, environmental stabilization controls, surveillance integration, and intrusion detection. Penetration resistance testing and environmental validation must be completed before approval.	Reinforced vault structures; Locking systems; Environmental stabilization systems; Surveillance integration	Penetration resistance validated; Lock systems certified; Environmental conditions stabilized; Security certification issued	Security Engineer; Construction Manager; Environmental Systems Lead	Structural works complete; Security design approved
1.2.7	Environmental Control Systems Installation	Installation of HVAC, humidity regulation, particulate control, filtration systems, and environmental monitoring infrastructure necessary for controlled production conditions. Redundancy systems must ensure continuity during failure scenarios. Monitoring dashboards must integrate with central control systems and provide alert mechanisms.	HVAC systems; Humidity control units; Monitoring sensors; Environmental dashboard	Environmental thresholds maintained; Redundancy testing passed; Monitoring alerts functional; QA approval documented	Mechanical Engineer; Facility Systems Lead	Structural works complete; Utilities readiness
1.2.8	Utilities & Backup Systems Installation	Installation of electrical distribution systems, backup generators, UPS systems, water supply systems, fire suppression systems, and emergency response infrastructure. Load testing and failover simulations must be performed to validate operational resilience. Systems must meet safety and regulatory compliance requirements.	Electrical network; Backup generators; UPS systems; Fire suppression systems; Emergency infrastructure	Load testing successful; Generator failover validated; Fire safety certification obtained; Resilience testing approved	Electrical Engineer; Safety Officer; QA Lead	Structural completion; Environmental systems installed
1.2.9	HSE Compliance Implementation	Implementation of comprehensive Health, Safety, and Environmental management practices throughout construction. Includes safety training,	Approved HSE Plan; Training records; Incident	No critical safety violations; Regulatory compliance confirmed; Incident	HSE Manager; Construction Manager; PMO	Site preparation complete;

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
		hazard identification, incident reporting, environmental mitigation measures, waste management procedures, and compliance audits. Continuous monitoring and reporting to governance bodies are required.	logs; Compliance audit reports	reporting system operational; Governance approval documented		Governance framework active

1.3 Printing Machinery Procurement and Installation (Control Account)

WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.3.1	Procurement of Printing Presses	Structured procurement of specialized secure banknote printing presses in accordance with approved procurement regulations and technical/security specifications. Includes preparation of detailed technical requirements, performance standards, security compliance criteria, vendor prequalification, bid evaluation, due diligence, contract negotiation, and governance approval. Procurement documents must define warranty terms, spare parts, training obligations, cybersecurity compliance, and long-term vendor support. All decisions maintained under configuration control.	Approved technical specifications; Evaluation report; Signed contract; Security compliance verification	Vendor selected through approved governance process; Technical compliance validated; Security clearance confirmed; Sponsor approval documented	Procurement Board; Technical Evaluation Committee; Project Manager; PMO	Approved cost baseline; Procurement strategy; Governance activation

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1.3.2	Procurement of Finishing & Inspection Equipment	Procurement of supporting systems including cutting, numbering, bundling, packaging, and automated inspection systems capable of high-precision defect detection. Specifications must define throughput capacity, inspection accuracy thresholds, interoperability with presses, and compliance with security classification standards. Evaluation must consider lifecycle cost, reliability, integration capability, and maintenance support.	Technical specifications; Evaluation documentation; Signed supply contracts; Integration confirmation	Throughput and accuracy thresholds met; Interoperability validated; Security compliance confirmed; Governance approval recorded	Procurement Board; Technical Lead; QA Lead	Primary press procurement aligned; Budget allocation confirmed
1.3.3	Secure Logistics & Delivery	Planning and execution of secure transport from vendor facilities to the production site. Includes shipping coordination, insurance, secure escort arrangements, customs clearance (if applicable), chain-of-custody documentation, secure unloading, and controlled storage. Delivery schedules must align with facility readiness to prevent exposure.	Secure logistics plan; Chain-of-custody records; Delivery inspection reports; Insurance documentation	No security incidents; Chain-of-custody verified; Delivery inspection completed; Security sign-off obtained	Logistics Manager; Security Manager; PMO	Facility structural readiness; Perimeter security operational
1.3.4	Machinery Installation & Mechanical Alignment	Physical installation, positioning, anchoring, mechanical alignment, vibration calibration, and connection to utilities. Conducted by qualified technical teams under vendor supervision. Must meet predefined tolerances required for secure and high-quality production. Installation follows approved method statements and safety protocols.	Installed machinery; Alignment reports; Utility integration records; Installation sign-off	Alignment tolerances validated; Structural anchoring certified; Utility systems functional; Installation stage-gate approval	Installation Lead; Vendor Specialists; Facility Engineer	Structural construction complete; Environmental systems operational
1.3.5	System Integration with	Full integration of machinery with power systems, environmental controls, production management	Integrated system configuration; Interface	Interfaces validated; No integration conflicts; Secure	Systems Integration Lead; IT	Installation complete; IT

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
	Facility Infrastructure	systems, network connectivity, and security monitoring platforms. Ensures interoperability between mechanical, electrical, and digital systems. Data interfaces must be secured and tested under segregation-of-duties principles.	validation reports; Secure connectivity documentation; Integration test results	data transmission confirmed; Security governance approval	Systems Manager; Security Engineer	infrastructure readiness
1.3.6	Vendor-Supervised Configuration	Initial configuration and parameter setup under controlled vendor supervision. Includes production parameter tuning, inspection threshold setup, logging configuration, and secure integration with production management systems. Vendor access must comply with strict authorization and confidentiality requirements.	Configuration documentation; Parameter setup reports; Vendor supervision logs; Access authorization records	Configuration matches specifications; Vendor access controlled; Logging operational; Security sign-off documented	Vendor Technical Lead; Project Manager; Security Oversight Board	Installation complete; Integration testing initiated
1.3.7	Calibration & Technical Validation	Structured calibration, technical validation, performance benchmarking, and quality verification. Includes trial production runs, defect rate measurement, throughput validation, print precision testing, and inspection accuracy assessment. Equipment cannot proceed to commissioning without documented validation approval.	Calibration certificates; Trial production reports; Performance benchmark results; QA validation documentation	Performance meets thresholds; Defect rates within tolerance; Throughput validated; Commissioning approval recorded	QA Lead; Vendor Specialist; Project Manager	Configuration complete; Integration validated

1.4 IT Systems and Cybersecurity Infrastructure (Control Account)

WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.4.1	Production Management System Implementation	Design, configuration, deployment, and validation of the secure production management system controlling print batches, machine parameters, throughput monitoring, and quality inspection logging. The system must ensure full traceability from raw material input to finished output, enforce role-based access control, maintain immutable audit logs, and integrate securely with machinery and inventory systems. All configurations must comply with cybersecurity governance and be maintained under configuration control.	Deployed production management system; Audit logging enabled; Role matrix; Configuration documentation	Full traceability operational; Audit logs active; Access control enforced; Governance approval prior to go-live	IT Systems Manager; Production Systems Lead; Security Oversight Board	Machinery integration readiness; Network infrastructure operational
1.4.2	Inventory Tracking System Deployment	Implementation of secure inventory tracking for substrates, inks, plates, semi-finished, and finished products. The system must enforce authorization workflows, segregation-of-duties, tamper-resistant logging, and integration with access control and surveillance systems. Real-time reconciliation and anomaly detection must be validated before operational approval.	Inventory tracking platform; Authorization workflows; Reconciliation reports; Audit trail	Real-time tracking functional; Material transfer authorization enforced; Audit trail verified; Security validation completed	IT Systems Manager; Inventory Control Lead; Security Manager	Production management system integration; Access control readiness
1.4.3	Role-Based Access Control (RBAC) System	Deployment of centralized RBAC governing digital and operational system access. Includes role definition, privilege mapping, multi-factor authentication, biometric integration (where applicable), periodic access review, and escalation controls. Must strictly	RBAC matrix; Access policies; MFA configuration; Access review schedule	Role mapping validated; Unauthorized access simulation passed; MFA	IT Security Lead; PMO; Security Oversight Board	Governance framework active; Identity

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		align with segregation-of-duties principles and security classification standards.		functional; Security board approval documented		management readiness
1.4.4	Surveillance & Monitoring Platform Integration	Integration of surveillance systems into centralized monitoring platform including real-time feed management, secure storage, alert configuration, retention policies, and incident response linkage. Monitoring must support rapid escalation and maintain audit traceability under security governance.	Monitoring dashboard; Secure storage setup; Alert configuration; Retention policy documentation	Stable surveillance feeds; Alert triggers validated; Secure storage operational; Governance approval before commissioning	Surveillance Systems Lead; IT Security Manager	Physical security systems installation; Network readiness
1.4.5	Cybersecurity Architecture Deployment	Implementation of defense-in-depth cybersecurity architecture including firewalls, IDS/IPS, endpoint protection, encryption, authentication controls, centralized log monitoring, and incident response integration. Must align with approved security classification and undergo structured validation prior to operational activation.	Firewall deployment; IDS/IPS configuration; Encryption setup; Centralized log monitoring	Intrusion detection validated; Encryption active; Logs monitored centrally; Independent cybersecurity validation completed	CISO; IT Security Team	Network infrastructure established; Security policies approved
1.4.6	Network Segmentation & Security Controls	Implementation of segmented network architecture separating operational technology (OT) from information technology (IT). Includes VLAN configuration, secure gateways, restricted data exchange, and monitoring of external connections to prevent lateral movement and unauthorized exposure.	Segmented network design; VLAN configuration; Secure gateways; Network security documentation	Segmentation verified; No unauthorized lateral movement; External connections controlled; Security validation approval recorded	Network Architect; IT Security Lead	Cybersecurity architecture deployed; Infrastructure readiness
1.4.7	Data Protection & Backup Systems	Deployment of encryption at rest and in transit, automated backup systems, disaster recovery configuration, data retention policies, and recovery	Backup configuration; Disaster recovery plan;	Successful restoration testing; Encryption validated; DR simulation	IT Infrastructure Manager; Security Manager	Network segmentation operational;

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		testing. Sensitive configuration and production data must be protected under strict access controls. Backup restoration simulations must confirm recoverability.	Encryption certificates; Recovery test results	passed; Security clearance documented		Production systems active
1.4.8	Penetration Testing & Vulnerability Assessment	Execution of structured penetration testing and vulnerability assessments by qualified independent assessors. Includes vulnerability scanning, remediation tracking, patch validation, and governance reporting. No system may go live without documented remediation of critical findings and formal security board approval.	Penetration test report; Remediation log; Patch validation documentation; Security clearance report	Critical vulnerabilities resolved; Independent validation completed; Security board approval issued; Stage-gate approval granted	Independent Security Auditor; IT Security Team; PMO	Cybersecurity deployment complete; Network segmentation validated

1.5 Physical Security Systems (Control Account)

WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.5.1	Multi-Layer Access Control Installation	Design, procurement, installation, configuration, and validation of a defense-in-depth physical access control system from perimeter to high-security internal zones. Includes reinforced access doors, smart card readers, turnstiles, biometric checkpoints, secure control panels, and centralized logging servers. Access rights must be role-based and aligned with segregation-of-duties principles. All access attempts must be logged and auditable. Integration	Access control hardware; Access policy matrix; Centralized logging system; Integration documentation	Unauthorized access simulation passed; Role-based access validated; Logs tamper-resistant; Security Board approval recorded	Security Systems Engineer; IT Security Lead; PMO	Controlled access zones constructed; IT infrastructure operational

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		with surveillance and intrusion detection systems is mandatory. Testing must include unauthorized access simulations and resilience verification prior to commissioning.				
1.5.2	Biometric System Deployment	Deployment of biometric authentication systems (e.g., fingerprint, iris, facial recognition) in restricted production, vault, and control areas. Includes secure enrollment procedures, encrypted biometric data storage, integration with RBAC, and periodic access review mechanisms. Validation must include accuracy testing (false acceptance/rejection rates) and failover testing.	Biometric devices installed; Enrollment database; Encrypted storage; RBAC integration documentation	Biometric accuracy within defined thresholds; Encryption verified; Failover testing successful; Security certification issued	Security Manager; IT Security Lead; Vendor Specialist	RBAC system operational; Access control infrastructure installed
1.5.3	CCTV & Surveillance Installation	Installation and configuration of comprehensive CCTV system covering perimeter, production halls, vault access, and material corridors. Camera placement must eliminate blind spots and ensure evidence-grade recording. Surveillance feeds must be securely transmitted, stored under defined retention policies, and access-restricted. Integration with monitoring platform and incident response procedures is required.	CCTV cameras; Monitoring stations; Secure storage configuration; Coverage validation report	Full coverage without blind spots; Retention policy enforced; Monitoring alerts functional; Security oversight approval documented	Surveillance Systems Lead; Security Engineer; PMO	Perimeter construction complete; Network connectivity operational
1.5.4	Alarm & Intrusion Detection Systems	Installation of intrusion detection systems including motion sensors, vibration detectors, door contacts, glass-break sensors, and alarm control panels. Must integrate with central monitoring and support real-time alerting. Escalation protocols aligned with incident response	Intrusion sensors; Alarm control panels; Escalation protocol documentation; Test reports	Intrusion simulation successful; Escalation timing within threshold; Redundancy validated; Security Board approval issued	Security Systems Engineer; Incident Response Lead	Surveillance integration complete; Backup power systems operational

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		procedures. Testing includes simulated intrusion and failover validation under power/network disruption.				
1.5.5	Visitor Management System	Implementation of controlled visitor management framework including pre-registration, identity verification, temporary credential issuance, escort control, zone restrictions, access expiration controls, and audit logging. Integration with access control and surveillance ensures full traceability of visitor movement.	Visitor management software; Temporary credential system; Visitor access logs; Escort tracking records	Visitors limited to authorized zones; Movement traceable; Access expiration enforced; Audit review completed	Security Manager; Access Control Administrator	Access control operational; Surveillance integrated
1.5.6	Secure Materials Handling Controls	Implementation of secure material transfer systems including controlled corridors, scanning points, dual-control authorization procedures, tamper-evident packaging, and reconciliation checkpoints. Must ensure full traceability of sensitive materials and integrate with inventory tracking and surveillance systems. Validation includes dual-control testing and exception reporting verification.	Secure transfer protocols; Dual-control framework; Material tracking logs; Reconciliation reports	Dual-control enforced; No unauthorized material movement; Exception alerts functional; Governance approval documented	Operations Security Lead; Inventory Control Manager; PMO	Inventory tracking system deployed; Access and surveillance systems active

1.6 Testing and Commissioning (Control Account)

WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.6.1	Factory Acceptance Testing (FAT)	Structured pre-shipment testing of printing machinery and associated systems at the vendor facility to verify compliance with contractual specifications, performance thresholds, integration readiness, and security	FAT protocols; FAT execution report; Non-	All contractual specifications met; Deviations resolved or approved; Security	Vendor Technical Lead; Project	Procurement complete; Equipment

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		requirements. Includes mechanical validation, control system verification, inspection accuracy testing, and cybersecurity compliance checks. All deviations must be logged and resolved prior to shipment authorization.	conformance log; Vendor sign-off	validation completed; Shipment authorization granted	Manager; QA Lead	manufacturing finished
1.6.2	Site Acceptance Testing (SAT)	Comprehensive testing of installed equipment at the facility to confirm proper operation within actual environmental, utility, IT, and security conditions. Includes operational runs, interface validation, alarm response testing, and cybersecurity re-verification.	SAT reports; Integration validation documentation; Issue log; Approval records	Equipment operational within facility parameters; Interfaces validated; No critical defects; Governance approval recorded	Installation Lead; Systems Integration Lead; PMO	Installation complete; Utilities operational
1.6.3	Integrated System Testing	End-to-end validation of interoperability between mechanical systems, production management software, inventory systems, access controls, surveillance platforms, and cybersecurity infrastructure. Includes full process simulation from material intake to finished output.	Integrated test report; Data flow validation logs; Interoperability documentation	End-to-end traceability confirmed; No integration conflicts; Secure data transmission verified; Stage-gate approval documented	Systems Integration Lead; IT Security Lead; PMO	SAT completed; IT systems deployed
1.6.4	Trial Production Runs	Controlled pilot production cycles to validate print precision, inspection reliability, throughput capacity, waste management, and material reconciliation under monitored conditions.	Trial production report; Defect rate analysis; Throughput metrics; Reconciliation documentation	Defect rate within tolerance; Throughput meets targets; No unexplained material variance; QA sign-off documented	Production Manager; QA Lead; Security Oversight Board	Integrated testing complete; Environmental controls validated

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.6.5	Quality Validation	Formal quality assurance validation to confirm compliance with defined printing standards, durability requirements, inspection accuracy thresholds, and reproducibility criteria across production cycles.	Quality inspection certificates; Validation reports; Independent review documentation	Quality metrics achieved; Independent validation completed; Compliance certification documented	QA Lead; Independent Auditor	Trial production completed
1.6.6	Security Validation	Operational security validation including penetration simulations, access control stress testing, intrusion detection verification, audit log review, and incident response drills. Ensures security systems function effectively under operational conditions.	Security validation report; Penetration simulation results; Access control audit logs; Incident drill records	No critical vulnerabilities; Access restrictions enforced; Incident response within threshold; Security Board approval issued	Security Board; IT Security Lead; Physical Security Lead	Integrated testing complete; Security systems active
1.6.7	Operational Readiness Verification	Confirmation that facility, personnel, systems, SOPs, and governance controls are fully prepared for sustained operations. Includes competency validation, emergency preparedness review, and compliance with performance baseline requirements.	Operational readiness checklist; Competency validation records; SOP approval documentation; Governance review report	All readiness criteria satisfied; Staff certified; SOPs approved; Executive authorization documented	Project Manager; PMO; Operations Management	Quality and security validation complete
1.6.8	Performance Benchmark Testing	Establishment of baseline production, quality, downtime tolerance, environmental stability, and security integrity metrics under sustained operational load. Benchmarks serve as reference for post-handover monitoring and benefits realization tracking.	Performance benchmark report; Baseline metrics documentation; Sustained load testing results	Performance within defined thresholds; Sustained load testing successful; Governance approval recorded	PMO; Operations Lead; QA Lead	Operational readiness verified

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WBS Dictionary – 1.7 Training and Capacity Building

WBS ID	Level	Work Package	Description	Deliverables	Acceptance Criteria	Responsible Role	Dependencies
1.7	Control Account	Training & Capacity Development	Establishes the full training framework required to ensure sustainable operational capability of the secure production facility. Covers curriculum development, vendor-led instruction, competency validation, SOP development, governance orientation, cybersecurity awareness, and structured knowledge transfer. All activities must align with commissioning milestones, security requirements, and operational readiness criteria. Documentation must be controlled under configuration management.	Training framework; Competency matrix; Approved training records	All critical roles trained and validated; Records archived; Governance approval obtained	Project Manager / PMO	Machinery installed; IT & Security systems operational
1.7.1	Work Package	Machinery Operation Training	Vendor-led technical training on printing presses, finishing equipment, inspection systems, production workflow control, troubleshooting, calibration, quality control, and emergency procedures. Includes classroom and supervised practical sessions to ensure independent operational capability.	Curriculum; Attendance records; Practical assessments; Vendor certificates	Operators demonstrate required competence; Assessment thresholds achieved; Documentation archived	Vendor Technical Lead / Production Manager	Machinery installation complete
1.7.2	Work Package	Security Protocol Training	Training on access control, classified zones, material handling controls, incident reporting, segregation-of-duties enforcement, visitor management, and escalation procedures. Includes security simulations and drills aligned with governance standards.	Security manuals; Drill reports; Attendance logs; Acknowledgment forms	Successful drill completion; Security compliance documented; Approval by Security Authority	Security Manager	Physical security systems operational

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1.7.3	Work Package	Cybersecurity Awareness Training	Instruction on secure system usage, phishing awareness, password management, role-based access controls, network segmentation, data protection, and incident reporting procedures aligned with cybersecurity architecture.	Training modules; Assessment reports; Policy acknowledgments	Personnel pass awareness assessment; IT Security validation completed	CISO / IT Security Lead	Cybersecurity systems deployed
1.7.4	Work Package	Maintenance Training	Technical training on preventive maintenance planning, diagnostics, spare parts control, calibration routines, equipment sustainability, and recovery procedures to reduce vendor dependency and ensure operational continuity.	Maintenance manuals; Certification records; Maintenance schedules	Maintenance personnel certified; Preventive maintenance plan approved	Maintenance Lead	Equipment calibrated and validated
1.7.5	Work Package	Governance & Compliance Orientation	Orientation on governance framework, reporting structure, risk escalation, change control, document control, audit readiness, and compliance obligations to reinforce disciplined operational conduct.	Orientation materials; Attendance logs; Compliance acknowledgment	Governance awareness validated; Change control understanding confirmed	PMO	Governance framework implemented
1.7.6	Work Package	Vendor Knowledge Transfer	Structured transfer of technical documentation, system configurations, troubleshooting techniques, optimization practices, and maintenance best practices from vendors to internal teams.	Knowledge transfer documentation; Handover certificates; Technical walkthrough reports	Internal team demonstrates independent capability; Vendor sign-off recorded	Vendor Lead / Project Manager	Installation and integration complete
1.7.7	Work Package	SOP Development & Documentation	Development, validation, and approval of Standard Operating Procedures covering production, maintenance, security, emergency response, and governance reporting. Maintained under version and configuration control.	Approved SOP manuals; Version logs; Process documentation	SOPs approved by governance; Security review completed; Archived under configuration control	Operations Manager	Trial production completed

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1.7.8	Work Package	Competency Validation	Formal evaluation through exams, simulations, and practical demonstrations to confirm readiness of operational, technical, and security personnel prior to formal transition.	Assessment reports; Certification records; Validation documentation	All critical personnel certified; Governance approval obtained before transition	HR Lead / Operations Manager	All training completed

1.8 Operational Readiness and Transition (Control Account)

WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
1.8.1	SOP Finalization & Approval	Final review, validation, refinement, and formal approval of all Standard Operating Procedures (SOPs) developed during testing and commissioning. SOPs must reflect validated workflows, security controls, segregation-of-duties principles, maintenance cycles, material handling procedures, emergency response, governance reporting, and escalation protocols. All SOPs must be version-controlled, security-classified where applicable, and approved by appropriate governance authorities before operational activation.	Approved SOP manuals; Version control records; Governance approval documentation	SOPs aligned with validated workflows; Security review completed; Governance approval documented; Documents archived under configuration control	Operations Manager; PMO; Security Board	Testing & Commissioning completed; Training finalized
1.8.2	Handover Documentation	Preparation and consolidation of all formal documentation required for structured handover to Operations Management. Includes configuration records, asset inventories, maintenance manuals, warranty certificates, risk register status, compliance	Complete handover package; Asset inventory records; Compliance certificates; Warranty documentation	Documentation verified complete; No critical open issues; Governance sign-off obtained	Project Manager; PMO; Operations Management	Commissioning approved; Quality & Security validation completed

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		approvals, cybersecurity validation reports, and training certifications. All documentation must be verified for completeness and accuracy prior to handover approval.				
1.8.3	Asset Transfer Documentation	Formal transfer of ownership and accountability for physical and digital assets to Operations Management. Includes asset tagging validation, serial number verification, configuration baseline confirmation, access right reassignment, financial recording, and warranty assignment. Must comply with segregation-of-duties and governance approval protocols.	Signed asset transfer forms; Configuration baseline records; Financial asset registry updates	Asset registry updated; Access rights reassigned; Sponsor approval recorded; Audit traceability maintained	Finance Manager; Configuration Manager; Operations Lead	Handover documentation complete
1.8.4	Performance Baseline Establishment	Establishment of operational baseline metrics for production capacity, quality consistency, downtime tolerance, environmental stability, security compliance, and maintenance cycles. These baselines serve as reference benchmarks for post-handover monitoring and benefits realization tracking. Metrics must be validated through sustained operational testing and governance approval.	Performance baseline report; KPI documentation; Monitoring framework	KPIs approved; Baseline validated; Governance endorsement recorded	PMO; Operations Manager; Quality Lead	Benchmark testing completed
1.8.5	Formal Transition to Operations	Structured and governance-controlled transfer of operational authority from the Project organization to Operations Management. Includes formal declaration of operational readiness, authority reassignment documentation, transition meeting records, and	Transition approval memo; Authority reassignment records; Governance confirmation	Executive transition approval issued; Operational accountability confirmed; No unresolved critical risks	Project Sponsor; Project Manager; Operations Management	All validation activities complete

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WBS ID	Work Package	Detailed Description	Key Deliverables	Acceptance Criteria	Responsible Role	Key Dependencies
		confirmation of operational support structures. Transition may occur only after all stage-gate criteria are satisfied and no critical risks remain unresolved.				
1.8.6	Benefits Ownership Transfer	Formal transfer of responsibility for benefits realization tracking to Operations Management and executive leadership. Includes assignment of KPI ownership, reporting cadence definition, confirmation of benefits tracking mechanisms, and integration with governance reporting cycles.	Benefits transfer document; KPI accountability matrix; Reporting schedule	Benefits ownership assigned; KPI monitoring active; Governance approval documented	Sponsor; PMO; Operations Management	Performance baseline approved
1.8.7	Project Closure & Governance Sign-Off	Final project closure activities including scope verification, financial reconciliation, contract closure, risk register final review, lessons learned documentation, archive of controlled documents, and formal governance sign-off. Confirms that the project has delivered all approved scope and meets strategic objectives.	Closure report; Financial reconciliation statement; Lessons learned log; Final governance approval	Scope verified complete; Financial accounts closed; Lessons learned documented; Sponsor and Steering Committee sign-off recorded	Project Manager; PMO; Sponsor	Formal transition completed

Approval:

Role	Name	Signature	Date
Project Sponsor	Mr. Ahmad Khan		
Project Manager	Mr. Reshtin, PMP®		

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Role	Name	Signature	Date
PMO Representative			

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