RESOURCE MANAGEMENT PLAN

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

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1. Purpose of the Resource Management Plan:

The purpose of this Resource Management Plan is to define a structured, disciplined, and comprehensive approach for how human resources, physical resources, and specialized expertise required for the National Currency Printing and Secure Banknote Production Facility Project (NCPBF) will be identified, planned, acquired, allocated, managed, developed, controlled, and released throughout the entire project lifecycle. This plan establishes a clear framework to ensure that resources are available when needed, utilized effectively, governed appropriately, and aligned with approved project objectives and constraints.

In alignment with PMI and PMBOK® Guide principles, this plan ensures that the right resources—with the appropriate skills, experience, authority, availability, and security clearance—are assigned at the right time and managed in a disciplined, transparent, and auditable manner. Resource decisions are not made in isolation; they are integrated with scope, schedule, cost, quality, risk, security, stakeholder, and benefits management processes. This integrated approach supports informed decision-making, reduces uncertainty, and strengthens overall project control.

Given the project's high complexity, long duration, security sensitivity, and multi-disciplinary nature, resource management is recognized as a critical success factor and a significant risk area. The project requires sustained availability of specialized leadership, technical experts, security professionals, commercial and procurement specialists, quality and risk managers, and operational readiness resources over multiple phases. Ineffective resource management—such as skill shortages, unclear authority, resource over-allocation, dependency on single individuals, or unplanned attrition—could have severe consequences for schedule performance, cost control, quality compliance, security integrity, and operational readiness.

This Resource Management Plan therefore establishes structured controls and governance mechanisms designed to prevent common resource-related risks, including:

- Resource shortages or late mobilization
- Skill gaps or inadequate competency levels
- Role ambiguity and overlapping responsibilities

- Overloading of critical personnel
- Excessive dependency on key individuals or vendors
- Security and segregation-of-duties violations

The plan provides clarity on roles, responsibilities, authority levels, and reporting relationships, ensuring that every resource understands their mandate, decision boundaries, and accountability. It supports effective coordination across workstreams and governance layers, while maintaining clear escalation paths for resolving resource constraints or conflicts.

Resource planning under this plan is explicitly aligned with the approved Project Roadmap and milestone schedule, ensuring that resource mobilization, ramp-up, peak demand, and demobilization are planned proactively rather than reactively. This alignment enables efficient sequencing of resources across phases such as planning, design, construction, installation, testing, commissioning, and transition to operations, minimizing idle time and avoiding bottlenecks.

The plan also defines resource acquisition and onboarding processes, ensuring that all personnel—whether internal staff, contractors, or vendors—are formally approved, appropriately inducted, and fully aware of governance, security, and performance expectations before commencing work. Structured onboarding includes role clarification, reporting requirements, security awareness, and access provisioning based on the principle of least privilege. No resource is permitted to engage in project activities without completing the required onboarding and authorization steps.

In addition, this Resource Management Plan emphasizes resource development and capacity building as a strategic objective. Beyond delivering project outputs, the plan supports the development of sustainable internal capabilities through training, knowledge transfer, mentoring, and documentation. This approach ensures that operational teams are prepared to assume ownership at handover and that project benefits can be sustained beyond project closure.

The plan further defines resource control and performance management mechanisms, including utilization tracking, workload balancing, competency monitoring, and performance evaluation against approved KPIs and deliverables. Resource performance is monitored through PMO dashboards, stage-gate

readiness reviews, and assurance activities, enabling early identification of issues and timely corrective action.

Security and confidentiality considerations are embedded throughout this plan. Resource assignments, access rights, and role combinations are designed to comply with security, confidentiality, and segregation-of-duties requirements, thereby reducing exposure to operational, financial, or reputational risk. Access to sensitive information, systems, and facilities is strictly controlled and revoked promptly upon role completion or reassignment.

Finally, this Resource Management Plan establishes clear processes for controlled resource release and transition, ensuring that resources are demobilized only after deliverables are accepted, knowledge transfer is completed, and access rights are formally withdrawn. For resources transitioning into operations, the plan supports an orderly handover of responsibilities and benefits ownership.

In summary, this Resource Management Plan provides a robust, governance-driven framework that enables the project to deploy and manage its resources effectively, securely, and sustainably. By integrating resource management with project governance, performance control, and benefits realization, the plan directly supports successful project delivery, operational readiness, and long-term institutional value.

2. Resource Management Objectives:

The objectives of resource management for this project are to establish a disciplined, proactive, and governance-driven approach that ensures resources are planned, deployed, and managed in a manner that directly supports successful project delivery and long-term operational sustainability. Specifically, the objectives are to:

- Ensure sufficient, competent, and appropriately authorized resources are available across all project phases, from initiation through commissioning and transition to operations, with the right mix of leadership, technical expertise, security clearance, and decision authority.
- Assign clear accountability for all roles, responsibilities, and deliverables, eliminating ambiguity by defining ownership, authority limits, reporting relationships, and escalation paths for every critical function and workstream.
- Balance workload and optimize resource utilization, preventing over-allocation, fatigue, or dependency on single individuals, while ensuring that critical activities and milestones are adequately staffed and supported.
- Maintain continuity of key and critical roles throughout the project's long duration by planning for succession, overlap, and knowledge retention, thereby reducing risks associated with turnover, attrition, or loss of institutional memory.
- Embed security, quality, safety, and governance requirements into all resource assignments, ensuring that personnel placement, access rights, and role combinations comply with approved controls, segregation-of-duties principles, and confidentiality obligations.
- Enable structured knowledge transfer, training, and operational readiness, ensuring that project outputs and capabilities are effectively transitioned to operations and that future owners are prepared to sustain performance and benefits.
- Support the development and maintenance of a high-performing, disciplined, and compliant project team, characterized by

professionalism, accountability, collaboration, and adherence to approved processes, standards, and ethical expectations.

These objectives collectively ensure that resource management contributes not only to efficient project execution, but also to governance integrity, security assurance, and sustainable value realization.

3. Resource Categories:

Project resources for the National Currency Printing and Secure Banknote Production Facility Project (NCPBF) are managed across three primary resource categories: Human Resources, Physical Resources, and External and Specialized Resources. Each category has distinct planning, acquisition, control, security, and governance requirements due to the project's scale, duration, technical complexity, and sensitivity.

The categorization of resources enables structured planning, risk-based control, segregation of duties, and alignment with project phases and milestones. Resource planning and management for all categories are fully integrated with the Project Roadmap, Governance Framework, Security Controls, Procurement Strategy, and Benefits Management Plan.

3.1 Human Resources:

Human resources include all personnel engaged in governance, management, delivery, assurance, security, and operational readiness throughout the project lifecycle. Given the long duration and high-risk nature of the project, human resources are treated as critical strategic assets, not interchangeable labor.

Scope of Human Resources:

Human resources include, but are not limited to:

- Project leadership and PMO personnel
- Technical, engineering, and systems specialists
- Security, IT, and cybersecurity professionals
- Commercial, procurement, contract, and finance staff
- Quality, risk, health & safety, and compliance personnel
- Training, testing, commissioning, and transition teams

Human Resource Planning Principles:

Human resource planning for this project follows these principles:

- Competency-based assignment: Roles are filled based on verified skills, experience, certifications, and security suitability—not availability alone.
- Continuity over time: Key roles are planned for continuity across long phases to reduce transition risk and loss of institutional knowledge.

- Segregation of duties: No individual is assigned conflicting roles that could compromise governance, financial integrity, or security.
- Security clearance alignment: Access rights and role assignments are aligned with information classification and security requirements.
- Capacity-based loading: Workloads are planned to avoid over-allocation, fatigue, and single-point dependencies.

Lifecycle Management of Human Resources:

Human resources are managed through structured lifecycle stages:

- Identification and planning: Roles and competencies are defined per phase and workstream.
- Acquisition and onboarding: Personnel undergo formal onboarding, role clarification, and security orientation.
- Deployment and performance management: Resources are monitored through KPIs, reporting, and governance reviews.
- Development and knowledge transfer: Training, mentoring, and documentation ensure capability growth and sustainability.
- Release and transition: Resources are released in a controlled manner, ensuring handover of knowledge and responsibilities.

Governance and Controls:

- All human resource assignments are approved by the Project Manager and PMO.
- Role changes follow formal change control.
- Performance issues, capability gaps, or attrition risks are escalated through governance channels.
- Human resource risks are tracked in the Risk Register and reviewed regularly.

3.2 Physical Resources:

Physical resources include all non-human assets required to support project execution, testing, and transition activities. These resources are essential enablers of delivery and must be planned, secured, tracked, and maintained with discipline.

Scope of Physical Resources:

Physical resources include:

- Construction machinery, equipment, and tools
- Testing, calibration, and commissioning equipment
- IT infrastructure, servers, networks, and secure systems
- Temporary facilities, site offices, storage areas, and utilities

Physical Resource Planning Approach:

Physical resource planning is aligned with:

- Project phases and work packages
- Site readiness and construction sequencing
- Security zoning and access controls
- Vendor delivery schedules and contractual obligations

Key planning considerations include:

- Availability at the point of need to avoid delays
- Compatibility with technical and security requirements
- Redundancy for critical systems
- Lifecycle cost and maintenance implications

Control and Security Requirements:

Due to the sensitive nature of the project:

- Physical resources are inventoried, tagged, and tracked
- Access to critical equipment and systems is restricted and logged
- Storage and usage comply with approved security and safety standards
- Unauthorized relocation, modification, or use is prohibited

Maintenance and Readiness:

- Preventive maintenance plans are established for critical equipment
- Readiness checks are conducted prior to major milestones
- Defective or non-compliant equipment is quarantined and reported
- Physical resources are included in audit and assurance activities

Decommissioning and Release:

At phase completion or project closure:

- Temporary facilities are decommissioned formally
- Assets are transferred to operations under approved handover procedures
- Disposal or reassignment follows organizational asset policies

3.3 External and Specialized Resources:

External and specialized resources include vendors, contractors, consultants, inspectors, and certifying bodies that provide expertise, technology, and services not available internally.

Scope of External Resources

These resources include providers of:

- Specialized printing machinery and production technology
- Construction and secure facility services
- IT systems, cybersecurity solutions, and integration services
- Specialized testing, certification, inspection, and audits

Engagement Model:

External resources are engaged through formal procurement and contracting processes, governed by:

- Approved procurement strategies
- Clear scopes of work and deliverables
- Defined performance metrics and acceptance criteria
- Security and confidentiality obligations

No external resource is engaged informally or outside approved contractual arrangements.

Control and Oversight:

External resources are subject to:

- Contract governance and performance monitoring
- Formal reporting and coordination mechanisms

- Controlled access to facilities, systems, and information
- Independent inspection, testing, and acceptance processes

Vendor and contractor performance is reviewed regularly, and non-performance is addressed through contractual remedies and escalation.

Risk Management:

Risks associated with external resources—such as dependency, delays, quality issues, or security exposure—are:

- Identified and documented in the Risk Register
- Mitigated through diversification, controls, and contingency planning
- Escalated when thresholds are exceeded

Knowledge Transfer and Exit:

External resources are required to support:

- Knowledge transfer to internal teams
- Documentation of systems, processes, and configurations
- Structured disengagement at contract completion

This ensures that project capabilities are sustainable beyond vendor involvement.

4. Organizational Structure and Reporting:

The organizational structure and reporting model for the National Currency Printing and Secure Banknote Production Facility Project (NCPBF) is designed to support clear authority, disciplined governance, effective coordination, and accountability, while managing the complexity arising from multiple workstreams, specialized expertise, long project duration, and high security sensitivity. The structure balances centralized control with functional expertise, ensuring that resources are effectively managed without undermining governance, security, or performance.

This model explicitly defines who has authority, who is accountable, how decisions flow, and how reporting conflicts are avoided, which is essential for a project of this scale and strategic importance.

4.1 Resource Governance Model:

Resource governance is implemented through a multi-layered oversight structure, ensuring that resource decisions are aligned with strategy, funding, security, and delivery needs.

Project Sponsor:

The Project Sponsor provides executive ownership of the project and authorizes key leadership resources, including the Project Manager and other critical roles. The Sponsor ensures that adequate funding is available to support approved resourcing plans and confirms that resourcing decisions align with strategic objectives, security requirements, and long-term institutional interests. Escalated resource risks or constraints that exceed project-level authority are resolved at this level.

Steering Committee:

The Steering Committee provides governance oversight of resource adequacy and readiness, particularly at stage-gate reviews and major decision points. It reviews whether the project has sufficient capability, capacity, and continuity of resources to proceed to subsequent phases. The Steering Committee does not manage resources directly but ensures that resourcing decisions support delivery, risk management, and benefits realization.

Project Management Office (PMO):

The PMO defines the standards, frameworks, and controls governing resource management. It monitors resource utilization, role compliance, segregation-of-duties, and adherence to approved plans. The PMO also performs independent assurance, validates reporting, supports capacity planning, and identifies systemic resourcing risks. The PMO acts as the custodian of governance discipline, not as a line manager of resources.

Project Manager:

The Project Manager has overall accountability for planning, deploying, coordinating, and managing all project resources. This includes ensuring resources are available when needed, appropriately skilled, security-cleared, and aligned with approved plans. The Project Manager manages performance, resolves conflicts, escalates constraints, and ensures resources contribute effectively to integrated project delivery.

Workstream Leads:

Workstream Leads are responsible for the day-to-day management of assigned resources within their functional areas. They plan workloads, monitor performance, identify skill gaps, and report resource issues through formal channels. Workstream Leads do not independently reassign resources or alter roles without approval, ensuring governance consistency.

4.2 Reporting Relationships:

Project resources operate under a controlled dual-reporting model, designed to leverage functional expertise while maintaining strong project delivery control.

- **Functional Reporting**:
  Where applicable, personnel continue to report administratively or professionally to their home units (e.g., technical departments, security units, finance functions). This supports professional standards, career development, and functional alignment.
- **Operational Reporting**:
  For all project-related work, resources report operationally to the Project Manager through their respective Workstream Leads. This ensures

clarity of priorities, accountability for deliverables, and alignment with the project schedule and objectives.

Dual reporting is formally governed by PMO-approved rules to prevent conflict, ambiguity, or informal influence. In cases of competing priorities, the Project Manager—supported by the PMO—has authority to resolve conflicts in favor of approved project commitments. Persistent or material conflicts are escalated through governance channels.

This structure ensures that resources are accountable, protected from conflicting instructions, and able to perform effectively, while maintaining alignment with organizational policies, governance requirements, and security controls.

5. Roles, Responsibilities, and Authority:

Effective resource management for this project requires clear definition of roles, explicit authority boundaries, and disciplined accountability mechanisms. Given the project's strategic importance, security sensitivity, long duration, and multi-disciplinary scope, informal authority, overlapping responsibilities, or unclear decision rights are not acceptable. This section establishes how authority is assigned, exercised, and controlled to ensure integrity of delivery, governance compliance, and protection of sensitive assets.

This Resource Management Plan is fully aligned with the approved Team Charter, Project Governance Framework, and Delegation of Authority, and reinforces the principle that authority is assigned to roles, not individuals, and must be exercised only within approved limits.

5.1 Role Accountability and Authority Boundaries:

Each role within the project has clearly defined responsibilities and decision rights. Resources may only perform activities, make decisions, or issue instructions that fall within their formally assigned authority. No resource may act beyond their approved role definition, even if technically capable or requested informally by stakeholders.

Authority boundaries are enforced to ensure:

- Decisions are made at the appropriate level
- Accountability remains traceable
- Risks related to informal influence, scope creep, or security exposure are minimized

Any ambiguity regarding authority must be clarified through the Project Manager or PMO before action is taken.

5.2 Segregation of Duties:

To protect governance integrity, security, and auditability, segregation of duties is mandatory across all critical processes. Specifically:

- No individual may approve, execute, and verify or accept the same deliverable, transaction, or control activity.

- Procurement, contract management, payment authorization, and acceptance are separated across distinct roles.
- Security approvals, access authorization, and compliance verification are performed independently.

This principle applies equally to internal staff, consultants, and vendor personnel and is monitored by the PMO and Internal Audit functions.

5.3 Security Authorization and Clearance:

Roles that involve access to sensitive information, restricted systems, secure areas, or critical infrastructure are classified as security-sensitive roles. Assignment to these roles requires:

- Formal authorization by the appropriate authority
- Verification of security clearance and role suitability
- Controlled access provisioning based on the principle of least privilege

Security authorization is role-based, time-bound, and subject to periodic review. Unauthorized access, informal delegation, or credential sharing is strictly prohibited and treated as a serious governance breach.

5.4 Resource Substitution and Role Changes:

Any substitution, reassignment, or temporary replacement of resources in critical roles must be formally reviewed and approved by the Project Manager and PMO. This ensures continuity of accountability, preservation of institutional knowledge, and maintenance of security and governance controls.

Unapproved substitutions, shadow roles, or informal delegation of responsibilities are not permitted. Where continuity risks exist, transition and overlap plans must be implemented.

6. Resource Planning and Acquisition:

Resource planning and acquisition for the National Currency Printing and Secure Banknote Production Facility Project is a strategic, controlled, and security-driven process that ensures the availability of the right resources, with the right competencies, authority, and clearances, at the right time, and for the right duration. Given the project's long lifecycle, high capital investment, security sensitivity, and multi-disciplinary scope, resource planning is treated as a core control function, not an administrative activity.

This section defines how resources are planned, justified, sourced, onboarded, governed, and integrated into project delivery while maintaining compliance with governance, security, procurement, and segregation-of-duties requirements.

6.1 Resource Planning Approach:

Resource planning is conducted using a structured, bottom-up and phase-based approach, fully aligned with the approved Project Charter, Project Roadmap, and governance framework. Planning is iterative and continuously refined as the project progresses through design, construction, installation, testing, commissioning, and handover phases.

The primary objective of resource planning is to prevent shortages, skill gaps, bottlenecks, overload, dependency risks, and loss of continuity, while ensuring security and audit readiness.

6.1.1 Planning Inputs and Foundations:

Resource planning is informed by the following approved inputs:

- Work Breakdown Structure (WBS)
    - Each work package is analyzed to determine required roles, skill sets, effort levels, authority requirements, and security sensitivity.
- Project Roadmap and Phase Timelines
    - Resource demand is mapped to each project phase to ensure timely mobilization, ramp-up, peak utilization, and orderly demobilization.
- Role Descriptions and Competency Profiles
    - Each role has defined responsibilities, minimum qualifications, experience requirements, decision authority, and reporting relationships.

- Security and Compliance Requirements
    - Roles are classified by security sensitivity, and planning includes clearance lead times, access provisioning, and segregation-of-duties constraints.
- Lessons Learned from Similar Programs
    - Historical data is used to anticipate typical resourcing risks such as late mobilization, over-reliance on vendors, or under-resourced assurance functions.

6.1.2 Phased Resource Planning

- Resources are planned across distinct phases, recognizing that skill requirements evolve over time:
- Authorization and Planning Phase
  Emphasis on governance, planning, security design, procurement strategy, and controls.
- Design and Construction Phase
  High demand for engineering, construction management, quality, HSE, and security oversight resources.
- Installation and Integration Phase
  Peak demand for specialized technical experts, vendors, cybersecurity, testing, and commissioning teams.
- Trial Production and Handover Phase
  Focus shifts toward operations staff, trainers, transition managers, and benefits realization roles.
- Critical roles are planned for continuity across phases to avoid knowledge loss and governance gaps.

6.1.3 Capacity and Utilization Planning:

The PMO monitors:

- Planned vs actual resource utilization
- Role conflicts or overload
- Dependency on single individuals
- Risks arising from turnover or availability constraints

Corrective actions include resource rebalancing, role splitting, phased onboarding, or targeted external support.

6.2 Resource Acquisition Methods:

Resource acquisition follows formal, auditable, and governance-approved pathways to ensure transparency, fairness, security, and value for money. No resource may be engaged outside approved acquisition mechanisms.

6.2.1 Internal Assignment:

Internal assignment is used primarily for:

- Project Sponsor and executive oversight roles
- PMO leadership, governance, and assurance roles
- Core project management and control functions
- Security oversight and internal compliance roles

Internal resources are selected based on:

- Proven competence and experience
- Authority alignment with role requirements
- Availability across required project phases
- Compliance with security and confidentiality standards

Internal assignments are formally documented, time-bound, and subject to periodic performance and suitability review.

6.2.2 Competitive Procurement:

Competitive procurement is used for:

- Construction contractors
- Printing machinery suppliers
- IT systems and cybersecurity vendors
- Specialized testing and commissioning services

Procurement is conducted in accordance with:

- Approved Procurement Management Plan
- Delegation of Authority
- Segregation-of-duties requirements

- Security and confidentiality controls

Vendor personnel access to project sites, systems, or information is strictly limited to contractual scope and approved security clearance levels.

6.2.3 Specialized Contracting:

Specialized contracting is used where:

- Skills are scarce or highly specialized
- Independent certification or validation is required
- Temporary expertise is needed without long-term dependency

Examples include:

- Banknote printing technology experts
- Independent security assessors
- Certification bodies and inspectors
- Commissioning specialists

Specialized contracts include clear deliverables, authority limits, confidentiality obligations, and exit criteria to prevent dependency.

6.3 Onboarding, Authorization, and Mobilization:

All resources—internal or external—undergo a **formal onboarding process** before commencing work, which includes:

- Role briefing and authority clarification
- Security induction and access provisioning
- Review of governance, communication, and change-control rules
- Acknowledgement of confidentiality and code of conduct
- Assignment of reporting lines and escalation paths

No resource may commence work without formal onboarding approval.

6.4 Resource Release and Transition Planning

Resource release is planned to:

- Avoid abrupt loss of critical knowledge
- Ensure smooth transition to operations
- Preserve benefits realization capability

Release plans include:

- Knowledge transfer and documentation
- Formal handover of responsibilities
- Revocation of access rights
- Performance evaluation and lessons learned capture

6.5 Governance and Control of Resource Acquisition

The PMO maintains oversight of:

- Resource plans and forecasts
- Acquisition approvals
- Utilization and performance
- Compliance with authority and security rules

Any deviation from approved resource plans is treated as a governance issue and escalated through formal channels.

7. Resource Onboarding and Mobilization:

Resource onboarding and mobilization for the National Currency Printing and Secure Banknote Production Facility Project is executed through a formal, standardized, and governance-controlled process to ensure that every resource—internal or external—is fully prepared, authorized, and compliant before commencing any project-related activity. Given the project's high security sensitivity, complex governance structure, and multi-disciplinary execution model, onboarding is treated as a mandatory control point, not an administrative formality.

No resource is permitted to begin work, access project information, attend project meetings, or enter project-controlled facilities without completing the approved onboarding process and receiving formal authorization.

7.1 Onboarding Objectives:

The onboarding process is designed to:

- Ensure clear understanding of role responsibilities, authority limits, and reporting lines
- Embed governance, change control, and escalation discipline from day one
- Enforce security, confidentiality, and information classification requirements
- Enable effective and timely contribution without rework or misalignment
- Protect project assets, sensitive information, and institutional credibility

7.2 Onboarding Components

All resources must complete the following onboarding components prior to mobilization:

Role Clarification and Authority Briefing:

Each resource receives a formal briefing covering role scope, decision rights, approval limits, interfaces with other roles, and escalation paths. This ensures that authority is exercised correctly and consistently with the Team Charter and Governance Framework.

Governance, Reporting, and Escalation Orientation:

Resources are trained on project governance structures, reporting requirements, meeting cadences, change control processes, and issue escalation protocols. This ensures disciplined participation in governance and prevents informal or bypassed decision-making.

Security and Confidentiality Orientation:

All resources undergo mandatory security induction covering information classification, access rules, acceptable communication channels, incident reporting, and consequences of non-compliance. Security-sensitive roles require additional briefings and authorization.

Access Provisioning (Least-Privilege Principle):

Physical and digital access is provisioned strictly based on role necessity and duration. Access is time-bound, monitored, and subject to periodic review.

7.3 Mobilization Approval:

Formal mobilization approval is granted only after:

- All onboarding requirements are completed
- Required authorizations and clearances are verified
- Access provisioning is approved and recorded
- Onboarding completion is documented in PMO records

The PMO maintains onboarding records and audits compliance.

7.4 Governance and Compliance:

Failure to complete onboarding, or bypassing onboarding controls, constitutes a governance breach and may result in suspension of access, reassignment, or removal from the project.

Through this structured onboarding and mobilization process, the project ensures that resources are competent, authorized, security-aware, and fully aligned before contributing—thereby protecting delivery integrity, governance discipline, and long-term operational readiness.

8. Resource Development and Capacity Building:

Resource development and capacity building for the National Currency Printing and Secure Banknote Production Facility Project is a strategic investment, not a secondary activity. The project is designed not only to deliver physical assets and systems, but also to establish sustainable institutional capability that enables long-term, secure, and efficient operations after project closure. As such, capacity development is deliberately planned, funded, governed, and measured as an integral part of project execution and benefits realization.

This section defines how competencies are developed, how knowledge is transferred, and how skills are embedded within the organization to ensure that operational performance does not degrade once external vendors and temporary project resources are released.

8.1 Capacity Development Objectives:

The primary objectives of resource development and capacity building are to:

- Ensure long-term operational sustainability without dependency on external vendors
- Build sufficient internal technical, operational, security, and managerial capability
- Enable safe, secure, and compliant operation of complex systems
- Support benefits realization beyond project closure
- Reduce operational risk arising from skill gaps or staff turnover

Capacity development is therefore treated as a critical success factor, and progress is monitored at governance and stage-gate levels.

8.2 Knowledge Transfer Strategy:

Knowledge transfer is structured, contractual, and measurable. It is not left to informal mentoring or ad hoc training.

Key principles include:

- Knowledge transfer obligations are embedded in vendor contracts
- Training is delivered progressively, not only at the end of the project
- Internal staff participate actively in design, installation, testing, and commissioning

- Documentation, SOPs, and system configurations are formally handed over and validated

Knowledge transfer activities include:

- Classroom and workshop-based training
- On-the-job training during installation and testing
- Shadowing and reverse-shadowing arrangements
- Joint execution of trial production and commissioning activities
- Formal certification or competency assessment where applicable

Completion of knowledge transfer is a prerequisite for acceptance of major deliverables and for progression through commissioning and handover stage gates.

8.3 Training and Competency Development:

Training programs are role-based and aligned with defined competency profiles. They cover, as applicable:

- Technical operation and maintenance
- Quality control and defect management
- Security procedures and incident response
- IT systems and cybersecurity controls
- Governance, reporting, and compliance requirements
- Health, safety, and environmental practices

Training plans are aligned with:

- **Commissioning milestones**, ensuring readiness before go-live
- **Operational readiness criteria**, ensuring staff can perform independently
- **Benefits realization requirements**, ensuring capabilities needed to sustain benefits are in place

Training completion, certification status, and competency gaps are tracked by the PMO and reviewed during readiness assessments.

8.4 Governance and Measurement:

Capacity development is governed through:

- Approved training and development plans
- Defined benefit owners for capability-related benefits
- Periodic readiness and competency assessments
- Formal sign-off of operational readiness

Failure to achieve required competency levels is treated as a **project risk** and escalated through governance channels.

8.5 Sustainability and Continuous Development:

Post-handover, capacity development continues through:

- Refresher training programs
- Preventive maintenance and skills renewal plans
- Knowledge retention and succession planning
- Lessons learned integration into future programs

Through this disciplined approach, the project ensures that people capability is developed at the same level of rigor as physical assets, enabling secure, resilient, and sustainable operations long after project completion.

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9. Resource Utilization and Performance Management:

Effective utilization and performance management of resources is essential to achieving the objectives of the National Currency Printing and Secure Banknote Production Facility Project within approved scope, schedule, cost, quality, security, and governance constraints. Given the project's long duration, phased execution, security sensitivity, and reliance on specialized expertise, uncontrolled resource utilization or unmanaged performance issues represent a material risk to delivery, operational readiness, and benefits realization.

This section defines how resource utilization is planned, monitored, optimized, and corrected, and how individual and team performance is assessed, governed, and addressed in a disciplined and transparent manner.

9.1 Resource Utilization Control:

Resource utilization is actively planned and controlled to ensure that resources are neither underutilized nor over-allocated, and that critical capabilities remain continuously available throughout the project lifecycle.

Integrated Schedule-Based Resource Loading:

All key human and specialist resources are loaded into the approved integrated project schedule. Resource demand is mapped against work packages, milestones, and phase timelines to provide visibility of peak demand periods, critical dependencies, and potential bottlenecks. This enables proactive planning and informed decision-making regarding mobilization, sequencing, and workload balancing.

Monitoring and Correction of Over-Allocation:

The Project Manager, supported by the PMO and Scheduler, regularly reviews resource utilization reports to identify over-allocation, role conflicts, or unsustainable workloads. Where over-allocation is detected, corrective actions may include:

- Re-sequencing activities
- Reassigning tasks across qualified resources
- Introducing temporary support
- Adjusting timelines through formal change control where unavoidable

Over-allocation is not managed informally and must never compromise quality, security, or governance requirements.

Critical Role Continuity and Succession Planning:

Roles identified as critical to governance, security, integration, or operational readiness are supported by defined backup and succession arrangements. This reduces dependency on single individuals and mitigates risks associated with absence, turnover, or extended unavailability. Succession planning includes overlap periods, documented handovers, and access to controlled knowledge repositories.

9.2 Performance Management:

Performance management is conducted in a structured, objective, and fair manner, aligned with the Team Charter, Governance Framework, and approved KPIs. Performance is evaluated not only on output delivery but also on adherence to governance, security, and professional standards.

Performance Assessment Criteria:

Resource performance is assessed against the following core dimensions:

- Deliverable Quality and Timeliness: Achievement of assigned deliverables in accordance with approved specifications, acceptance criteria, and schedules.
- Governance and Security Compliance: Adherence to reporting requirements, change control, security protocols, information classification rules, and authority limits.
- Collaboration and Professional Conduct: Constructive teamwork, respectful communication, responsiveness, and alignment with agreed behavioral norms and values.

Monitoring and Feedback Mechanisms:

Performance is monitored through regular status reviews, workstream reporting, quality and audit findings, and stakeholder feedback. Where performance issues are identified, timely feedback is provided, and corrective actions are agreed and tracked.

Escalation and Corrective Action:

Persistent underperformance, governance breaches, or non-compliance with security requirements are escalated through formal management and governance channels. Corrective actions may include targeted coaching, reassignment of responsibilities, additional supervision, or removal from the role, depending on severity and impact.

10. Resource Security and Confidentiality Controls:

The National Currency Printing and Secure Banknote Production Facility Project involves the design, construction, commissioning, and operation of infrastructure and systems that handle high-value assets, sensitive production technologies, confidential designs, and controlled financial instruments. As such, resource security and confidentiality controls are not administrative requirements but constitute a core operational and governance discipline.

This section establishes a comprehensive framework for how personnel access, role authorization, information protection, segregation of duties, and security accountability are enforced throughout the project lifecycle.

Security is treated as a shared responsibility across all roles, supported by layered controls, independent oversight, and zero-tolerance enforcement.

10.1 Security Governance Model:

Resource security is governed through a multi-layered control model consisting of:

- Project Sponsor & Steering Committee – Provide executive oversight of security posture
- Security Board / Security Authority – Defines security standards and approves sensitive roles
- PMO – Enforces governance, audit, and compliance controls
- Project Manager – Accountable for implementation of security requirements
- Security Manager / CISO – Operational owners of security controls
- Internal Audit – Independent verification and assurance

Security is embedded into:

- Resource planning
- Role assignment
- Onboarding
- Performance management
- Offboarding

10.2 Role-Based and Time-Bound Access Control:

All resource access is governed by the principle of least privilege and is strictly role-based and time-bound.

Each resource is assigned:

- A formally approved role profile
- A defined access scope
- A limited authorization period
- A named approving authority

Access is granted only after:

- Completion of onboarding
- Security orientation
- Role authorization approval
- Identity verification
- Clearance validation (where applicable)

Access rights cover:

- Physical facilities
- Secure zones
- Vault areas
- Production systems
- IT networks
- Design repositories
- Configuration databases

Access rights are:

- Reviewed quarterly
- Revalidated at phase transitions
- Revoked immediately upon role change or release

No shared credentials are permitted.
No informal access is allowed.
No access is granted without documented approval.

10.3 Segregation of Duties Enforcement:

To protect financial integrity, production integrity, and national security interests, strict segregation of duties (SoD) is enforced across all critical processes.

No individual may:

- Approve and execute the same transaction
- Design and certify the same system
- Control access and perform security audits
- Procure and authorize payments
- Accept and verify deliverables

Key segregation domains include:

- Procurement and payment authorization
- Contract management and acceptance
- System configuration and security approval
- Vault access and production control
- Change approval and implementation

Segregation compliance is:

- Verified by the PMO
- Audited by Internal Audit
- Reviewed at stage gates

Any breach of segregation rules is treated as a major governance violation.

10.4 Vetting and Clearance of Sensitive Roles:

Certain roles are designated as Security-Sensitive Roles, including but not limited to:

- Printing machinery engineers
- Vault and physical security staff
- Production supervisors
- IT and cybersecurity administrators
- Configuration managers
- Commissioning and testing leads

These roles require:

- Formal security vetting
- Background verification
- Clearance validation
- Enhanced confidentiality agreements
- Periodic revalidation

Assignment to security-sensitive roles is approved only by authorized security authorities and recorded in the Security Access Register.

10.5 Monitoring, Detection, and Incident Response:

Security compliance is continuously monitored through:

- Access logs and system audits
- Physical surveillance and entry controls
- IT security monitoring
- Independent inspections

Any suspected breach triggers:

- Immediate access suspension
- Incident investigation
- Root cause analysis
- Corrective and preventive actions
- Governance escalation

Security violations are treated as serious offenses subject to disciplinary action, contractual remedies, and legal enforcement where applicable.

10.6 Access Revocation and Offboarding:

Upon completion of role assignment:

- All physical access is revoked
- All system credentials are disabled
- All project devices are returned
- All sensitive documents are surrendered
- All security obligations remain binding

No resource may be released without formal security deactivation confirmation.

Conclusion

Through strict access control, role authorization, segregation of duties, vetting, monitoring, and zero-tolerance enforcement, the project maintains a defense-in-depth security posture that protects assets, information, production integrity, and institutional credibility.

Security is not a policy—it is an operational obligation.

11. Resource Risks and Mitigation:

The success of the National Currency Printing and Secure Banknote Production Facility Project depends directly on the availability, competence, continuity, integrity, and performance of its human and specialist resources. Given the project's long duration, security sensitivity, technical complexity, and dependence on rare expertise, resource-related risks represent a material threat to delivery, operational readiness, and benefits realization.

This section defines the structured approach used to identify, assess, mitigate, and govern all resource-related risks.

11.1 Resource Risk Categories:

Resource risks are classified into four primary categories:

1. Skill and Capability Risks:

- Shortage of specialized engineers
- Lack of experienced commissioning personnel
- Inadequate cybersecurity capability
- Insufficient security expertise
- Weak quality or testing skills

2. Continuity and Attrition Risks:

- Loss of key leadership
- Turnover of technical specialists
- Vendor staff rotation
- Knowledge drain during phase transitions

3. Dependency and Vendor Risks:

- Over-reliance on single vendors
- Proprietary system lock-in
- Inadequate knowledge transfer
- Weak contract enforcement

4. Security and Integrity Risks:

- Insider threats
- Unauthorized access

- Confidentiality breaches
- Sabotage or espionage
- Fraud or collusion

11.2 Risk Identification and Monitoring:

Resource risks are identified through:

- Workforce planning reviews
- Phase readiness assessments
- Vendor performance reviews
- Security audits
- Governance assurance activities
- Lessons learned reviews

Risks are recorded in the Risk Register with:

- Named risk owner
- Impact assessment
- Likelihood rating
- Mitigation strategy
- Trigger conditions
- Escalation thresholds

The Risk Manager and PMO conduct monthly reviews of resource risks.

11.3 Risk Mitigation Strategy:

Early Recruitment and Talent Pipeline

- Long-lead recruitment for critical roles
- Overlap planning for succession
- Shadowing and mentoring
- Internal capability development

Training and Certification Programs:

- Mandatory role-based training
- Vendor-led technical certification
- Security and compliance training
- Operational readiness drills

Knowledge Documentation and Transfer:

- SOP development
- Configuration documentation
- Maintenance manuals
- System architecture records
- Operational playbooks

Redundancy and Succession:

- Backup for critical roles
- Cross-training
- Dual-role shadowing
- Knowledge escrow

Vendor Governance and Control:

- Contractual knowledge transfer clauses
- Performance scorecards
- Exit transition plans
- Independent certification

Security Oversight:

- Continuous monitoring
- Vetting and revalidation
- Access audits
- Incident simulations

11.4 Escalation and Governance:

Material resource risks are escalated to:

- Project Manager
- PMO
- Steering Committee
- Security Board (if applicable)

Stage-gate approvals require confirmation that resource risks are within acceptable tolerance.

11.5 Long-Term Sustainability Risk Management:

To ensure operational sustainability:

- Succession planning is embedded
- Skills renewal programs are established
- Preventive maintenance teams are trained
- Institutional knowledge is preserved
- Vendor dependency is reduced

12. Resource Release and Transition:

Resource release and transition for the National Currency Printing and Secure Banknote Production Facility Project is executed through a controlled, phased, and governance-approved process to ensure continuity of operations, protection of sensitive information, preservation of institutional knowledge, and realization of long-term benefits. Given the project's security-sensitive nature and the criticality of operational readiness, resources are not released abruptly and never without formal authorization.

Resources are released only when their assigned responsibilities and deliverables have been formally completed, verified, and accepted in accordance with approved quality, security, and governance requirements. Acceptance is documented through signed acceptance records, stage-gate approvals, or handover certificates, as applicable. No resource may be released while open actions, unresolved defects, or outstanding security obligations remain under their responsibility.

12.1 Knowledge Transfer and Continuity:

Prior to release, all resources—particularly those in leadership, technical, security, and vendor roles—must complete structured knowledge transfer activities. These include:

- Finalization and handover of documentation, designs, configurations, SOPs, and registers
- Formal briefings to successor resources or operations staff
- Completion of lessons learned inputs
- Verification that critical knowledge has been embedded into controlled repositories

The PMO and Project Manager jointly confirm that knowledge transfer requirements have been met before authorizing release.

12.2 Security Deactivation and Access Control:

As part of the release process, all logical and physical access rights are formally reviewed and deactivated in accordance with security procedures. This includes:

- Revocation of system credentials

- Deactivation of physical access badges or keys
- Removal from secure distribution lists and repositories
- Confirmation of return of project assets and devices

Access deactivation is mandatory and is independently verified to prevent unauthorized retention of access after release.

12.3 Transition to Operations:

Resources designated for long-term operational roles are transitioned in a planned and structured manner under the Operations Management structure. This transition includes:

- Formal transfer of reporting lines from the project organization to operations
- Acceptance of assets, responsibilities, and performance baselines
- Confirmation of benefits ownership and accountability
- Alignment with operational budgets, staffing plans, and maintenance strategies

Project closure is conditional upon successful resource transition, particularly for operational, security, and maintenance functions.

12.4 Governance and Approval:

All resource releases and transitions are tracked, approved, and reported through PMO-controlled processes. Any deviation from planned release timing, or early release of critical resources, requires formal approval and documented risk assessment.

Through this disciplined approach, the project ensures that resource release supports operational stability, security integrity, and sustainable benefits realization rather than creating gaps or residual risks.

13. Monitoring, Reporting, and Governance:

Resource management for this project is continuously monitored and governed to ensure that resource availability, capability, performance, and security remain aligned with approved project plans, milestones, and governance requirements. Resource status is primarily monitored through monthly PMO dashboards, which provide an integrated view of human and physical resource utilization, role assignments, capacity loading, critical skill availability, and emerging resource-related risks. These dashboards enable early identification of constraints, over-allocation, skill gaps, or dependency risks and support timely corrective action.

In addition to routine monthly monitoring, stage-gate readiness reviews serve as formal control points to assess whether adequate and appropriately qualified resources are in place to proceed to the next project phase. At each stage gate, resource readiness is evaluated against predefined criteria, including availability of key roles, continuity of critical personnel, completion of required training and security clearances, and adequacy of vendor and specialist support. Progression through a stage gate is conditional upon confirmation that resource-related risks are acceptable and manageable.

Resource management practices are also subject to audit and assurance activities conducted by the PMO and, where applicable, internal or external oversight functions. These activities verify compliance with the Resource Management Plan, segregation-of-duties requirements, security controls, and contractual obligations. Audit findings related to resource management are tracked, reported, and closed through formal corrective action processes.

Any material resource issue—such as loss of a critical role, significant skill shortages, security-related resource concerns, or sustained underperformance—is escalated promptly through formal governance channels in accordance with the Project Governance Framework. Escalation ensures timely executive visibility, informed decision-making, and controlled resolution, thereby protecting project delivery, security, and long-term benefits realization.

14. Updates and Maintenance:

This Resource Management Plan is treated as a controlled governance document and is actively maintained to remain aligned with the evolving needs, risks, and complexity of the National Currency Printing and Secure Banknote Production Facility Project (NCPBF). The plan is formally reviewed on a quarterly basis by the PMO, as part of routine governance assurance activities, to confirm that resource structures, role assignments, capacity levels, and competency requirements continue to support approved project objectives, milestones, and security obligations.

In addition to scheduled quarterly reviews, this plan is updated whenever significant project events occur that may affect resource requirements or management approaches. Such events include, but are not limited to, transitions between major project phases (e.g., from design to construction, from installation to testing and commissioning), changes in delivery strategy, introduction of new technologies or systems, restructuring of governance or oversight bodies, or material changes in vendor or contractor engagement. Organizational changes—such as reassignment of key roles, turnover in critical positions, or changes in reporting lines—also trigger a formal review and update of the plan to ensure continuity, accountability, and compliance with segregation-of-duties and security requirements.

All updates to the Resource Management Plan are made only through the formal change control process defined in the Project Governance Framework. Proposed changes are documented, assessed for impact on scope, schedule, cost, quality, risk, security, and benefits realization, and approved by the appropriate authority before implementation. Informal or ad-hoc modifications are not permitted. Once approved, updates are version-controlled, communicated to affected stakeholders, and stored in the PMO-controlled document repository to maintain traceability, auditability, and alignment with other approved project management plans.