Transnet SOC Ltd

ASSET MAINTENANCE POLICY

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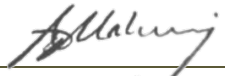
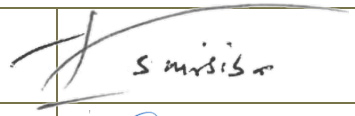
Signature:	
Policy Sponsor:	Group Chief Officer: Strategy & Planning
Signature:	
Date Approved:	20/06/2024

Stakeholders	Name	Designation	Approval Signature	Date	E-Mail	Contact Number
Compulsory Stakeholder Involvement						
Group Legal	Sipho Risiba	General Manager: Commercial Law		2024/05/13	Sipho.Risiba@transnet.net	0647541865
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Recommended by Policy Owner and Policy Sponsor:

I hereby acknowledge that a search has been conducted and that this Asset Maintenance Policy is not duplicated or in conflict with any other Transnet Policies.

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FINAL APPROVAL:

Name of Committee: Board of Directors

Date Approved: 27 March 2024

Summary of Version Control

SUMMARY VERSION CONTROL				
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01	02	Post Board FIC Update as per recommendation, resubmitted to Board FIC for approval		31 July 2023
01	01	Post Group EXCO Update as per recommendation / approval, submitted to Board FIC		28 February 2023
00	01	Inaugural – submitted to Group EXCO for Approval		13 December 2022

Table of Contents

1 BACKGROUND

1.1 Transnet owns and operates Railway Infrastructure, Railway Rolling Stock, Port Infrastructure and Operating equipment, Cargo Handling Infrastructure and Equipment, Pipeline Infrastructure and Operating Equipment, Engineering Facilities & Equipment and Properties to support the achievement of Transnet strategic objectives and revenue targets.

1.2 The Public Finance Management Act (Act 1 of 1999), clause 51(d)) states that the Transnet Board of Directors "is responsible for the management, including the safeguarding, of the assets and for the management of the revenue, expenditure and liabilities of the public entity".

1.3 Various Operating Divisions operate within legislative and regulatory environments which requires investment in the creation, maintenance, and operation of infrastructure and assets on which tariffs are based.

1.4 Transnet invested and continues to invest heavily in assets and infrastructure to support the economy through the delivery of logistical and freight handling services in its chosen markets as well as to support the economy of the country and region.

1.5 Transnet balances and prioritises the allocation of capital to expand and maintain an asset base within its available resources. The investment in assets however, has not realised the intended benefits of increased volumes and / or increased efficiency as depicted in asset investment cases over time.

1.6 To maximise or continuously improve the return on assets, it follows that the Asset Lifecycle of the various asset types should be optimally planned and effective Asset Management principles applied. This can only be achieved by Asset Management principles applied together with the principles of Asset Care:

1.6.1 Assets should be available both for operation and maintenance activities as determined by integrated operational and maintenance planning;

1.6.2 assets should be operated within the Operating Specifications and Standards;

1.6.3 assets should be maintained within the usage specifications, service standards, intervals and timelines depicted by the asset Original Equipment Manufacturer (OEM) considering specific operating conditions, or as modified from time to time with the advent of new knowledge, technology, maintenance techniques and maintenance philosophies; and

1.6.4 the safe and efficient operation of all assets, with an Asset Care mindset by all employees.

1.7 This Policy aims to align Asset Management, Utilisation, Maintenance Strategies and Procedures with the Company Mission, Mandate and values.

2 PURPOSE OF THE POLICY

2.1 The purpose of this Policy is to prescribe Transnet's preferred Maintenance Philosophy, articulate the principles and direct the implementation of effective maintenance regimes to support effective Asset Life Cycle Management in the Group.

2.2 By setting objective and quantifiable maintenance expectations, the Maintenance Policy focuses the Engineering and Operations Departments on delivering the intent and commitments required by this Policy.

2.3 The implementation of this Policy is expected to contribute to, amongst others, the following:

- Improving the Transnet brand reputation by increasing asset reliability and availability
- Improving our Customer Service quality
- Optimise maintenance equipment, spares and personnel required
- Improving the viability and predictability of cash flows
- Extending asset life cycle
- Minimise operational disruptions as a result of asset breakdowns and unplanned outages
- Supporting improvement and business growth and profitability
- Entrenching the use of longer-term asset and parts supply and appropriate maintenance support contracts to enable maintenance planning and budgeting on a three to five year rolling basis
- The alignment of volume, asset investment and maintenance budgets
- Supporting, establishing, implementing, maintaining and improving an asset management system
- Reducing physical and financial risks
- Managing asset ownership risk
- Localisation of parts supply, beneficial to both Transnet and the country
- Safer operations.

3 INTERPRETATION, DEFINITIONS AND ABBREVIATIONS

The interpretation, definitions and abbreviations used in the Policy is explained as follows:

Abbreviations / Terms	Definitions
Asset Lifecycle Management	Asset Lifecycle Management (ALM) is the process of optimising an Asset's reliability and operational performance during its lifespan
Board	The Board of Directors of the Company and includes the Board when it acts as the deemed Authority under the National Ports Act, as amended
CAPEX	Capital Expenditure

Abbreviations / Terms	Definitions
COPEX	Capitalised Operating Expenditure pertaining to refurbishment of assets in line with International Financial Reporting Standards and Group Accounting Policy.
Capital Investment	Capital Projects that Transnet is solely responsible for and relates directly to the Capital Investment Programme and form part of the approved Capital Investment budget
Corporate Plan	Document formulated by the Board covering mainly the Strategy and performance indicators for Transnet SOC Ltd and its Operating Divisions in line with Treasury Regulations
CMMS	Computerised Maintenance Management System
Delegation of Authority (DOA) Framework	The Delegated Authority recording the nature and extent of Authorities required in order to implement certain actions by or on behalf of the Company
EXCO	Group Executive Committee
Maintenance Plan	The mix of maintenance strategies applied to an asset type to obtain the maintenance objectives
Maintenance Strategy	The management methods used to achieve the maintenance objectives. Methods include, but are not limited to: • Corrective (or Reactive) Maintenance, • Preventive (or Scheduled) Maintenance (work rate based), • Predictive Maintenance, • Prescriptive Maintenance (Data-driven - example regulatory, etc), • Risk-based Maintenance, including Reliability-Centred Maintenance (RCM) that includes various of the above aspects • Condition-based maintenance • Total Preventive Maintenance *(See also Annexure A)*
Maintenance Objective	The targets assigned and accepted for maintenance activities
OEM	Original Equipment Manufacturer
OPEX	Operational Expenditure Budget
Operating Divisions (OD)	Means the Operating Divisions of Transnet, namely, Transnet Freight Rail (TFR), Transnet Engineering (TE), Transnet National Ports Authority (TNPA), Transnet Pipelines (TPL), Transnet Port Terminals (TPT) and Transnet Property (TP)

4 SCOPE AND APPLICATION

4.1 This Policy is to be complied in conjunction with applicable legislation, regulations, relevant financial policies and capital policies. This Policy applies to:

4.1.1 All Operating Divisions

4.1.2 Transnet Corporate Centre

4.1.3 All employees of Transnet

4.1.4 All internal stakeholders

5 POLICY STATEMENT

5.1 Operating Divisions will compile long term Asset Requirement Plans (for example, fifteen to twenty years), in line with the long-term planning horizon applicable to the OD, the design life span of the equipment and the Industry it serves. This Plan should be in line with and support the Corporate Plan, i.e., be updated annually and strategically consider the benefits of standardisation of equipment / components, such as the ability to leverage on spares, access to technical skills, staff training and OEM support.

5.2 ODs with operating infrastructure will compile an Asset Management Plan, detailing the various asset types used and develop and indicate equipment / asset replacement principles and cycles, based on sound Asset Management Lifecycle principles. This Asset Management Plan should enable a smoothed refurbishment and replacement of assets (i.e., avoiding spikes in replacement of various asset types) and be updated annually as part of the business planning and inform the budget.

5.3 ODs will develop a three-to-five year rolling Asset Refurbishment and Asset Maintenance Plan to support the business volumes projected. This Plan will be costed using industry benchmarks for maintenance and refurbishment per asset type and included in the budget to ensure that the intended volumes are sufficiently funded through a maintained fleet / maintained asset base. To enable implementation, maintenance and refurbishment budgets will be submitted and approved for three years, updated annually to accommodate business requirements.

5.4 ODs will adopt Asset Lifecycle Management principles (refer Annexure A: Guidelines) during the acquisition of all operational assets, for example rail rolling stock, locomotives, wagons, track equipment, pump station motors, pumps and electrical components, Port Terminal Equipment, marine infrastructure, harbour vessels and buildings / structures.

5.5 ODs, where applicable, will enter into longer term agreements with OEMs to support the supply of parts, knowledge sharing, equipment upgrades and refurbishments to cover the lifecycle of the asset. ODs will where applicable, formulate an OEM Partnership Strategy and Plan and execute on those Plans accordingly, in line with Transnet's approved Procurement Policies. These Plans will include, as a minimum, initiatives to optimise sourcing, standardisation of equipment / component suppliers, achieve cost savings through bulk purchasing, enhance Supplier Development and localisation opportunities, standardise equipment & spares, implement the latest technology and ensure timely spares availability.

5.6 The principles above also apply in instances such as longer-term agreements for Service Providers critical to infrastructure maintenance, for example, track condition monitoring and maintenance, rail, turnout and signal supplies.

5.7 During the procurement of new assets, it is Transnet Policy to drive localisation of components supplied as part of the Procurement event, to assist in the development of localised Supply Chains for commonly / regularly used parts and components, where feasible, for fleets of assets and where economies of scale allow. Longer-term support / parts Contracts are used to support sustainability of the localisation effort.

5.8 Transnet follows a predominantly preventative Maintenance Strategy, i.e., assets are maintained using the appropriate Maintenance Strategy for the assets to maintain its OEM designed capacity to operate at benchmarked availability and reliability parameters to achieve the productivity targets. Unplanned outages and asset failure rates are minimised and maintained within industry norms. For a small group of assets / components, a run-to-failure option is acceptable in terms of overall system performance as they cannot be maintained, of which examples are electronic systems, lighting, small fans & motors, etc. This may also be applicable for assets where replacement is imminent.

5.9 The Maintenance Strategy per asset type is based on the Plan prescribed and documented by the OEM, which is guided by International Standards. This Plan should be adapted or augmented to cater for local conditions / volumes / cargo handled that may require more frequent or additional maintenance or refurbishment activities to be conducted, or by extending the maintenance intervals (or changing the type of maintenance) with the use of new technologies. An appropriate mix of maintenance strategies is thus used to achieve the maintenance objectives.

5.10 Many assets no longer require planned and scheduled maintenance. Therefore, in addition to Preventive (scheduled) Maintenance, there are Predictive Maintenance and Reliability Centred Maintenance strategies that can be followed for certain assets. The improvement in technology enables increased use of these strategies, with resultant increases in uptime and lower costs. This "just-in-time" maintenance approach maintains the asset when it is really needed. Loco and wagon maintenance is strongly moving in this direction internationally.

5.11 Assets and installations subjected to Legislated Standards are to be maintained in accordance with those requirements and activities documented accordingly.

5.12 All maintenance shall be executed taking due regard of Statutory requirements and the needs of key Stakeholders.

5.13 The Maintenance Plans, as per Sections 5.8 to 5.11 above, must formally be reviewed at the latest every 5 years, to keep up with the latest developments in asset care.

5.14 Maintenance / Engineering, Operations and Procurement will co-ordinate planning milestones during the annual planning cycle and update Service Level Agreements and Contracts to have at least eighteen months of supply assured, with a twelve month trigger point for new Procurement events. This twelve-month period shall be extended if it is known or expected that the Contracting and / or Supplier lead times are extensive. There shall always be Contracts in place to enable ordering of essential spares and tools and essential outsourced Maintenance Contracts, with no gaps in delivery. This Plan should be formalised during the annual / three-to-five-year budgeting cycle and form part of the OD Business Plan in support of the Corporate Plan.

5.15 ODs will co-ordinate their periodic shutdown events as per the operational value chain to maximise the opportunity to maintain and refurbish assets and enable movement of profitable volumes.

5.16 In instances of recurring breakdowns and / or asset failure, a process must be implemented to identify and analyse root causes. The results must be utilised to implement corrective actions and prevent future recurrence. OD Engineering, supported by the Reliability Engineer and a skilled Team, should complete the Root Cause Analysis, which could include technical faults, operational conditions, operator training, etc.

5.17 ODs will fully utilise Computerised Maintenance Management Systems (CMMS) and Auxiliary Systems (spreadsheets are not considered to be systems or auxiliary systems) to support the following information requirements:

- Plan, schedule and record asset maintenance activities at individual asset level, or at a lower level for large components that require individual tracking;
- maintain maintenance records to enable monitoring of the function, key performance indicators, costing, etc.;
- incorporate current and cumulative asset work rate information to enable predictive maintenance interventions;
- real time asset availability, utilisation and productivity reporting to enable knowledge of the state of equipment fleets both in terms of availability and utilisation;
- loading and tracking of Equipment Warranties;
- plan and manage inventory and spares; and
- providing evidence and audit trail support for regulatory oversight purposes.

6 KEY PRINCIPLES UNDERPINNING THE POLICY

6.1 All responsibility for maintenance is retained in the Operating Divisions. ODs should develop their own Policy, Standards, Manuals and Standard Operating Procedures as deemed appropriate to support the effective roll-out of this overarching Transnet Group Policy.

6.2 TE, as an Engineering Centre of Excellence for Transnet, should review and where feasible, establish Service Level Agreements with ODs to perform maintenance and refurbishment work for TFR Rolling Stock (e.g. refurbishment / heavy maintenance), TPT Fleet, TNPA and TPL assets where they are accredited by the OD and the expertise and capability exist.

6.3 Funding for maintenance must be adequate to meet the Asset Management Lifecycle approach adopted. ODs shall fund maintenance from operational income. The cost of maintenance (OPEX or COPEX) will be factored in as part of the cost of sales and passed through to tariffs charged to customers.

6.4 The accounting treatment of expenditure as Operating Cost or as Capitalised Maintenance is dealt with in the Group Accounting Manual: Part B. In summary, maintenance funds shall not be used to improve, extend the design life or increase the capacity of existing assets or the provision of new assets. CAPEX is to be used in those instances.

6.5 ODs will budget separately for repairs relating to unplanned events, such as breakdowns, incidents, accidents and vandalism. Costs relative to the latter will be allocated to a separate income statement line item. Budgets for planned maintenance events should not be utilised to cover for these repairs that are within the remit of self-insurance which will ensure that the maintenance plan is delivered as planned.

7 FINANCIAL IMPLICATIONS

7.1 There are financial implications in implementing the Policy. ODs will budget for all maintenance activities, transactions and stock-holding within their area of responsibility in accordance with the limits of Authority as set out in the DoA Framework and Corporate Plan.

7.2 Maintenance and refurbishment budgets will be submitted and approved for three years and updated annually for noting of changes to accommodate business requirements.

7.3 In the case where budget constraints and affordability issues are identified, these shall be reported with the operational risks, cost-benefit analysis, risk-to-revenue, risk-to-volume and other relevant information by OD Engineering to the OD Capital Investment Committee for resolution and documenting of their decision and operational risks. They will report the matter to the OD EXCO which will escalate the matter as deemed appropriate.

8 RELATED INFORMATION AND GUIDELINES

8.1 This Policy should be read in conjunction with the following supporting guidelines:

8.1.1 **Internal Documents**:

- Transnet Group Accounting Manual Part B
- Transnet Group Delegation of Authority
- Transnet Group Enterprise Risk Management Policy and Framework
- Transnet Group Regulatory Universe
- Transnet Procurement Policy
- Transnet Capital Portfolio Policy

8.1.2 **External References**:

- ISO 55001
- ISO 9001
- Rail Safety Regulator Act (16 of 2002) & associated SANS 3000 documents
- Occupational Health & Safety Act (85 of 1993)
- Public Finance Management Act (Act 1 of 1999)
- National Ports Act (Act 12 of 2005)
- SANS Standards and Regulations, as applicable to ODs
- Further OD and Industry-specific Standards and references, as applicable.

9 REQUEST TO DEVIATE FROM THE POLICY

9.1 All requests for deviation from the Policy must be made to the Group Investment Committee for approval. The request to deviate must be accompanied by a detailed motivation, impact of the deviation to the Business, impact on compliance with Regulation and Legislation, consequences to the Company for such deviation, corrective measures and controls that will be taken in future to avoid the need for deviation from the provisions of the Policy.

9.2 Reportable deviations in terms of Regulation and Legislation must be timely reported to the DoA and Governance Structures and corrective action timely undertaken in compliance with the Regulation and Legislation.

10 EXCLUSIONS

10.1 There are no exclusions to this Policy.

11 COMPLIANCE MONITORING

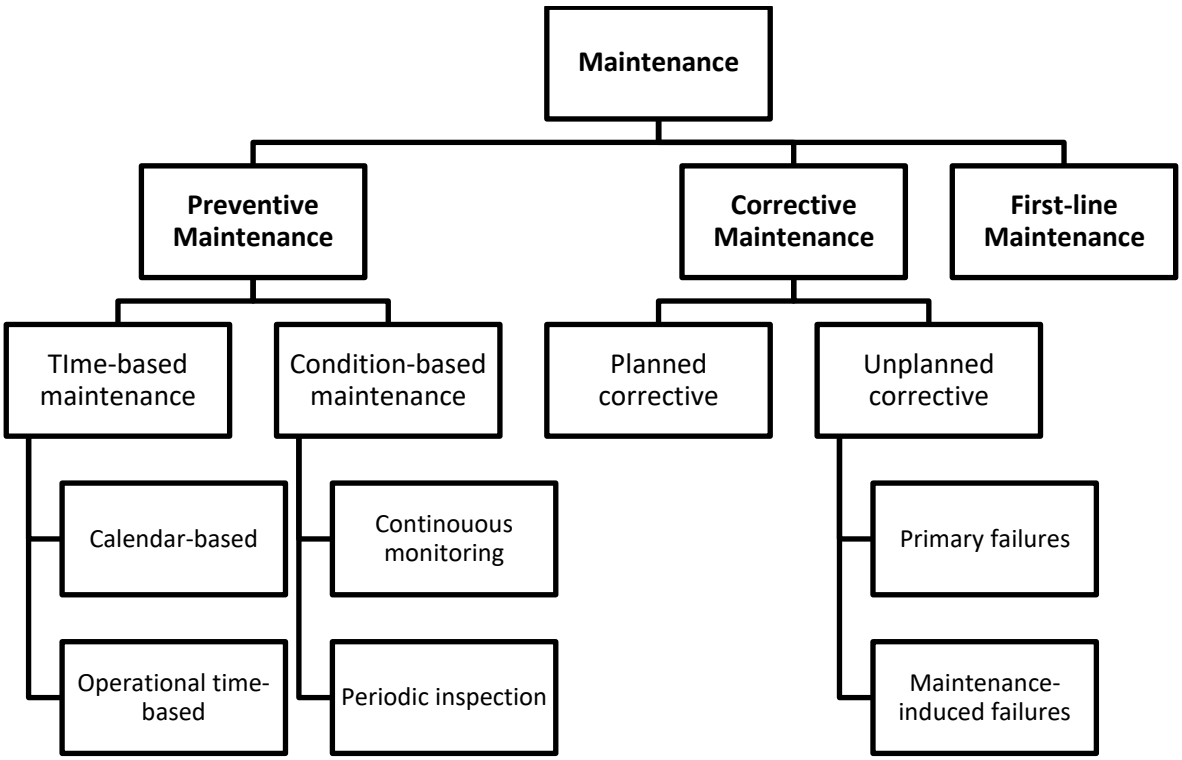
11.1 Regular audits will be undertaken to monitor compliance to this Policy. These audits will be planned and implemented in line with the combined assurance Policy, and include technical audits conducted from OD and Group levels.

12 NON-COMPLIANCE

12.1 Non-compliance with this Policy is considered a breach and will be seen in a very serious light. Such misconduct will result in employees being subjected to disciplinary action in accordance with the applicable Transnet disciplinary processes and procedures.

ANNEXURE A: GUIDELINES – TYPICAL COMPONENTS OF A MAINTENANCE PROGRAMME:

Operating Divisions should consider the following components typically used in a Reliability-Centred Maintenance programme, showing the Maintenance Strategies available in general to enable effectiveness and efficiency of the maintenance function:



(Source: Fore, S. & Msipha, A. *Preventive Maintenance using RCM: A Case Study of a Ferrochrome Manufacturing Company,* South African Journal of Industrial Engineering May 2010 Vol 21(1): pp 207-235)

1 ASSET LIFECYCLE MANAGEMENT

As indicated in the Policy, ODs will adopt the principles of Asset Lifecycle Management (ALM). ALM is the process of optimising an asset's reliability and operational performance during its lifespan. It is directly aligned to the principle of Asset Lifecycle Cost (ALC), which is the discounted value of the sum of the costs associated with the ALM cycle, which encompasses the following scope and steps:

1.1 **Design Engineering**:

1.1.1 The first stage of the asset lifecycle is the design stage. This is a planning stage that establishes the asset requirements, specifications and maintenance strategies based on where the asset is to be used, organisational needs and other existing assets.

1.2 **Asset acquisition and Supply Chain**:

1.2.1 Supply Chain is the end-to-end process of acquiring not just the asset, but management of spare parts to ensure timely maintenance and repairs. This includes Inventory Management, inclusive of loading of spares on SAP, Procurement actions for materials and services, Contract Management, Quality Inspection of material and quality assurance over work performed.

1.3 **Installation / Operationalisation**:

1.3.1 Installation is the process of preparing the asset for live operations. For complex Construction Projects, this is the Operational Readiness phase. Installation / operationalisation includes, amongst others, testing and certification, quality assurance, documentation, staff training and implementing the maintenance strategies for the asset.

1.4 **Utilisation**:

1.4.1 Once the asset is fully integrated into operations, it can be used to perform its intended task. It is during this phase that the Maintenance Programme is monitoring the asset to ensure it is operating at peak performance and delivering desired results. The goal of the Asset Owner is to have as much, high functioning uptime for the asset as possible. Assets are monitored for alerts and disruptions to operations. Predictive analysis and inspections are used to facilitate maintenance planning and avoiding unnecessary downtime for the asset. During this phase, Enterprise Asset Management Systems are used to automate planned work activities, while also tracking unplanned work activities. Asset Health Scores and other indicators are used to assist the asset owner to understand and be proactive in ensuring asset performance.

1.5 **Maintenance**:

1.5.1 Maintenance of the asset goes together with having an in-service asset. The goal is for the asset to maximise uptime, with as little operational disruption as possible. Traditionally, there are two types of maintenance, namely, Planned and Unplanned. Planned maintenance is scheduled maintenance that is typically preventative in nature, based on the asset manufacturing guidelines and previous asset history. Most plans today are based on either time, such as bi-weekly maintenance, or on some measured reading, such as the number of run-hours, but certain equipment also has onboard condition monitoring mechanisms that can assist in optimised maintenance activities. Unplanned maintenance occurs when the asset is not performing as expected. Unplanned events often result in emergency work and can result in unplanned downtime for the organisation and its customers.

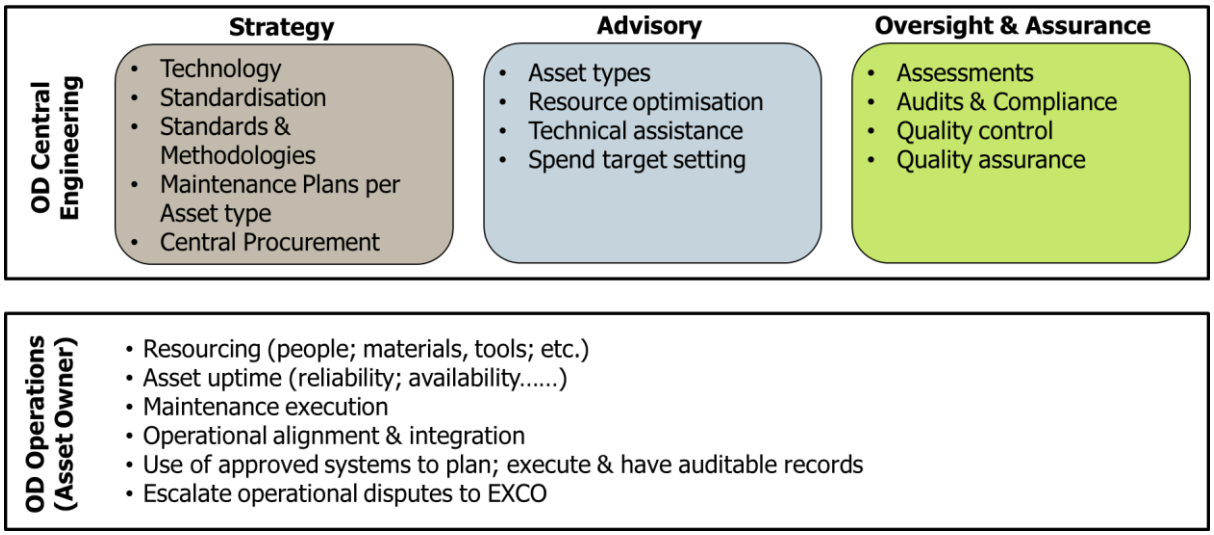
1.6 **Asset Disposal**:

1.6.1 The final stage in the Asset Lifecycle is disposal. This occurs when the asset has reached its end of useful life and is no longer helping the organisation run an efficient operation. The reasons can include requiring more maintenance than planned for, the running cost is higher than acquiring a new asset, the

asset no longer fits organisational requirements, the asset life is over, new technology exist that would be more efficient for operations.

2 ROLES AND RESPONSIBILITIES

The following guidelines are provided to enable Operating Divisions to govern the Asset Maintenance activities required by the Policy:



2.1 **OD Central Engineering Department**:

2.1.1 Set the Asset Maintenance Strategy for the OD;

2.1.2 Set asset-specific Maintenance Standards and Methodologies.

2.1.3 Set Maintenance Plans per asset type, using the optimal mix of Maintenance Strategies.

2.1.4 Continuously scan for new technologies and methodologies that can improve asset performance and / or lower asset operating and maintenance costs; publish periodic technology roadmaps to guide future asset and operational matters.

2.1.5 Evaluate and approve / certify new technologies / asset types to be used, in conjunction with maintenance leads in the operations.

2.1.6 Determine where standardisation would be of benefit to the OD, at equipment and /or component level.

2.1.7 Be accountable for co-ordinating centrally managed Procurement requests. Central Procurement is required where common assets are spread over multiple geographic areas, as it benefits economies of scale.

2.1.8 Conduct Quality Control for centrally procured spares / components.

2.1.9 Conduct Quality Assurance for maintenance work performed.

2.1.10 Optimise internal and external Maintenance Resources across operations to ensure effective usage i.e., maximise outputs with minimised resources as this may lead to creating virtual or actual Centres of Excellence to allow for economies of scale and service excellence.

2.1.11 Provide technical assistance to Maintenance Teams struggling to resolve asset problems.

2.1.12 Perform functional Asset Assessments, Maintenance Audits and compliance to planned Maintenance Schedules to be reported to Managing Executives, OD Chief Executive and Combined Assurance Structures, such as OD CAPIC.

2.1.13 Assist the OD Chief of Finance in setting OD-specific criteria for COPEX, OPEX and CAPEX relating to asset maintenance, refurbishment and renewals, in line with Transnet Financial Policy.

2.2 **OD Operations (Asset Owner)**:

2.2.1 Be accountable for reliability, availability and productivity of assets under their control. As a result, accountable for integrated planning, availing the asset and executing maintenance and quality control on assets under their control.

2.2.2 Resource the Maintenance Structure (staff, budgets, maintenance tools, office, vehicles, etc.) in line with the Maintenance Plans for the various assets, based on asset usage and condition.

2.2.3 Ensure integration of production / operations and maintenance so that maintenance objectives can be met i.e., ensure that adequate downtime for maintenance is provided.

2.2.4 Refer requests for approval for updated Maintenance Plans and Methodologies or new types of assets to OD Engineering Department.

2.2.5 Ensure that planning and execution of all maintenance events are captured, traceable and auditable.

2.2.6 Any disputes between Engineering and Managing Executives should be escalated to the OD EXCO for resolution and decision.

2.2.7 Similarly, for missed maintenance activities, the Engineering Department and OD Operations will consult and agree the process to catch up on maintenance activities that were missed due to whatever reason, if practical. In case Engineering and Managing Executives cannot resolve the matter, it should be reported to the OD EXCO for decision regarding onward escalation to Group Governance Structures.

3 INDICATIVE HIERARCHY OF STANDARDS AND REPORTING

The following information is provided as minimum activities that should be in place to enable Operating Divisions to effectively implement this Policy: