



**Eskom**

**WORK INSTRUCTION**

**Lethabo  
Power Station**

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and Process Quality**

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## **1. INTRODUCTION**

This strategy provide an overview of how quality is managed within Lethabo power station. It also aims to streamline the employee thinking with regard to quality management within the business unit. This document further aim at enhancing the effective relationship between the client and the service provider to ensure that quality expectations are communicated at the beginning of the contract/project/outage engagement. It further seeks to meet the requirements of ISO9001:2015 clause 8.4 in terms of how Lethabo Power Station controls externally provided processes, products and services. The strategy further aligns both internal and external processes so that internal resources can manage outsourced processes effectively and efficiently. This document make provision for the standardisation of Lethabo power station's quality requirements to all service providers/contractors, thereby influencing quality culture across the board.

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

This strategy is localised at Lethabo power station and its service providers/contractors

#### **2.1.1 Purpose**

The purpose of this strategy is to ensure that quality of projects, contracts and contract work is managed effectively to ensure client/customer satisfaction, with minimum loss to both the client and the service provider. Further aim is to effectively facilitate Quality requirements throughout the project and/or contract.

#### **2.1.2 Applicability**

This strategy is applicable to both internal and external provided processes, products and services at Lethabo Power Station.

### **2.2 NORMATIVE/INFORMATIVE REFERENCES**

#### **2.2.1 Normative**

- SANS 9000 - Quality Management System – Fundamentals and Vocabulary
- SANS 9001 - Quality Management Systems – Requirements
- SANS 10005 - Quality Management System – Guidelines for Quality plans
- SANS 10007 - Quality Management System – Guidelines for Configuration Management
- SANS 274 - Quality Management Systems — Guidelines for Quality Management in Projects
- QM 58 - Supplier Contract Quality Requirements Specification

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- LBQ10000 - Quality Management Manual
- 240-106628253 - Standard for Welding Requirements
- LMA01001 - Maintenance Quality Control Procedure
- 32-1033 - Procurement and supply chain management policy
- 240-83540088 - Requirements for NDT on Eskom Plant Standard

## 2.2.2 Informative

- SANS 9000 - Quality Management Systems – Fundamentals and Vocabulary
- SANS 9004 - Managing for the Sustained success of an organization – A Quality Management approach
- ISO 14001 - Environmental management systems — Requirements with guidance for use
- ISO 45001 - Occupational health and safety management systems – Requirements with guidance for use
- ISO 31000 - Risk management — Principles and guidelines

## 2.3 DEFINITIONS

### 2.3.1 Classification

- a) Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

Definition	Explanation
A Defect	A non-fulfilment of a requirement related to an intended or specified use.
Application For Defect Acceptance	Shall mean the same as a 'concession', which may be granted by the client to use product 'as is', if there is a deviation from the works information.
Concession	Permission to use or release a product or service that does not conform to specified requirements.
Contract/Project Quality Plan	A document specifying which procedures and associated resources shall be applied by whom and when to a specific project, product or process or contract
Correction Action	Action to eliminate a detected nonconformity
Corrective Action	Action to eliminate the cause of a nonconformity and to prevent recurrence.
Corrective Action Request	A request to eliminate the cause of a nonconformity and to prevent recurrence
Data Book	shall represent a collection of all contract/project quality related records accumulated by the Service Provider during the contract or project and is handed over to the client on completion of the contract.

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<b>Definition</b>	<b>Explanation</b>
Defect Notification	Shall be an official notification of any defect (non-conformance) in workmanship, product or service, which needs to be rectified (repaired) or accepted by the client by means of an application for defect acceptance.
Intervention Points	Those control points indicated by the various controlling bodies concerned with the implementation of a specific QCP/ ITP. These can be in the form of inspection, hold points, surveillances, witnesses, reviews and verifications
Hold Point	Shall be an activity on the quality control plan beyond which no further activities shall be undertaken unless there is a signed acceptance by the project manager, supervisor, inspection agency, or inspection authority.
Inspection Agency	shall be an organisation or person appointed by the client, or contractor with the client's approval, for the purpose of performing:  Quality control monitoring Quality assurance monitoring Inspection and testing services
Approved Inspection Authority	shall be an organisation or person appointed by the client or contractor (with client approval) and approved Chief Inspector of the Department of Labour in terms of the OHS Act.
Quality Control Inspector	a person who is qualified and capable of performing quality inspections and verifying conformance to quality control requirements on approved quality control plan and who is authorised to do so by the organization.
Non-Conformance	Non-fulfilment of a requirement
Preventive Action	Action to eliminate the cause of a potential nonconformity or other potential undesirable situation
Product	Result of a process
Punch/Snag List	Any deviation picked up during the inspection process before the closure of the project.
Quality Control Plan	A documented quality management plan focused on fulfilling quality requirements
Regulatory Body	shall mean a person or persons representing a statutory body, as required by law
Repair	Shall mean the process of correcting a defect.
Stop Work Order	Shall mean an official notification that all further work on the contract is stopped until such time that all defects are corrected to the client's satisfaction. Work may only re-commence with the client's written authorisation.
Witness Point	Shall be an activity on the quality control plan requiring the presence of the client representative during the inspection or test and which has been accepted as satisfactory, by signature, before work is allowed to continue.

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Definition	Explanation
Works Information	Shall mean the same as the 'scope of work' or 'product brief' as specified in the tender enquiry and describes what needs to be achieved by the contract.

## 2.4 ABBREVIATIONS

Abbreviation	Description
CAR	Corrective Action Request
PQP	Project Quality Plan
CV	Curriculum Vitae
AQMR	Area Quality Management Representative
ISO	International Organisation for Standards
NCR	Non-conformance Report (Defect Notification)
NEC	New Engineering Contract
OHS	Occupational Health & Safety
QC	Quality Control inspector
QCP	Quality Control Plan
QMS	Quality Management System
SABS	South African Bureau of Standards
LFM	Lethabo Form
DOI	Date of Inspection
SOW	Scope of work

## 2.5 ROLES AND RESPONSIBILITIES

- 2.5.1 Purchasing/Procurement shall be responsible for ensuring that this document is given to potential contractors with the tender enquiry or at the relevant site meeting.
- 2.5.2 The project/contract manager shall be responsible for ensuring that this procedure is adhered to by all parties involved.
- 2.5.3 Lethabo management shall ensure that this document is aligned to business unit operation.
- 2.5.3 The Quality section shall monitor and ensure that, this Work Instruction is followed and adhered to. To ensure that all documentation comply with quality standards and that quality requirements are followed in all processes.

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TASK			RESPONSIBLE								
Responsibility	R	The Doer	General Manager	Risk & Assurance Manager	Quality Assurance	Head of Departments	Head Of Sections	Lethabo Employees	Contract Managers	Service Providers	Procurement Manager
Accountability	A	The Buck Stops Here									
Consulted	C	In the Loop									
Informed	I	Kept in the Loop									
Authorising of this document			A	A	R	C	C	I	I	I	I
See and Accept			A	A	R	C	C	I	I	I	I
Author and Change Control of this document			C	C	R	C	I	I	I	I	I
Implement and maintain this document			A	A	R	A	R	C	R	I	R
Perform work according to this document			A	A	R	A	R	R	R	R	R
Conduct Performance Review			A	R, A	R	R	R	C	R	R	R

## 2.6 PROCESS FOR MONITORING

Adherence to this procedure will be monitored by auditing, gap analysis or inspections.

## 2.7 RELATED/SUPPORTING DOCUMENTS

- LFM563 A&B- Non Conformance Reporting (NCR)
- LFM1007 - Quality Control Plan for Contractors
- LFM1010 - Notification of Inspection
- LFM1012 - Application for Defects acceptance (Concession)
- LFM1013 - Release note
- LFM035 - (Quality Assurance) Stop Work Order
- All specified and required NEC documents

## 2.8 IT SYSTEMS

- SAP\_PM
- SAP\_QIM
- Primavera

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### **3. WORK INSTRUCTION**

#### **3.1 TENDER ENQUIRY**

3.1.1 The project manager/system engineer shall produce a concise and accurate description of the work (scope of works or product brief) to be included in the tender enquiry with required technical requirements or specification.

3.1.2 Purchasing/Procurement processes shall be followed to complete the tender process.

#### **3.2 QUALITY REQUIREMENTS**

3.2.1 The service provider shall comply with the employer's quality and technical requirement as included in the works information (SOW).

3.2.2 The service provider is required to compile and submit to the client all QCPs and ITPs for review and acceptance.

3.2.3 The service provider shall submit to the client a detailed contract (SOW) organogram showing all personnel to be involved in the contract (SOW).

3.2.4 The service provider shall submit a fully detailed Quality Control Plan (QCP) for acceptance within three (3) weeks of the contract date, which details all the aspects of the quality management system to be applied. It must include the methods that will be utilized to ensure quality assurance, control and improvement of the identified activities as stated in the Scope of Works.

3.2.5 The main service provider shall be responsible and accountable for the quality of product delivered or service provided either by itself and/or sub-contractors.

3.2.6 The main contractor shall verify that the sub-contractor has ISO 9001 compliant QMS in place.

3.2.7 In the event that the sub-contractor does not have its own QMS they shall work within the main contractor's QMS.

3.2.8 It shall be the main contractor's responsibility to assure that the sub-contractors are capable of conforming to all conditions of the contract and where applicable submit the same documentation to the contractor as the contractor submits to the client.

3.2.9 The contractor shall submit the CV and certified qualifications for the Quality representative and where necessary the Quality Team during the tender stage.

3.2.10 The client will conduct inspections on the work that is and has been executed within the project on a random basis and shall be recorded in the template below (Appendix C)

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### **3.3 THE CONTRACT/PROJECT QUALITY PLAN (*Refer to Appendix A*)**

- 3.3.1 The contract/project quality plan (PQP) shall be submitted to the client within the contractually specified period. The PQP to be aligned to ISO 10005: QMS – Guidelines for Quality plans.
- 3.3.2 The PQP shall be reviewed and approved by the client quality representative before the contractor commences with any work.
- 3.3.3 The PQP is a living document and shall therefore be reviewed and revised to keep track of any changes that may occur during the execution of the contract/project.
- 3.3.4 Any revisions to the PQP shall be submitted to the contract/project manager or client quality representative for approval before such revisions are implemented and if necessary before any further work is undertaken.
- 3.3.5 The original PQP shall be retained for audit purposes at the completion of the project. The PQP shall form part of the data book.

### **3.4 INSPECTION AND TEST PLAN (ITP)**

- 3.4.1 And ITP shall be according to the client's template and shall be filled in full to track all the documentation required.
- 3.4.2 The ITP shall follow the framework provided in Appendix D of this document.
- 3.4.3 The test report shall be compiled to record the Inspection and Test that took place during the project and shall be according on the template indicated in the appendix B of this document.
- 3.4.4 The test report numbers shall be allocated by Quality Assurance and recorded in the ITP spread sheet. The test report (record) numbers shall be provided for each and every test report compiled.

### **3.5 QUALITY CONTROL PLANS**

- 3.5.1 A QCP shall contain the following information:
- Eskom contract number and title
  - The supplier's order number
  - Identification of the area of works/contract
  - Description of the work, with components, item number, and activity date
  - QCP unique number
  - The dates on which the activities are due to start and end
  - A list of the sequence of operations, including inspection and tests

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- The identification of the specification, drawing number, or procedure for each operation, with reference to the relevant criticality risk rating
- The acceptance criteria, with reference to the technical specification and codes
- The inspection and test activities that the supplier has nominated for its hold and witness points
- Provision for the inclusion of hold and witness points nominated by QC Inspector and System Engineer or AIA
- Provision for hold and witness point acceptance by date and signature for all parties having intervention in the plan
- Inspection and test records to be generated by the supplier for each operation

3.5.2 The responsible person/service provider shall provide QCP's for the SOW to be undertaken within the project/contract; for example:

- Design (if applicable)
- Items to be manufactured
- Installation and erection
- Commissioning

Note: The client may require or request the service provider to use the client standard form for the QCP instead of their own.

3.5.3 The QCP shall be verified and approved by the client representative (QC Inspector, System Engineer and AIA if possible) before the contractor commences with the work.

3.5.4 The client's contract/project manager and/or quality representative shall where necessary consult with the appropriate representative of the functions/system involved and/or the inspection authority and/or agency in respect of the completeness of the QCP.

3.5.5 The service provider shall adhere to approved intervention points during execution of the SOW. The System Engineer shall conduct technical assurance and signed off on the QCPs.

3.5.6 QCPs shall be reviewed and revised in respect of changes to the scope of work and be approved by the client representative (QC Inspector, System Engineer and AIA) before any new work is undertaken or work progresses.

3.5.7 The service Provider shall submit the Data Book (Technical Quality Records) after the completion of the project to the System Engineer for technical Assurance of the SOW executed.

## **3.6 THE RISK MANAGEMENT PLAN**

3.6.1 The contractor shall identify all real and potential risks associated with the contract/project,

3.6.2 Identified risks shall be quantified in terms of the probability of occurrence and the financial loss that may be incurred if the risk materialises.

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3.6.3 The quantified risks shall be ranked based on the expected monetary value, for example; low, medium and high risk categories.

3.6.4 A risk response shall be developed for all medium and high risks.

3.6.5 The risk management plan shall satisfy the framework provided in appendix E (The Risk Management Process Flow) of this document.

### **3.7 THE INSPECTION AUTHORITY**

3.7.1 An approved inspection authority, approved by the Department of Labour, shall be appointed in terms of the OHS Act where this is required.

3.7.2 The approved inspection authority shall where applicable approve the design, manufacture, construction, erection, commissioning, maintenance or repair and testing of plant, equipment and machinery, with specific reference to:

- Pressure system of boilers
- High pressure and/or temperature pipe work
- Associated material of high pressure/temperature systems.

3.7.3 The inspection activities are carried out in terms of the RBI management System and/or OHS Act, and/or the scope of work and the final inspection certificate is issued by the inspection authority.

3.7.4 The contractor shall submit all information and documentation as per the scope of work to the inspection authority, on request by the contract/project manager.

3.7.5 The inspection authority shall ensure that the work performed by the contractor conforms to the specified scope of work and meets any and all applicable legislative requirements.

3.7.6 The activities of the inspection authority shall include, but not be limited to:

- Monitoring the contractor's quality function
- Sampling checks against the contractor's records
- Record verification
- Performing or witnessing independent inspection and tests

3.7.7 No plant, equipment or machinery shall be put into service (operation) until such time that a certificate has been issued by the inspection authority stating that such plant, equipment or machinery is safe to use.

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### **3.8 INSPECTION AND TESTING**

- 3.8.1 The contractor shall ensure that all SOW has been fully inspected, accepted and documented prior to requesting any inspection and testing by the client's quality control inspector or the inspection authority/agency.
- 3.8.2 The contractor's quality control inspector shall ensure that all inspections and testing are performed according to applicable QCP.
- 3.8.3 The appropriate activity/operation shall be signed and dated by all persons as indicated on the QCP.
- 3.8.4 Where contractually required an acceptance or quality assurance certificate shall be issued out and signed by the issuing party.
- 3.8.5 The contractor shall give the client's quality representative (QC inspector and system engineer), and/or contract/project manager and/or inspection authority at least 72 hours' notice to witness and/or hold points on the QCP.
- 3.8.6 The notification shall be in writing by using the LFM1010 form.
- 3.8.7 A punch list or Snag list will be developed to highlight the issues that still need to be addressed before the handover or payment is initiated. Appendix N & O shall be used to manage punch\snag list.

### **3.9 CONTROL OF DEFECTS/ NON-CONFORMANCES**

- 3.9.1 Defect notification shall be raised by the contractor's and client's personnel whenever any non-conformances are detected in process, product, material, items, parts, plants or workmanship in general. The defects raised shall be listed as a snag list for items that are identified from the inspections, and are seen as early warning.
- 3.9.2 The defect notification raised by the contractor shall be submitted to the contract/project manager or client's quality representative for review.
- 3.9.3 All client defect notification shall be submitted to the client's quality representative for registration, review and submission to the contractor's quality representative for action.
- 3.9.4 All defect notifications are permanent quality records and shall be controlled in accordance with the contractor's procedure for control of records.
- 3.9.5 The contractor's quality representative shall register all defect notifications, irrespective of whether the client or the contractor's own staff has raised the notification, in the appropriate register/system and process the document as per the relevant procedure laid down in QMS.
- 3.9.6 All defects or potential defects shall be investigated to determine the cause of the defect.

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- 3.9.7 Correction and corrective actions shall be formulated, agreed and implemented.
- 3.9.8 All correction and corrective actions shall be followed up, evaluated and closed out.
- 3.9.9 In the event where a defect or variation from specification cannot be corrected the contractor shall submit an application for acceptance of defect or concession (LFM1012). This situation normally arises where:
- There is a defect, but the performance of the product, equipment or plant is not affected
  - The cost of correcting the defect is very high and there is only a minor impact on the performance of the product, equipment or plant is not affected
  - The defect cannot be corrected
  - Original replacement parts are no longer available due to the age of the plant or equipment or the original manufacture parts are not currently available and substitute or generic parts must be used
- 3.9.10 An application for defect acceptance or concession means to 'use as is' or 'in place of' and shall be made in writing.
- 3.9.11 The client shall give written approval before the concession can be implemented otherwise the responsibility for any damages or losses incurred as well as the impact of related latent defects will lie with the service provider.
- 3.9.12 Any non-compliance with a defect notification, or corrective action request, continued poor workmanship resulting in recurring non-conformance to contractual requirements, including those that are not of a quality nature shall, as a last resort, result in the issuing of a 'stop work order' (LFM235).
- 3.9.13 The stop work order shall imply that all work on the contract shall be stopped until such times that the problem issues have been resolved to the satisfaction of the client, or the inspection authority and/or the inspector from the Department of Labour.
- 3.9.14 Work shall only recommence when the contract/project manager has given written authorisation to do so.
- 3.9.15 The station has a documented procedure (LBQ25003) to be followed when managing Non-Conformances. Contractors are expected to have an approved procedure that deals with the management of Non-Conformances within their QMS.

### **3.10 HANDLING OF PRODUCTS**

- 3.10.1 Release of equipment and material (product) shall fall into two categories:

- Release for shipment/transport (delivery to client or site)

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- Release of site work (work performed on site)
- 3.10.2 No equipment or material shall be released for shipment or transport unless it has been inspected and released as conforming to specified requirements by the contractor's quality staff and/or the contract/project manager, client quality representative or approved inspection authority/agency.
- 3.10.3 Any release of equipment or material shall be done in writing, using the specified documentation (LFM1013).
- 3.10.4 A copy of the release certificate (or relevant documentation) shall accompany the item from its origin to its destination and shall be produced when delivered.
- 3.10.5 No equipment or material produced or manufactured on site requiring inspection in accordance with the specific QCP shall be released for further use or put into service unless it has been released by the responsible person.
- 3.10.6 If the equipment or material conforms to requirements the responsible person shall issue a release certificate (LFM1013).
- 3.10.7 To ensure that the equipment or plant operated safely and effectively the service provider shall provide any or all special instruction, at the time of delivery or handover.
- 3.10.8 Such instructions shall include special requirements for:
- Safe handling
  - Storage
  - Protection from environmental degradation
  - Shelf life
  - Use (operating instructions)
  - Special safety precautions during operation
- 3.10.9 Where contractually agreed certain items, such as batteries, shall not be installed or placed into service, except for testing purposes, until such time that the equipment or plant is put into operation.
- 3.10.10 The contractor shall ensure that product, plant, equipment or machinery is delivered in a condition that meets the client's (contractual) requirements, or national and international standards.
- 3.10.11 The contract/project manager and/or client's quality representative (QC Inspector and system Engineer) and/or approved inspection authority/agency shall accept product, plant or material only after inspection and testing as stipulated in a QCP or as otherwise agreed to ensure that all requirements are met.

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- 3.10.12 Items that do not conform shall be rejected and suitably identified as non-conforming or as a defect and handled as such.

### **3.11 CONTROL OF RECORDS**

- 3.11.1 All records shall be controlled in accordance with the requirements of ISO 9001 and LBQ21002 – control of records work instruction, covering the following:

- Identification
- Legibility
- Storage
- Access (Security)
- Retrieve ability
- Disposal

- 3.11.2 Some of the records shall not form part of the data book, but the contractor/sub-contractor shall:

- Control these records in the same manner as they would control all other records
- Retain the records for a time period agreed with the contract/project manager or client's quality representative
- On request make such records available to the client's designated representatives who require access in order to perform their functions

NB: The contractor shall scan and submit a soft copy of the projects records to the client. Appendix V – (Control of Records Process Flow chart) provides a picture of how the records should be managed.

### **3.12 THE DATA BOOK/QUALITY DOSSIER**

- 3.12.1 The contractor shall assemble all quality records, as specified in the index submitted in the PQP, QCP or ITP.
- 3.12.2 QC Inspector and system Engineer shall review and approve data book as per original SOW issued
- 3.12.3 The client's quality representative shall verify the contents of the data book against the index submitted in the PQP.
- 3.12.4 The client's quality representative (QC Inspector) shall notify the service provider, by means of a defect notification, of any discrepancy or non-compliance of the data book.
- 3.12.5 The service provider shall initiate the appropriate corrective action to comply with requirements.
- 3.12.6 The data book shall contain, but not necessarily be limited to the following

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- A cover page containing:
  - o Contract/project name
  - o A summary of the scope of work
  - o Client's contract number
  - o Contractor's order number
  - o Sub-contractor's order number(s) (if any)
  - o Contractor's review
  - o Contractor's approval signatures
  - o Date of compilation
  - o Project records
  - o Date handed to client
- A table of contents. As the data book may cover a number of file and be partially or fully in electronic format, the table of contents must mention the file number or folder names in which various documents are stored. Each file or folder must have its own table of contents to indicate what record types are stored therein.
- A table of specific product, equipment, plant and material to which data book or sub-data books apply, with unique identification numbers and in which files and/or electronic folders the relevant records can be found
- A summary of design calculations if the contract/project involved design
- A checklist verifying that technical and quality assurance requirements have been met and that the data book meets contractual requirements
- All completed original inspection and test plans
- All inspection and test records
- All certificates of conformance for product and material purchased
- The defect notification register and all original defect notifications
- All release forms
- A list of order numbers and a description of product, plant or material purchased
- If contractually required copies of all un-priced purchase orders
- All other quality records relevant to the contract/project not listed above (except contractor proprietary records)
- A copy of the latest revision of the approved contract quality plan
- A copy of the contract/project post-mortem report
- A list of NCR's registered during the contract period, indicating the status thereof
- A punch/snag list registered during the project and indicating the status thereof

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#### 4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
K Rakgolela	General Manager
B Phahle	Risk & Assurance Manager
H Sewsunker	Engineering Manager
M Tsoaeli	Finance Manager
L Monnakgotla	Maintenance Manager
T Ramulumisi	Production Manager – Outside Plant
Marlie Holtzhausen	Project Manager
V Mokoena	Operation Manager
Sanah Tshabalala	Production Manger – Units1 - 6
Mawande Kutyana	Production Manger – –Primary Energy
Melini Hariram	Environmental Manager
T Ndimande	Procurement Manager

#### 5. REVISIONS

Date	Rev.	Compiler	Remarks
Feb 2021	04	M Maseola	All sections were reviewed and adjusted to reflect the current practices.
Sept 2017	03	M Maseola	Review Period
Jan 2015	02	M Maseola	Updated into a new template, Reviewed section 3.5 contents of the procedure and aligned them to ISO 1005. Removed Appendix A - Summary of ISO 9001 Requirements (Note: The reference numbers refer to ISO 9001)
August 2010	01	M Rossouw.	Change the number from LBQ02050006 to LBQ25006PC, Changed forms from DCCQ to LFM
March 2008	00	M Rossouw.	First Issue

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## **6. DEVELOPMENT TEAM**

- M Maseola

## **7. ACKNOWLEDGEMENTS**

- Aletta Mashala
- Dakalo Tshishonga
- Lalamani Budeli

## **8 APPENDICES**

- 8.1 Appendix A – Format and Layout of Contract Quality Plan
- 8.2 Appendix B – Technical Report Template
- 8.3 Appendix C – Quality Control Inspection Report Template
- 8.4 Appendix D – ITP Process Flow
- 8.5 Appendix E – Risk Management Process Flow
- 8.6 Appendix F – Test Approval Process Flow Chart
- 8.7 Appendix G – Implementing Inspection and Test Plan Process Flow
- 8.8 Appendix H – Control of Records process Flow
- 8.9 Appendix I – First Article Inspection (FAI)
- 8.10 Appendix J – Factory Acceptance Test (FAT)
- 8.11 Appendix K – Post Installation Check (PICO)
- 8.12 Appendix L – Site Acceptance Test (SAT)
- 8.13 Appendix M – System Integrated Test (SIT)
- 8.14 Appendix N – Punch/Snag list Register
- 8.15 Appendix O – Punch/Snag Process Flow Chart
- 8.16 Appendix U – Maintaining Calibration Status of Measuring and Monitoring Devices
- 8.17 Appendix V – Non-Conformance Process Flow Chart

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### 8.1 Appendix A - Format and Layout of Contract Quality Plan

<b>Company Name</b>		<b>Project Manager:</b>		
<b>PQP No:</b>	<b>Project Name:</b>	<b>Contract\Order No.</b>	<b>PQP Rev:</b>	<b>Date:</b>


Activity	Detailed Description	Document/ Procedure/Work Instruction	Responsible Area (Dept. Sect)
Scope			
Quality Objectives			
Management Responsibility			
Documentation			
Records			
Resources			
Requirements Review/ Customer Specifications			
Customer Communication			
Design And Development			
Purchasing			
Production			
Identification And Traceability			
Customer Property			
Storage and Handling			
Non-Conforming Products			
Monitoring & Measurement			
Inspection and Test Equipment			
Audit			
	<b>Name &amp; Surname</b>	<b>Signature</b>	<b>Date</b>
<b>Compiled by:</b>			
<b>Approved by:</b>			
<b>Quality Review:</b>			
<b>Approved by (Client QA)</b>			

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8.2 Appendix B: Technical Report Template

	Technical Report	Lethabo Power Station
---	------------------	--------------------------

Title: **TITLE OF REPORT**

Unique Identifier

Report Number: **xxxxxxxxxxxxx**

Document Type: **RP**

Area of Applicability **.....**

Date Compiled: **Day/Month/Year**

Classification: **Controlled Disclosure**

Signatures:

Compiled by:

Review by:

Approved by:

Quality Review:

.....

**C xxxxxxxx**

**Project Leader**

Date:

.....

.....

**W xxxxxxxx**

**System Engineer**

Date:

.....

.....

**C xxxxxxxxxxxx**

**AIA\Manager**

Date:

.....

.....

**Dxxxxxxxxxxxxxxxxx**

**Quality Assurance**

Date:

.....

(Change names and titles as required)

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## **1. Introduction**

## **2. Resources**

- 2.1 Project Team
- 2.2 Skills/Knowledge Required
- 2.3 Tools, Equipments, Measuring & Monitoring Devices

## **3. Background Information**

- 3.1 Scope of Testing
- 3.2 Test Requirements
- 3.3 Test Environment (Conditions Under which Test was performed)

## **4. Test Outcome/Results of the Tests**

(The test to indicate the Pass/Fail criteria)

## **5. Conclusions**

## **6. Appendices**

- 6.1 Results/Inspection sheets
- 6.2 Equipment calibration data
- 6.3 Attendance register

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### 8.3 Appendix C: Quality Control Inspection Report Template

<b>ESKOM</b>	<b>LETHABO POWER STATION</b>			Doc. No.	LFMXXXX
				Ref.	LBQ25006
	<b>QUALITY CONTROL INSPECTION REPORT</b>			Date	2017/01/25
				Page	1 of 1
Inspection Report No.				Version	
Site Name	<b>LETHABO POWER STATION</b>			Unit No.	
Equipment Name					
Equipment No.				System	
Plant Area				Date	
Responsible Person					
Responsible Section/Contractor				Report Risk Level	
Contact Number (RP)					
<b>Inspection Summary (Tick)</b>	<b>Passed</b>	<b>Failed</b>	<b>Pending</b>	<b>N/A</b>	<b>Remarks</b>
<b>Part A: Quantity</b>					Remark A
<b>Part B: Specification</b>					Remark B
<b>Part C: Visual Quality Check</b>					Remark C
<b>Part D: On-Site Tests</b>					Remark D
<b>Part E: Deliveries</b>					Remark E
<b>Part F: Photo Information</b>				List on the Appendices	
Remark A					
Remark B					
Remark C					
Remark D					
Remark E					
Remark F					
Overall Remarks					

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DESCRIPTION OF ISSUE/S (Tick the appropriate box)					
	NCR	Potential NCR	Snag List	Early Warning	General
LIST OF APPENDICES (e.g. Photos, inspection sheet, certificates)					
1			6		
2			7		
3			8		
4			9		
5			10		
Inspector's Name			Report Date		
Inspector's Signature					

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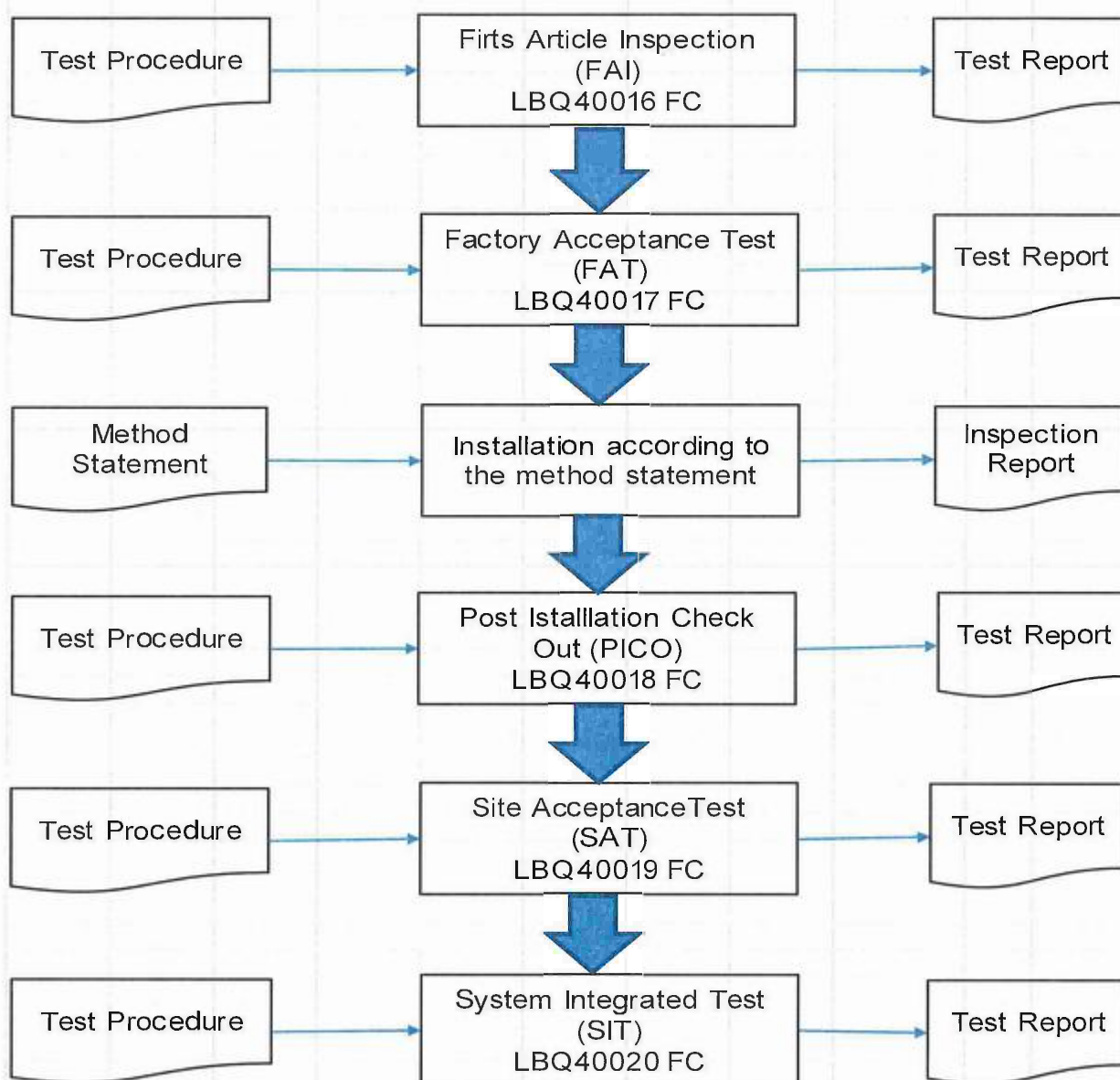
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#### 8.4 Appendix D: ITP process flow

<b>ESKOM</b>	<b>LETHABO POWER STATION</b>	Doc. No.	LBQ40015	Rev	01
		Ref.	LBQ25006		
		Date	2018/05/29		
		Page	1 of 1		



Compiled by: Moses Maseola

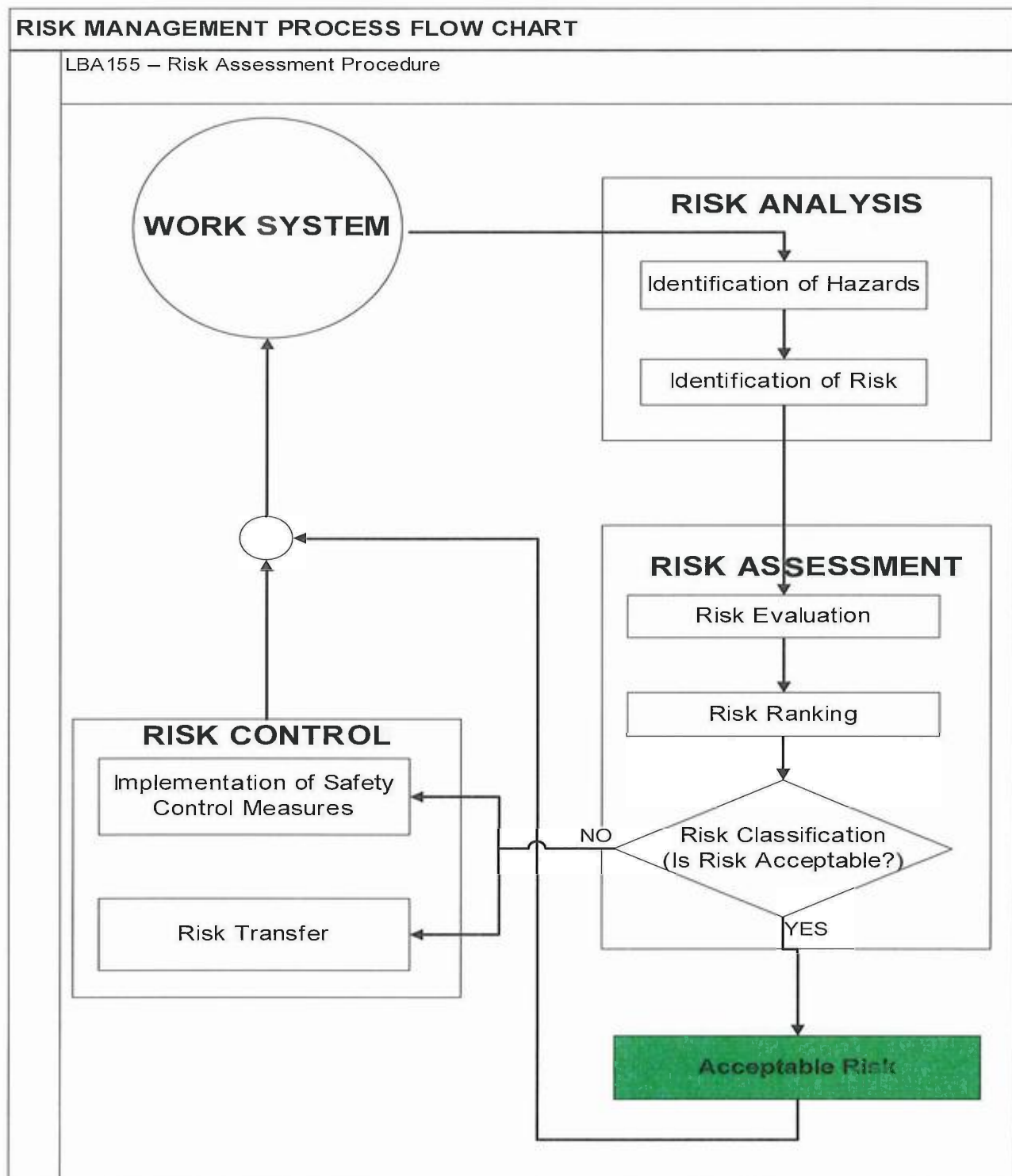
Designation: Snr Advisor Quality Engineering

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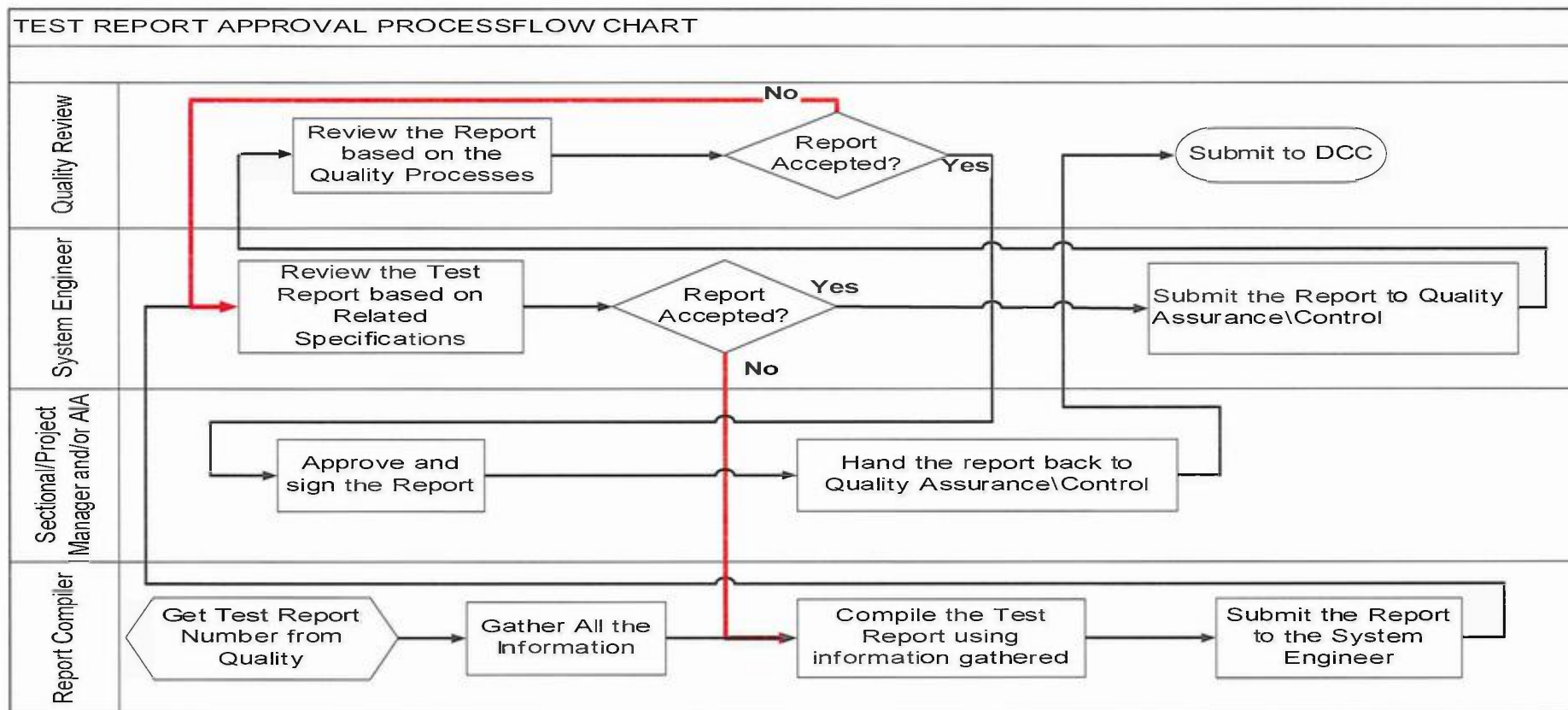
## 8.5 Appendix E: Risk management process flow



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## 8.6 Appendix F: Test Approval Process Flow chart

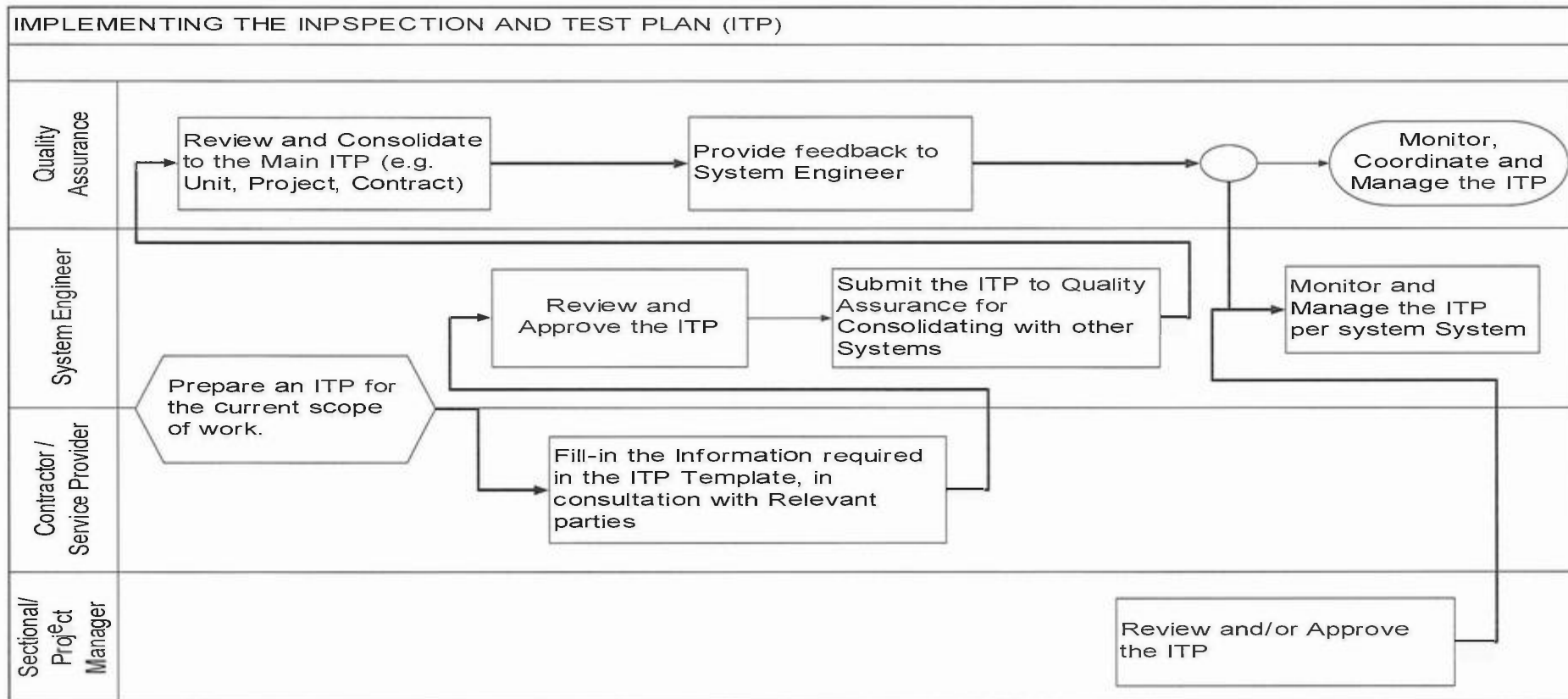


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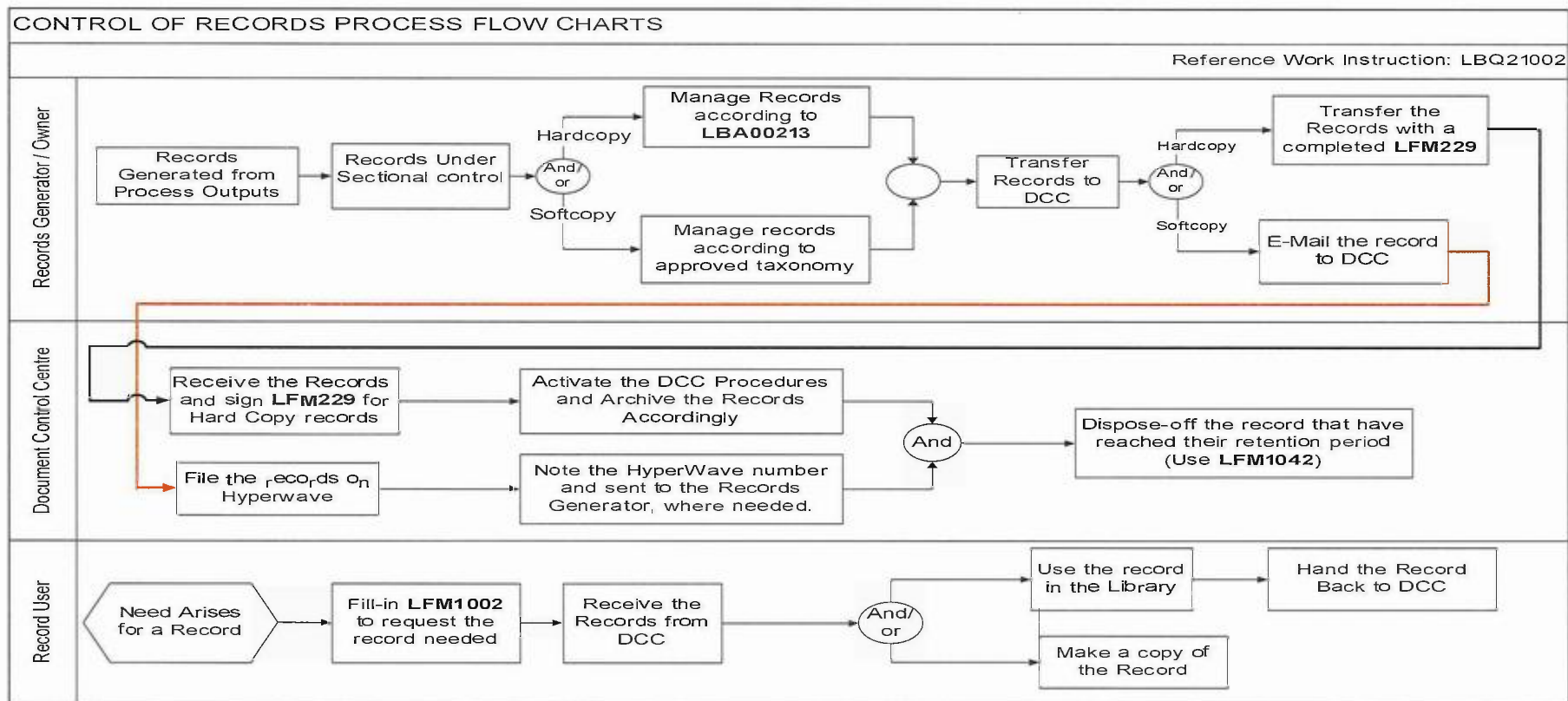
## 8.7 Appendix G: Implementing Inspection and Test Plan process flow



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## 8.8 Appendix H: Control of Records process flow

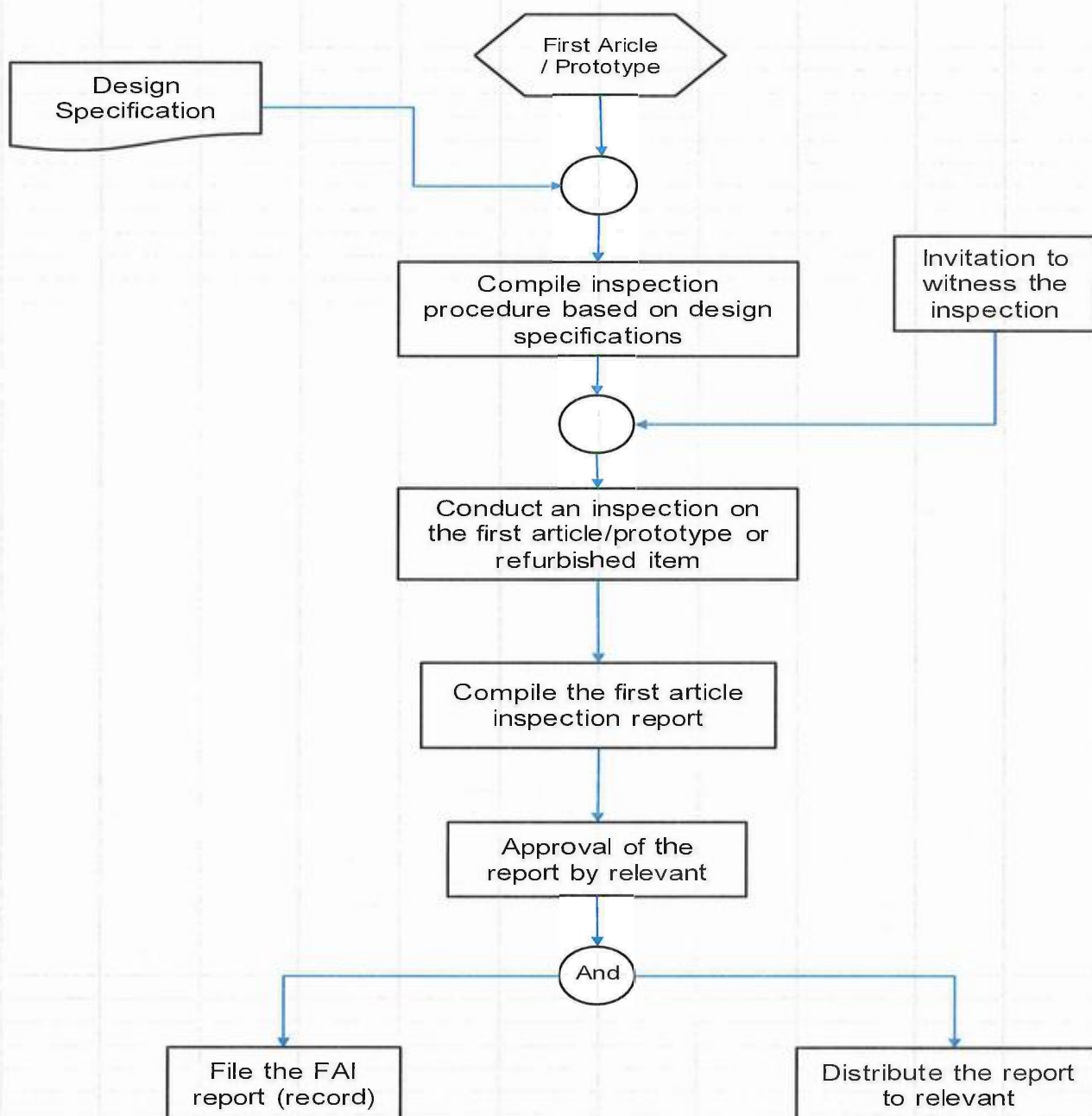


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## 8.9 Appendix I: First Article Inspection (FAI)

<b>ESKOM</b>	<b>LETHABO POWER STATION</b>	Doc. No.	LBQ40016	Rev	01
	<b>FIRST ARTICLE INSPECTION (FAI)</b>	Ref.	LBQ25006		
	<b>PROCESS FLOW</b>	Date	2018/05/29		
		Page	1 of 1		



Compiled by: Moses Maseola

Designation: Snr Advisor Quality Engineering

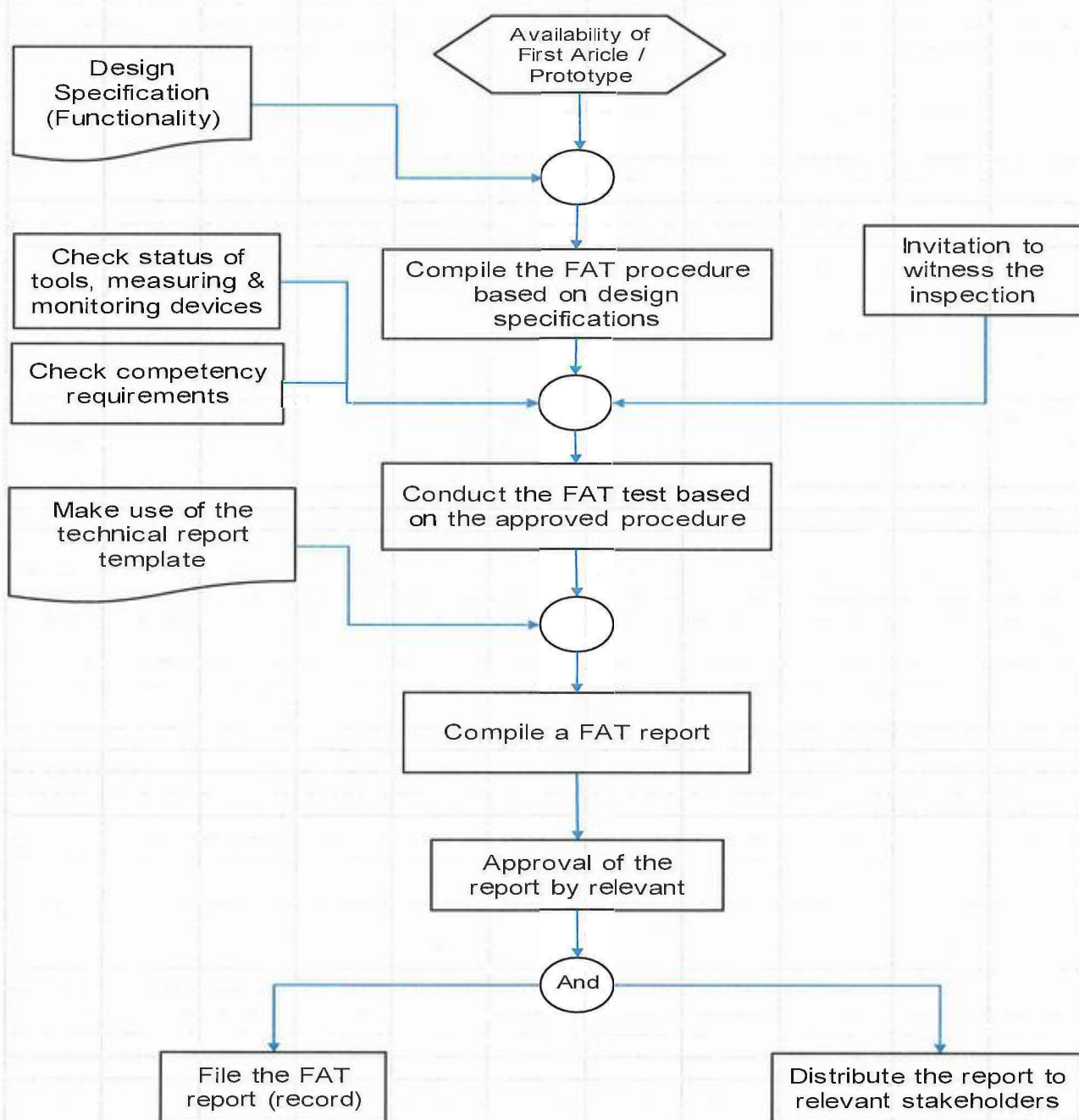
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## 8.10 Appendix J: Factory Acceptance Test (FAT)

<b>ESKOM</b>	<b>LETHABO POWER STATION</b>	Doc. No.	LBQ40017	Rev	01
		Ref.	LBQ25006		
		Date	2018/05/29		
		Page	1 of 1		



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Designation: Snr Advisor Quality Engineering

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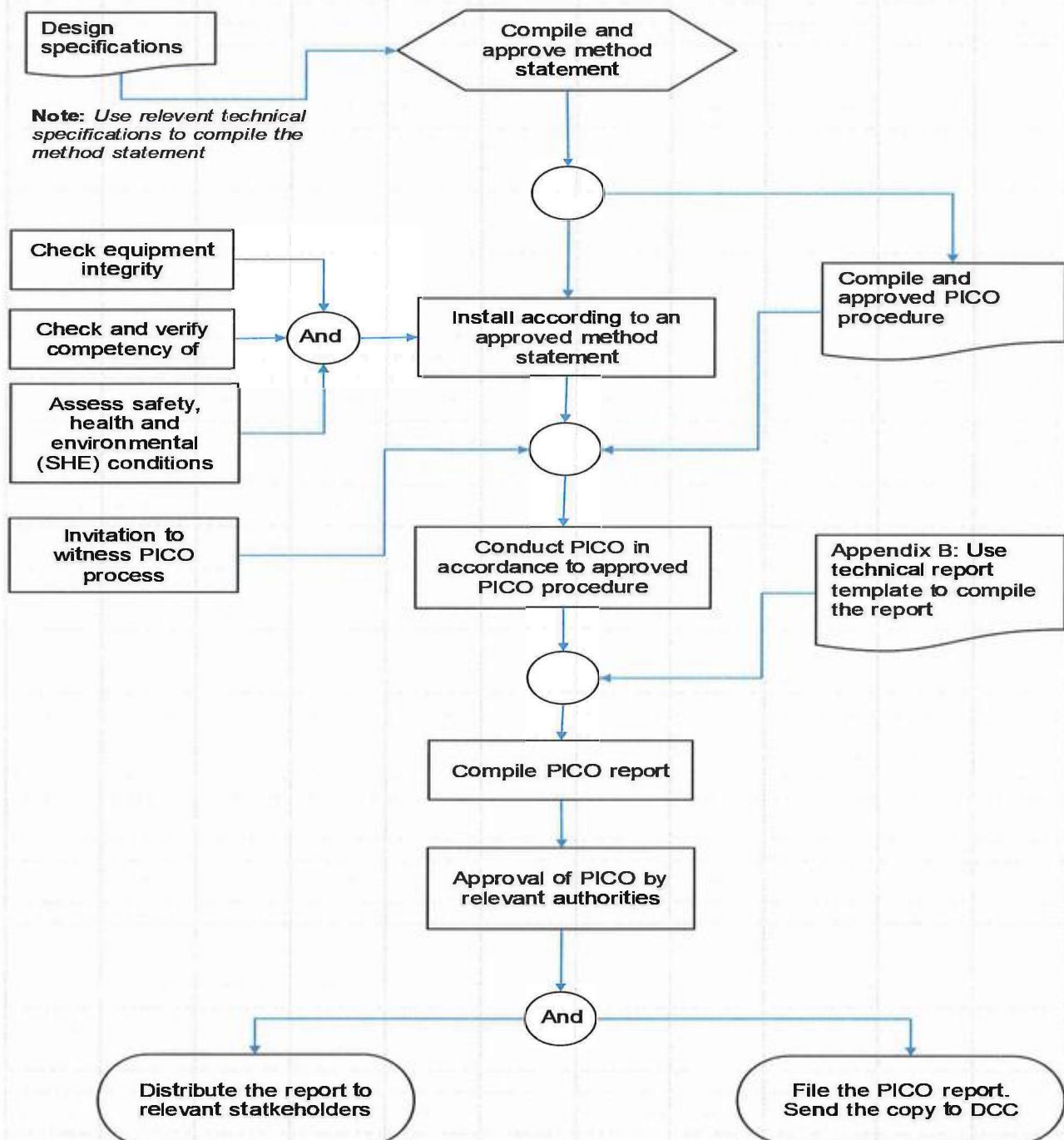
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## 8.11 Appendix K: Post Installation Check Out (PICO)

<b>ESKOM</b>	<b>LETHABO POWER STATION</b> <b>POST INSTALLATION CHECK-OUT</b> <b>(PICO) PROCESS FLOW</b>	<b>Doc. No.</b>	LBQ40018	<b>Rev</b>	01
		<b>Ref.</b>	LBQ25006		
		<b>Date</b>	2018/05/29		
		<b>Page</b>	1 of 1		



Compiled by: Moses Maseola

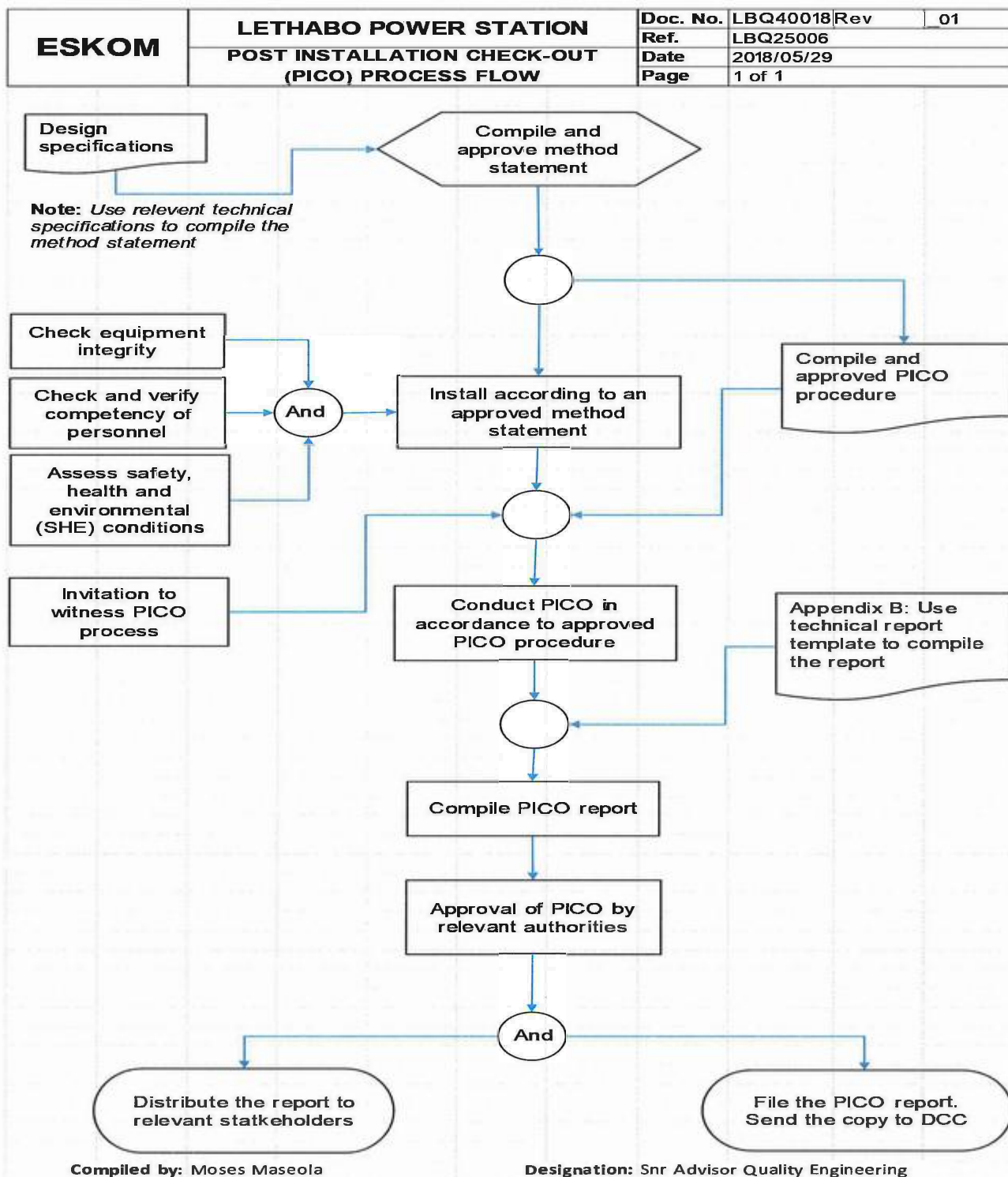
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## 8.12 Appendix L: Site Acceptance Test (SAT)

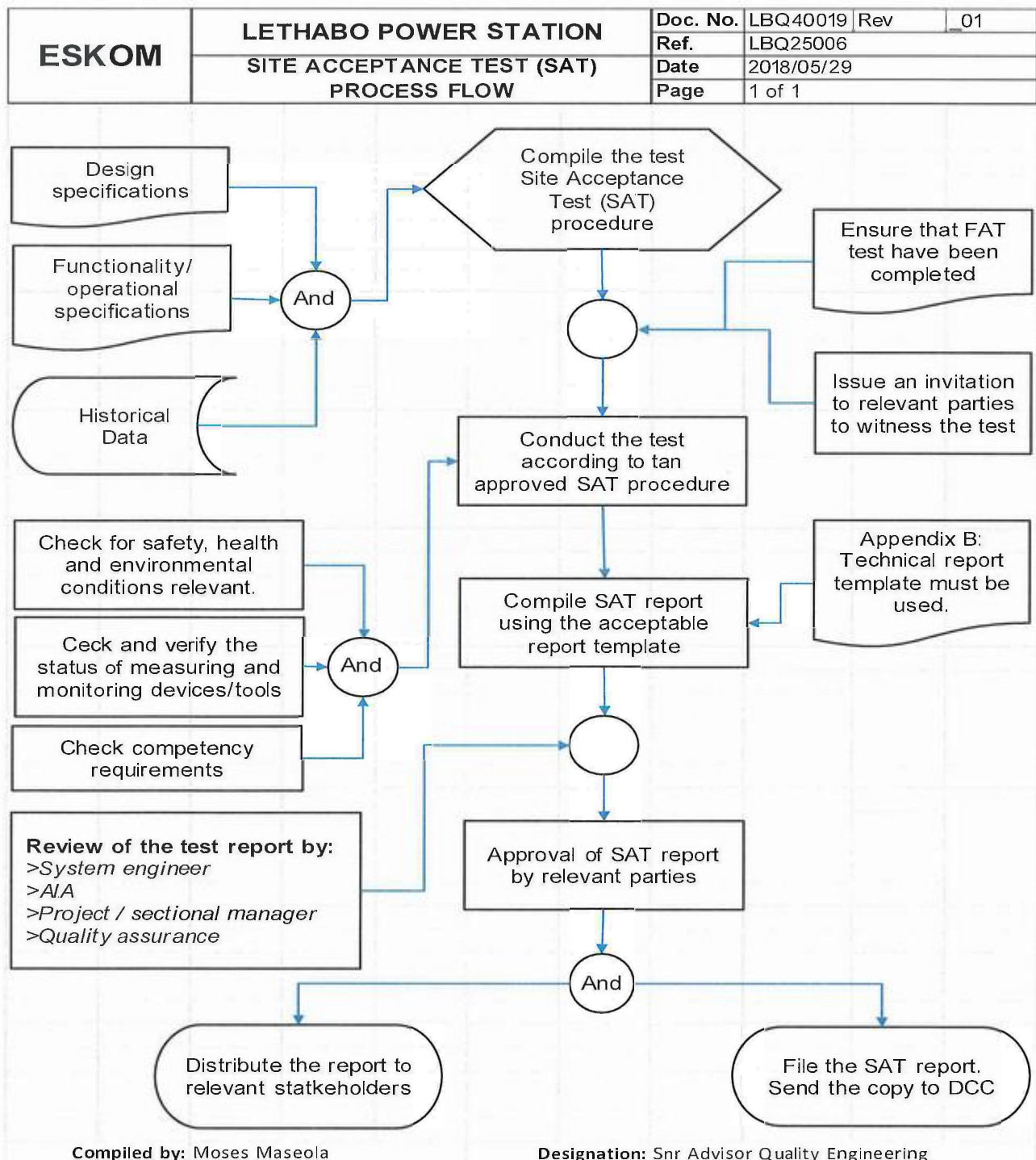


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### 8.13 Appendix M: System Integrated Test (SIT)



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**Strategy for Managing Contract, Project and Process Quality**

Unique Identifier: **240-69164839**  
 Alternative Identifier **LBQ25006**  
 Document Type **WN**  
 Revision: **04**  
 Page 36 of 39

**8.14 Appendix N: Punch\Snag List Register**

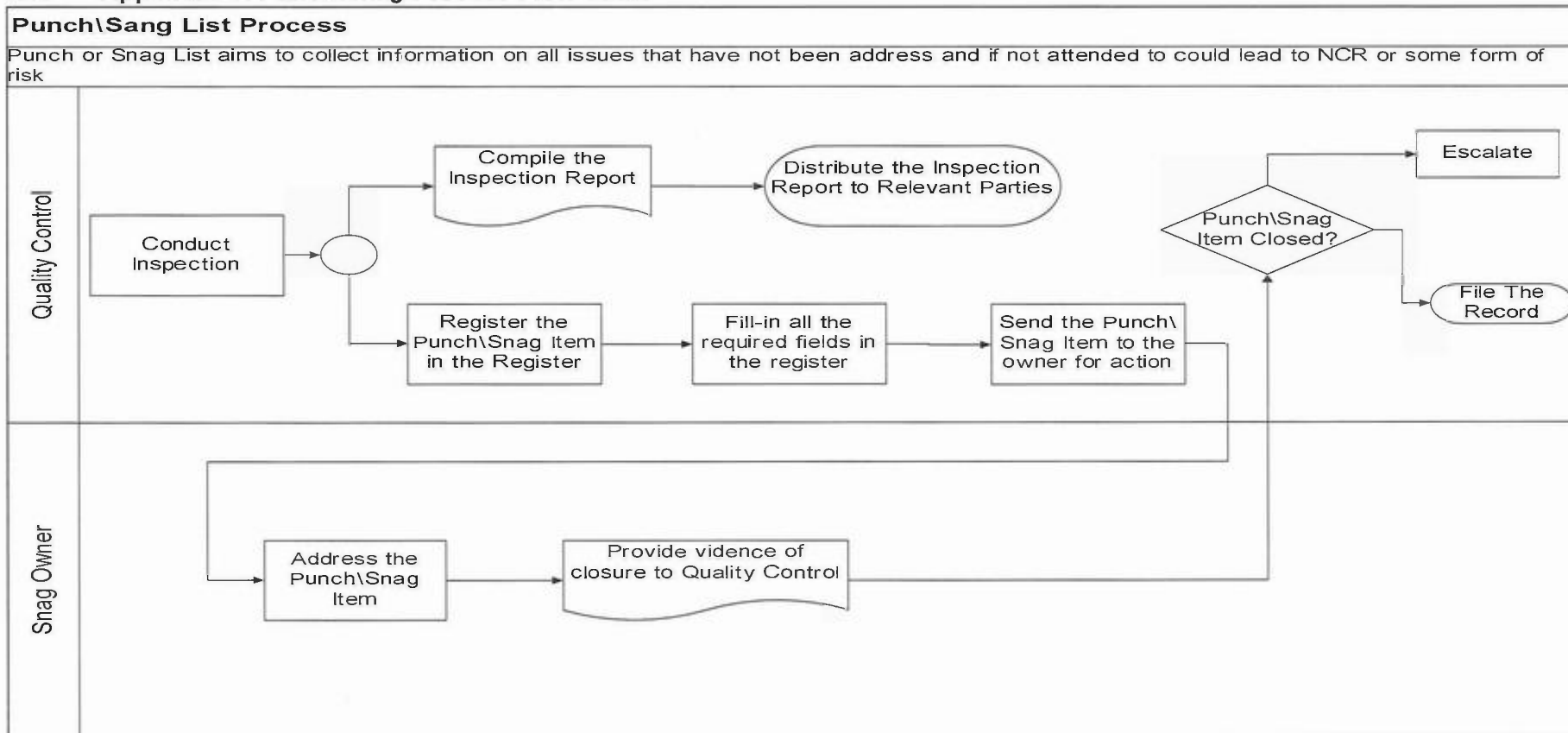
PUNCH \ SNAG LIST REGISTER														
#	Unit	Plant Area	System	Equipment Name	Equipment Number	Inspected by	Date Inspected	Report Number	Report Risk Level	Details of Snag\Punch Item	Responsible Person	Plan Resolution Date	Actual Resolution Date	Status
1									Low					
2									Medium					
3									High					
4														
5														
6														
7														
8														
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17														

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## 8.15 Appendix O: Punch\Snag Process Flow Chart

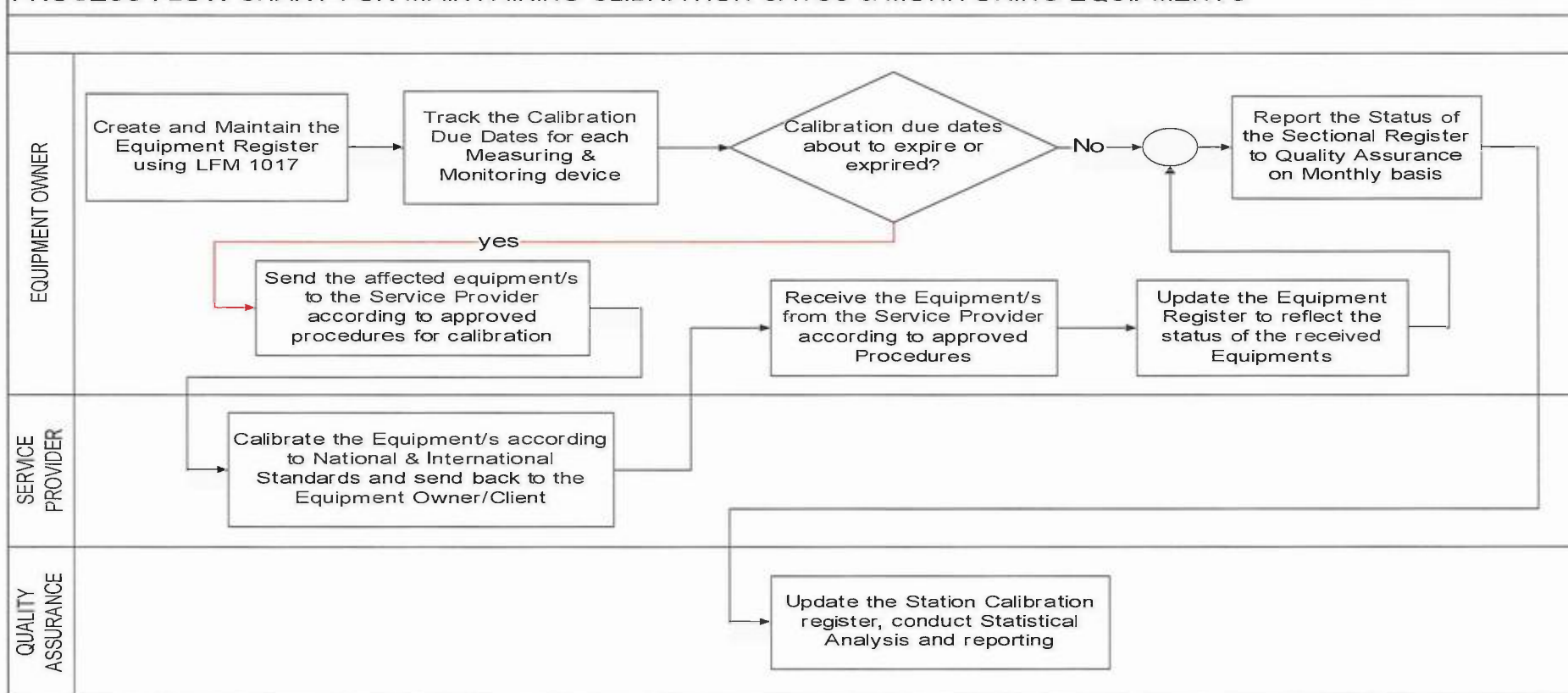


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## 8.16 Appendix U: Maintaining Calibration status of Measuring & Monitoring devices

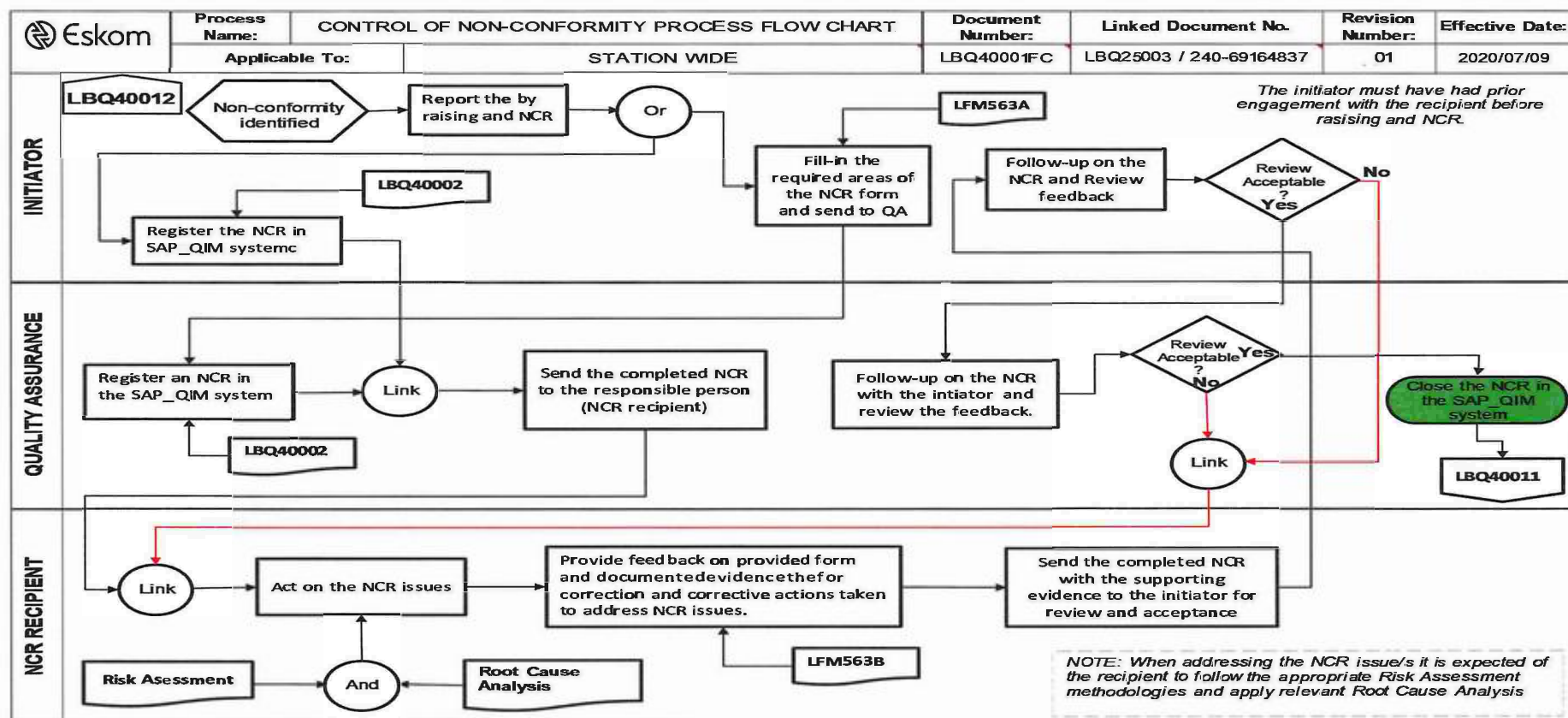
### PROCESS FLOW CHART FOR MAINTAINING CLIBRATION SATUS & MONITORING EQUIPMENTS



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## 8.17 Appendix V: Non-Conformance Process Flow Chart



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