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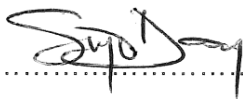
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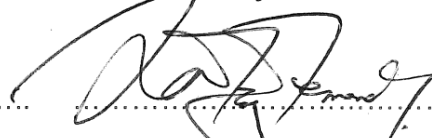


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### CONTROLLED DISCLOSURE

When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

## **1. INTRODUCTION**

This document has been developed to meet the requirements of Eskom Documents and Records Management Policy [1]. This standard prescribes a set of minimum requirements and recommendations for electronic storage and archival of technical documents in image form. The requirements set out in this standard are to ensure at any point in time that the contents of a specific image file or document have not changed since it was captured by the system.

It is thus required that any Eskom business functions that generates documentation or records in the execution of technical activities, subscribe to this standard to ensure that such documents and records are stored and archived in a manner that will ensure trustworthiness, authentic, reliable and retrievable evidence in cases where such documents/records are required for use.

This standard is in line with recommendations give in SANS 15801 Electronic imaging – information stored electronically – recommendations for trustworthiness and reliability. By doing so it promote best Return-on-Investment (ROI) in terms of human and space resources used for document/record storage and archiving through better and more optimal co-ordination and use of information and storage systems

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

This standard will cover storage and archival of technical documents and records, it does not cover the process used to evaluate the authenticity of information prior to the document being approved. The process to approve technical documents is included in Eskom Design Review Procedure and Eskom Documentation Management Standard. The Standard does not apply to the retention of documentation relating to financial operations of the business for such for such documents the organisation should consult financial advisors.

#### **2.1.1 Purpose**

This standard defines the minimum requirements for long-term preservation of all technical records regardless of medium. It is to ensure the ability to trace back documents to its earliest file where copies of such file exist, in order to be able to determine that no change has occurred to the said document version.

#### **2.1.2 Applicability**

This document shall apply throughout Eskom Holdings Limited Divisions including contractors, performing engineering work within operating units, projects, and service functions, for Eskom Holdings SOC Limited divisions, including Eskom subsidiaries.

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

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

### **CONTROLLED DISCLOSURE**

**2.2.1 Normative**

- [1] 32-1 Eskom Document and Records Management Policy
- [2] 32-9 Definition of Eskom documents
- [3] 32-392 Eskom Document identification, numbering and classification standard
- [4] 32-644 Eskom Documentation Management Standard
- [5] 240-53114186 Project/Plant Specific Technical Document and Records Management Procedure
- [6] 240-86973501 Engineering Drawing Standard – Common Requirements
- [7] 240-76992014 Project Document and Records Management Work Instruction
- [8] 240-54179170 Technical Documentation Classification and Designation Standard
- [9] 240-44174997 Documentation Preservation Standard
- [10] 240-82869328 Guideline for Migrating Technical Documentation to SPO
- [11] 32-385 IT Continuity / DR Standard

**2.2.2 Informative**

- [12] Act No.2 Promotion of Access to Information Act (PAIA)
- [13] Act No. 43 National Archives and Records Service Act (NARSA)
- [14] ISO 9001 Quality Management Systems
- [15] ISO 19005-1 Document Management – Electronic document file format for long term Preservation – Part 1 Use of PDF 1.4 (PDF-A-1)
- [16] SANS 15801 Electronic imaging – information stored electronically – recommendations for trustworthiness and reliability
- [17] ISO/TR 18492 Long-term preservation of electronic document-based information
- [18] IEC 61355 Classification and designation of documents for plants, systems and equipment

**2.3 DEFINITIONS**

Definition	Description
Active Records	Records needed to perform current operations. They are subject to frequent use and are usually located near the user. They can be accessed manually or online via a computer system.
Authenticity	An authentic record is one that can be proven: <ul style="list-style-type: none"> <li>• To be what it intended/purports to be,</li> <li>• To have been created or sent by the person identified to have created or sent it, and</li> <li>• To have been created or sent at the time recorded.</li> </ul>
Archive	An area under the control of the documentation centre that contains documents that are no longer valid, nor currently in use.
Archives	Records created or received and accumulated by a person or organization in the course of the conduct of affairs and preserved because of their historical or continuing value. The building or part of a building where archival materials are located
Archive Record	A record that has continuing or historical value and is preserved permanently

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Definition	Description
	by an organization.
Documents and Records Management	Field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use, disposal and destruction of records; including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records.
Document Metadata	Is all additional related document information that describes the attributes of a specific document (or record). Metadata includes but are not limited to the following; document title, document identifiers, document revision number, document compiler, document revision dates, document types, and areas of applicability.
Disposal	A systematic program to facilitate the removal and destruction of documents that are no longer valid, nor currently in use.
Electronic Record	Data stored on electronic media that can be readily accessed or changed. A piece of equipment is required to view and read electronic records.
Inactive Records	Records that do not have to be readily available but which must be kept for legal, fiscal, or historical purposes; referred to less than 15 times a year.
Integrity	The integrity of a record refers to it being complete and unaltered, i.e. protected against unauthorised alteration.
Optical Character Recognition	Software program converting imaged text to editable text.
Preservation	Keeping master documents under pre-scribed conditions to ensure 100% legibility for the duration of the lifetime of the document.
Record	Document stating results achieved or providing evidence of activities performed.
Records Legal Value	These are the records which involves long or short term rights of the government or the private citizen, and which are enforceable by laws and regulations. They are more easily identified than other records. Some examples of these are patents, contracts, leases, titles, deeds, treaties, etc. Most legal documents and records are never destroyed and are usually archival in value.
Record Retention Scheduling	A records retention schedule identifies the length of time a records series must be retained in active and inactive storage before its final disposition to permanent storage, archival preservation, or destruction.
Reliability	A reliable record is one whose contents can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest and can be depended upon in the course of subsequent transactions or activities in Project/Plant Specific Technical Documentation this is attested to by the fact that the documentation has been demonstrably approved, reviewed and authorised for its purpose.
Retention	Refers to the process of deciding which records to keep permanently and which records to be destroyed after they no longer serve a useful purpose. The retention schedule lists the types of records maintained by each department.
Stitch	The process of assembling different images into one new combined documentation reflecting the content of all the different images as one.
Technical Documentation	Means various documents with product-related data and information that are used and stored. The data and information intended include matters of product definition and specification, design, manufacturing, quality assurance, product liability, product presentation; description of features, functions and interfaces; safe and correct use; service and repair of a technical product as

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Definition	Description
	well as its safe disposal. Excluding the following document types i.e. project execution documents (i.e. schedules, project management, etc.), Governance documents and General Business documents.

**2.3.1 Disclosure Classification**

**Controlled Disclosure:** Controlled Disclosure to external parties (either enforced by law, or discretionary).

**2.4 ABBREVIATIONS**

Abbreviation	Description
BU	Business Unit
CM	Configuration Management
DRM	Documentation and Records Management
EDC	Eskom Document Centre
EDMS	Electronic Documentation Management System.
IM	Information Management
IP	Intellectual Property
ISO	International Standards Organisation
NARSA	National Archives and Records Service Act
OCR	Optical Character Recognition
PAIA	Promotion of Access to Information Act
SCOT	Steering Committee of Technology
SPO	Smart Plant for Owner Operator

**2.5 ROLES AND RESPONSIBILITIES**

**2.5.1 Senior General Manager: Engineering**

The Senior General Manager: Engineering is accountable to ensure that this standard is implemented in all Project/Plant Specific Technical records being managed within Engineering Division.

**2.5.2 Document Manager**

The Document Manager is the custodian of all the Project/Plant Specific Technical records for the applicable domain, i.e. Project or Operating Plant domains.

The Document Manager is appointed in terms of 32-644: Eskom Documentation Management Standard [5]. The Document Manager shall ensure compliance to this standard.

**2.5.3 Document Controller**

The Document Controller(s) shall be appointed by the Document Manager in terms of 32-644: Eskom Documentation Management Standard [5] who shall be responsible to facilitate the correct implementation of this standard including;

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- Providing administrative support during the record management lifecycle (i.e. planning, development, receipt, registration, review and authorisation, publication, transmittal, use, archiving and disposal), and
- Reporting on records management and controls including records statuses, redundant records, and other records management related issue.

Document Controllers shall be competent in the use of the relevant Electronic Document Management System (EDMS).

Document Controllers shall be competent in the use of electronic archiving methods (e.g. converting documents and records to non-editable format for permanent archiving purposes).

## **2.6 PROCESS FOR MONITORING**

This standard will be monitored through audits and/or self-assessments.

## **2.7 RELATED/SUPPORTING DOCUMENTS**

- [1] 240-76992014 Project Document and Records Management Work Instruction
- [2] 240-44174997 Documentation Preservation Standard
- [4] 240-82869328: Guideline for Migrating Technical Documentation to SPO.

## **3. ELECTRONIC STORAGE AND ARCHIVING**

The increasing use of electronic systems to conduct business has significantly changed the way that records are created and kept. Electronic record storage poses particular challenges of which we need to ensure that reliable records are maintained over time as evidence for the purposes of accountability, operational continuity, disaster recovery and institutional memory.

### **3.1 DOCUMENT FORMAT**

The approved file format for authorised electronic documents and record has been detailed within the Eskom Document and Record Management Policy as being the latest version of Acrobat PDF.

#### **3.1.1 Electronic Records**

Electronic records include documents generated electronically and scanned (pdf) file images. Electronic document quality requirements are detailed in Eskom Documentation Preservation Standard; this preservation standard is in line with SANS 19005 Document Management – Electronic document file format for long-term preservation. Electronic version of a document including scanned images can be designated as the record (master) copy of that record, with the original hard copy being designated as a duplicate. The hard copy can be disposed of when no longer needed, provided that the electronic record has been authenticated.

#### **3.1.2 Hardcopy Records**

Currently Eskom has a vast collection of technical documents and records in hardcopy format stored at various locations, this hardcopies include paper copies, microfilm etc. The storage of hardcopies requires financial commitment in ensuring the facilities meet the requirements for long term preservation including humidity control, fireproof, dust control etc. An original document will always be the best available form of evidence however not all Eskom document storage facilities conform to requirement for long-term preservation of hardcopies. To reduce this financial burden of conforming, whenever possible the business will ensure the conversion of hardcopy documents to electronic image to allow easy storage and accessing. The process of converting hardcopy documents to electronic will be done as per

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guidelines set out in Guideline for Migrating Technical Documentation to SPO and Eskom Documentation Preservation Standard.

### **3.2 DOCUMENT CREATION AND AUTHORISATION**

The requirements and process to be followed in the creation, review, approval and authorisation of technical documents has been detailed in Eskom Documents and Records Management Policy. The procedures also give detail on what evidence need to be kept as evidence of the approval process for audit purposes.

### **3.3 DOCUMENT RETENTION AND ARCHIVING**

The identification of archival electronic records remain in the custody of the creating business unit and the retention of all Eskom documents is governed by requirements set out in the Eskom Standard for Record Retention Period.

### **3.4 INFORMATION SECURITY MANAGEMENT**

All information is vulnerable to loss or change whether accidental or malicious, to protect against these possible losses the organisation has developed security measures.

#### **3.4.1 Document Storage**

Only documents stored within the approved EDMS would be managed using this standard.

#### **3.4.2 Access and Security**

To protect the integrity and authenticity of stored and archived documents the organisation will use access right control, Documentation Management is responsible for control of documents stored in the approved EDMS any document when downloaded from the EDMS would be uncontrolled and the responsibility would rest with the user.

Security classified records shall be managed in terms of the Information Security Policy. Specific standards regarding requests for information are contained in the Promotion of Access to Information Act (PAIA). Personal information shall be managed in terms of the Promotion of Access to Information Act until such time that specific protection of privacy legislation is enacted. Electronic records should be unrestricted and/or unencrypted so that user IDs and/or passwords are not needed to maintain the file as user IDs and passwords can be lost over time.

#### **3.4.3 Electronic Signature**

The Electronic Communication and Transaction Act 2002, recognises two types of electronic signatures, advance (accredited by the verifying authority) and other electronic signatures. The former would apply to where the law specifically requires a signature to a data message (for instance, the company act) and the latter would apply to where the parties themselves require a signature to a transaction. The type of electronic signatures required for a document would depend on whether the signature is required by law or by the parties to a transaction. For technical documents a pdf signature will suffice except on specific instances where a particular law requires manual signing of documents using an accredited signature by Law Trust.

#### **3.4.4 Disaster Recovery Plan**

To ensure minimum disruption to the business in case an IT disaster occurs or there is a need to recovery lost information all technical documents need to be stored and archived in an environment operating as per Eskom approved Disaster Recovery Plan requirements. The recovery plan details the implementation of a Disaster Recovery and IT Continuity Plan using E-BattleBox. E-BattleBox is a repository for the IT Continuity Plans that must be available offsite, should the onsite copies be

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unavailable. Technical documentation required to recover from a disruption must be stored in the E-Battlebox. The E-BattleBox is located in three locations:

- The primary and day to day operational copy is on Hyperwave and is housed at Mega Watt Park and the location is: <https://hyperwave.eskom.co.za/0x936e32460x0366e25e>
- All IT Continuity Coordinators have an offline copy of the E-Battlebox via Hyperwave explorer.
- The offsite copy is on a Novell File Server at the Eskom Academy of Learning and the share path is \\HWHVLIS01\USER\E\_Battlebox\_Offsite.

The latest versions of all files in the primary E-Battlebox are copied daily to the Offsite Copy via a scheduled script, hence should the primary copy not be available the offsite copy is accessible, usable and up to date. Access to the E-Battlebox is restricted to the DR team. All access to and management of IT Continuity documents is controlled by the ITSCM team. The ITSCM Team receives daily reports indicating the success/failure of the offsite copy process.

Offsite Electronic Battle Box Configuration Information:

- Server : hwhvlis01.eskom.co.za
- IP : 172.24.44.178
- U/N : hyperwave
- P/W : eskom123
- Script location on the server : /home/Hyperwave
- Script name: replicate\_dr\_battlebox.sh

#### **4. AUTHORISATION**

This document has been seen and accepted by:

<b>Name &amp; Surname</b>	<b>Designation</b>
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## **5. REVISIONS**

<b>Date</b>	<b>Rev.</b>	<b>Compiler</b>	<b>Remarks</b>
August 2015	0.1	S. Peter	Engineering business requirement.
November 2015	0.2	S. Peter	Draft Document for Comments Review
December 2015	0.3	S. Dayile	Updated with comments from SCOT and GM:Plant Eng.
January 2016	1	S. Dayile	Final Document for Authorisation and Publication

## **6. DEVELOPMENT TEAM**

The following people were involved in the development of this document:

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- Sizwe Lutshete

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