Eskom	Instruction	Nuclear Engineering

Title: **Design Documentation Change Process**

Document Identifier: **331-85**

Alternative Reference Number: **KAA-560**

Area of Applicability: **Nuclear Engineering**

Functional Area: **Configuration Management**

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Disclosure Classification: **Controlled Disclosure**

Compiled by	Functional Responsibility	Authorized by
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ALARA Review:	**N/A**
Functional Control Area:	**Configuration Management**

Content

Page

1. Introduction

As changes are required to the plant, changes are required to the associated Configuration Items. These changes could result from a requirement for a permanent change or temporary change. The Design Base which is managed consists of the plant breakdown structure, related design locations and associated Configuration Elements (documentation).

To ensure equilibrium between the Design, Physical Plant and the Information is maintained, the Configuration Elements affected by the required changes need to be revised using a controlled process. This process is detailed herein.

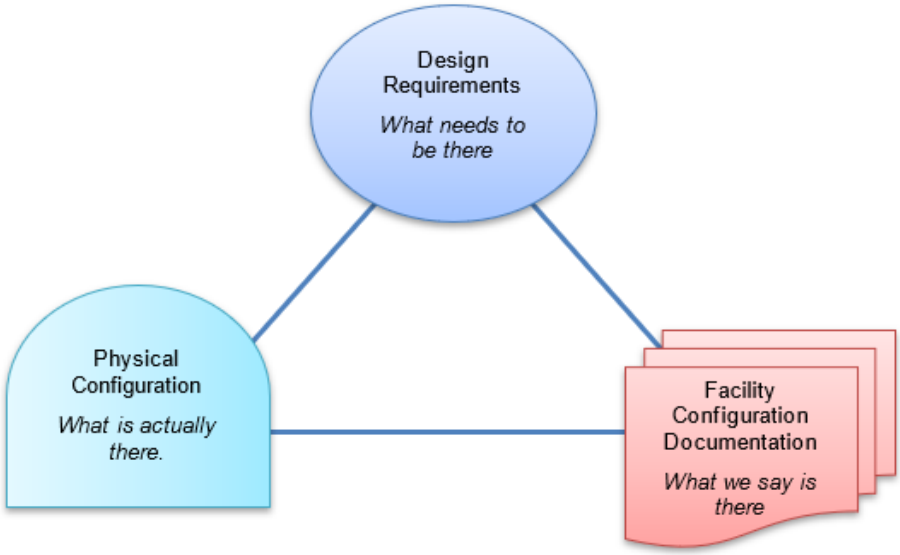

Figure 1: Configuration Management Equilibrium Model

(From IAEA SR65)

2. Supporting Clauses

2.1 Scope

- Applicable to all plant document changes as a result of plant anomalies, temporary alterations and modifications.
- Applicable to all persons involved in the process of changing plant documents.

2.1.1 Purpose

- To define the process and responsibilities for changing plant documents.
- To ensure that all requests for plant document changes are assessed and authorised by competent personnel.

2.1.2 Applicability

This document shall apply to all Configuration Management Items relevant to the Design Base of Koeberg Nuclear Power Station.

2.1.3 Effective date

This work instruction shall be effective when published.

2.2 Normative/Informative References

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

2.2.1 Normative

[1] KAA-501 Project Management Process for Koeberg Nuclear Power Station Modifications

[2] KAA-502 Project Management Process for New Facilities and Changes to Existing Facilities at Koeberg Nuclear Power Station

[3] KAA-500 The Process for Controlled Documents

[4] KSA-011 The Requirements for Controlled Documents

[5] KAA-614 Controls of Spares Assessments and New Stock Applications

[6] KAA-830 Process for Management of Quality Records

[7] KSA-038 Requirements for Quality Records

[8] 331-86 (KAA-815) Design Changes to Plant, Plant Structures or Operating Parameters

[9] 331-143 (KAA-504) The Equivalency Process to Change Plant

[10] 331-88 (KAA-506) Temporary Alterations to Plant, Plant Structures or Operating Parameters that affect the Design Base

[11] 331-216 (KFA-050) Nuclear Engineering Manufacturers / Suppliers Catalogue Form

[12] 331-212 Document Change Identification Form

[13] 240-149108318 [KNA-002] Requirements for Data Integrity on PIGO

[14] 240-86502715 (KAA-803) Processing Minor Modifications

[15] 240-99837788 KOU Configuration Management Process Manual

[16] 331-282 Trigramme and Cable Request Form

[17] 240-145628543 SAP Configuration Item Anomaly PBS Update Form

[18] KBA0000G00031 Master Classification Plan

[19] KBA0000G00032 List of Systems

[20] KBA0000G00036 Equipment Identification System

[21] IAEA Safety Report Series no 65 Application of Configuration Management in Nuclear Power Plants

[22] 240-86973501 Engineering Drawing Standard Common Requirements

2.2.2 Informative

[23] 32-1286 Process Control Manual (PCM) for Manage Item Configuration

[24] 238-8 (NMN-008) Nuclear Safety and Quality Manual

[25] 238-6 Nuclear Document and Records Management Requirements

[26] 331-3 (EWG-624): Nuclear Engineering Documentation and Records Management Work Instruction

[27] 331-2 Nuclear Engineering Management Manual

[28] KSA-139 Initiating a Work Request

[29] 240-119744497 (KAA-697) Control of the Safety Analysis Report

[30] 240-43898815 Document Transmittal Form

2.3 Definitions

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

2.3.2 Configuration Item: A hardware, software, or composite item at any level in the system hierarchy designated for configuration management. Configuration Items have four common characteristics 1) Defined functionality; 2) Replaceable as an entity, 3) Unique specification, 4) Formal control of form, fit, and function.

2.3.3 Configuration Management: Configuration Management generally concentrates on technical and organisational activities that establish and maintain control of a configuration item and it's Structure, System and Component configuration information throughout the life cycle of the configuration item.

2.3.4 Configuration Element: All the configuration information applicable that defines a configuration item throughout its lifecycle. Operational information, engineering change requests, audit reports and source code. These configuration elements may reside in physical storage facilities or electronic libraries under configuration control.

2.3.5 DDR and Document Tracking System: A LAN-based system called DDT, accessible to all LAN users that replaces the conventional paper DDR form and also allows query and report generation.

2.3.6 Design Base: The Design Base of an Asset is the combination of those key design outputs that define the functions, capabilities, capacities, physical sizes and dimensions (Physical Base), limits and set points, shutdown and start-up sequences, normal and out of normal operations (Operating Technical Specification) and maintenance elements (Maintenance Base); that are required for the asset to meet its required performance, reliability and availability within the limits of the external constraints.

2.3.7 Document Change Identification Form: A form that lists all documents requiring creation/change/withdrawal as a result of a design change. This form is included in Part D of a design document and forms part of temporary and permanent modification packages.

2.3.8 Document/Drawing Change Request: A form used to request changes to plant documentation and to record the action taken. The DDR and Document Tracking System (DDT) must be used to generate DDR's.

2.3.9 Draftsperson: Person responsible for the creation and updating of drawings, in accordance with standard (240-86973501).

2.3.10 Modification: Any change, deletion or addition to structures, systems or components or changes to operating parameters that affect the design base.

2.3.11 Modification DDR Authorisation: The design reviewer ensures that the proposed change is reflected in the new document.

2.3.12 Modification DDR Approval for Issue: Confirmation that the plant and the documentation conform.

2.3.13 Plant Document: A plant document is uniquely identified and maintained accurate and current through controlled distribution, which covers the design basis, operating basis and maintenance basis of the KOU.

2.3.14 Configuration Item Anomaly: A plant document consisting of any diagram or illustration associated with the design and construction of Koeberg Nuclear Power Station.

2.3.15 Temporary Alteration: A temporary change made to plant equipment, structures, systems, or components that differ from the approved configuration or design parameters. This alteration is temporary in that it is expected to be installed for as short a period as possible (i.e. two operating cycles or less).

2.3.15 Master Media: Can be retrieve from the system in various media formats which can be in the following media and captured on the system for design base changes e.g., Paper, Sepia, CD's, Aperture Card and Electronic format.

2.3.16 Component: An item of equipment composed parts, example wires, transistors, switches, relays, motors, fittings, pumps, valves from which a system is assembled.

2.3.17 Function: The action or requirements that a component, functional group, subsystem or system must accomplish, defined in terms of performance capabilities.

2.3.18 Bill of Material: A complete, formally structured list of the components that make up a product or assembly. The list contains the object number of each component, together with the quantity and unit of measure.

2.3.19 SAP material number: A number that uniquely identifies a material that consists of seven numeric digits which are stock and non – stock items. The material is allocated by Materials Planning Group.

2.3.20 New Stock Application Form: Is a form which indicates if a spare is a stock item and also describes the spare, gives the functional location and the material classification.

2.3.23 Trigramme: Plant Location Coding System, used at KNPS. The 9 character code is defined as: NN – Numeric Unit Number
AAA – Alphanumeric Plant System Code
NNN –Numeric Equipment Number
AA – Alphanumeric Component Type Identifier

2.3.24 Bigramme: A two character alphanumeric code that identifies a component type. This code is found at the end of the Trigramme (Functional Location)
This code is found at the end of the functional location.

2.3.25 Functional Location: Equipment Identification System. The 10 character code is made up of the following: N – Unit number
LLL – Trigramme
NNN – Equipment number or NNNN in cases where all the first 999 items is used.
LL - Bigramme

2.3.26 SAP: Systems, Applications and Products (Enterprise Resource Planning System)

2.3.27 Satellite office/vault: A satellite office/vault is a branch of a larger office/vault that is physically separate from the main office/vault. Satellite office/vault stores copies of controlled documents for accessibility and retrievability by users.

2.4 Abbreviations

Abbreviation	Explanation
BOM	Bill of Material
CCH	Control Copy Holder
CMG	Configuration Management Group
CN	Change Notice
CRN	Computer Reference Number
DCP	Design Change Package
DDR	Document/Drawing Change Request
DDT	DDR and Document Tracking System
DE	Design Engineering
DFC	Design Field Change
DO	Drawing Office
DQI	Document Quality Index
DRC	Design Revision Change
DSE	System Description Manual
ECP	Electronic Change Process
EWR	Engineering Work Request
FLOC	Functional Location
FS	Feasibility Study
GA	General Action
KBA	Prefix for KNPS technical documents
KNPS	Koeberg Nuclear Power Station
KOU	Koeberg Operating Unit
LAN	Local Area Network
NNR	National Nuclear Regulator
PCR	Procedure Change Request
QADP	Quality Assurance Data Package
SAP	System Application of Products
SAR	Safety Analysis Report
SEG	Specification Engineering Group
SIF	Site Implementation File
SPO	Smart Plant Owner Operator (Electronic Documentation Management System)
TAF	Temporary Alteration Form
TCR	Training Change Request
TD & RM	Technical Documentation and Records Management
TRS	Technical Requirement Specification

2.5 Roles and Responsibilities

2.5.1 The Nuclear Engineering Configuration Management Manager:

- is responsible for ensuring that the process described in this instruction is correctly implemented and maintained.

2.5.2 Group IT:

- will ensure daily backups of the DDT database and SAP application is performed.

2.5.3 Design Engineering

- Is responsible for raising DDR's for modifications. Please note if Design is done with Contractor, they raising their DDR's for the Modification.
- is responsible for reviewing DDR's and evaluating Plant Status DDR's. The reviewer/evaluator also needs to verify that DDR's are correctly raised, and all fields are populated in DDT before signing the DDR.
- is responsible for authorising DDR's. The cycle time for authorisation of production Plant Status DDR's is 3 days and 5 days for non-production Plant Status DDR's.
- Modification DDR's needs to be authorised before the planned implementation date.
- is responsible for providing information for 331-216, Manufacturers / Suppliers Catalogue Form. This is for Equivalency DDR's only.
- Trigramme allocation letter may only be processed by CMG if signed by DE.

2.5.4 Systems Engineering

- Is responsible for raising TAF DDR's and needs to be reviewed by the authorised Design Engineer.
- is responsible to populate the planned implementation field on DDT before the DDR can be approved for processing. This will be enforced in DDT.
- is responsible to approve the Minor Mod DDR's for processing 3 months before the planned implementation date.
- is responsible to approve TAF DDR's for processing before the planned implementation date.
- is responsible to amend the planned implementation date on DDT if the implementation date has changed.
- is responsible to approve the DDR's for issue when Minor Mod implementation has taken place.
- Is responsible to approve TAF DDR's for issue when TAF implementation has taken place.

2.5.5 Nuclear Project Management

- is responsible to populate the planned implementation field on DDT before the DDR can be approved for processing. This will be enforced in DDT.
- is responsible to approve the Modification DDR's for processing 3 months before the planned implementation date.
- is responsible to change the planned implementation date on DDT if the implementation date has changed.

- is responsible to approve the Modification DDR's for issue when modification have been implemented.
- is responsible to ensure that the electronic copies for new/existing drawings that were done by contractors are submitted in dwg, dgn format to the Drawing Office. Other text documents must be in MS Word.

2.5.6 Configuration Management

- is responsible for issuing of KBA and CRN numbers for all document / drawings
- update DDT with required content relevant to mark-up (Reference numbers KBA numbers, CRN numbers, Title and Discipline).
- is responsible to register, update and check documents as per mark-up
- revise and published authorise documents on SPO in conjunction with PIGO allocation centres 38B, 0.46, 1.46 and 31.46.
- distribute the documents to relevant CCH's as per Appendix's Q and R.
- cycle time for the distribution of Modification DDR's is 1 month after the approval for issue date. The electronic image will be available to the plant after the linked document has been verified on SPO.
- cycle time for the distribution of Plant Status DDR's is 18 days after the authorisation date. The electronic image will be available to the plant after the linked document has been verified on SPO.
- cycle time for the distribution of production Plant Status DDR's is 10 days after the authorisation date. The electronic image will be available to the plant after the linked document has been verified on SPO.
- cycle time of production Plant Status DDR's is 21 days from registration to master file update.
- cycle time for non-production Plant Status DDR's is 30 days from registration to master file update.
- update the material classification and link the Bill of Material in SAP as per the New Stock Application Form and Equivalency Process.
- to issue new, change or delete Trigrammes and cables as per modification Trigramme letter. These Trigrammes are loaded onto SAP. And in addition to this, this will be controlled by DE.
- update trigrammes status in SAP to inactive before modification implementation.
- update trigrammes status in SAP to active after modification implementation.
- Trigramme allocation letter may only be signed off by CMG when authorised by DE.

2.5.7 Drawing Office

- create technical drawings (i.e. electrical, instrumentation, mechanical, structural, civil, pipe, etc.) according to applicable Eskom, national and international standards for use in Technical Documents – Common Requirements" (240-86973501).
- update and verify drawings as per mark-up requests
- liaison with engineers and technicians, maintaining quality and quantity, ensuring continuity of the DDR process
- ensure drawing accuracy based on plant knowledge or by reference to other relevant drawings or by visiting plant to verify measurements and location.
- the draughtsperson emails the drawing in a PDF to the requestor to review the drawing against the initial requirements or marked up drawing. This is done with the relevant stakeholders to ensure that due processes and standards have been applied and the drawing content is correct and acceptable as per the request.
- all drawing office request for manufacturing, tender drawings and all other drawing related requests may be forwarded to KOU_drawingoffice@eskom.co.za. in dwg, dgn format.

2.5.8 Technical Documentation and Records Management

- is responsible for the printing of documents.
- is responsible to file documents in the Control Room (CCH 11,14,39,45).
- cycle time for printing of production DDR's are 2 days from the date documents are sent to the print room.
- cycle time for printing of non-production DDR's are 5 days from the date documents are sent to the print room.

2.5.9 Issuing and Distribution

- All changes to controlled documents shall be timeously distributed to control copy holders.
- Revisions to controlled documents received must be promptly and correctly filed by control copy holders.
- Only the latest authorised revision is valid for use and available on SPO.
- The Configuration Management Group (CMG) shall maintain an appropriate register of controlled copy holders who are in possession and maintain hard copies of selected documents.
- The number of controlled copy holders and the number of documents held by each shall be kept to a minimum.
- The preferred alternative is to use electronic viewing (with ad hoc printing, where required).

NOTE: Refer to Appendices A to R, Workflow Responsibility Matrix for specific responsibilities.

2.6 Process for Monitoring

This process shall be monitored as per the requirements stipulated in 331-2, Nuclear Engineering Management Manual.

2.7 Related/Supporting Documents

Not applicable.

3. Configuration Workflow Responsibility Matrix

See Appendices A to R

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Sadika Touffie	Manager – Nuclear Engineering
Bravance Mashele	Senior Manager - Integrated Plant Design Koeberg
Ahmed Kamroodien	Middle Manager (Acting) – Engineering Support
Israel Sekoko	Middle Manager – Nuclear Analysis and Siting
Nizaam Ryland	Middle Manager – System Engineering
Ravid Goldstein	Middle Manager – Design Engineering
Shireen Osman	Middle Manager – Business Support
Tommy Booysen	Middle Manager – Project Engineering
Luren Chetty	Manager – Nuclear Project Management-Configuration Management
Sydney Cyster	Manager (Acting) – Configuration Management Group

5. Revisions

Date	Rev.	Compiler	Remarks
January 2022	5	E Perrang	Closure of (SE 38324-001 GA) Drawing office to create a Work instruction to outline their activities. Replace PIGO with SPO database throughout the document. CCH 37 was removed from CCH List (Appendix R) CR 127207-002 GA - All Trigramme and Cable Request form (331-282) must be reviewed / authorised by a Design Engineer / Manager.
October 2020	4	D Slingers	Closure of CR 108311-004 CA Change the processing of plant status DDRs from 8 days to 1 month. Closure of CR 108928-001 CA Update 331-85 to include: • The definition of satellites • The list of important satellites where controlled copies will be distributed. • The reasonable period of distribution from the date of DDR approval. • Closure of SE 38324-002 GA Update 331-85 to include the DDR checklist as an Appendix to the document. • Expanding the Roles and Responsibilities of various Departments • Update the cycle time of Plant Status DDR's Inclusion of the following lists: • Control Copy Holders List for Distribution of Documents • DDR Checklist • Production Document Lists • List of Satellites

Date	Rev.	Compiler	Remarks
			Inclusion of the following Guides: • Guide for KBA and CRN number • Guide for CMG to process DDR's on DDT • Guide for Issuing Trigrammes on SAP Guide for Classifications to be updated on SAP
March 2019	3	E Perrang	Closure of CR 105614-001 CA- Include a verification step that needs to be performed by an independent verifier in the CMG after images has been linked on SPO in 331-85. CR 102265-002 CA- Update 331-85 to include the process of Archival of As-built drawings of plant (QADP, Grey box), to prevent future misunderstandings. CR 98326-001 CA- Rectify NE Governance documents for which Importance Classification is incorrect and include Safety Screening Forms for those documents that do not have any (where applicable). Workflow of Plant Breakdown Structure and Equivalency process included in instruction.
March 2017	2	A Holland	Current Document Type, which is a Procedure, changed to Work Instruction. Scheduled Review – Applicability and accuracy of documentation activities has been reviewed.
March 2014	1	D Slingers	Closure of CA 32255. TAF Workflow included in Procedure. Appendix 11 of KSA 011 has also been transferred to this Procedure and added under Notes and References.
September 2012	0	M Heugh	NE taking ownership of the plant document change process and aligning responsibilities and activities in the accordance with the NE organisational structure.

6. Development Team

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

- C Michillies
- D. Slingers
- R Smit

7. Acknowledgements

Not applicable.

8. Records

8.1 All records generated shall be managed in accordance with 331-3 (EWG-624), Nuclear Engineering Documentation and Records Management Work Instruction.

8.2 When updating As-Built documents filed in QADP, Grey Boxes and NEC, the retrieval must be completed from these files and a checklist refiled with a copy of the affected document. When document has been completed, the retrieved master document must be refiled in its original location (QADP/Grey Box and NEC). CMG provides the new location from the SPO system for the new revision of master document or file in location provided as per the DDR.

8.3 The following records have been identified from this process:

Note: to be identified by compiler and process owner

Records Type	Forms
Design Change Package	KFI-RE-001
Design Package	KFI-RE-001
DDR Mark-up	KFI-RE-001

Appendix A: Plant Documentation Changes Associated with Modifications Workflow

APPENDIX A: Plant Documentation Changes Associated with Modifications Workflow											
R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [ ] – Mandatory Requirement ( ) – As Appropriate/Required Flow Path: Main Flow / Secondary Flow	**ORGANISATION / FUNCTION**										**NOTES & REFERENCES**
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	NUCLEAR PROJECT MANAGEMENT	TD & RM	5	6	7	8	9	10	
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	
1. Plant Documentation Changes Associated with Modifications											DDT must be updated at each step of the process.
1.1. Produce modification design.		[R]									331-86 (KAA-815): Design Changes to Plant, Plant Structures or Operating Parameters
1.2. Request Document / Drawing Change for Modification on DDT		[R]									
1.3. Design Engineer to mark-up a copy of the master with the proposed changes		[R]									-If an existing document is being modified, a mark- up as follows should be made on a copy of the document: Red–Add Blue–Remove Yellow–Remain Green–Comments -If a new document is being added, the Unit, System and Chapter must be provided for the KBA number and a descriptive title that includes the functional system and trigramme, if applicable (e.g. Support Plate for 1 RCP 001 PO) and the Discipline (e.g., Mechanical, Electrical, Instrumentation) -Indicate if it forms part of, or relates to existing documents e.g. RCP / DSE. The Master Classification Listing (KBA0000G00031) can be used as a guide for new KBA numbers. In case of a new document, originator to identify where document

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Y/N or N/Y – Decision
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I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD & RM	5	6	7	8	9	10	NOTES & REFERENCES
		↓									must be filed e.g., in case where new datasheets to be filed in the Maintenance Manuals. If no location is provided for new documents, then the default location which is CAB boxes will be used. Documents in CAB boxes are not distributed to satellites and are only filed in the main vault. The document will be available on Excalibur / SPO. -Seek advice from relevant experts and apply the applicable procedures, as required. -240-86973501- Engineering Drawing Office and Engineering Documentation Standard
2. Review Change Request		↓									
2.1. The change is reviewed by Design Engineering as part of the design review process.		[R]									The reviewer of the associated design package will review the applicable DDRs. The Reviewer need to sign off on DDT.
2.2. Upon approval of the design, hand-deliver the hard copy marked up DDRs by Transmittal to CMG. The location of the DDR's in DDT should be updated to reflect Config Control.		↓ [R]									-240-43898815, Document Transmittal Form Completed, authorised design packages must be cover slipped and transmitted to the document controlling body for processing and storage. -Field changes shall be an Addendum to the design package. Field changes shall be cover slipped and transmitted to the document

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Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD & RM	5	6	7	8	9	10	NOTES & REFERENCES
											controlling body for processing and storage. -No changes are allowed to field changes. -Addendum to the design package must be cover slipped and transmitted to the document control organisation. The title must include "Addendum to Design…..Rev nr….." -A design could have page changes. -Page changes shall be cover slipped and transmitted to the document controlling body for processing and storage.
3. Storage at CMG											
3.1. Store the DDR's in the designated place, filed under the Modification number.	[R]										DDRs are only stored if there is a time delay between originating the Change Request and Modification Implementation date.
4. Approved for Processing											
4.1. The Project Leader initiates activity in Primavera at T-3 before the implementation date & populate the planned implementation in DDT.	[I]		[R]								NPM will not be able to Approve for Processing if the implementation date is not populated in DDT. This is also enforced in DDT.
4.2. Approve the DDRs for processing on DDT.	[I]		R]								Project leader need to sign off on DDT.
5. Registration on SPO											

APPENDIX A: Plant Documentation Changes Associated with Modifications Workflow

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Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION										NOTES & REFERENCES
	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD & RM	5	6	7	8	9	10	
5.1. Register DDR on SPO	[R] ↓										-For new documents: Where applicable, new documents need to be added to the SPO database. When registering document, that all the required fields (e.g., KBA number, CRN number etc.) are not populated in DDT, the DDR will be send back to the originator and the signatures will be reversed until originator status. CMG sign off on DDT.
5.2. If there is already a DDR change in the system, then the new DDR will remain pending until the existing DDR in the system has been completed.	[R]										Plant Status DDR's gets preference over a modification DDR as the cycle time of the Plant Status is less than that of a mod.
6. Update master document to reflect proposed changes.	↓										
6.1. Master document is retrieved from MAB Vault.	[R] ↓										A copy of the master document is refiled temporarily with the DDR checklist, 240-158506528 for reference purposes, should the document be required before the revised document is available. CMG to complete register at MAB vault when DDR's are retrieved. CMG to sign off on DDT.
6.2. Distribute DDR for text or drawing changes via transmittals.	[R] ↓										240-43898815-Document Transmittal Form Drawings – Drawing Office Text – CMG Update "Locations" of the document on DDT

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[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD & RM	5	6	7	8	9	10	NOTES & REFERENCES
6.3. Update and check the master document according to the mark-up.	[R]										The documents are to be updated using MicroStation, MSWord, or manual methods, as applicable. Where new documents have been produced by contractors, electronic copies should be submitted to CMG. The format for drawings should be dwg, dgn and MS word for Text documents. CMG to sign off on DDT.
6.4. Transmit DDR's to Design Engineering for authorization.	[R]										240-43898815-Document Transmittal Form CMG to update DDR location in DDT to reflect that DDR's are with DE.
7. Authorisation											
7.1. If acceptable, authorise the document.		[R]									To be authorised by DE. Checks must ensure that changes have been implemented in the correct order, that there is full alignment between the master and the change request and that the document quality is adequate. Authoriser to sign off on DDT. Addendum to the design package shall be where possible authorised by the same authorised engineer who has reviewed and authorised the design.
7.2. Notify the Project leader via e-mail of all the DDR's that have been authorised.	[R]										

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[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD & RM	5	6	7	8	9	10	NOTES & REFERENCES
7.3. Store the updated masters with the change request in a designated place until the "Approval for Issue" signature is received from the Project Manager.	[R] ↓										Applicable to any control documents required to be booked in or out on the SPO.
8. Approval for Issue											
8.1 CMG notifies Project Leader that authorised documents is ready for release.	[R] ↓		[I]								
8.2 NPM to inform CMG if the implementation date has changed from the planned implementation date in DDT.	[I]		[R] ↓								
8.3 Project Leader to amend the implementation date if it has changed from the planned implementation date on DDT.			[R] ↓								
8.4 Approve for Issue on DDT.			[R] ↓								Project leader to review the physical hard copy at CMG. If there are corrections or additional changes identified by the project leader, then a mark-up should be made, and this DDR will go back for changes. The Project Leader would release or 'Approve for Issue' only after the modification work scope has been completed on the plant. Project leader to sign off on DDT.

APPENDIX A: Plant Documentation Changes Associated with Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION										NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	NUCLEAR PROJECT MANAGEMENT	TD & RM							
	1	2	3	4	5	6	7	8	9	10	
9. ECP of DDR's											
9.1 Documents are revised to the subsequent revision on SPO.	[R]										The revision of new documents starts at Z1. CMG signs off on DDT.
9.2 *All updated documents not electronically available to be scanned and linked to SPO."*											Complete a Docs Transmittal for distribution The electronic image will be available to the plant at this step.
10. Distribution											
10.1 Complete a Quality Check of the DDR's completed as per the package transmitted for Distribution.											Quality checks to be completed on SPO and DDT.
10.2 Update DQI.											DQI on G: Drive
10.3 Verify all linked documents as per transmittal submitted											
10.4 Categories the documents in accordance with Appendix R.											Refer to Control Copy Holder Distribution List, 240- 158556048 All other document types that do not require distribution to CCH's will be signed off on DDT.
10.5 Documents submitted to TD & RM for printing.	[R]			[S]							CMG to sign off on DDT.

APPENDIX A: Plant Documentation Changes Associated with Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION										NOTES & REFERENCES
	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD & RM	5	6	7	8	9	10	
10.6 Received documents back from TD & RM	[R]			[R]							TD&RM provides a Printing Service to reproduce copies. KFJ-TD-012 Request for Printing Service Form **Cycle time for Printing Service:** Production DDR's = 2 working days from documents send to Print room date. Non-production DDR's = 5 working days from documents send to Print room date. TD & RM to sign off on DDT.
10.7 Issue Controlled Copies to controlled copy holders.	[R]			[S]							See Control Copy Holders Distribution list, 240-158556048. Controlled copies of the page changes request shall be distributed to all controlled copy holders with a notice to replace superseded pages. CMG informs CCH's via email of the updates that they will receive via the post with and electronic transmittal sheet. TD&RM files Control Room (CCH 11,14,39,45
10.8 Sign off DDR'S											DDT for Control Copies Issued
10.9 File new master document at MAB vault.				[S]							CMG to complete register at MAB vault when DDR's are filed. CMG to sign off on DDT.
10.10 Superseded DDR Package to be cover slipped and submitted to TD & RM											KFI-RE-004-Records Transfer Acknowledgement Form. transmitted to TD&RM as a record.
11. NNR Review											
11.1 On request from NNR a DDR report will be completed.	[R]										Manager of Configuration Management compiles a letter and attaches the report.

Appendix B: Plant Documentation Changes Associated with Minor Modifications Workflow

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [ ] – Mandatory Requirement ( ) – As Appropriate/Required Flow Path: Main Flow / Secondary Flow	ORGANISATION / FUNCTION										NOTES & REFERENCES
	OWNER	DESIGN ENGINEERING	SYSTEM ENGINEER	CONFIGURATION CONTROLLER	TD & RM						
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	
1. Minor Modification Process											240-86502715 [KAA-803]
1.1 Produce minor modification design.		[R]									
1.2 Design Engineer to mark-up a copy of the master with the proposed changes		[R]									
2. Review Change Request											
2.1 The change is reviewed by Design Engineering as part of the design review process.		[R]									The reviewer of the associated design package will review the applicable DDRs. Reviewer need to sign off on DDT.
2.2 Upon approval of the design, hand-deliver the hard copy marked- up DDR's by Transmittal to CMG for storage.		[R]									
2.3 Upon approval of the design, submit an electronic copy of the design to CMG.		[R]									
3. Storage at CMG											
3.1 Store the DDR's in the designated place, filed under the Minor Modification number.				[R]							DDRs are only stored if there is a time delay between originating the Change Request and Modification Implementation date.

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION										NOTES & REFERENCES
	1 OWNER	2 DESIGN ENGINEERING	3 SYSTEM ENGINEER	4 CONFIGURATION CONTROLLER	5 TD & RM	6	7	8	9	10	
2. Implementation											
2.1 Inform the necessary persons/groups of the intended changes.	[R]	[I]	[I]	[I]							
2.2 Inform stakeholders that project implementation has started.	[R]	[I]	[I]	[I]							
3. Approved for Processing											
3.1 Systems Engineer to populate the planned implementation date in DDT.			[R]	[I]							System Engineer will not be able to approve for processing if the implementation date is not populated in DDT. This is also enforced in DDT.
3.2 Approve the DDRs for processing on DDT.			[R]								System Engineer to sign off on DDT.
4 Registration on SPO											
4.1 Register DDR on SPO				[R]							For new documents: Where applicable, new documents need to be added to the SPO database. When registering document, that all the required fields (e.g., KBA number, CRN number etc.) are not populated in DDT, the DDR will be send back to the originator and the signatures will be reversed until originator status. CMG sign off on DDT.
4.2 If there is already a DDR change in the system, then the new DDR will remain pending until the existing				[R]							Plant Status DDR's gets preference over a modification DDR as the cycle time of the Plant Status is less than that of a mod.

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	OWNER (1)	DESIGN ENGINEERING (2)	SYSTEM ENGINEER (3)	CONFIGURATION CONTROLLER (4)	TD & RM (5)	6	7	8	9	10	NOTES & REFERENCES
DDR in the system has been completed											
5. Update master document to reflect proposed changes.											
5.1 Master document is retrieved at MAB vault.				[R] ↓							A copy of the master document is refiled temporarily with the DDR checklist, 240-158506528 for reference purposes, should the document be required before the revised document is available. CMG to complete register at MAB vault when DDR's are retrieved. CMG to sign off on DDT.
5.2 Distribute DDR for text or drawing changes via transmittals.				[R] ↓							240-43898815-Document Transmittal Form Drawings – Drawing Office Text – CMG Update "Locations" of the document on DDT
5.3 Update and check the master document according to the mark-up.				[R] ↓							The documents are to be updated using MicroStation, MSWord, or manual methods, as applicable. Where new documents have been produced by contractors, electronic copies should be submitted to CMG. The format for drawings should be dwg, dgn and MS word for Text documents.CMG to sign off on DDT.

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	OWNER	DESIGN ENGINEERING	SYSTEM ENGINEER	CONFIGURATION CONTROLLER	TD & RM						NOTES & REFERENCES
	1	2	3	4	5	6	7	8	9	10	
6. Authorisation				[R]							
6.1 If acceptable, authorise the document.		[R]									Authoriser to sign off on DDT.
6.2 Notify the System Engineer via e-mail of all the DDR's that have been authorised.				[R]							
6.3 Store the updated masters with the change request in a designated place until the "Approval for Issue" signature is received from the System Engineer.				[R]							
7. Approval for Issue											
7.1 Configuration Management notifies Owner / System Engineer that authorised document is ready for release.	[I]		[I]	[R]							
7.2 System Engineer to inform CMG if the implementation date has changed from the planned date on DDT.	[I]		[R]	[I]							
7.3 System Engineer to amend the implementation date on DDT if it has changed from			[R]								

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 OWNER	2 DESIGN ENGINEERING	3 SYSTEM ENGINEER	4 CONFIGURATION CONTROLLER	5 TD & RM	6	7	8	9	10	NOTES & REFERENCES
the planned implementation date in DDT.											
7.4 Approve for Issue on DDT.			[R] ↓								System Engineer to review the physical hard copy at CMG. If there are corrections or additional changes identified by the system engineer, the system engineer must do a mark-up and this DDR will go back for changes. The System Engineer would release or 'approve for issue' only after the modification work scope has been completed on the plant. System Engineer to sign off on DDT.
8 ECP of DDR's			←	[R] →							
8.1 Documents are revised to the subsequent revision on SPO.				[R]							The revision of new documents begins at Z1.CMG signs off on DDT.
8.2 All updated documents not electronically available to be scanned and linked to SPO."											Complete a Docs Transmittal for distribution The electronic image will be available to the plant at this step.
9. Distribution											
9.1 Complete a Quality Check of the DDR's completed as per the package transmitted for Distribution.											Quality checks to be completed on SPO and DDT.
9.2 Update DQI.											DQI (G: Drive)
9.3 Verify all linked documents as per transmittal submitted				↓							

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1 OWNER	2 DESIGN ENGINEERING	3 SYSTEM ENGINEER	4 CONFIGURATION CONTROLLER	5 TD & RM	6	7	8	9	10	NOTES & REFERENCES
9.4 Categories the documents in accordance with Appendix R				[R]							Refer to Control Copy Holder Distribution List, 240- 158556048 All other document types that do not require distribution to CCH's will be signed off on DDT
9.5 Documents submitted to TD & RM for printing.				[R]							CMG to sign off on DDT
9.6 Received documents back from TD & RM				[R]	[S]						TD&RM provides a Printing Service to reproduce copies. KFJ-TD-012 Request for Printing Service Form **<u>Cycle time for Printing Service:</u>** Production DDR's = 2 working days from documents send to Print room date. Non-production DDR's = 5 working days from documents send to Print room date. TD & RM to sign off on DDT.
9.7 Issue Controlled Copies to controlled copy holders.				[R]	[S]						See Control Copy Holders Distribution list, 240-158556048. Controlled copies of the page changes request shall be distributed to all controlled copy holders with a notice to replace superseded pages. CMG informs CCH's via email of the updates that they will receive via the post with and electronic transmittal sheet. TD&RM files Control Room (CCH 11,14,39,45
9.8 Sign off DDR'S											DDT for Control Copies Issued
9.9 File new master document at MAB vault											CMG to complete register at MAB vault when DDR's are filed. CMG to sign off on DDT.

APPENDIX B: Plant Documentation Changes Associated with Minor Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 OWNER	2 DESIGN ENGINEERING	3 SYSTEM ENGINEER	4 CONFIGURATION CONTROLLER	5 TD & RM	6	7	8	9	10	NOTES & REFERENCES
9.10 Superseded DDR package are cover slip and submitted to TD & RM				[R]							KFI-RE-004-Records Transfer Acknowledgement Form.
10. Design Field Changes											
10.1 Send the new DDR's to CMG.		[R]		[S]							
10.2 Send DRC's and DFC's (and attachments) to CMG.		[R]		[S]							
10.3 Make controlled copies of the DFC's or DRC's (as supplied).				[R]							
10.4 Implement the DFC's or DRC's.	[R]										
10.5 Validate the "as built" status of plant and that documentation has been updated.	[R]	[C]		[S]							

Appendix C: Plant Documentation Changes Associated with Configuration Item Anomaly Workflow

APPENDIX C: Plant Documentation Associated with Configuration Item Anomaly Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 ORIGINATOR	5 ORIGINATORS GROUP HEAD	6 DRAWING OFFICE	7 TD&RM	8	9	10	11	NOTES & REFERENCES
1. Plant documentation changes associated with Configuration Item Anomaly												DDT must be updated at each step of the process.
1.1 Request document change for Configuration Item Anomaly on DDT				[R] ↓								-If a new document is being added, the Unit, System and Chapter must be provided for the KBA number and a descriptive title that includes the functional system and trigramme, if applicable (e.g., Support Plate for 1 RCP 001 PO) and the Discipline (e.g., Mechanical, Electrical, Instrumentation) -Indicate if it forms part of, or relates to existing documents e.g., RCP / DSE. The Master Classification Listing (KBA0000G00031) can be used as a guide for new KBA numbers. In case of a new document, originator to identify where document must be filed e.g., in case where new datasheets to be filed in the Maintenance Manuals. If no location is provided for new documents, then the default location which is CAB boxes will be used. Documents in CAB boxes are not distributed to satellites and are only filed at the MAB vault. The document will be available on Excalibur. -Seek advice from relevant experts and apply the applicable procedures, as required.

APPENDIX C: Plant Documentation Associated with Configuration Item Anomaly Workflow

R – Responsible
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F – File
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Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 ORIGINATOR	5 ORIGINATORS GROUP HEAD	6 DRAWING OFFICE	7 TD&RM	8	9	10	11	NOTES & REFERENCES
												-240-86973501- Engineering Drawing Office and Engineering Documentation Standard
1.2 Mark-up a copy of the master document for the proposed changes				[R]								-If an existing document is being modified, a mark-up as follows should be made on a copy of the document: Red – Add Blue – Remove Yellow – Remain Green – Comments
1.3 Confirmation to proceed					[R]							This is to ensure agreement in the originator's group that the change is valid. Need to sign off on DDT.
2. Evaluation												
2.1 Check whether the document or plant is correct.		[R]										
2.2 Verify whether the document or plant requires updating.		[R]										If a plant change request is required: Raise a EWR to System Engineering. KSA-139 Initiating a Work Request
3. Accept the document change request.		[R]										Evaluator to sign off on DDT.
4. Registration on SPO												**Cycle time for Configuration Item Anomaly:** Production DDR's = 21 working days from registration date to Master filed date. Non-production DDR's = 30 working days from registration date until Master filed date.

APPENDIX C: Plant Documentation Associated with Configuration Item Anomaly Workflow

R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [ ] – Mandatory Requirement ( ) – As Appropriate/Required Flow Path: Main Flow Secondary Flow	ORGANISATION / FUNCTION											NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	NUCLEAR PROJECT MANAGEMENT	ORIGINATOR	ORIGINATORS GROUP HEAD	DRAWING OFFICE	TD&RM					
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	
4.1 Register DDR on SPO	[R]											For new documents: Where applicable, new documents need to be added to the SPO database. A cover page shall be attached to 331-216 Manufacturers/Suppliers Catalogue Form in the case of an equivalency DDR. When registering document, that all the required fields (e.g., KBA number, CRN number etc.) are not populated in DDT, the DDR will be sent back to the originator and the signatures will be reversed until originator status. CMG sign off on DDT.
4.2 If there is a DDR change in the system, then the new DDR will remain pending until the existing DDR in the system has been completed.												Plant Status DDR's gets preference over a modification DDR as the cycle time of the Plant Status is less than that of a mod.
5. Update master document to reflect proposed changes.												
5.1 Master document is retrieved from MAB Vault.	[R]											A copy of the master document is refiled temporarily with the DDR checklist, 240-158506528 for reference purposes, should the document be required before the revised document is available. CMG to complete register at MAB vault when DDR's are retrieved. CMG to sign off on DDT.
5.2 Distribute DDR for text or drawing changes via transmittals.	[R]											240-43898815-Document Transmittal Form Drawings – Drawing Office Text – CMG Update "Locations" of the document on DDT

APPENDIX C: Plant Documentation Associated with Configuration Item Anomaly Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 ORIGINATOR	5 ORIGINATORS GROUP HEAD	6 DRAWING OFFICE	7 TD&RM	8	9	10	11	NOTES & REFERENCES
5.3 Update and check the master document according to the mark-up	[R]					[R]						Where new documents have been produced by contractors, electronic copies should be submitted to CMG. The format for drawings should be dwg, dgn and MS word for Text documents. CMG to sign off on DDT
5.4 Transmit DDR's to Design Engineering for authorization.												240-43898815-Document Transmittal Form CMG to update DDR location in DDT to reflect that DDR's are with DE.
6. Authorisation												
6.1 If acceptable, authorise the document.		[R]										To be authorised by DE. Checks must ensure that changes have been implemented in the correct order, that there is full alignment between the master and the change request and that the document quality is adequate. Authoriser to sign off on DDT. Addendum to the design package shall be where possible authorised by the same authorised engineer who has reviewed and authorised the design.
7. ECP of DDR's												
7.1 Documents are revised to the subsequent revision on SPO.	[R]											The revision of new documents starts at Z1. CMG signs off on DDT.
7.2 All documents to be scanned and linked to SPO.												Complete a Docs Transmittal for distribution The electronic image will be available to the plant at this step.
8. Distribution												
8.1 Complete a Quality Check of the DDR's	[R]											Quality checks to be completed on SPO and DDT.

APPENDIX C: Plant Documentation Associated with Configuration Item Anomaly Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION											NOTES & REFERENCES
	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 ORIGINATOR	5 ORIGINATORS GROUP HEAD	6 DRAWING OFFICE	7 TD&RM	8	9	10	11	
completed as per the package transmitted for Distribution.												
8.2 Update DQI.												DQI on G: Drive
8.3 Verify all linked documents as per transmittal submitted												
8.4 Categories the documents in accordance with Appendix R.												Refer to Control Copy Holder Distribution List, 240- 158556048 All other document types that do not require distribution to CCH's will be signed off on DDT.
8.5 Documents submitted to TD & RM for printing							[S]					CMG to sign off on DDT.
8.6 Received documents from TD & RM	[R]						[S]					TD&RM provides a Printing Service to reproduce copies. KFJ-TD-012 Request for Printing Service Form **Cycle time for Printing Service:** Production DDR's = 2 working days from documents send to Print room date. Non-production DDR's = 5 working days from documents send to Print room date. TD & RM to sign off on DDT.
8.7 Issue Controlled Copies to controlled copy holders.	[R]						[S]					See Control Copy Holders Distribution list, 240-158556048. Controlled copies of the page changes request shall be distributed to all controlled copy holders with a notice to replace superseded pages.

APPENDIX C: Plant Documentation Associated with Configuration Item Anomaly Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION											NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	NUCLEAR PROJECT MANAGEMENT	ORIGINATOR	ORIGINATORS GROUP HEAD	DRAWING OFFICE	TD&RM					
	1	2	3	4	5	6	7	8	9	10	11	
	↓											CMG informs CCH's via email of the updates that they will receive via the post with and electronic transmittal sheet. TD&RM files Control Room (CCH 11,14,39,45)
8.8 Sign off DDR'S												DDT for Control Copies Issued
8.9 File new master document at MAB vault	↓											CMG to complete register at MAB vault when DDR's are filed. CMG to sign off on DDT.
8.10 Superseded DDR Package to be cover slipped and submitted to TD & RM	[R]											KFI-RE-004-Records Transfer Acknowledgement Form. transmitted to TD&RM as a record.

Appendix D: Plant documentation changes associated with Design Packages workflow

APPENDIX D: Plant Documentation Changes Associated with Design Packages Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION: 1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 TD&RM								NOTES & REFERENCES
1. Design Packages												
1.1 The Authorised Design Package is submitted to CMG for Processing either in Hard-copy or Electronic format. The Authorised Electronic Designs (All Authorised signed sheets to be submitted to CMG with record cover slip [KFI-RE-001]. DE to store on (G:drive – file path) for CMG to retrieve, stored, maintain the revision, location of updated and new designs.	[I]	[R]										**<u>This Design Package Appendix is Applicable for:</u>** Design Packages Design Page Changes Design Revision Change (DRC) Design Field Change (DFC) Technical Requirement Specification (TRS) Feasibility Study (FS) Minor Modification
1.2 The Design Package is verified and checked by DE for DDR's. DDRs must be submitted to CMG in Hardcopy format. DE to split Design Package and DDR's for the Distribution of Design Package and the processing of DDR's.	[I]	[R]										The DDR's are filed in a cabinet at the Configuration Area for storage until date of implementation.
1.3 The Hard Copy of Design Package is transmitted to TD&RM for Printing Service.	[R]			[S]								KFJ-TD-012 Request for Printing Service Form **<u>Cycle time for Design Package:</u>** 5 working days TD&RM produces 1 Plain Copy for Records

APPENDIX D: Plant Documentation Changes Associated with Design Packages Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION											NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	NUCLEAR PROJECT MANAGEMENT	TD&RM								
	1	2	3	4								
2 Distribution												
2.1 CMG distributes and hard copy or electronic copy to TD & RM	[R]			[S]								CMG distributes the hard copy or electronic copy of the changes as per the document received from Design Engineering for processing. CMG to send an electronic notification via email of the updates.
2.2 Issue of Electronic Designs from CMG to TD & RM				[S]								CMG and TD & RM to be given access to DE Authorised Design Folders [G:Drive]. CMG transmits the authorised signed sheets to TD & RM with record cover slip [KFI-RE-001] and Document Transmittal Form 240-43898815. CMG to sends an electronic transmittal and notification via email of the updates TD & RM will load electronic file on SPO for retrievability.
2.3 Update the Design Location File												This is for New Packages (CMG G: drive)
2.4 Master document refiled.	[R]											Refer to 2.2 for the electronic file that will be linked on SPO by TD & RM

Appendix E: Plant Documentation Changes Associated with Temporary Alterations Workflow

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	RESPONSIBLE LEAD OF TAF	SYSTEM ENGINEER	DRAWING OFFICE	TD & RM					NOTES & REFERENCES
	ORGANISATION / FUNCTION										
	1	2	3	4	5	6	7	8	9	10	
1. Plant Documentation Changes associated with Temporary Alterations											DDT must be updated at each step of the process.
1.1 Request Document Change for TAF on DDT.			[R]								At Installation of TAF and Restoration of TAF DDT is available on the Z-drive, NalApp, Ddt
1.2 Responsible Lead to mark-up a copy of the master document with the proposed changes.			[R]								-If an existing document is being modified, a mark- up as follows should be made on a copy of the document: Red – Add Blue – Remove Yellow – Remain Green – Comments -If a new document is being added, the Unit, System and Chapter must be provided for the KBA number and a descriptive title that includes the functional system and trigramme, if applicable (e.g., Support Plate for 1 RCP 001 PO) and the Discipline (e.g. Mechanical, Electrical, Instrumentation) -Indicate if it forms part of, or relates to existing documents e.g. RCP / DSE. In case of a new document, originator to identify where document must be filed e.g., in case where new datasheets to be filed in the Maintenance Manuals -Seek advice from relevant experts and apply the applicable procedures, as required. The Master Classification Listing (KBA0000G00031) can be used as a guide for new KBA numbers.

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations Workflow

R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [ ] – Mandatory Requirement ( ) – As Appropriate/Required Flow Path: Main Flow ⟷ Secondary Flow	ORGANISATION / FUNCTION										NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	RESPONSIBLE LEAD OF TAF	SYSTEM ENGINEER	DRAWING OFFICE	TD & RM					
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	
											In case of a new document, originator to identify where document must be filed e.g. in case where new datasheets to be filed in the Maintenance Manuals. If no location is provided for new documents, then the default location which is CAB boxes will be used. Documents in CAB boxes are not distributed to satellites and are only filed in the main vault. The document will be available on Excalibur. Seek advice from relevant experts and apply the applicable procedures, as required. -240-86973501- Engineering Drawing Office and Engineering Documentation Standard.
2. Review Change Request											
2.1. The change is reviewed by Design Engineering as part of the design review process.		[R]									The reviewer of the associated TAF package will review the applicable DDRs. The Reviewer sign on DDT.
2.2. Upon approval of the TAF package, hand-deliver the hard copy marked up DDRs by Transmittal to CMG. The location of the DDR's in DDT should be updated to reflect Config Control.		[R]									240-43898815 Document Transmittal Form

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 RESPONSIBLE LEAD OF TAF	4 SYSTEM ENGINEER	5 DRAWING OFFICE	6 TD & RM	7	8	9	10	NOTES & REFERENCES
3. Storage at Configuration Control											
3.1. Store the DDRs in the designated place, filed under the TAF number.	[R]										DDRs are only stored if there is a time delay between originating the Change Request and TAF Implementation date.
4. Approve for Processing											
4.1 Systems Engineer to populate the planned implementation date in DDT.				[R]							System Engineer will not be able to approve for processing if the implementation date is not populated in DDT. This is also enforced in DDT.
4.2 Issue the DDRs for processing on DDT				[R]							System Engineer to sign off on DDT.
5. Registration on SPO											
5.1 Register DDR on SPO	[R]										-For new documents: Where applicable, new documents need to be added to the SPO database. If CMG notice, when registering document, that all the required fields (e.g., KBA number, CRN number etc.) are not populated in DDT, the DDR will be sent back to the originator. The signatures will be reversed until Originator's status. CMG need to sign off on DDT.
5.2 If there is already a DDR change in the system, then the new DDR will remain pending until the existing DDR in the system has been completed											Plant Status DDR's gets preference over a modification DDR as the cycle time of the Plant Status is less than that of a mod.

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION										NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	RESPONSIBLE LEAD OF TAF	SYSTEM ENGINEER	DRAWING OFFICE	TD & RM					
	1	2	3	4	5	6	7	8	9	10	
6. Update master document to reflect proposed changes.											
6.1 Master document is retrieved from MAB Vault.	[R] ↓										A copy of the master document is refiled temporarily with the DDR checklist, 240-158506528 for reference purposes, should the document be required before the revised document is available. CMG to complete register at MAB vault when DDR's are retrieved. CMG to sign off on DDT.
6.2 Distribute DDR for text or drawing changes via transmittals.	[R] ↓										240-43898815-Document Transmittal Form Drawings – Drawing Office Text – CMG Update "Locations" of the document on DDT
6.3. Update and check the master document according to the mark-up	[R] ↓				[R]						The documents are to be updated using MicroStation, MSWord, or manual methods, as applicable. Where new documents have been produced by contractors, electronic copies should be submitted to CMG. The format for drawings should be dwg, dgn and MS word for Text documents.CMG to sign off on DDT
6.4 Transmit DDR's to Design Engineering for authorization.	[R] ↓										240-43898815-Document Transmittal Form CMG to update DDR location in DDT to reflect that DDR's are with DE.

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations

R – Responsible

F – File

• – Outside Matrix Scope

Y/N or N/Y – Decision

C – Concur

I – Informed

S – Service

[ ] – Mandatory Requirement

( ) – As Appropriate/Required

Flow Path:

Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 RESPONSIBLE LEAD OF TAF	4 SYSTEM ENGINEER	5 DRAWING OFFICE	6 TD & RM	7	8	9	10	NOTES & REFERENCES
7. Authorisation											
7.1. If acceptable, authorise the document.		[R]									To be authorised by DE. Checks must ensure that changes have been implemented in the correct order, that there is full alignment between the master and the change request and that the document quality is adequate. Authoriser to sign off on DDT. Addendum to the design package shall be where possible authorised by the same authorised engineer who has reviewed and authorised the design.
7.2 Notify the System Engineer / DE via e-mail of all the DDR's that have been authorised.	[R]										
7.3 Store the updated master document with the change request in a designated place until the confirmation is received from the TAF Coordinator.	[R]										DDR's are only stored if there is a time delay between originating the change request and TAF implementation date.
8. Approval for Issue											
8.1 CMG notifies System Engineer / DE that authorised document is ready for release.	[R]	[I]									
8.2 System Engineer / DE to inform CMG if the implementation date has changed from the planned date on DDT.	[I]			[R]							

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations

R – Responsible F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [ ] – Mandatory Requirement ( ) – As Appropriate/Required Flow Path: Main Flow / Secondary Flow	ORGANISATION / FUNCTION										NOTES & REFERENCES
	CONFIGURATION CONTROLLER	DESIGN ENGINEERING	RESPONSIBLE LEAD OF TAF	SYSTEM ENGINEER	DRAWING OFFICE	TD & RM					
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	
8.3 System Engineer to amend the implementation date on DDT if it has changed from the planned implementation date in DDT.				[R]							
8.4 Approve for Issue on DDT.				↓							System Engineer / DE to review the physical hard copy at CMG. If there are corrections or additional changes identified by the system engineer, the system engineer must do a mark-up and this DDR will go back for changes. The System Engineer / DE would release or 'approve for issue' only after the TAF work scope has been completed on the plant. System Engineer / DE to sign off on DDT.
9. ECP of DDR's											
9.1 Documents are revised to the subsequent revision on SPO.	[R]										The revision of new documents starts at Z1. CMG signs off on DDT.
9.2 All documents to be scanned and linked to SPO.	↓										Complete a Docs Transmittal for distribution The electronic image will be available to the plant at this step.

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations

R – Responsible

F – File

• – Outside Matrix Scope

Y/N or N/Y – Decision

C – Concur

I – Informed

S – Service

[ ] – Mandatory Requirement

( ) – As Appropriate/Required

Flow Path:

Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 RESPONSIBLE LEAD OF TAF	4 SYSTEM ENGINEER	5 DRAWING OFFICE	6 TD & RM	7	8	9	10	NOTES & REFERENCES
10. Distribution											
10.1 Complete a Quality Check of the DDR's completed as per the package transmitted for Distribution.	[R]										Quality checks to be completed on SPO and DDT.
10.2 Update DQI.											DQI on G: Drive
10.3 Verify all linked documents as per transmittal submitted											
10.4 Categories the documents in accordance with Appendix R.											Refer to Control Copy Holder Distribution List, 240- 158556048 All other document types that do not require distribution to CCH's will be signed off on DDT.
10.5 Documents submitted to TD & RM for printing.						[S]					CMG to sign off on DDT.
10.6 Received documents back from TD & RM	[R]					[R]					TD&RM provides a Printing Service to reproduce copies. KFJ-TD-012 Request for Printing Service Form **<u>Cycle time for Printing Service:</u>** Production DDR's = 2 working days from documents send to Print room date. Non-production DDR's = 5 working days from documents send to Print room date. TD & RM to sign off on DDT.

APPENDIX E: Plant Documentation Changes Associated with Temporary Alterations

R – Responsible
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ←→ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 RESPONSIBLE LEAD OF TAF	4 SYSTEM ENGINEER	5 DRAWING OFFICE	6 TD & RM	7	8	9	10	NOTES & REFERENCES
10.7 Issue Controlled Copies to controlled copy holders	[R] ← [S]										See Control Copy Holders Distribution list, 240-158556048. Controlled copies of the page changes request shall be distributed to all controlled copy holders with a notice to replace superseded pages. CMG informs CCH's via email of the updates that they will receive via the post with and electronic transmittal sheet. TD&RM files Control Room (CCH 11,14,39,45)
10.8 Sign off DDR'S											DDT for Control Copies Issued
10.9 Sign off DDR on DDT for Control Copies Issued											CMG to complete register at MAB vault when DDR's are filed. CMG to sign off on DDT.
10.10 Superseded DDR Package to be cover slipped and submitted to TD & RM	[R]										KFI-RE-004-Records Transfer Acknowledgement Form. transmitted to TD&RM as a record.

Appendix F: Plant Documentation Change Reversal Workflow

APPENDIX F: Plant Documentation Change Reversal Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 DRAWING OFFICE	5 RESPONSIBLE LEAD OF TAF	6	7	8	9	10	11	NOTES & REFERENCES
1. Reversal Process												-This process can only be initiated if the document is between registration and authorisation state. -If the document is already approved a new DDR must be raised.
1.1 The responsible Project Engineer/TAF Lead/ Design Engineer informs CMG of modification / TAF implementation date change or cancellation	[I]	[R]	[R]		[R]							Modification/TAF removed from current scope and re-allocated to new scope.
1.2 Reversal process to be initiated.	[R]			[R]								Changed document will be reversed to its previous authorised status.
1.3 The changes proposed by the mark-up are to be removed from the master.	[R]			[R]								-For both text and drawing changes. -Checks must ensure that changes have been reversed in the correct order and the document quality is adequate.
1.4 Update SPO to reflect the reversal process	[R]		[I]		[I]							DDT– remove signatures (until 'Reviewed' status) SPO Database- Remove DDR number related to document.
1.5 Master document refiled.	[R]											Revised document is filed and the copy of document and DDR checklist, 240-158506528 are removed.

Appendix G: Plant Documentation Change Cancellation Workflow

APPENDIX G: Plant Documentation Change Cancellation Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	1 CONFIGURATION CONTROLLER	2 DESIGN ENGINEERING	3 NUCLEAR PROJECT MANAGEMENT	4 DRAWING OFFICE	5 ORIGINATOR	6 TD & RM	7	8	9	10	11	NOTES & REFERENCES
1. Cancellation Process												
1.1 A request to cancel a DDR should be made via e-mail. The e-mail should contain the DDR number, modification number (if applicable) and the reason for cancellation.	[I]	[R]	[R]		[R]							This process can only be initiated if the document is between originated and authorisation state. If the document is already approved a new DDR must be raised. E-mail to: KOU_configcontrol@eskom.co.za
1.2 CMG will cancel the DDR on the DDT Database and SPO and send the requestor a confirmation e-mail that the DDR has been cancelled.	[R]											
1.3 Once a DDR has been cancelled after it has been authorised or changes made to the master document, the following steps needs to be done:	[R]											
1.4 The master document needs to be reversed back to its original state.	[R]			[R]								For both text and drawing changes. Checks must ensure that changes have been reversed in the correct order and the document quality is adequate.
1.5 If a new document was created,then the document should be clearly marked as Cancelled.	[R]			[R]								
1.6 The master document should be refiled.	[R]											
1.7 The Cancellation package should be coverslipped and submitted to TD & RM, Records Department as a record.	[R]											The cancellation package should include the DDR mark-up, e-mail notification of cancellation and clearly marked Cancelled document (where applicable)

Appendix H: Update of document/SPO when an entire document is withdrawn/removed from system

APPENDIX H : Update of document/SPO when an entire document is withdrawn from system											
R – Responsible A – Approve F – File • – Outside Matrix Scope Y/N or N/Y – Decision C – Concur I – Informed S – Service [ ] – Mandatory Requirement ( ) – As Appropriate/Required Flow Path: Main Flow / Secondary Flow	**ORGANISATION / FUNCTION**										**NOTES & REFERENCES**
	CONFIGURATION CONTROLLER	SYSTEM DESIGN ENGINEERING	RESPONSIBLE LEAD OF TAF	TD & RM							
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	
1. Update master document to reflect proposed changes.											
1.1. Entire master document is retrieved from Master file.	[R]										Only a copy of the DDR cover with a note stating that entire document will be withdrawn will be refiled.
1.2. Distribute DDR for text or drawing changes via transmittals.	[R]										-240-43898815 Document Transmittal Form -Drawings – Drawing Office -Text – Configuration Control -Update "Locations" of the document on SPO
1.3. Update the current revision of the master document with the note, "Withdrawn from System" and include the DDR number.	[R]										The Master document will not be revved up to the subsequent revision because it will be removed from the system.
2. Update document on SPO											Update of document on SPO will take place after a document has been Authorise / Approve for Issue.
2.1. Update document on SPO which will result in a subsequent revision being issued.	[R]										The document will be revved up on SPO to indicate the change request to withdrawn the document.
2.2. Change the Status of the new revision to "Withdrawn" and the Rev Type to "N".	[R]										Rev Type "N" refers to Historical on SPO

APPENDIX H : Update of document/SPO when an entire document is withdrawn from system

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow ⟷ Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION										NOTES & REFERENCES
	CONFIGURATION CONTROLLER	SYSTEM DESIGN ENGINEERING	RESPONSIBLE LEAD OF TAF	TD & RM							
	1	2	3	4		6	7	8	9	10	
3. Distribution											
3.1 Inform Controlled Copy holders via e-mail to withdrawn the document and submit an electronic / hardcopy of the withdrawn document.	[R]			[S]							
3.2 Remove DDR cover in Master file.	[R]										
3.3 The DDRpackage (with the withdrawn document) should be coverslipped and submitted to TD & RM, Records Department as a record.	[R]			[S]							KFI-RE-004 Records Transmittal Form The DDR package should include the DDR mark-up, DDR checklist, 240-158506528 and clearly marked Withdrawn document.

Appendix I: SAP Bill of Material Workflow

APPENDIX I: SAP Bill of Material Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	SPECIFICATION ENGINEERING GROUP 1	CONFIGURATION CONTROLLER 1	NUCLEAR PROJECT MANAGEMENT 3	MATERIALS PLANNING 4	ORIGINATOR 5	TD & RM 6	7	8	9	10	11	NOTES & REFERENCES
1. Equivalency Process	[R]					[S]						-SEG originates and authorises Equivalencies. -The document is then sent to TD & RM to scan and distribute to the departments on the distribution list.
1.1 CMG will update the material classification and link the bill of material in SAP.		[R]										This function is applicable for the Equivalency and New Stock Application form processes see KFZ-IO-010.
2. Withdrawal Process of Equivalencies												
2.1 The withdrawal of equivalencies is originated by SEG.	[R]											
2.2 A formal letter is originated by SEG, this letter is forwarded to relevant parties for processing.	[R]											
2.3 TD & RM will process the withdrawal letter to remove the equivalency record from the database. The withdrawal letter will be reverenced on the database.						[R]						

APPENDIX I: SAP Bill of Material Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	SPECIFICATION ENGINEERING GROUP	CONFIGURATION CONTROLLER	NUCLEAR PROJECT MANAGEMENT	MATERIALS PLANNING	ORIGINATOR	TD & RM					NOTES & REFERENCES
	1	1	3	4	5	6	7	8	9	10	11	
2.4 CMG will reverse all the SAP updates, material classification and Bill of Material relating to the equivalency process. To reverse the DDR changes, a DDR needs to be raised as per 331-85.		[R]										
3. Change of SAP Bill of Materials												
3.1 Materials Planning originates a Notice of change of material number: KFZ-IO-008 form and submits it to CMG.				[R]								
3.2 CMG will remove and replace the old SAP material number with the new material number on SAP.		[R]										

Appendix J: Trigramme Allocation Associated with Modifications Workflow

APPENDIX J: Trigramme Allocation Associated with Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORIGINATOR	CONFIGURATION CONTROLLER	DESIGN ENGINEERING GROUP	NUCLEAR PROJECT MANAGEMENT								NOTES & REFERENCES
	1	1	3	4	5	6	7	8	9	10	11	
1. Trigramme allocation process												
1.1. Receive request for new trigrammes and cables. Trigramme letter form part of the design package. Request can be from DE or System Engineering	[R]	[S]										Form must be filled in (331-282)
1.2. Trigramme form will be typed with received information (trigrammes and cables added, deleted or changed) and be given a reference number (T number and next sequential number).	[R]	[S]										331-282 Trigramme & Cable request form
1.3. Trigramme and Cable numbers may be proposed or requested by Designer. CM to check and verify with SAP, Cable Database, Master documents, if the proposed/requested numbers are available. If requested by the Designer, CM to check and supply."	[R]	[S]										Requestors need to supply CMG with Document number for checking.
1.4. Once Trigramme form is complete,CMG will send it back to Originator to check, verify and sign.	[R]	[S]										Trigramme Letter from contractors must be signed by DE
1.5 Once received CMG will also sign and attached form to letterhead.		[R]										CMG cannot sign Trigramme Letter from contractors without signature from DE

APPENDIX J: Trigramme Allocation Associated with Modifications Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION											NOTES & REFERENCES
	ORIGINATOR	CONFIGURATION CONTROLLER	DESIGN ENGINEERING GROUP	NUCLEAR PROJECT MANAGEMENT								
	1	1	3	4	5	6	7	8	9	10	11	
1.6. Requestor will receive original signed letter.		[R]										Signed form will be attached to Design Package.
1.7 Signed PDF Trigramme letter will be load on G:Drive		[R]										For retrievability
2. SAP & Cables update												
2.1 CMG will load trigrammes on SAP and Cable Database with the Mod Number.		[R]										..
2.2 Trigrammes will be made inactive on SAP and will be activated after implementation and confirmation from Project Leader.		[R										If inactive in SAP then no work orders can be done against it.

APPENDIX J: Trigramme Allocation Associated with SAP Configuration Item Anomaly Workflow

R – Responsible
A – Approve
F – File
• – Outside Matrix Scope
Y/N or N/Y – Decision
C – Concur
I – Informed
S – Service
[ ] – Mandatory Requirement
( ) – As Appropriate/Required
Flow Path:
Main Flow Secondary Flow

ACTIVITIES	ORGANISATION / FUNCTION											NOTES & REFERENCES
	REQUESTOR	CONFIGURATION CONTROLLER	DESIGN ENGINEERING GROUP	NUCLEAR PROJECT MANAGEMENT								
	1	1	3	4	5	6	7	8	9	10	11	
1. Trigramme that is not Mod related but needs to be loaded on SAP CMG needs to be notified.	[R]	[S]										240-145628543, SAP CMG Item Anomaly PBS Update Form
2. Configuration Item Anomaly DDR needs to be raised. CMG will process DDR as per 331-85 (Appendix C)	[R]	[S]										Originator needs to notify CMG DDR number (for tracking)
3. Requestor needs to fill in information as per 240-145628543 and sign form.	[R]											240-145628543, SAP Configuration Item Anomaly PBS Update Form
4. CMG will load trigrammes on SAP as per request.Trigrammes will be activated on SAP.		[R]										
5. Once SAP has been updated,CMG will sign form.		[R]										
6. Signed form will be send to requestor as confirmation that request is complete.												
7. Form will be scanned and file on G:Drive		[R]										For retrievability

Appendix K: Guide for KBA and CRN number request

Step 1:
Requestor need to supply CMG with Unit, System & Chapter e.g. 1217RCP…. (12-unit, 17-chapter, RCP-system). (If unsure, he/she needs to check in KBA 0000G000031 (Master Classification Plan) for guidance. KBA 0000G00031 is available on SPO / Excalibur.

Step 2:
Requestor should also provide the Title of the document and indicate if the Discipline is Mechanical, Electrical or Instrumentation.

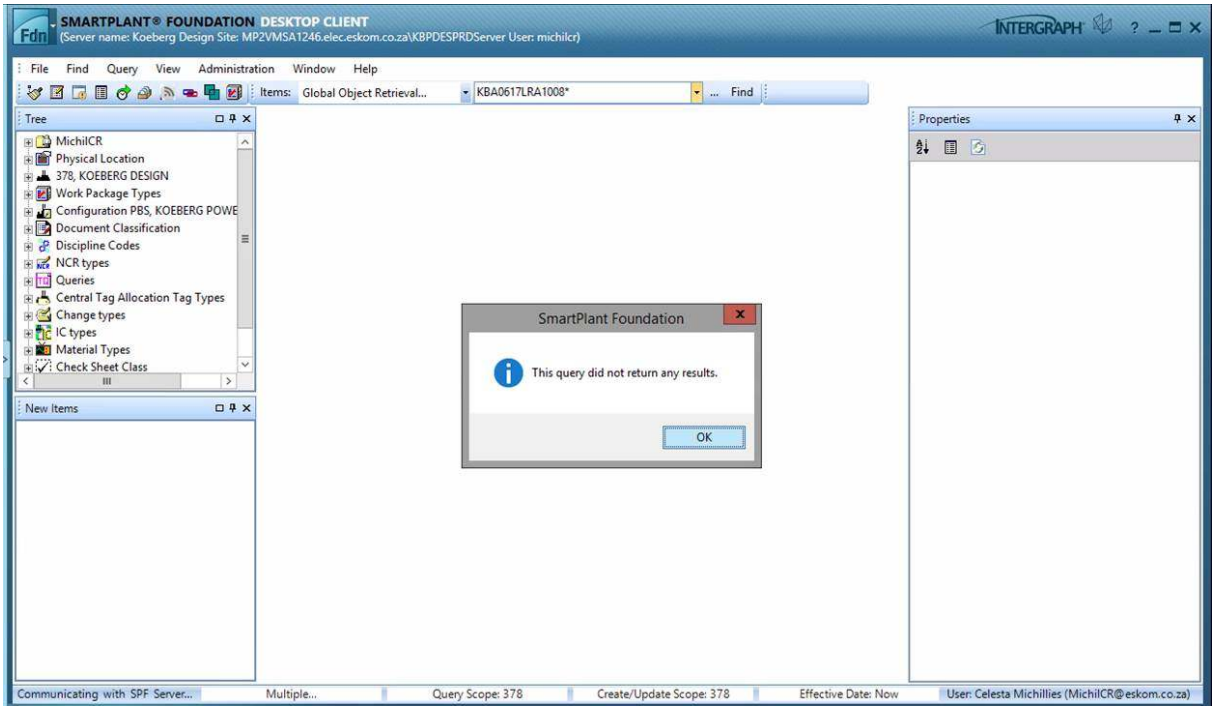
Step 3:
Once the unit, system, chapter, title and discipline have been received, CMG gives the next sequential number as well as a CRN number.
Please note: If there is no existing KBA number and a new number should be given, then the number always start with 1000 e.g., 1217RCP1000.

Step 4: verification (extract from SPO below) must be completed to make sure numbers are not used and to avoid duplication in numbers.

Step 5:

All KBA Numbers (from Chapter 01-28) and CRN Numbers are stored in the cupboard at CMG and are still processed manually. (Cupboard is marked KBA and CRN Numbers & Blue Cover Slipping)

> ***Note:*** When a New KBA is issued to a customer for new documents, a CRN number must also be issued for the same document.

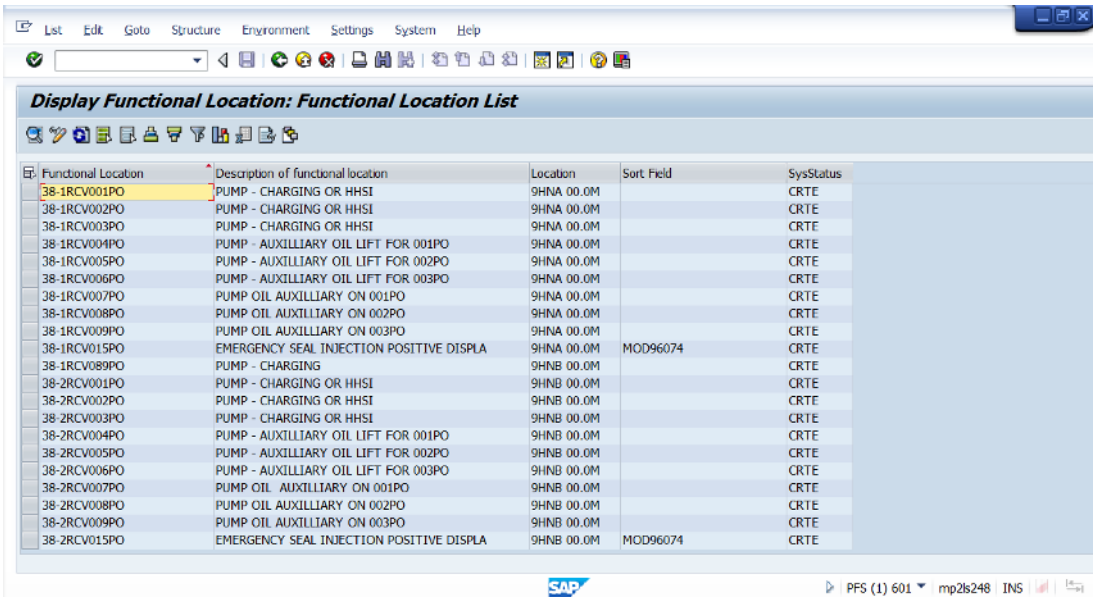


Appendix L: Guide for Issuing Trigrammes on SAP

New Trigrammes to be loaded on SAP and applicable Forms

Step 1

If requestor is unsure about trigramme number, he/she needs to supply CMG with Unit, System, Bigramme (1/2 RCV+++PO). CMG needs to go onto SAP (IH06) to pull a list for the specific System and Bigramme (To pull list please put in 38-*RCV+++PO). Once a list has been pulled, CMG can issue the next sequential number.



Step 2

Once requestor got new number, he/she needs to supply CMG with the rest of the information such as the Functional location (which consists of unit, system, number and Bigramme e.g 1 RCV 001 PO), description, parent location (where to link trigramme on SAP), physical location (where trigramme/component is on the Plant), classification of trigramme, Mod Number.

Step 3

Need to know if it is MOD related or an update for a drawing. If it is Mod related, then Trigramme and Cable request form needs to be completed. Form is located on Hyperwave. HTTPS://hyperwave.eskom.co.za:443/Eskom/Eskom%20Documentation/Generation%20Division/NUCLEAR/NUCLEAR%20ENGINEERING/Forms/331-282 . Trigramme and Cable Request Form forms part of the Design.

Step 4

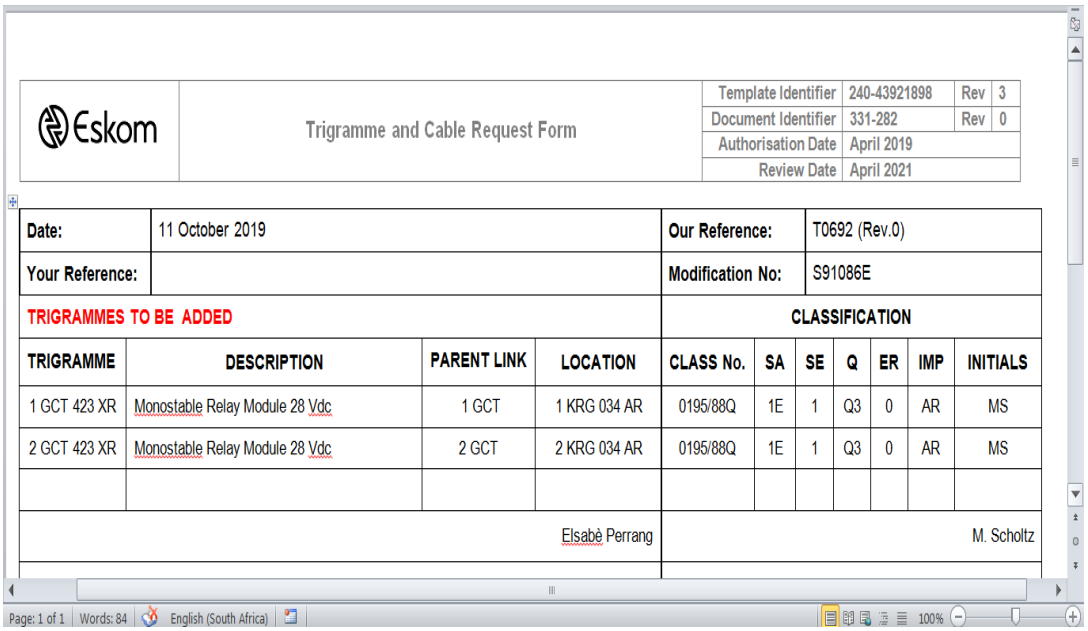
CMG will give “T” Number for Our Reference part and numbers are also sequential. All Trigramme letters will be on G: Drive.
HTTPS://hyperwave.eskom.co.za:443/Eskom/Eskom%20Documentation/Generation%20Division/NUCLEAR/NUCLEAR%20ENGINEERING/Forms/331-282

Step 5

Once all information has been populated in Form with the initials of the Design Engineer (who will sign for the classification and CMG will sign other part.

Step 6
Once all signatures have been obtained, CMG will do a letterhead with all and send original to requestor and CMG will scan in and load trigrammes on SAP and Cable Database.

Step 7
Please note: Requestor can request for trigrammes and Cables to be added, change or deleted. (It depends on what is Design for).



Eskom — Trigramme and Cable Request Form

Template Identifier	240-43921898	Rev	3
Document Identifier	331-282	Rev	0
Authorisation Date	April 2019		
Review Date	April 2021		

Date:	11 October 2019	**Our Reference:**	T0692 (Rev.0)
Your Reference:		**Modification No:**	S91086E

TRIGRAMMES TO BE ADDED — **CLASSIFICATION**

TRIGRAMME	DESCRIPTION	PARENT LINK	LOCATION	CLASS No.	SA	SE	Q	ER	IMP	INITIALS
1 GCT 423 XR	Monostable Relay Module 28 Vdc	1 GCT	1 KRG 034 AR	0195/88Q	1E	1	Q3	0	AR	MS
2 GCT 423 XR	Monostable Relay Module 28 Vdc	2 GCT	2 KRG 034 AR	0195/88Q	1E	1	Q3	0	AR	MS

Elsabé Perrang — M. Scholtz

Page: 1 of 1 | Words: 84 | English (South Africa) | 100%

To: The Manager

Date:
14 October 2019

Enquiries:
Tel: +27 21 550 4059
Elsabé Perrang

Your Reference: | **Our Reference:** T0690 | **Rev:** 0

Dear Sir/Madam

TRIGRAMMES ADDED FOR CR 104614- RCV.

Attached is the listing of trigrammes added for CR 104614 – RCV - **Trigrammes are used in Two Locations on the Plant as seen from the Plant Drawings.**

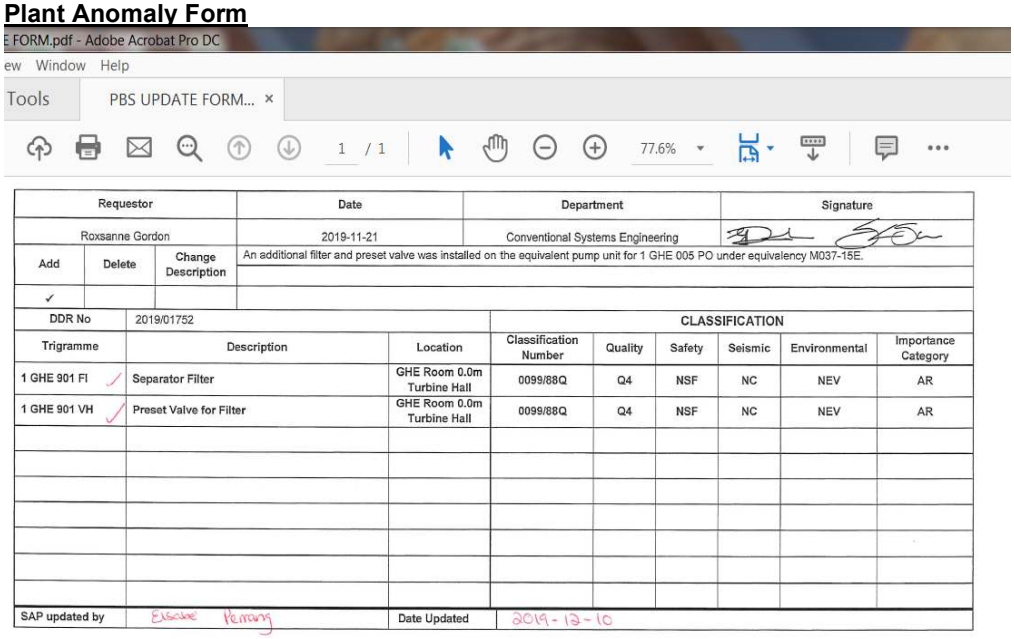
Trigramme Numbers have been verified on SAP, PIGO and with the Designer.

Please ensure the processes in KAA-501 and 331-85 are followed to initiate the appropriate documentation change processes.

Yours sincerely

E. Perrang
CONFIGURATION MANAGEMENT

Plant Anomaly Form


E FORM.pdf - Adobe Acrobat Pro DC
ew Window Help
Tools PBS UPDATE FORM... ×
1 / 1 77.6%

Requestor	Date	Department	Signature
Roxsanne Gordon	2019-11-21	Conventional Systems Engineering	

Add	Delete	Change Description	
✓			An additional filter and preset valve was installed on the equivalent pump unit for 1 GHE 005 PO under equivalency M037-15E.

DDR No	2019/01752		CLASSIFICATION					
Trigramme	Description	Location	Classification Number	Quality	Safety	Seismic	Environmental	Importance Category
1 GHE 901 FI ✓	Separator Filter	GHE Room 0.0m Turbine Hall	0099/88Q	Q4	NSF	NC	NEV	AR
1 GHE 901 VH ✓	Preset Valve for Filter	GHE Room 0.0m Turbine Hall	0099/88Q	Q4	NSF	NC	NEV	AR
SAP updated by	Elsabe Herrang		Date Updated	2019-12-10				

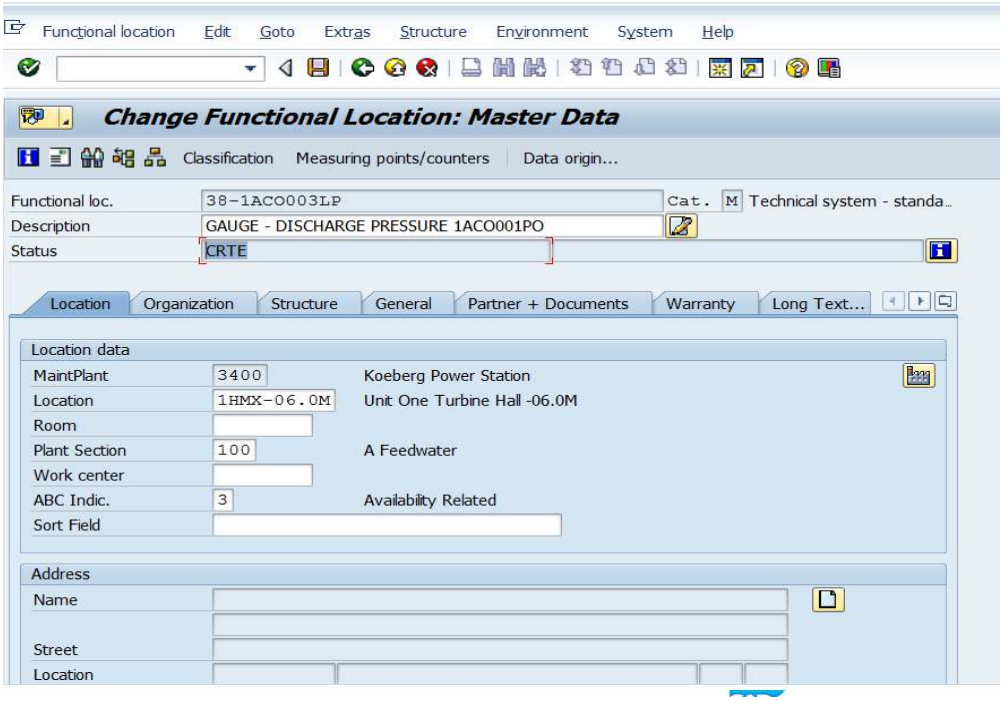
Step 1

If it is just a Plant Anomaly update, then Plant Breakdown Structure Form needs to be completed. Form is located on Hyperwave. Link to HTTPS://hyperwave.eskom.co.za:443/Eskom/Eskom%20Documentation/Generation%20Division/NUCLEAR/NUCLEAR%20ENGINEERING/Forms/240-145628543

Step 2
Requestor needs to raise a DDR to do the updates on drawings/documents.

Step 3
Once Forms has been issued (Mod or Plant Anomaly), CMG will load trigrammes on SAP. If Modification has not been implemented, trigrammes will stay inactive (INAC) on SAP until Project Leader informs CMG.

Step 4 Plant anomaly Trigrammes on SAP it will be active (CRTE)
To load Plant.



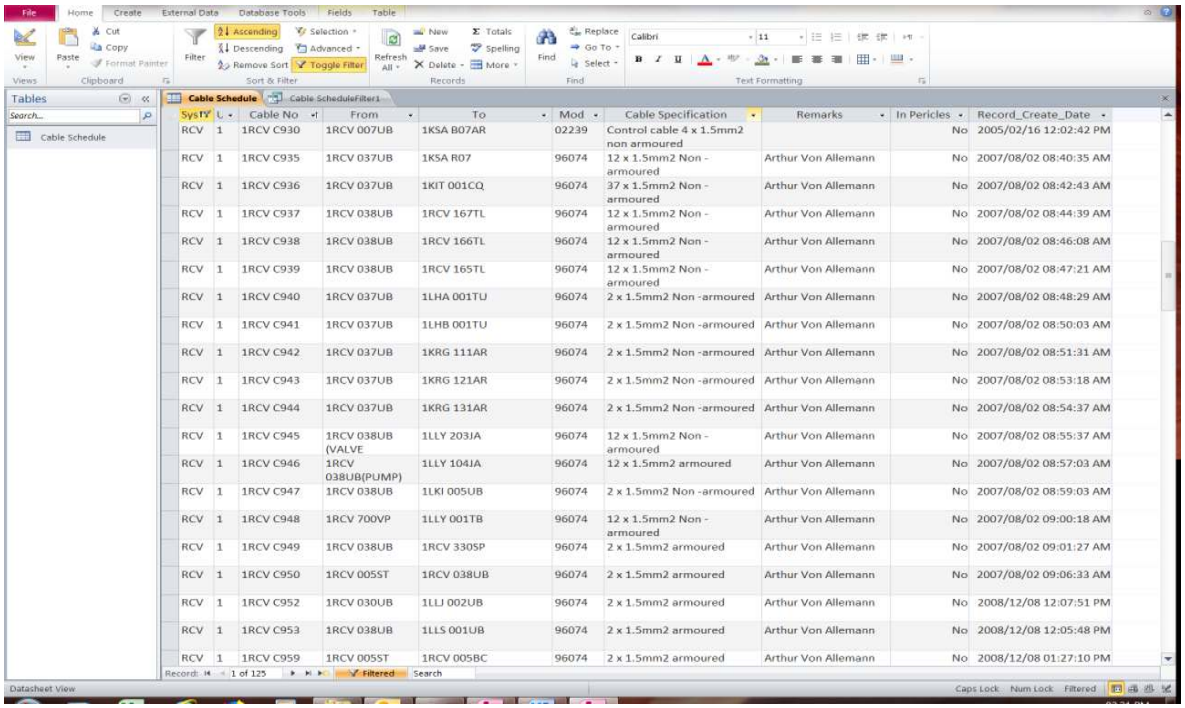
Issuing of Cables

Step 1
A request can be for Trigrammes and Cables. The same form should be updated.
HTTPS://hyperwave.eskom.co.za:443/Eskom/Eskom%20Documentation/Generation%20Division/NUCLEAR/NUCLEAR%20ENGINEERING/Forms/331-282

Step 2
CMG needs the Cable Number (Type of cables (C-Control, M-Measurement, B-Power), Description, Source and destination (From and To), Mod Number and Cable Specification.

Step 3

Cable Numbers runs sequential and can be checked on the Cable Database in Access. Access Database\Cables 27 March .accdb



Syst	L	Cable No	From	To	Mod	Cable Specification	Remarks	In Pericles	Record_Create_Date
RCV	1	1RCV C930	1RCV 007UB	1KSA B07AR	02239	Control cable 4 x 1.5mm2 non armoured		No	2005/02/16 12:02:42 PM
RCV	1	1RCV C935	1RCV 037UB	1KSA R07	96074	12 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 08:40:35 AM
RCV	1	1RCV C936	1RCV 037UB	1KIT 001CQ	96074	37 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 08:42:43 AM
RCV	1	1RCV C937	1RCV 038UB	1RCV 167TL	96074	12 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 08:44:39 AM
RCV	1	1RCV C938	1RCV 038UB	1RCV 166TL	96074	12 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 08:46:08 AM
RCV	1	1RCV C939	1RCV 038UB	1RCV 165TL	96074	12 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 08:47:21 AM
RCV	1	1RCV C940	1RCV 037UB	1LHA 001TU	96074	2 x 1.5mm2 Non -armoured	Arthur Von Allemann	No	2007/08/02 08:48:29 AM
RCV	1	1RCV C941	1RCV 037UB	1LHB 001TU	96074	2 x 1.5mm2 Non -armoured	Arthur Von Allemann	No	2007/08/02 08:50:03 AM
RCV	1	1RCV C942	1RCV 037UB	1KRG 111AR	96074	2 x 1.5mm2 Non -armoured	Arthur Von Allemann	No	2007/08/02 08:51:31 AM
RCV	1	1RCV C943	1RCV 037UB	1KRG 121AR	96074	2 x 1.5mm2 Non -armoured	Arthur Von Allemann	No	2007/08/02 08:53:18 AM
RCV	1	1RCV C944	1RCV 037UB	1KRG 131AR	96074	2 x 1.5mm2 Non -armoured	Arthur Von Allemann	No	2007/08/02 08:54:37 AM
RCV	1	1RCV C945	1RCV 038UB (VALVE	1LLY 203JA	96074	12 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 08:55:37 AM
RCV	1	1RCV C946	1RCV 038UB(PUMP)	1LLY 104JA	96074	12 x 1.5mm2 armoured	Arthur Von Allemann	No	2007/08/02 08:57:03 AM
RCV	1	1RCV C947	1RCV 038UB	1LKI 005UB	96074	2 x 1.5mm2 Non -armoured	Arthur Von Allemann	No	2007/08/02 08:59:03 AM
RCV	1	1RCV C948	1RCV 700VP	1LLY 001TB	96074	12 x 1.5mm2 Non - armoured	Arthur Von Allemann	No	2007/08/02 09:00:18 AM
RCV	1	1RCV C949	1RCV 038UB	1RCV 330SP	96074	2 x 1.5mm2 armoured	Arthur Von Allemann	No	2007/08/02 09:01:27 AM
RCV	1	1RCV C950	1RCV 005ST	1RCV 038UB	96074	2 x 1.5mm2 armoured	Arthur Von Allemann	No	2007/08/02 09:06:33 AM
RCV	1	1RCV C952	1RCV 030UB	1LLJ 002UB	96074	2 x 1.5mm2 armoured	Arthur Von Allemann	No	2008/12/08 12:07:51 PM
RCV	1	1RCV C953	1RCV 038UB	1LLS 001UB	96074	2 x 1.5mm2 armoured	Arthur Von Allemann	No	2008/12/08 12:05:48 PM
RCV	1	1RCV C959	1RCV 005ST	1RCV 005BC	96074	2 x 1.5mm2 armoured	Arthur Von Allemann	No	2008/12/08 01:27:10 PM

Appendix M: Guide for Classifications to be updated on SAP

New or revised Classifications to be updated in SAP

Step 1
Design Engineering send new or revised classification via a blue cover slip to Configuration Management on transmittal or via e-mail.

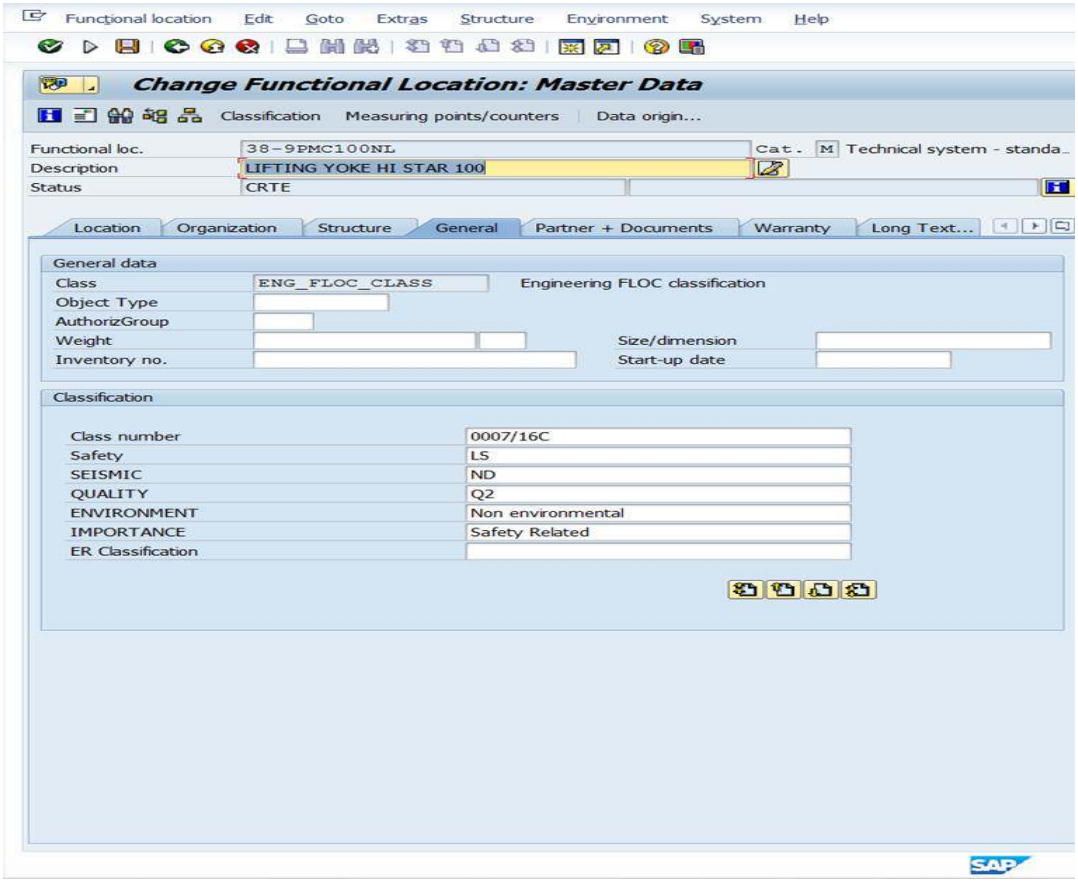
Step 2
Trigrammes should also be listed on blue cover slip.

Step 3
CMG to sign transmittal and sent back to DE.

Step 4
CMG to update SAP accordingly.

Step 5
CMG to send proof of changes.

Step 6
CMG not responsible for the distribution and storage of Classification packages. Distribution done by Spec Eng and storage by TD&RM



Appendix N: Guide for CM to process DDR'S on DDT

How to initiate a DDR on the DDT System

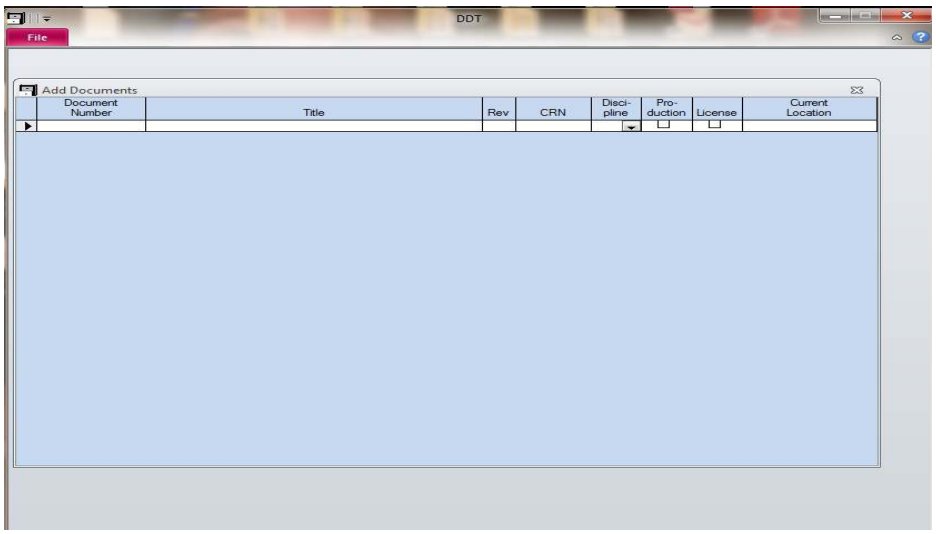
DDT can be found on Z: Drive/NalApp/DDT.

Access will be granted by Tertuis Rossouw via e-mail (RossouT@eskom.co.za), he will provide you with a registration form that must be completed for access to DDT system.

Once you get DDT screen as below, login with Name and Password that Tertuis granted you, then you can select a new password, verify password and login. The next time when you log in again, then you just logged in with your login name and new password.

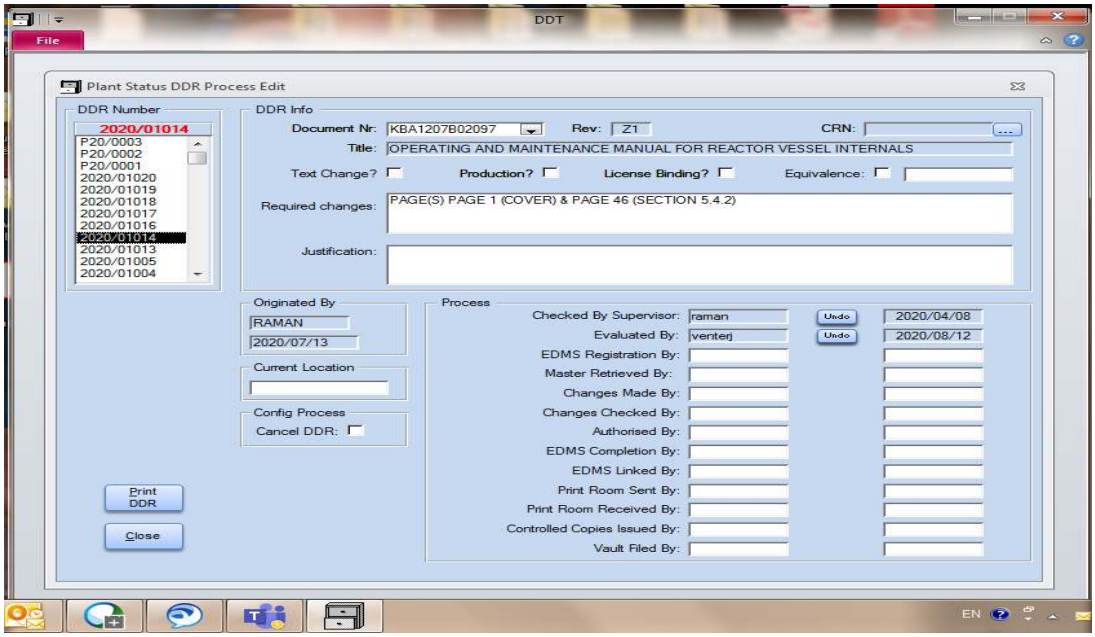
How to add Reference number (KBA number) and CRN number on DDT

config/add docs/new kba & doc no/ doc decipline/production/current location



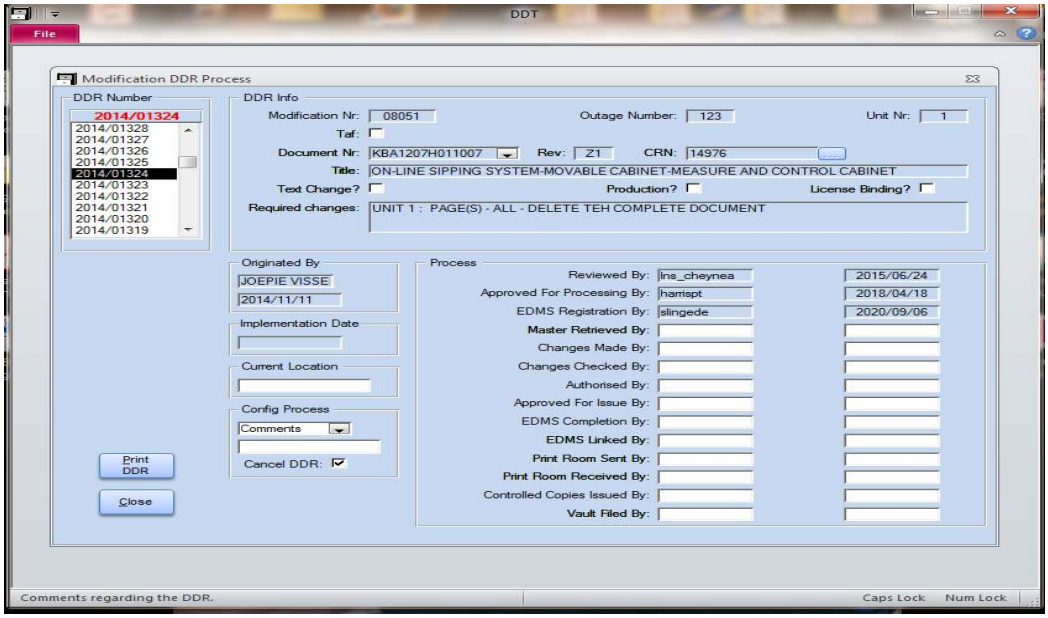
How to send DDR back to originator if information is not correct

config/edit ddr/p/s or mod/undo signatures to originator



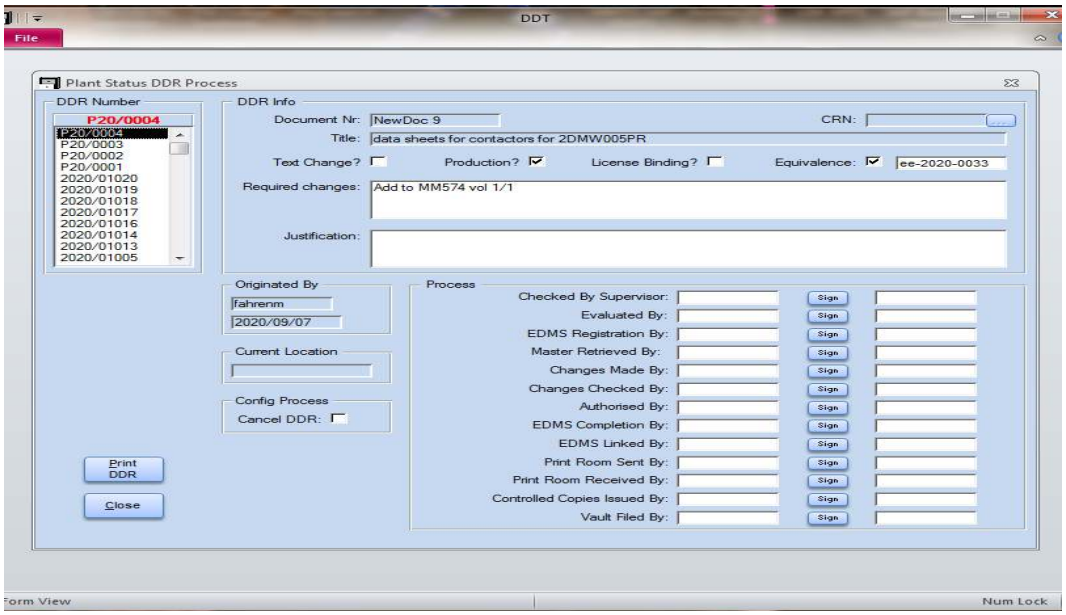
How to Cancel DDR on DDT.

config/process ddr/p/s or mod/find ddr/ tick on cancel/scroll on config process: comments/ add comments in field

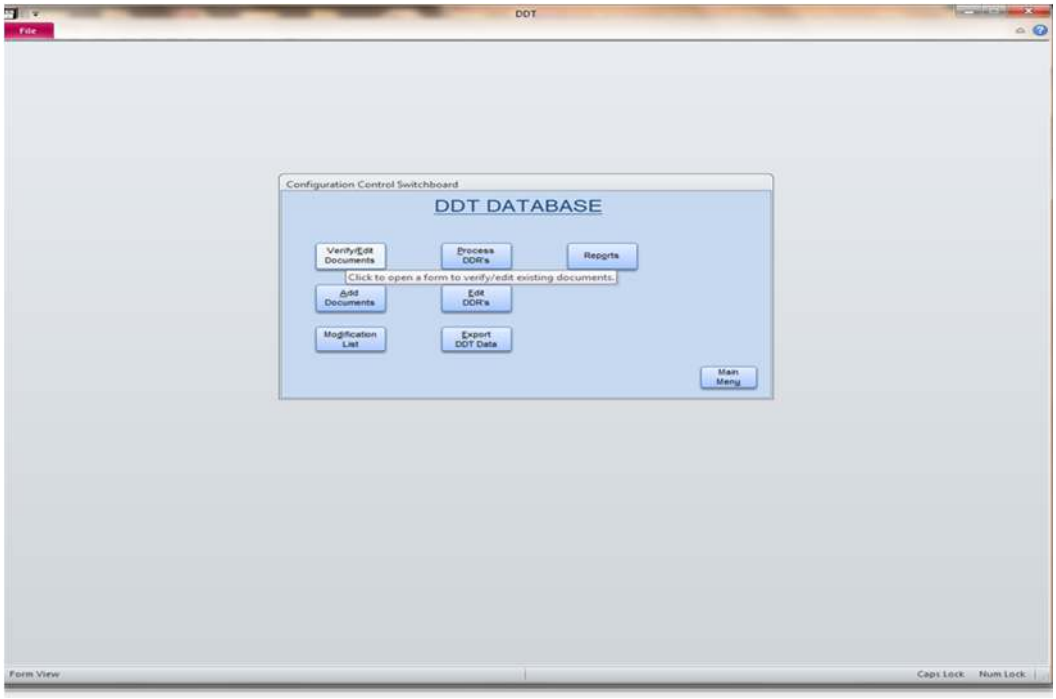


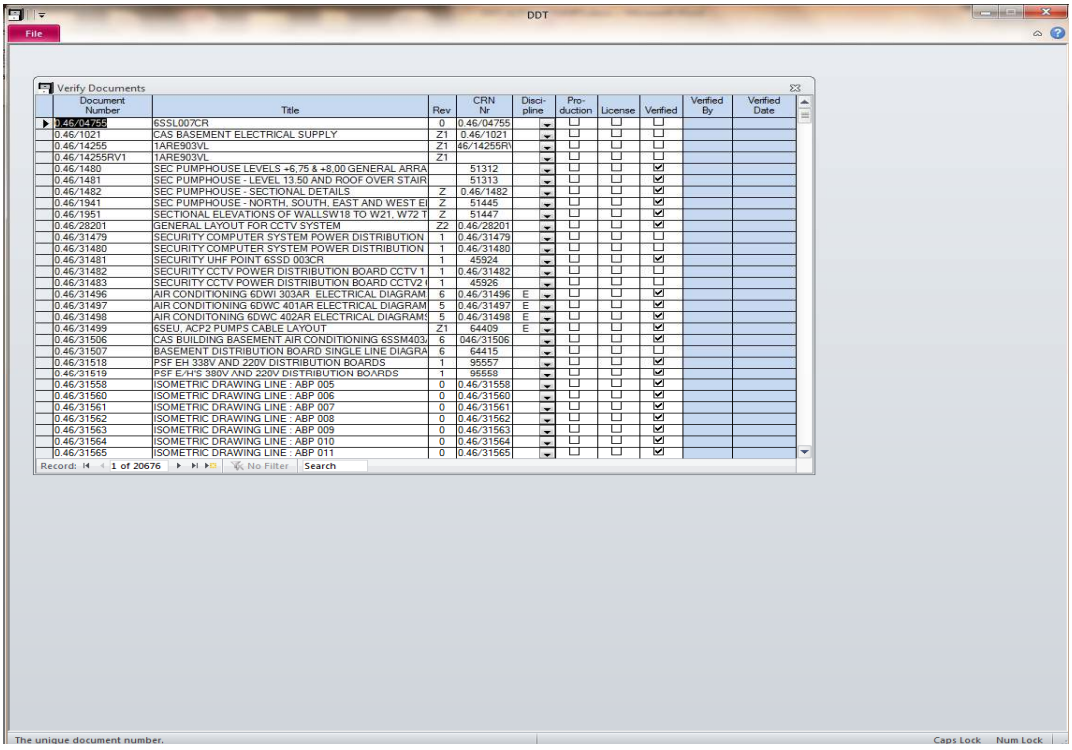
How to Process DDR's on DDT

config control/process ddr/p/s or mod



How to edit Titles, Reference numbers (KBA numbers) and CRN Number





Appendix O: Document and Drawing Request (DDR) Checklist

Eskom	Configuration Management Document and Drawing Request Checklist	Template Identifier	240-43921898	Rev	7
		Document Identifier	240-158506528	Rev	1
		Effective Date	October 2020		
		Review Date	October 2023		

Modification Number		**Plant Status**		**Online Modification**	
DDR Number		**DDR Number**		**DDR Number**	
Production Document		**Outage No**		**Checklist Date**	
DDR Registration Date		**DDR ECP Date**			

KBA / Reference Number	Document. Number	Rev No	Sheet Numbers	Master Media	Filing Location	Electronic	Sepia

Other DDR'S Pending ----------

Master To	Authorised By	Links	Project Leader Informed	Database Updated			Docs Transmittal No
				E.C.P.	DDT	PIGO	

Comments ----------

Appendix P: Production Documents List

Eskom	**Configuration Management Production Documents List**	**Template Identifier**	**240-43921804**	**Rev**	**6**
		Document Identifier	**240-158483322**	**Rev**	**1**
		Effective Date	**October 2020**		
		Review Date	**October 2023**		

This list Identifies all production documents that is processed by the CM Group as per 331-85

DSE LOGIC DIAGRAMS	FLOW DIAGRAMS
006	500's
026	110's
036	210's
046	310's
056	410's
066	610's
FEEDER DIAGRAMS	BOARD OUTAGE
*KBA 0015 A00 1000	31.46 / 1150
31.46 / 1003	31.46 / 1151
31.46 / 1004	31.46 / 1152
31.46 / 1005	31.46 / 1153
31.46 / 1006	KSA ALARM LISTS
31.46 / 1007	KBA 0122 E02 1003
ELECTRICAL PENETRATION	KBA 0222 E02 1003
KBA 0022 E02 1004	KBA 0922 E02 1007
NSSS SET POINT MANUAL	NSSS VALVE LIST
KBA 1222 E02 027	1.46 / 1047
BNI SET POINT MANUAL	BNI VALVE LIST
KBA 1227 E02 507	1.46 / 1046

SIP / SIN 600'S SYSTEM			
ARE	GCT	RCV	RPN
ASG	GSE	REA	RRA
DVK	PTR	RGL	VVP
EAS	RAZ	RIS	KBA 0022 F00 002
ETY	RCP	RPE	

Appendix Q: Configuration Management Control Copy Holders List for Distribution Documents

Eskom	Configuration Management Control Copy Holders List for Distribution Documents	Template Identifier	240-43921804	Rev	6
		Document Identifier	240-158556048	Rev	1
		Effective Date	October 2020		
		Review Date	October 2023		

BOARD OUTAGE SHEETS 11 X CONTROL INFRONT (11, 14, 17, 23, 35, 36, 37, 38, 39, 64, 118) (CCH 65 & 66 ONLY UNIT 1, 6, 9 TO BE SUPPLIED) (CCH 65 & 66 NO UNIT 2)	**FLOW DIAGRAMS** FLOWS (CHECK THE FLOW DIAGRAM MATRIX SAVED ON G:DRIVE) ALWAYS INCLUDE 6 WORKING COPIES SIZE A2 FOR TOMMY 1 X A3 WORKING COPY 1 X A3 CONTROL COPY 39A 1X PLAIN A3 (TD & RM COPY GABY)
BNI SETPOINT MANUAL BNI = 15 CONTROL INFRONT (11, 13, 14, 23, 35, 36, 37, 38, 39, 64, 65, 66, 80, 107,118)	**LOGIC DIAGRAMS**: 006,026,036,046,056,066, 3 X CONTROL AT BACK (36, 37, 38,) 8 X CONTROL INFRONT (11, 13, 14, 23, 64, 65, 66, 118)
BNI VALVE LIST BNI = 15 CONTROL INFRONT (11, 13, 14, 23, 35, 36, 37, 38, 39, 64, 65, 66, 80, 107,118)	**MAINTENANCE MANUAL** **DOCUMENTS ONLY:** 3 X CONTROL AT BACK (36, 37, 38) **DRAWINGS ONLY: (CONTROL STAMP INFRONT)** 3 X CONTROL INFRONT (36, 37, 38)
DSE NORMAL 3 X CONTROL AT THE BACK (36, 37, 38) 4 X CONTROL INFRONT (13, 23, 64, 118)	**NSSS SETPOINT MANUAL** NSSS = 15 CONTROL INFRONT (11, 13, 14, 23, 35, 36, 37, 38, 39, 64, 65, 66, 80, 107,118)
ELECTRICAL DRAWINGS (700 SERIES) 3 X CONTROL (13, 36, 38)	**NSSS VALVE LIST** NSSS = 15 CONTROL INFRONT (11, 13, 14, 23, 35, 36, 37, 38, 39, 64, 65, 66, 80, 107, 118)
FEEDER DIAGRAMS NB-KBA 0015 A00 1000 TO BE DISTRIBUTED TO ALL FEEDER CCH'S 15 X CONTROL INFRONT (11, 14, 17, 17a, 23, 35, 36, 37, 38, 39, 64, 65, 66, 80, 118) (CCH 65 & 66 ONLY UNIT 1, 6, 9 TO BE SUPPLIED)(CCH 65 & 66 NO UNIT 2)	**PENETRATION LIST** 7 X CONTROL INFRONT (11, 14, 23, 36, 37, 38, 39)
KSA ALARM LIST 8 X CONTROL INFRONT (11, 13, 14, 36, 37, 38, 64, 91, 118) KBA 01... NO COPY FOR CCH14 KBA 02... NO COPY FOR CCH11 (CCH 65 & 66 NO UNIT 2) (CCH 91 FOR UNIT 9 ONLY)	**SIP/SIN DRAWINGS** 16 X CONTROL INFRONT (10A, 13, 23, 35, 36, 37, 38, 39, 64, 65, 66 80, 107, 111, 118) 1 X PINK COPY (CCH 11), 1 X GREEN COPY (CCH 14)
KSC ALARM DRAWINGS 7 X CONTROL INFRONT (13, 36, 38, 39, 64, 65, 66)	**IMPORTANT INFORMATION: CONTROL ROOM CCH:** CCH 11 – UNIT 1 CCH 14 – UNIT 2 CCH 39 – PTW SATELLITE CCH 45 – NAB CONTROL ROOM

Appendix R: Configuration Management Control Copy Holder List

Configuration Management Control Copy Holder List	
CCH No	**Location on Plant**
11	Control Room Unit 1
14	Control Room Unit 2
39	PTW Office Control Room OPS
39A	PTW Office Control Room OPS (19.00M)
39B	PTW Office Control Room OPS (15.00M)-*Created for Covid-19 period*
45	NAB Control Room OPS
13	Emergency Control Centre ECC
23	Lesedi
29	MMS
34	Chemistry
35	Ops Support MSB
36	MAB Satellite Office
38	ISI Satellite Office
42	Inspection & Test
17	OCC
64	Ops Training Library Edusec
65	Ops Training Simulator Edusec
66	Ops Training Simulator Edusec
67A	MWS
80	System Engineering
82	SHY Plant OPS
97	Fire Station
107	NNR
115	OPS Training
118	OPG