

	Works Instruction	Technology
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Operational Plan Work
Instruction**

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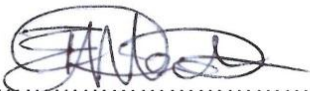
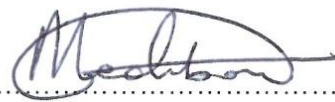


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1. INTRODUCTION

The underlying purpose of Electrical Plant CoE is to establish electrical engineering centre-led rules, standards, and tools through the SCOT governing structure. It is also to establish specialist areas of knowledge. In addition, it is to assume technical authority for electrical engineering work with respect to the direction of research, technology standardisation activity, design base creation and management throughout the lifecycle of the asset.

The Electrical Plant CoE objectives as per the Role Description Matrix are:

- Provide technology management for electrical plant in Eskom Generation
- Ensure standardisation of specification of electrical equipment and systems installed in Eskom Generation plants.
- Ensure optimisation of the life of electrical equipment and systems installed in Eskom Generation plants.
- Ensure operability and maintainability of electrical equipment and systems installed in Eskom Generation plants.
- Ensure design governance for electrical plant in Eskom Generation as the design authority
- Develop technical capability, in order to support the design base for electrical plants in Eskom Generation.

In order to meet these objectives, Electrical Plant CoE has to develop a operational plan that will determine where the team currently is, where the team wants to be, how the team will get where they want to be, who will do what is required and by when they would do it and what will be monitored and measured as well as the processes for monitoring and measuring.

This operational plan is specific to Electrical Plant CoE and will detail the current status through a gap analysis, describe strategic objectives and elaborate on the plan.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document describes the operational plan of Electrical Plant CoE.

2.1.1 Purpose

The purpose of this document is to present the common understanding of the operational plan of Electrical Plant CoE.

2.1.2 Applicability

This plan shall apply throughout the Electrical Plant CoE.

2.2 NORMATIVE/INFORMATIVE REFERENCES

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

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2.2.1 Normative

- [1] 240-43327398 -Engineering Policy
- [2] Electrical Plant CoE Operating Manual
- [3] Operating Manual of the Steering Committee of Technologies
- [4] SCOT Standards Development and Change Implementation Procedure

2.2.2 Informative

- [1] Engineering Operating Model
- [2] 240-53113706 – Procedure for Establishing and Engineering Strategy

2.3 DEFINITIONS

Definitions in SCOT Operating Manual and SCOT Standards Development and Change Implementation Procedure and Electrical Plant CoE Operating Manual apply.

Definition	Description
Collaboration Matrix	This defines the level of collaboration that should exist within Electrical Plant CoE, as a minimum, amongst the various plant areas.
Competency Matrix	This defines the competencies that should reside within Electrical Plant CoE in order for the departmental mandate to be met.
Competency Profile	This defines the competencies of an individual relative to the Competency Matrix.
Design	The term Design shall cover following elements of Engineering Work and shall be subject to the authority of the specific and shall involve the use specialized design tools that are controlled by the specific : 1. New asset creation or modification of existing assets: Design shall include all engineering analyses, calculations, studies, reports, and technical review checklists necessary to perform complete engineering design. The Design Output Documents shall identify the design output requirements that dictate the physical configuration of the facility. Any analysis that will require the use of the specialised tools to provide design output documents shall be considered Design Work. 2. Analysis work during operation of the asset: Design shall include all engineering analyses, calculations, studies, and reports necessary to investigate the impact or risks associated with the operation of an asset outside the Design Base. Any analysis that will require the use of the specialised tools to provide a conclusion of the impact on the asset Design Base shall be considered part of Design work. In general, normal Engineering Work will be conducted with use of generic or Operations and Maintenance (O&M) tools and capabilities. In particular, any analysis that is conducted for, the practical application of the Design Base requirements as dictated in the Operating Technical Specification and Maintenance Base with the use of specialised O&M tools with a view to managing and optimising the

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Definition	Description
	assets within the Design Base, shall be considered Engineering Work within the O&M domain shall not be included in the Definition of Design
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.
Design Tools	This defines all the tools used for design.
Electrical Plant CoE Structure Matrix	This defines the document that describes what each plant area on the Electrical Plant CoE structure covers. It stipulates the person accountable per plant area. It also describes the minimum requirements for collaboration amongst the various plant areas as well indicating the different focus areas per person on the team.
Governance	The building of a balance between economic and social goals and between individuals and communal goals, with the aim being to align as closely as possible the interest of individuals, organisations and society
Governance Interface	This defines the boundaries and collaboration of stakeholders while performing governance.
Information Presentation	This defines the PowerPoint presentation that will be used as a standard to communicate and share information on the mandate and operations of Electrical Plant CoE with other stakeholders.
Life of Plant Plan	This defines the plan compiled by the Generation Operating Units detailing work and costs estimations that will be required to ensure that the design life of plant equipment reaches the design life of the Power Station.
Maintenance Strategy	This defines the direction that will be followed to achieve optimum performance of plant equipment through maintenance activities.
Operating Manual	This defines the document that describes the mandate, structures and operational activities of a function.
Roles Description Matrix	This defines the document that describes the objectives, roles and responsibilities, activities and deliverables as directed by the Electrical and C&I Senior Manager. This document describes responsibilities, accountabilities, informative activities and consultative activities for each function.
Operational Plan	This defines the process to define strategic objectives, strategic critical issues and the plans towards attaining the objectives and the mandate of a function.
Strategic Report	This defines the document compiled by Production Engineering Integration Coal (PEIC) advising on which equipment should be replaced relative to the equipment design life. This document is used to inform the technical plans and the budget requirements for major

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Definition	Description
	plant items in order to address maintenance and operation issues.
Technical Assessment	This defines the process of assessing the plant areas at a Power Station to determine the status of the plant either for purposes of initiating a project based on recommendation made or for the purposes of determine the condition of the plant as input to technology strategy.
Technical Plan	This defines the plan compiled by the Generation Operating Units to determine project work and cost estimation for work to be conducted with the Power Station for a period of 5 years.
Technology Strategic Plan	This defines the process to determine strategic objectives, strategic critical issues and the plans of moving towards a technological direction.

2.3.1 Disclosure Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
CoE	Centre of Excellence
IDP	Individual Developmental Plan
SCOT	Steering Committee of Technologies
OU	Operating Unit
OMO	Operating, Maintenance and Outage
PCM	Process Control Manual
TDAC	Technical Documentation Authorization Committee

2.5 ROLES AND RESPONSIBILITIES

The underlying purpose of Electrical Plant CoE is to establish electrical engineering centre-led rules, standards, and tools through the SCOT governing structure. It is also to establish specialist areas of knowledge. In addition, it is to assume technical authority for electrical engineering work with respect to the direction of research, technology standardisation activity, design base creation and management throughout the lifecycle of the asset.

In terms of the content of this document, the Electrical Plant CoE Manager is mandated by the Electrical and C&I Senior Manager to direct, assure and exercise authority over the strategic planning, operations and the implementation of the outputs of the Electrical Plant CoE.

To assist Electrical Plant CoE to effectively perform its functions and serve its purpose, the Electrical Design Application should support their staff's participation as partners in delivering outputs to the business. They should further also ensure that the applicable outputs are implemented within their section.

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For Electrical Plant CoE to effectively perform its functions and serve its purpose, collaboration with C&I Plant CoE and Production Engineering Integration (PEI) is imperative.

The Electrical Plant CoE Manager is responsible for the implementation and maintenance of this document.

2.6 PROCESS FOR MONITORING

The Electrical Plant CoE Manager is accountable for the effective functioning of the section and for providing assurance that outputs are implemented within the OUs and Group Technology as applicable. This assurance is obtained through self-assessments, peer reviews or independent reviews.

This document will be reviewed during the annual operational planning session. Updates agreed upon during the sessions that affect the plans of the section will be reflected on this document.

2.7 RELATED/SUPPORTING DOCUMENTS

- Electrical Plant CoE Structure
- Electrical Plant CoE Structure Matrix
- Roles Description Matrix
- Electrical Plant CoE Priority List
- Electrical Plant CoE Action List Register

3. ELECTRICAL PLANT COE STRATEGY

This section documents the identified gaps that the Electrical Plant CoE has with respect to the objectives. It also defines strategic approach to be adopted by the Electrical Plant CoE department so as to fulfil its mandate as well as the performance monitoring methods.

3.1 GAP ANALYSIS

The gap analysis method was used to analyse the operational environment of Electrical Plant CoE. With respect to the objectives, this section will look at where Plant CoE currently is with respect to meeting these objectives and narrow the problems down through a gap analysis.

The Electrical Plant CoE objectives as per the Role Description Matrix are:

- Provide management for Electrical Plant CoE
- Implement design governance requirements for Electrical Plant CoE as the design authority
- Develop technical capability, in order to support the design base

The identification of the gaps will provide the basis for strategic objectives. The gaps identified are as follows:

- The newly established Electrical Plant CoE department strategic and operational function is not known to the rest of the business.
- Operations within the Electrical Plant CoE are not yet implemented.

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- Interfacing with internal and external Stakeholders has not yet been defined and fully implemented.
- Definition of roles and responsibilities of the department was found to be lacking.
- Accountability in technology management for some of the electrical plant equipment and systems was found to be lacking.
- Participation in SCOT structures was found to be lacking in some areas.
- The development and revision of engineering rules, standards and tools are not concluded.
- The team does not possess advanced knowledge (specialist knowledge) and design skills in some plant areas.
- Electrical Plant CoE's footprint as the technical authority, in research, technology strategy, international participation and influence in management of plant assets is not established.

3.2 STRATEGIC OBJECTIVES

The identified gaps have to be met by this operational plan such that Electrical Plant CoE is able to meet the objectives. Thus to determine the success of this operational plan, the identified gaps need to be closed out.

The desired result or strategic objectives will be as follows:

- The Electrical Plant CoE's function and input to the rest of the business will be known and required by the business.
- The Electrical Plant CoE will operate as stipulated in the operating manual and will meet the objectives and uphold the desired team culture and outputs.
- Relationships with all the stakeholders will be developed and used effectively and efficiently to achieve the business objectives.
- The engineering rules, standards and tools will be in place and resulting in effective and efficient application in the delivery of projects.
- The team will have developed advanced knowledge (specialist knowledge) in all plant areas.
- Electrical Plant CoE's footprint as the technical authority, in research, technology strategy, international participation and influence in management of plant assets will be established

The activities and/or deliverables that should be undertaken to meet that strategic objective are as listed below:

1. The Electrical Plant CoE function and input to the rest of the business will be known and required by the business.
 - Develop Operating Manual
 - Develop Operational Plan
 - Develop Year Plan
 - Finalise Electrical Plant CoE Structure

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- Develop and upload SharePoint content/rules
 - Develop Plant CoE Information Presentation
 - Conduct Road Show/Information Sharing Session
 - Ensuring the correct representation of the section in the SCOT committees
2. The Electrical Plant CoE will operate as stipulated in the operating manual and meeting the objectives and upholding the desired team culture and outputs.
- Utilisation of Collaboration Matrix
3. Relationships with all the stakeholders will be developed and used effectively and efficiently to achieve the business objectives.
- Establish stakeholder relationships
 - Develop a Contact List
 - Schedule standing meetings to maintain the relationship
 - Understand stakeholder function
 - Determine Plant CoE contribution to Stakeholders and input from Stakeholders
 - Coordinate with SCOT in the delivery of standards
 - Establish Governance Interface
 - Conduct Technical Assessments
4. The engineering rules, standards and tools will be in place and resulting in effective and efficient application in projects.
- Assigning all documents the 240 numbers and sign via TDAC and load on Hyper wave
 - Clean up Document List by referring relevant documents to OMO department and other CoEs
 - Revise documents via SCOT (clean-up process, revise, align, update)
 - Develop List of Standards that have to be developed
 - Revise PCM/Delivery view
 - Review Design Philosophies
 - Develop Design Guidelines
 - Develop Templates
 - Develop Internal Review Design Procedure
 - Develop Internal Design Review Check Sheet

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- Develop Plant Assessment Process and Templates
 - Establish Procurement Agreements for Standardised Systems
 - Review of Design Tools
5. The team will have developed advanced knowledge (specialist knowledge) in their respective plant areas.
- Populate the Competency Matrix
 - Develop Individual Competency Profile
 - Develop Comprehensive IDP
 - Train and develop in relevant competencies
 - Train and develop others
6. Electrical Plant CoE footprint as the technical authority, in research, technology strategy, international participation and influence in management of plant asset will be established.
- Approval of the end of phase (baseline) Internal Design Review
 - Approval of non-standard application designs
 - Approval of Modifications
 - Initiate Research
 - Participate in international structures
 - Contribute to the body of knowledge through technical paper submissions
 - Coordinating with commercial to establish procurement agreements for standardised systems
 - Provide input to maintenance strategies
 - Provide input to Technical Plans and Life of Plant Plans
 - Provide input to Strategic Reports
 - Provide input to SCOT technology plans
 - Provide input to the management of the Design Base

3.3 OPERATIONAL PLAN

The roles and responsibilities as well as the activities and deliverables of Plant CoE are stipulated in the Operating Manual.

In order to assume the role and the responsibilities stated in the operating manual and also be able to deliver and meet the objectives, an operational plan is required. The aim of this plan is to outline how the Electrical Plant CoE will move from where it is to where it wants to be. It will also outline how the execution of the plan will be monitored.

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To meet objectives, strategic objectives have been developed through a gap analysis. An activity/deliverables list was developed in order to meet these strategic objectives, outlining how they will be prioritised as shown in the Electrical Plant CoE Priority List. Subsequent to that, an action list was developed with a more detailed activity/deliverable list showing who is performing the activities and by when the activities/deliverables will be performed as shown in the Electrical Plant CoE Action List Register. The action list will be used to track progress and measure outputs and accomplishments.

The strategic objectives are broad and have a lot of activities/deliverables related to them. Some are long term while others can be achieved in a short space of time. This section outlines the short, medium and long term plans for Electrical Plant CoE.

3.3.1 Short-term Plans

The short-term plans are the activities that should be completed in less than three from inception:

- Develop Operating Manual
- Develop Operational Plan
- Finalise Departmental Structure
- Develop Plant CoE Information Presentation
- Assigning all documents the 240 numbers and them signed via TDAC and loaded on Hyperwave
- Clean up Document List by referring relevant documents to OMO and other CoEs
- Develop List of Standards that have to be developed
- Develop Individual Year Plan (Reflecting Plan CoE work, Project Work, and Handover Candidates with handover dates)
- Develop SharePoint content/rules
- Ensuring the correct representation of the Electrical/C&I section in the SCOT committees
- Utilisation of Collaboration Matrix
- Develop a Contact List
- Schedule standing meeting to maintain the relationship

3.3.2 Medium-term Plans

The medium-term plans are the activities that should be completed in over three months but less than a year from inception:

- Develop Internal Design Review Procedure
- Develop Internal Design Review Check Sheet
- Develop Plant Assessment Process and Templates
- Establish stakeholder relationships
- Understand stakeholder function
- Develop Plant CoE Information Presentation
- Conduct Road Show/Information Sharing Session

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- Understand stakeholder function
- Determine Plant CoE contribution to Stakeholders and input from Stakeholders
- Populate the Competency Matrix
- Develop Individual Competency Profile
- Develop Comprehensive IDP
- Provide input to maintenance strategies
- Provide input to Technical Plans and Life of Plant Plans
- Provide input to Strategic Reports
- Provide input to SCOT technology plans
- Provide input to the management of the Design Base

3.3.3 Long-term Plans

The long-term plans are the activities that should be completed in over a year but less than 3 years from inception:

- Establish Governance Interface
- Conduct Technical Assessments
- Revise documents via SCOT (clean-up process, revise, align, update)
- Revise PCM/Delivery view
- Review Design Philosophies
- Develop Design Guidelines
- Develop Templates
- Establish Procurement Agreements for Standardised Systems
- Review of Design Tools
- Train and develop in relevant competencies
- Train and develop others
- Initiate Research
- Participate in international structures
- Contribute to the body of knowledge through technical paper submissions

The activities and deliverables under strategic objectives will ensure that these objectives are met. The priority list will govern which activities/deliverables are tackled first. The action list will determine the details of the various activities/deliverables, the responsible persons, and the target dates by which the work should be done.

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3.4 INITIATIVES

This section describes the initiatives that will be undertaken by Plant CoE in order to meet the strategic objectives. The initiatives are as follows:

- Plant CoE Road Show
- Research Topic List
- Technical Paper Proposal
- Internal Design Review Procedure
- Internal Design Review Check Sheet
- Plant Assessment Process and Templates
- Establish Procurement Agreement Procedure

3.5 MEASURES

The underlying principle of measuring progress should be to measure and reward results/accomplishments instead of effort spent on activities that do not yield any results. The principles illustrated on Operating Manual will be used to monitor and evaluate. The strategic objectives must be met. Measures that will be used to determine success are as follows:

- Authorised Operating Manual
- Authorised Strategic Report
- Authorised Structure
- Authorised Integrated Year Plan
- Progress on Electrical Plant Action List (accurate and timeous delivery of deliverables)
- Successful implementation of the road show at all Generation sites
- Functional SharePoint page
- Positive feedback from surveys on relationships with stakeholders (Established, maintained, functional, efficient and effective)
- Positive feedback from surveys on team operations and collaboration (effective and efficient)
- Percentage of standards approved via SCOT (input list vs. list of approved standards)
- Approved Delivery view
- Percentage of approved PCM artefacts (required vs. approved)
- Approved Internal Design Review Process and Check sheets
- Approved procurement strategies for standardisation
- Approved comprehensive IDPs for the team members
- Implementation of IDP
- Formalised mentor/coach relationships
- Efficient and Effective training of others (feedback)
- Approved research topic list and paper submissions

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- Published papers
- Participation in international technical governance structures

These measures will be used to determine team results/accomplishments.

3.6 PLANT COE STRUCTURE

The departmental structure is shown in the Electrical Plant CoE Structure which can be found on the Electrical Plant CoE folder on hyperwave.

3.7 RESOURCES

The Electrical Plant CoE resources and their focus areas and their way of operating are described in the Electrical Plant CoE Structure, The Electrical Plant Structure Matrix and the Operating Manual.

The Electrical Plant Structure Matrix also shows a developmental matrix that ensures that skills and competencies are developed where required. A competency matrix is used to determine if the relevant skills have been acquired. A comprehensive IDP will be used to develop team competencies.

4. AUTHORISATION

This document has been seen and accepted by:

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5. REVISIONS

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July 2013	0	Elekanyani Ndlovu	First Draft for Review
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