

	PROJECT PACKAGE COVER SHEET AND INDEX	Template Identifier	240-129710191	Rev	3
		Document Identifier	ER00024-00-P05#0.1-01	Rev	1
		Authorisation Date	October 2019		
		Review Date	October 2024		



ASSET DESIGN

SUBSTATION PROJECT PACKAGE

PACKAGE COVER SHEET				
Project Name:	MAKHATHINI 132/22-kV SUBSTATION: 2 x 3MVA _r 22kV CAPACITOR BANK C-TYPE FILTER ESTABLISH			
Project No.'s:	ID	ET-STM-1712-4442-01	WBS	CDE05363
Document Identifier:	PW	ER00024-00-P05#0.1-01	Rev	1
Division & Operating Unit:	Distribution – Kwa-Zulu Natal Operating Unit			
Section:	Asset Creation – Network Engineering and Design			
Department:	Asset Design (Power Plant, Civil, Control Plant)			
Project Category:	Strengthening			
Project Lifecycle Phase:	Detail Design			
Senior Design Engineer:	Jayant Raghubir			
Design Manager:	Preshnee Chetty			
Package Date (Rev 1):	11 November 2024			

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PACKAGE INDEX				
PACKAGE SECTION		DOCUMENT NO.	COMPILED BY	REV
0	Project Package Cover Sheet, Index and Transmittal			
0.1	Project Package Cover Sheet and Index	ER00024-00-P05#0.1-00	DE(1)	0
0.2	Document Transmittal Note (National Doc# 240-43898815)	ER00024-00-P05#0.2-00	DE(1)	0
1	Safety, Health, Environmental (SHE) & Works Information*			
1.1	General Specification & Works Information	ER00024-00-P05#1.1-01	DE(1)&DE(3)	1
1.2	Project Specific Safety Specification and Risk Assessment	ER00024-00-P05#1.2-00	DE(1)&DE(3)	0
1.3	Project Specific Drawings Cover Sheet	ER00024-16-01-00	DE(1)&DE(3)	0
	Environmental, Survey, Land and Rights			
1.4	Environmental Authorisation (EA)	N/A	ENV	0
1.5	Environmental Management Plan (EMP)	T.B.A	ENV	0
1.6	Rights of Way - Schedule of Options and Way leaves	ER00024-03-01-00	L&R	0
1.7	Statutory Approvals (Roads, Telkom, Municipal)	N/A	SUR	0
	<i>* Section 1 is applicable to the Civil Works (section 2), Electrical Works (section 3) & Commissioning (section 4)</i>			
2	Civil Works (Buildings, Civil, Earthmat, Fencing & Steelwork)			
2.1	Detailed Specification & Quality Assurance	ER00024-00-P05#2.1-01	DE(3)	1
2.2	Geotechnical Report	ER00024-00-P05#2.2-00	DE(3)	0
2.3	Bill of Quantities	ER00024-00-P05#2.3-01	DE(3)	1
2.4	Standard Civil Drawings and Cover Sheet	ER00024-00-P05#2.4-00	DE(3)	0
2.5	Project Specific Drawings Cover Sheet	ER00024-16-01-01	DE(3)	1
2.6	Standard and Specifications Index	ER00024-00-P05#2.6-00	DE(3)	0
2.7	Tender Technical Evaluation Criteria	ER00024-00-P05#2.7-00	DE(3)	0
2.8	Municipal Building Plans Approval	N/A	DE(3)	0
	<i>* The earthmat installation may be included in the electrical works (depending on the contract requirements).</i>			
3	Electrical Works (Substation HV, MV & LV Equipment Installation)			
3.1	Detailed Specification & Quality Assurance	ER00024-00-P05#3.1-00	DE(1)	0
3.2	Bill of Materials / Quantities – Substation HV & MV Equip	ER00024-00-P05#3.2-00	DE(1)	0
3.3	Substation Electric Diagram & Network Diagram	ER00024-00-P05#3.3-00	DE(1)	0
3.4	Label Schedule – Substation HV & MV Equipment	ER00024-00-P05#3.4-00	DE(1)	0
3.5	Standard Electrical Equipment Drawings and Cover Sheet	ER00024-00-P05#3.5-00	DE(1)	0
3.6	Project Specific Drawings Cover Sheet	ER00024-16-01-00	DE(1)	0

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3.7	Standards and Specifications Index	ER00024-00-P05#3.7-00	DE(1)	0
3.8	Conductor Sag & Tension Tables	ER00024-00-P05#3.8-00	DE(1)	0
3.10	Tender Technical Evaluation Criteria	ER00024-00-P05#3.10-00	DE(1)	0
4	Control Plant Installation & Commissioning (Protection, Metering, DC, Tele-control)			
4.1	Detail Specification, Quality Assurance & Scope of Work	ER00024-00-P05#4.1-00	DE(2)	0
4.2	Control Plant Electrical Drawings and Index	ER00024-51-01-00	DE(2)	0
A	Annexure A: Design Documents (not for issue to contractor - stored electronically)			
A1	Annexure A1: Primary Plant			
A1.1	Technical Approval: Project Proposal / DRT Presentation	ER00024-00-P05#A1.1-00	DE(1)(2)(3)	0
A1.2	Substation Earth Mat Design & Soil Resistivity Test Results	ER00024-00-P05#A1.2-00	DE(1)	0
A1.3	Substation Lightning Protection Calculations	ER00024-00-P05#A1.3-00	DE(1)	0
A1.4	Distribution Grid Code Requirements Checklist	ER00024-00-P05#A1.4-00	DE(1)(3)	0
A1.5	Technical Specification for Makhathini Substation 2 X 3MAr, 22kV Shunt Capacitors & C-Type Filter	ER00024-00-P05#A1.5-01	DE(1)(3)	1
A1.6	Technical Evaluation Criteria for Makhathini 22kV Shunt/Filter Capacitor Bank Design, Manufacture, Installation and Commissioning	ER00024-00-P05#A1.6-02	DE(1)	2
A1.7	Bill of Activities for Makhathini 22kV Shunt/Filter Capacitor Bank Design, Manufacture, Installation and Commissioning	ER00024-00-P05#A1.7-00	DE(1)	0
A1.8	Ordering Schedules (Transformer, Indoor Switchgear, etc.)	T.B.A	DE(1)	0
A1.9	Outage / Contingency Report for constructability analysis	N/A	DE(1)	0
A1.10	Minutes of Design Review Meetings and Correspondence	T.B.A	DE(1)	0
A1.11	Project Management: Copy of Site Instructions, PCR's, etc.	T.B.A	DE(1)	0
A1.12	Financial Approval: CRA, DRA Forms & RIC Minutes	ET-STM-1712-4442-01	DE(1)	0
A2	Annexure A2: Control Plant			
A2.1	Protection Philosophy	ER00024-00-P05#A2.1-00	DE(2)	0
A2.2	Settings Requisition Forms	ER00024-00-P05#A2.2-00	DE(2)	0
A2.3	Maximo Input Sheet	ER00024-00-P05#A2.3-00	DE(2)	0
A2.4	Control Plant Ordering Schedules	ER00024-00-P05#A2.4-00	DE(2)	0
A2.5	Telecontrol Records	ER00024-00-P05#A2.5-00	DE(2)	0
Notes and Instructions				
a) The Project Package is a comprehensive document complete with the Project Scope of Works and Works Information, Technical and Design Specifications, Bill of Materials and Quantities, applicable Standard and Project Specific Drawings and Quality Assurance Documentation. b) The Package is separated according to construction activities with separate signed and approved design packages from the discipline specific Design Engineers. c) The Design Engineer and Senior Design Engineer signatures on the cover or index sheet indicates that the project package is complete and provides the Project Execution Department and the appointed contractor with sufficient information to successfully execute the project. The latest version of the package shall be used at all times.				

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Design Team and Contact Details			
DE	Discipline	Name	Contact No.
DE(1)	Electrical Power Plant	Jayant Raghubir	
DE(2)	Electrical Control Plant	Aroon Sukhnandan	
DE(3)	Civil	Phutheho Moabi	
SDE1	Senior Electrical Power Plant	Jayant Raghubir	
SDE2	Senior Electrical Control Plant	Jayant Raghubir	
SDE3	Senior Civil Engineer	Preshnee Chetty	
DE(4)	Electrical Reticulation	N/A	
ENV	Environmentalist	Bruce Burger	
SUR	Surveyor	T.B.A	
L&R	Land and Rights	Brian Akkiah	
D&D	Drawings and Draughting	Sibongiseni Nsele	
Distribution of Packages			
1	Electronically (CD or e-mail)	PC; PM; Plant; Field Services; CNC Senior Supervisor	
2	Paper copy	PC x 1; COW x 1; Construction x 1	
Package Revision History			
Rev	Date	Compiler	Comments

Compiled and Checked by:		Authorised by:	
Name:	Jayant Raghubir	Name:	Preshnee Chetty
Designation:	Senior Design Engineer	Designation:	Design Manager
Date:	11 November 2024	Date:	11 November 2024
Signature:		Signature	
This project package provides Eskom's KZN OU Project Execution Department and the appointed contractor with sufficient information to successfully execute the project.			

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