Project Name: Hendrina Public Address Installation Phase 2 Tech spec.

Enquiry number:

Project Address:

Eskom Contract's Manager/End User

Name: _____

Eskom's OHS/SHE Manager

Name:

Eskom's Procurement Manager /Officer

Name: _____

Eskom's OHS/SHE Officer

Name:

Table of Contents

1. INTRODUCTION

Eskom's responsibility and commitment is to ensure a safe working environment is in line with its Safety, Health, Environmental, and Quality (SHEQ) Policy and applicable legislative obligations. This OHS specification is Eskom Generation's minimum requirements which are required to be met for the duration of the contract period by contractors/suppliers and, where required, the delivery organisation. The contractor is expected to develop an OHS plan that meets these requirements as well as all the relevant applicable legislation that they conform to. Eskom in no way assumes the contractor's legal responsibilities and liabilities. The contractor is and remains accountable for the quality and execution of their health and safety programme for their employees and appointed contractor employees. This OHS specification reflects minimum requirements and should not be construed as all-encompassing.

Note 1: All the requirements listed hereunder are in relation to the contract and do not supersede or replace any organizational OHS requirements.

Where requirements listed are already in place, then the organizational requirements must be taken cognisance of and listed in the respective OHS plans. If there are any additional Eskom and/or legislative requirements listed in the OHS specification, then these must be addressed.

2. SUPPORTING CLAUSES

2.1 SCOPE

This OHS specification lists the legislative and Eskom requirements and, where applicable, any requirements pertaining to local authorities, municipal by-laws, or environmental legislation that must be met by the contractor.

2.1.1 Purpose

This document will provide a standardised approach to the compilation of OHS specifications throughout Eskom Generation business for contracts, standards, and NEC 3.

2.1.2 Applicability

This OHS specification is applicable to any contracting organisation that intends to respond to Eskom Generation's tender/enquiry with the intention of entering into a contract.

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

- Basic Conditions of Employment Act No 75 of 1997.
- Occupational Health and Safety Act and Regulations No 85 of 1993.
- OHS Act "Regulations on Hazardous Work by Children in South Africa"
- National Environmental Management Act 107 of 1998.
- National Road Traffic Act 93 of 1996.
- 32-37 Eskom Substance Abuse Procedure.
- 32-136 Contractor Health and Safety Requirements
- 240-62196227 Life- saving Rules
- 32-95 Environmental, Occupational Health and Safety Incident Management Procedure
- 32-727 SHEQ Policy
- 32- 418 Working at Heights Procedure
- 240-62946386 Vehicle and Driver Safety Management Procedure
- 32-520 Risk Assessment procedure
- Plant Safety Regulations
- ISO 45001

- Eskom Covid-19 policy
- National Disaster Management Act 57 of 2002

2.2.2 Informative

[1] Tobacco Products Control Act 83 of 1993 (Updated 2011.05.19)
[2] SANS 1186 Symbolic Safety Signs
[3] Constitution of the Republic of South Africa No 108 of 1996
[4] DMN 34-110 Operating A Vehicle Mounted Crane

2.3 DEFINITIONS

Definition	Explanation
Appointed contractor	Means a contractor appointed by the Main contractor
Baseline risk assessment	(32-520) baseline operational risks refer to the health and safety risks associated with all standard processes and routine activities in the business
Business unit (BU)	(32-296) means any defined unit within the Eskom environment, operating as a business under a particular cost-centre number. In the context of this document and in terms of health and safety, any reference to a BU includes a defined unit within any Eskom division and its subsidiaries
Client	(OHS Act) Eskom representative (Internal – Asset Owner), also referred to as the contract administrator/custodian or agent or project manager (as defined in the contract). He/she is the person responsible for ensuring that the works or services are executed in terms of the contract, as well as adherence to legislation pertaining to the contract.
Competent person	(OHS Act) means any person having the knowledge, training, experience, and qualifications, specific to the work or task being performed, provided that, where appropriate, qualifications and training are registered in terms of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995)
Contractor	(OHS Act) means an employer as defined in section 1 of the Act who performs contracted work and includes Main contractors
Contract's Manager/End User	**Contract's Manager/End User**
Consultant	means a person providing professional advice
Controlled disclosure	controlled disclosure to external parties (either enforced by law or discretionary)
Duty of care to the environment	(32-136) anybody who causes or has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing, or recurring. If such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, such person must minimise and rectify such pollution or degradation of the environment

Definition	Explanation
Employee	(OHS Act) means, subject to the provisions of subsection (2), any person who is employed by or works for an employer and who receives or is entitled to receive any remuneration or who works under the direction or supervision of an employer or any other person
Employer	(OHS Act) means, subject to the provisions of subsection (2), any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him/her, but excludes a TES (ex labour broker) as defined in section 1(1) of the Labour Relations Act 1956 (Act No. 28 of 1956)
Environment	(32-94) means: a) the land, water, and atmosphere of the earth; b) micro-organisms and plant and animal life; and c) any part or combination of (a) and (b) and the interrelationships among and between them, and the physical, chemical, aesthetic, and cultural properties and conditions of the foregoing that influence human health and well-being
Eskom requirements	Eskom requirements flowing from directives, policies, standards, procedures, specifications, work instructions, guidelines, or manuals
Fall protection plan	(OHS Act) means a documented plan of all risks relating to working from an elevated position, considering the nature of work undertaken, and setting out the procedures and methods to be applied in order to eliminate the risk
Hazard	(OHS Act) means a source of, or exposure to, danger
Hazard identification	(OHS Act) means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed
Occupational Health and safety file	(OHS Act) means a file or other record in permanent form, containing the information required in relation to the contract.
Health and safety plan	(OHS Act) means a document plan that addresses hazards identified and includes safe work procedures to mitigate, reduce, or control hazards identified
Occupational Health and safety specification	(OHS Act) means a document specification of all health and safety requirements pertaining to associated to a contract, so as to ensure the health and safety of persons.
Occupational Health and safety requirements	means comprehensive health and safety requirements for a contract, project, site, and scope of work. This specification is intended to ensure the health and safety of persons, both workers and the public, and the duty of care to the environment. The health and safety requirements must be specific to each contract, project, site, and scope of work
Lifesaving Rules	(240-62196227) a rule that, if not adhered to, has the potential to cause serious harm to people
Medical Certificate of fitness	(OHS Act) means a certificate valid for one year, issued by an occupational health practitioner, issued in terms of the regulations, whom shall be registered with the Health Professions Council of South Africa
Medical surveillance	(OHS Act) means a planned programme or periodic examination (which may include clinical examinations, biological monitoring, or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner

Definition	Explanation
Method statement	(OHS Act) means a written document detailing the key activities to be performed in order to reduce, as reasonably as practicable, the hazards identified in any risk assessment
National Enquiries/contracts	sourcing of services providers/contractors at the divisional level and not at BU level thorough tendering, request for price etc
Organisation	may be defined as a group of individuals (large of small) that is cooperating under the direction of executive leadership in accomplishment of certain common objects
Pre-job meetings	(34-227) means a meeting that is held prior to the commencement of the day's work and that is attended by all the relevant employees associated with the work task
Main contractor	(In the text of this document) Means an employer, as defined in section 1 of the OHS Act, who intends to tender for or has signed a contract with Eskom for services rendered.
Provincial director	(OHS Act) means the provincial director as defined in Regulation 1 of the General Administrative Regulations under the Act
Responsible Manager	Is a Manager of a department, section or operating/business unit who has been appointed as part of the Eskom delegation of authority process with the aim to assist the applicable 16(2) assigned person in executing his/her duties in terms of the Occupational Health and Safety Act
Risk assessment	(OHS Act) means a programme to determine any risk associated with any hazard at a construction site in order to identify the steps needed to be taken to remove, reduce, or control such hazard.
Site	(34-228) means an Eskom department, unit, complex, building, specific project, work site, or the site where agents, clients, Main contractors, contractors, suppliers, vendors, and service providers provide a service to Eskom, directly or indirectly
Service provider	any private person or legal entity that provides any service(s) to Eskom for compensation
Subsidiary	(32-94) an enterprise controlled by another (called the parent) through the ownership of greater than 50% of its voting stock
Supplier	(32-1034)means a natural or legal person who renders a service and may include the following current or potential supplier vendor, contractor, consultant
Task	(34-227) a segment of work that requires a set of specific and distinct actions for its completion
Toolbox talks	(34-227) where the team leader, after conducting pre-task planning, shares all the tasks at hand and discusses task allocation, the identified risks, and the control measures with all his/her team members on site before commencing a specific task and documenting the agreed strategy. (This shall be done to ensure common understanding of the tasks, risks, and control measures required.)
The Act	(OHS Act) means the Occupational Health and Safety Act No. 85 of 1993, as amended, and the Regulations thereto
Visitor	any person visiting a workplace with the knowledge of, or under the supervision of, an employer.

2.4 ABBREVIATIONS

Abbreviation	Description
BU	Business Unit
CE	Chief Executive
COID Act	Compensation for Occupational Injuries and Diseases Act
DMR	Driven Machinery Regulations
DEL	Department of Employment and Labour (Inspection and Enforcement services – Provincial office)
EP	Emergency Preparedness
EAP	Employee Assistance Program
ERfW	Environmental Regulations for Workplaces
GAR	General Administrative Regulations
GSR	General Safety Regulations
HCS	Hazardous Chemical Substances
LDV	Light Delivery Vehicle
MSDS	Material Safety Data Sheets
OHS Act	Occupational Health and Safety Act and Regulations, 85 of 1993
O&M	**Operating and Maintenance**
LoG	(COID) Letter of Good Standing
SABS	South African Bureau Standard
SANS	South African National Standard

2.5 RELATED/SUPPORTING DOCUMENTS

Section 37(2) of the OHS Act requires Eskom to sign an agreement and include it in the OHS file for evaluation prior to the start of work. OHS department will issue the 37(2) agreement to the project manager/end user who will facilitate the signing of the document by Eskom and contractor representative

. Document Content

3.1 SCOPE OF WORK

Title:	**Hendrina Public Address System Installation Phase 2 Technical Specification** (1)	Unique Identifier:	**23717725-015**
		Alternative Reference Number:	**N/A**
		Area of Applicability:	**Engineering**
		Documentation Type:	**Specification**
		Revision:	**0**
		Total Pages:	**38**
		Next Review Date:	**N/A**
		Disclosure Classification:	**CONTROLLED DISCLOSURE**

Compiled by	**Functional Responsibility**	**Authorised by**

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INTRODUCTION

This document covers the minimum Technical Specification for the engineering scope for the Extension of the Public Address System at Hendrina Power Station.

The appointed *Contractor* will be required to do the system upgrade and his work will include; complete design, installation and commissioning including interfacing to the existing PA system, as well as address defects identified. This document sets to detail the Technical Specification identified by the *Employer* for the *Contractor* to implement.

SYSTEM IDENTIFICATION

Public Address System

- Official name of the system: Hendrina Power Station Public Address System

PUBLIC ADDRESS SYSTEM DESCRIPTION

The Public address currently installed comprises the amplifiers that are installed in 5 amplifier cubicles. These amplifier cubicles have been placed on 5 areas/buildings. The cubicle will contain different number of amplifiers – the number depending on the areas to be serviced. The areas that have speakers are mentioned below. The amplifier cubicles are linked via fibre optic cable.

The public address system allows messages to be announced from 2 central locations thus immediately providing useful and unfiltered information. This system is based on the Bosch Praesideo 3.5 Public Address and Voice Alarm System.

Amplifier Cubicle – SOR Building

The amplifiers on this cubicle supply sound to the following areas:

- Unit 1-5 Turbine Floor,
- Unit 6-10 Turbine Floor,
- Unit 1-5 Operator Control Room,
- Unit 6-10 Operator Control Room,
- Coal Laboratory, OSSD & Medical Centre Buildings and
- SOR building.

Amplifier Cubicle – Probuy Building

The amplifiers on this cubicle supply sound to the following areas:

- Probuy Building,
- Engineering Office Building and
- Umcebo & Outage Boardroom Building.

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Amplifier Cubicle – GWP Building

The amplifiers on this cubicle supply sound to the following areas:

- Gigawatt Building,
- North Security gate Offices,
- Maintenance Training Building and
- Safety Office Building.

Amplifier Cubicle – Outages Building

The amplifiers on this cubicle supply sound to the following areas:

- Electrical Maintenance Department workshop
- Outages Building
- Canteen building

Amplifier Cubicle – Stores Building

The amplifiers on this cubicle supply sound to the following areas:

- MSSD workshop
- Welding & Fabrication workshop
- Stores Building
- Njabula Hall

SCOPE BOUNDARY

In 2022, the supplier of the current Public Address system declared that they will not be supporting the current rage of amplifiers anymore.

The current installed technology is the Bosch Praesideo Amplifiers with supporting Bosch speakers and other Bosch technology. There has now a need to install the PA system to the areas where there were no speakers.

This project is meant to address this issue so that all station personnel can be able to hear the announcements.

The scope of this project will include the supply of more amplifiers and speakers so that all personnel on identified areas in the plant can be able to hear announcements. Also, since the current range of PA system is not supported anymore, an upgraded or a new type of amplifier system can be considered.

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SUPPORTING CLAUSES

SCOPE

Purpose

(6) The purpose of this specification is to provide the Technical Specification for the extension of the Hendrina Public address (PA) system with an upgraded PA system. It also references the technical quality and standards which should be applied.

(7) The specification will form part of the contractual documents to the prospective *Contractors*, along with the drawings, and therefore can help minimise project risk and provide support should there be any legal disputes.

Applicability

(8) This document applies to:

i. Hendrina Power Station Public Address System Extension

NORMATIVE AND INFORMATIVE REFERENCES

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

Normative

Informative

[1] 240-49266281 Public address System Standard

[2] 240-53113685: Design Review Procedure

[3] 240-53113685: Design Review Procedure

[4] 240-53114002: Engineering Change Management Procedure

[5] 240-54937439: Fire Protection/Detection Assessment Standard

[6] 240-56355754: Field Instrument Installation Standard

[7] 240-56355815: Field Instrument Installation for Junction Boxes and Cable Termination Standard

[8] 240-64550692: Label Specification and Plant Codification

[9] 240-65459834: Project Documentation Deliverable Requirement Specification

[10] 240-66920003: Documentation Management Review and Handover Procedure for Gx Coal Projects

[11] 240-70164623: Design Guideline for HVAC in the Eskom Coal Fired Power Stations

[12] 240-71432150: Plant Labelling Standard

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[13] 240-76992014: Project / Plant Specific Technical Documents and Records Management Work Instruction

[14] 240-86973501: Engineering Drawing Standard

[15] 240-93576498: KKS Coding Standard

[16] R/ESK1618 Hendrina Power Station Hazardous Location Classification

DEFINITIONS

Disclosure Classification

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

[1] Table 2.3 – Definition of Terms

A	
Audibility	A measure of whether sound can be heard over other sounds in a certain area.
Area of coverage	Area where PA system infrastructure is not installed and so messages broadcasts are not heard.
O	
OEM	The Internationally registered legal entity who owns the rights for the manufacture, design and repair of the Public Address Systems.

ABBREVIATIONS

Abbreviation	Description
GWP	Gigawatt Park
HMI	Human machine Interface
PA	Public Address System
SOR	Switch Operating Room

1.1 ROLES AND RESPONSIBILITIES

[2] *Employer* will be responsible for the overall management of the project with respect to time, cost, and quality throughout the project.

[3] The Plant system engineer's role and responsibility will be to provide technical support.

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1.2 PROCESS FOR MONITORING

This document is governed by the Design Review Procedure (240-53113685). Any changes shall be managed through the Project Engineering Change Management Procedures (240-53114026).

1.3 RELATED/SUPPORTING DOCUMENTS

HENDRINA PUBLIC ADDRESS SYSTEM DESCRIPTION

A Public Address system is currently installed at Hendrina. This system is the Bosch Praesideo 3.5 Public Address and Voice Alarm system. It covers a significant part of the station, but it does not cover all the areas within the station perimeter.

a) The current system comprises the following:
- 5 amplifier racks that are linked via fibre cable. These racks are in 5 buildings, viz,
  - GW Park building,
  - Probuy building,
  - Switch Operating Building,
  - Outages building and
  - Procurement building.

b) From each of the above buildings, amplifiers are assigned to speakers that feeds the adjacent areas (buildings, workshops and plant)

c) The announcements can be done from either the GW Park building or at the Switch Operating buildings.

d) The additional amplifiers supplying the newly installed speakers will be installed from some of these amplifier racks mentioned above.

e) The connection between each Amplifier rack to the other Amplifier rack is via a fibre cable and eventually forming a ring.

f) Although the amplifier was designed as to comply with the IEC standard, the current installation does not fully comply with the IEC and some of Eskom Standards. Before the final design for the PA extension is approved, a waiver will be considered on certain aspects of the current installation.

g) On each building mentioned above, the amplifiers are connected as shown on the following pages:

(i) <u>General Layout 1</u>

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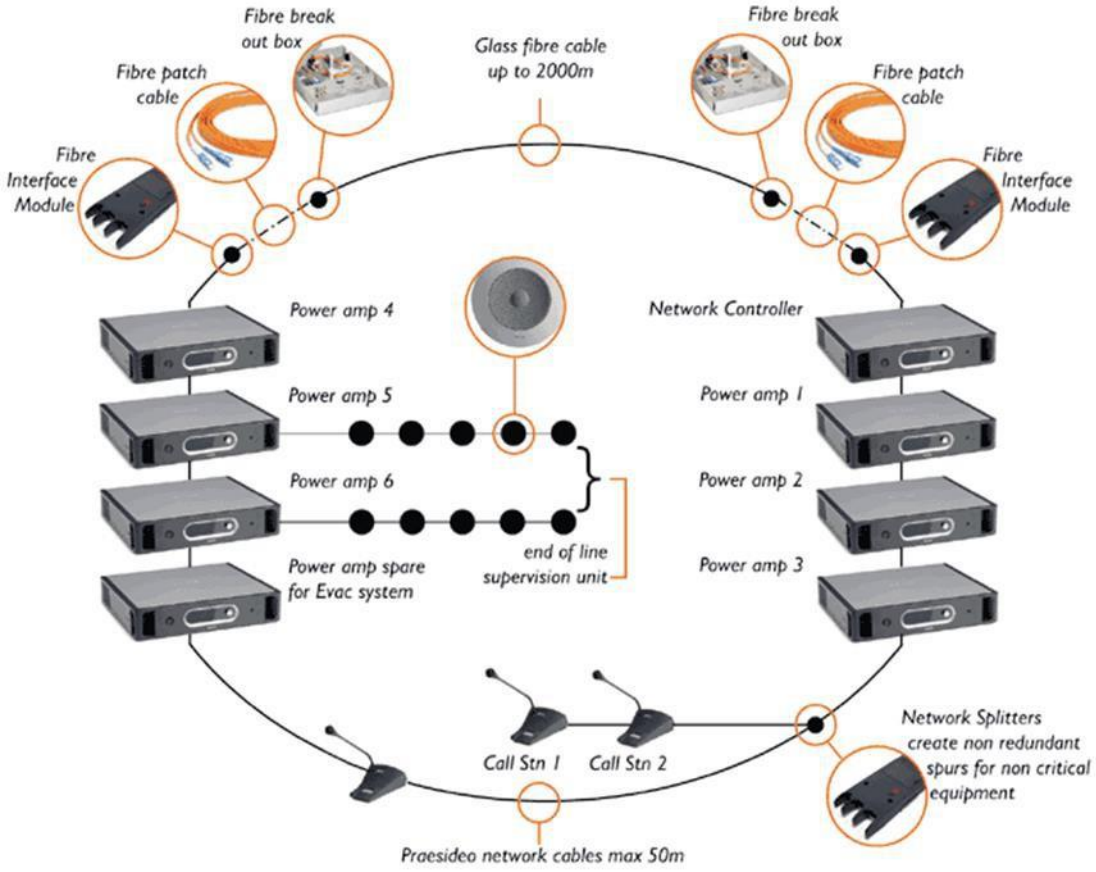

(ii) General Layout 2

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(10)

(iii) Bosch Equipment Types

Call stations	GWP	Bosch	@ GWP
	SOR	Bosch	@SOR
PA Amplifiers:	1P500	Bosch	
	2P250	Bosch	
	LBB4428	Bosch	
FIN		Fibre Interface Modules	
Speakers	Cabinet	Bosch 3013/01	
	Ceiling	Bosch LC1-WMO6E8	
	Horns 1	Bosch 3428	
	Horns 2	Bosch 3482	

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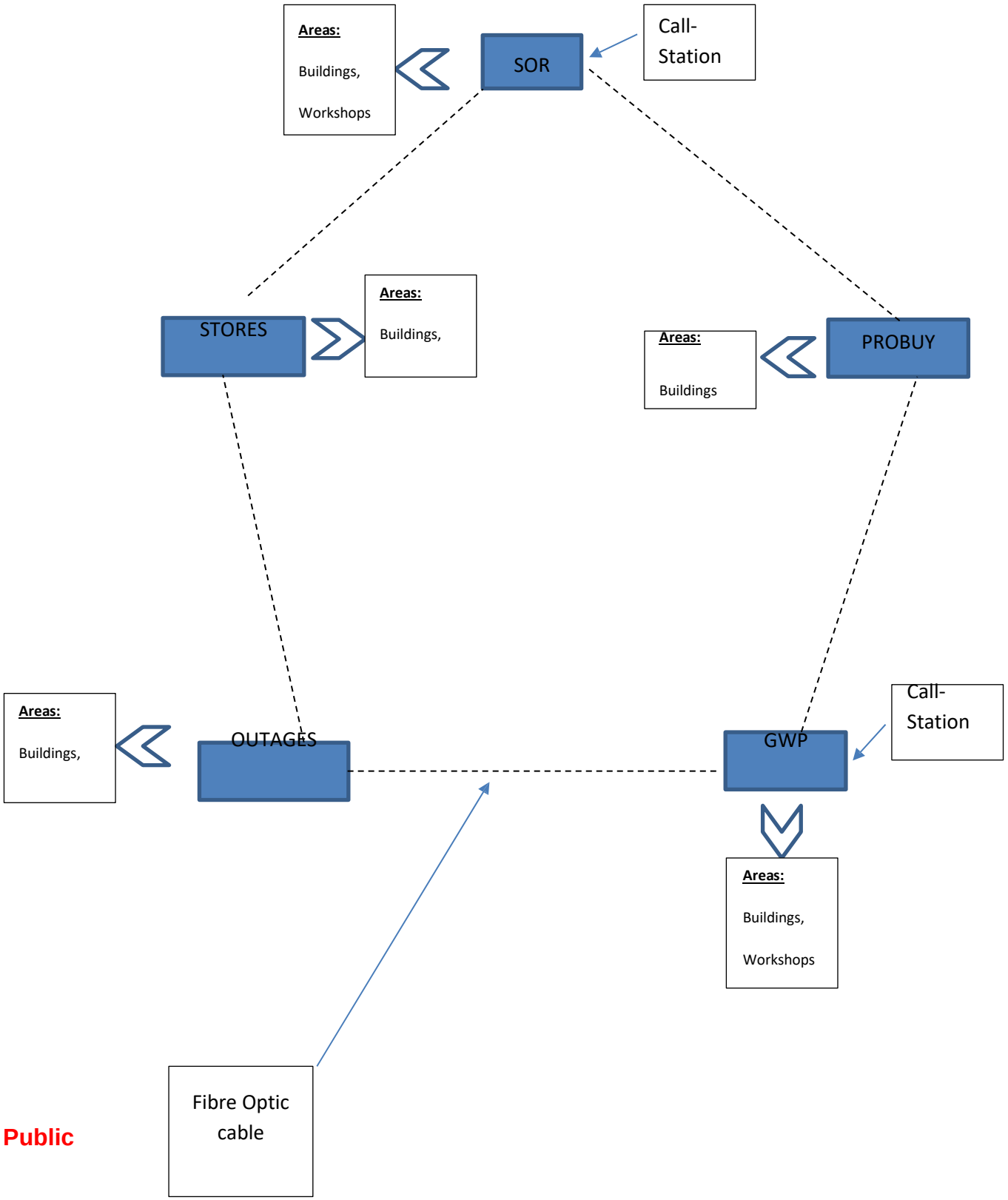
(iii) General Layout 3



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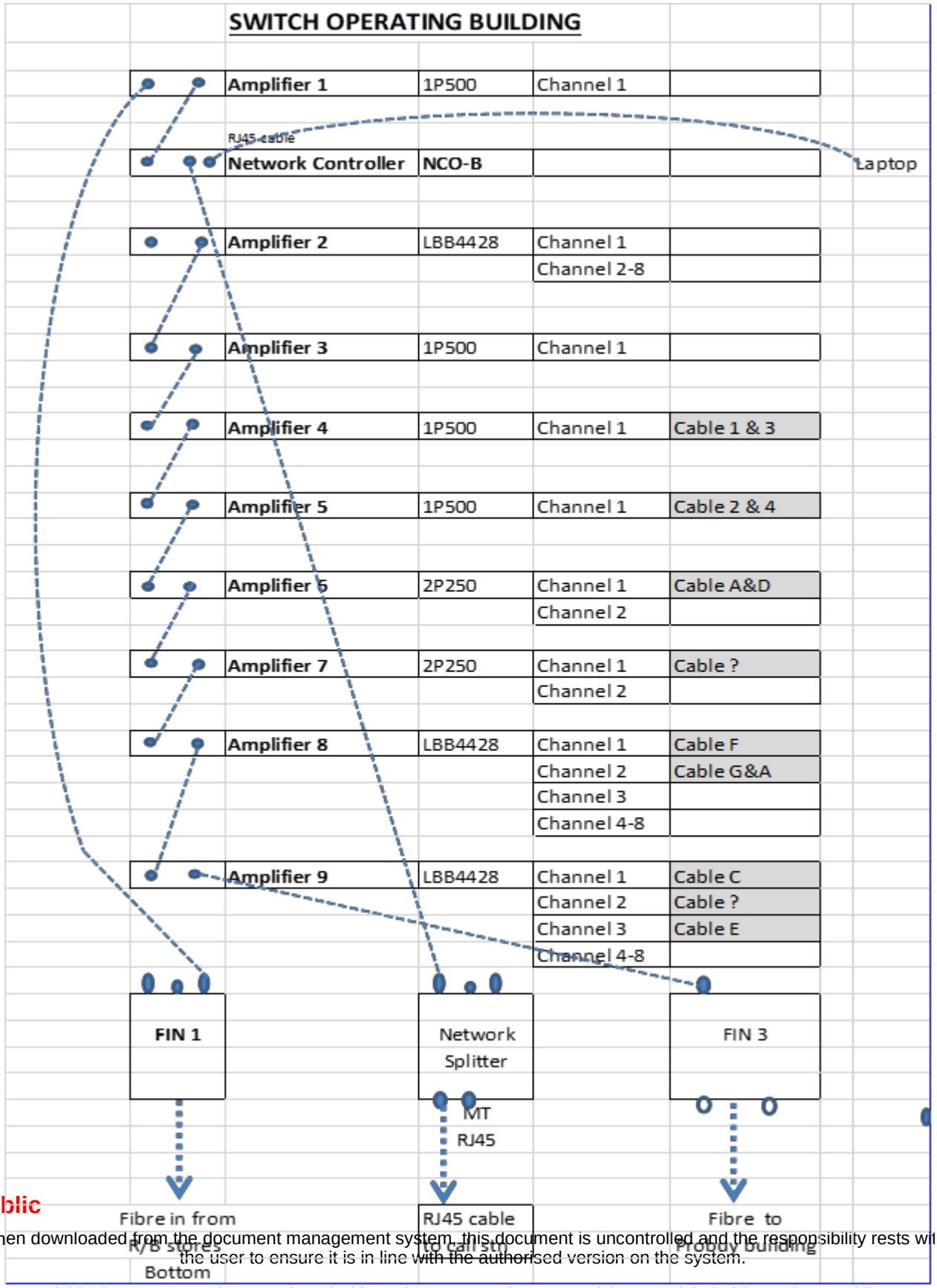

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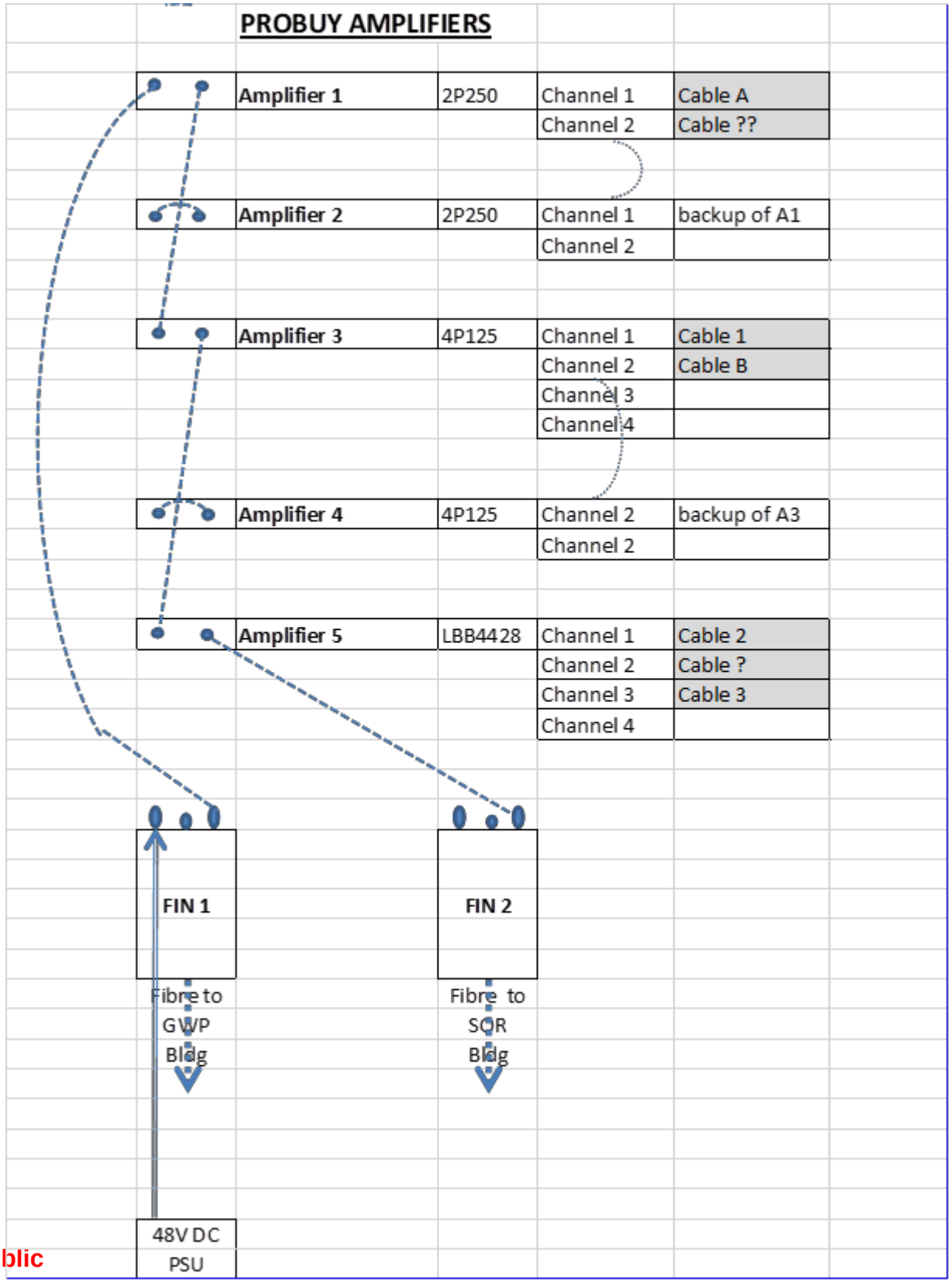

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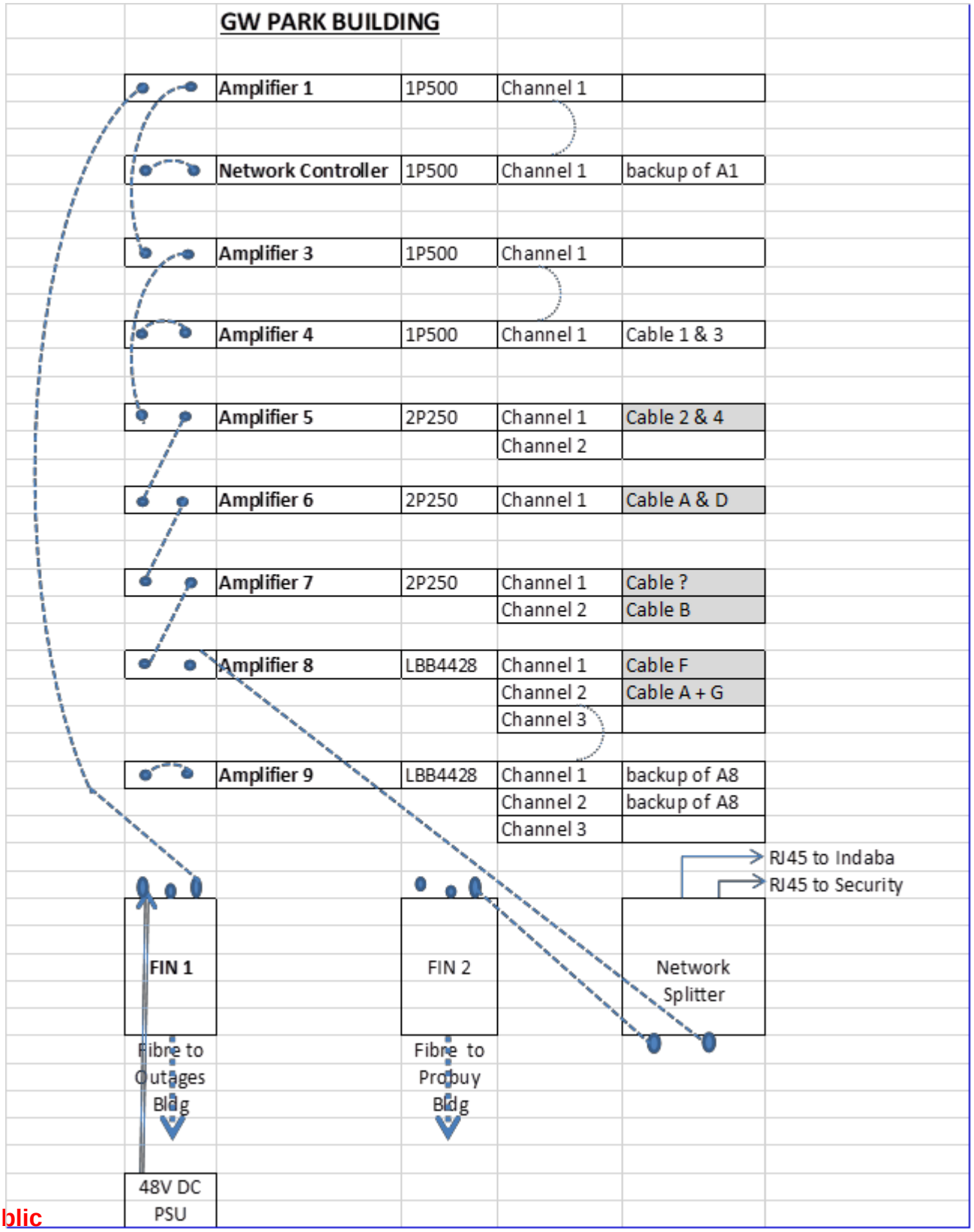

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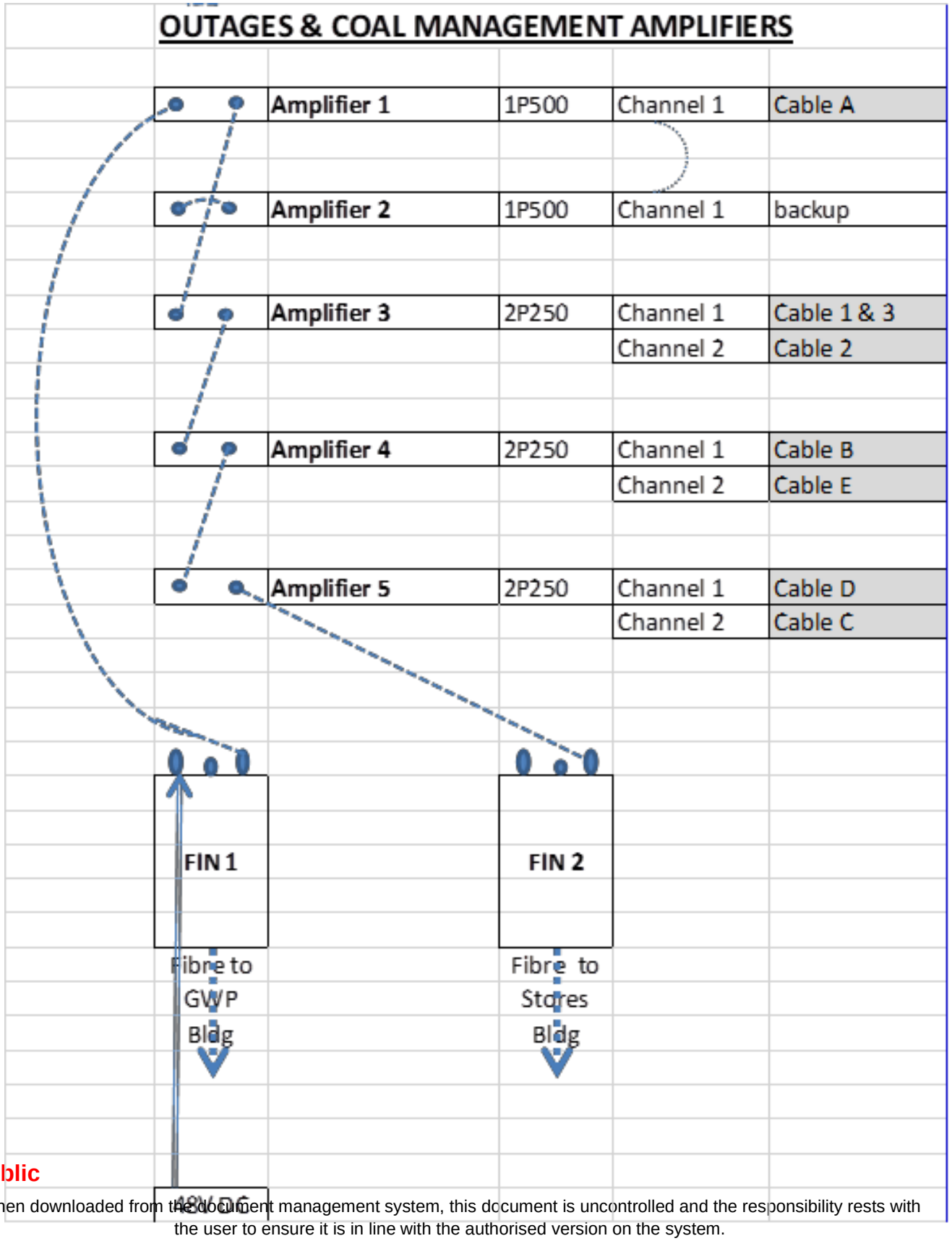

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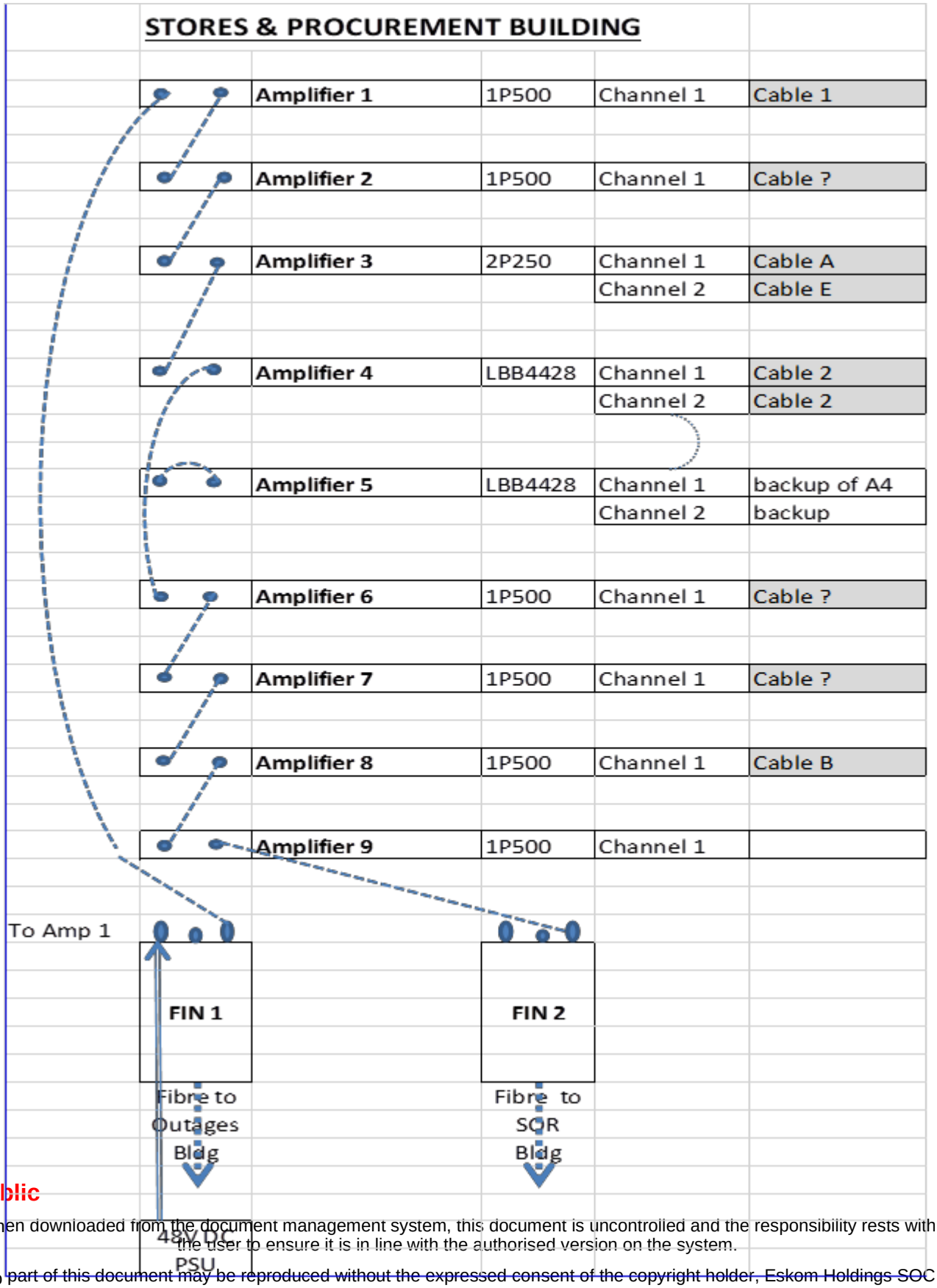

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Battery Limits

The *Contractor's* battery limit will include:

i. Study the current architecture of the existing PA System,

ii. Check the areas where new PA System is required,

iii. Design the new system to ensure there is enough coverage and audibility,

iv. Determine if the new PA system interfaceable with the current PA system,

v. Supply of backup power supply in case of loss of mains power,

vi. Providing field installation and configuration of the upgraded system that will include cabling, PA installation and commissioning to ensure the whole system operates as a whole.

(11)

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WORK TO BE PERFORMED AND EQUIPMENT AND PLANT TO BE PROVIDED BY THE CONTRACTOR FOR THE WORKS

(1) The Contractor shall provide the whole of the Works as defined in section 3 of this document except where explicitly stated as otherwise.

EMPLOYER''S OBJECTIVES AND PURPOSE OF THE WORKS

i. The purpose of the project is to provide the annunciation to areas where there was none before.
ii. The objective of this project is to address the lack of annunciation by putting new amplifiers to ensure the entire plant is covered.

OVERALL SCOPE REQUIREMENTS FOR THE WORKS

(1) The Contractor shall provide all equipment and services and execute all Works to fulfil all requirements specified in this Specification.

(2) The Contractor shall supply, install and commission the amplifiers and speakers.

(3) This shall include the engineering, design, procurement, manufacturing, factory acceptance testing, and delivery to site, off-loading at site, storage, installation, testing, commissioning, optimisation, and providing as-built documentation for the station's public address system. The areas where the new PA system is required to be installed is shown below:

- South Gate Security Building
- South Gate Storage Facilities (x3)
- South Gate Sulzer Workshop and Offices
- South Gate Contractor Site Area
- Plant Performance Offices
- White Double Storey Park Homes (Top and Bottom)
- Roshcon Ash Workshop
- Ash Booster Pump House
- Coal Staithes (x4)
- South Under-staithe Conveyors
- North Under-staithe Conveyors
- Roshcon Coal Office
- Coal Sampling Office
- Coal Plant Control Room next to conveyor 4A
- Roshcon Coal Workshop at the Coal Stockyard
- Tech and Ops workshops

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- Car Wash area near South security gate
- Mill Workshop next to the Engineering Offices Building
- Compressor Plant and adjacent toilets
- Turbine Hall Basement 1-10
- Ten Turbine SPO Cabins
- Two Ash Plant Offices (Basement)
- Toilets, Basement
- Toilets, 40 feet level, boiler side
- Oil Burner Workshop
- Workshop between Toilets 2 and 3
- Outside plant offices in front of Boiler 5
- Station Cleaners Change Room
- Tea Room building, MMD
- Unit 6-10 SPO Shell House
- Station Coal Bunker Landing
- Units 6-10 Control Room Offices
- Shift Supervisor Ash Plant Office (North)
- PO Outside Plant Cabins (North and South)
- Fuel Oil Pump Houses (North and South)
- Park Home Behind Medical Centre
- ERI Offices next to the Canteen
- South Helipad
- North Cooling towers Assembly point

The above speakers shall be fed from some of the amplifiers that will be contained in areas where the amplifier racks are in the 5 buildings mentioned below:

- The GW Park building
- Probuy building
- Switch Operating Building
- Outages building
- Procurement building

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(4) The Contractor shall implement the controls design with the intent of safely and complete integrability of the entire PA system

(5) The PA system shall be configured such that it responds to failures in a way that it suits the application.

(12)

Contractor's Design in Detail Engineering

(1) It is the Contractor's responsibility to verify the plant system and the documentation provided by the Employer before using it.

(2) Detail engineering is defined as being all activities to clearly identify the Contractor's scope of works for the upgrade of the plants Control logic and Protection System concerned.

(3) As a minimum, detail engineering consists of the following activities:

i. High Level Engineering Philosophies & Concepts – during which the rules, philosophies and concepts followed in the various engineering and design activities, are clearly defined, clarified and accepted.

ii. Plant investigation work – during which the *Contractor* conducts his plant investigation work.

(4) All detail Engineering activities are executed by the Contractor in active co-operation with the Project Manager.

(5) The detail Engineering activities are phased to suit the Accepted Programme.

(6) All equipment having long delivery times are planned and technically clarified early in the Detail engineering technical clarification stage to allow early detailed engineering to commence in parallel.

(7) Any discrepancies found in the design after detail design freeze is the responsibility of the Contractor to correct.

High Level Engineering Philosophies & Concepts

(1) During the concept design activity, the Contractor develops and clarifies the documents defined in as being required for the Design of the PA system Installation Phase 2

(2) Detailed engineering of the interfaces within the works and the interfaces to other systems, forms part of the works.

Plant Investigation Work

(1) The *Contractor's* scope of the plant investigation work includes, but is not limited to:

i. Verification of the location and suitability of connection points.

ii. Verification of the location and suitability of all field equipment

(2) During the plant investigation work, the *Contractor* takes responsibility for collecting all necessary data and information to enable the *Contractor's* design to be completed.

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SCOPE DEFINING DOCUMENTS FOR THE WORKS

(1) As a minimum, during the scope definition activities, the documents from Vendors that are required for basic engineering design freeze are developed and clarified by the *Contractor* to be approved by the *Project manager*.

PUBLIC ADDRESS SYSTEM

(1) The PA Extension of the PA system will supply the areas mentioned in section 3.2.3 above. The proposed estimated distances, trenching requirements, conduit requirements, and the estimated number of speakers on each area is shown on the tables below.

(13)The table below assumes that the Bosch range of equipment will be utilised as shown below:

- Horn1 speaker :– LBC 3482/00
- Horn2 speaker:– LBC 3428/00
- Cabinet speaker :– LBC 3018/01
- Amplifier: – PRS-1P500

(14)

(15)

(16)

FED FROM SOR AMPLIFIER CUBICLES

3.4.1.1 South Gate

From	To	Distance (m)	Trenching (m)	Conduit	Speakers @ destination	Mounting Poles
SOR Amplifier A	2 Parkhomes	362	-	362	4 Cabinet 2 horn1	-
2 Parkhomes	Howden Workshops	238	50	238	4 horn1	2
Howden Workshops	South Gate	100	100	-	2 horn1	2

1.3.1.2 Units 1-5 Basement

(17)

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles

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Amplifier B	Basement Midway	40	-	40	-	-
Basement Midway	Unit 1	260	-	260	1 Cabinet (toilet) 10 horn2	-
Unit 3&4 North transformer wall	North Ash Pump Cabin	80	-	80	1 Cabinet 1 horn2	-
North transformer wall	Condenser SPO Cabins (5 off)	45 x 5 = 225m	-	45 x 5 = 225m	(1 cabinet & 1 horn2) x 5	-

1.3.1.3 Unit 6-10 Basement

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles
Amplifier C	Basement Midway	40	-	40	-	-
Basement Midway	Unit 10	260	-	260	1 Cabinet (toilet) 10 horn2	-
Unit 7&8 South transformer wall	South Ash Pump Cabin	80	80	80	1 Cabinet 1 horn2	-
South transformer wall	Condenser SPO Cabins (5 off)	45 x 5 = 225m	-	45 x 5 = 225m	(1 cabinet & 1 horn2) x 5	-

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1.3.1.4 Unit 1-5 Coal Bunkers, North Incline & Turbine Floor Toilets 1-5

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles
Amplifier D	Coal bunkers Midway	150	-	150	-	-
Coal bunkers Midway	Unit 1	200	-	200	10 horn2	-
Turbine Floor Midway (Next to U6)	U1-5 Turbine Floor Toilets	275	-	275	6 horn2	BT6, BT3, BT2, OilBrn, Babcock
Turbine Floor Midway (Next to U6)	Shift Supervisor CW Plant Offices	100	-	100	5 Cabinets	-
South wall middle	Bottom North Incline conveyors	230	-	230	5 horn2	(Incl FO Pmphse)

1.3.1.5 Unit 6-10 Coal Bunkers, South Inclines & Turbine Floor Toilets 6-10

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles
Amplifier E	**Coal bunker Midway**	150	-	150	-	-
Coal bunker Midway	**Unit 10 bunker**	200	-	200	10 horn2	-
Turbine Floor Midway	**Station Cleaner (Next to U6)**	80	-	80	3 horn2	-
Station Cleaner (Next to U6)	**U6-10 Turbine Floor Toilets**	80	-	80	2 horn2	BT8, BT12
South wall middle	**Bottom South Incline conveyors**	230	-	230	5 horn2	(incl FO Pmphse)

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1.3.2 FED FROM STORES AMPLIFIER CUBICLES

3.4.2.1 South Contractor's Yard

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles/comment
Amplifier (Existing)	**Stores Building Exit**	100		100		-
Building Exit	**Njabula Hall**	150	100	50		-
Njabula Hall	**Sandblasting Building**	60	60		2 Horn1	(South Helipad)
Njabula Hall	**Contractor's site**	300 +100	300+100		12 Horn1	-

1.3.2.2 Compressors

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles
Stores Building Amp (existing)	**Compressors & Toilets**	60	30	30	3 Horn1	-

3.4.3 FED FROM OUTAGES AMPLIFIER CUBICLES

3.4.3.1 Coal Under-Staithes 1, 2, 3 & 4 & Rotek Ash Workshop

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles/comments
Amplifier AA	**Building exit**	25	-	-	-	-
Building exit	**Pipe trench**	16	16	-	-	-

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Pipe trench	**Incline**	30	30	-	-	-
Incline	**Under staithe entrance**	83+4		83+4	-	-
Under staithe entrance	**Staithe 1& 3**	100		100	4 horn2	-
Under staithe entrance	**Staithe 2 & 4**	160		160	5 horn2	Incl Toilets
Staithe 3	**Rotek Ash Workshop**	200	100	-	4 horn2	-

3.4.3.2. Coal Over-Staithes & Coal Workshops

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles
Amplifier BB	**Building exit**	25	-	-	-	-
Building exit	**Pipe trench**	16	16	-	-	-
Pipe trench	**Incline**	30	30	-	-	-
Incline	**Under staithe entrance**			83+4	-	-
Under staithe entrance	**Staithe 2 & 4**	80+100		180	4 horn2	-
Under staithe entrance	**Staithe 1 & 3**	80+150		230	4 horn2	-
Staithe 3 (eo3)	**Rotek – Coal Workshop**	200	100	100	4 horn1	-
Roshcon Workshops	**Coal truck gate**	300	300	-	2 horn1	1

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3.4.4. FED FROM Gigawatt Park AMPLIFIER CUBICLES

From	To	Distance (m)	Trenching (m)	Conduit	Speakers @ destination	Mounting Poles
Building exit West (existing)	**Car Wash**	110	110	-	2 horn1	1
Building exit North	**Tech & Ops**	310	310	-	4 horn1	-

3.4.5 FED FROM PROBUY AMPLIFIER CUBICLES

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles
Engineering Offices Bldg (existing)	**Mill Maintenance Workshop**	20	3	10	2 horn1	-

3.4.6 FED FROM OUTAGES AMPLIFIER CUBICLES

From	To	Distance (m)	Trenching (m)	Conduit	Speakers @ destination	Mounting Poles
Canteen (existing)	**ERI offices**	50	50	-	2 horn1	1
Welding & Fabrication W/S (existing)	**MMD Tea room**	20	20	-	1 cabinet 1 horn1	-

FED FROM GWP AMPLIFIER CUBICLES

From	To	Distance (m)	Trenching (m)	Conduit (m)	Speakers @ destination	Mounting Poles

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Safety Island Building (existing)	**North Assembly Point**	110	83	11	4 horn1	-

Bill of Quantities

(18)The summary of the Bill of materials as mentioned above has been summarised as shown below:

	Item	Specification	Quantity
1	Poles (number)	3m high x 25mm OD hollow, Stainless Steel Pipe	4
2	Amplifiers (number)	Bosch, PRS 1P500	7
3	Horn1 speakers (number)	Bosch, LBC 3482/00	36
4	Horn2 speakers (number)	Bosch, LBC 3428/01	104
5	Cabinet speakers (number)	Bosch, 3018/01	19
6	Speaker Cable (m)	FR120, 1.5mm^2	6 681
7	Conduit (m)	Galvanised Steel conduit, 20mm diameter	4 764
8	Amplifier cubicle (number)	As in section 3.2.4 (ii)	1
9	Trenching (m)	500mm deep trench	1 935
10	Piping (m)	Black Poly-ethylene, 20mm, (outer 24mm, inner 21mm)	1 935

(19)

(20)

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Public Address System Specification

i. Power Supplies

The following amplifier cubicles do not have amplifier back-up power supplies.

- Probuy
- SOR
- Boiler Eng
- Stores
- GWP

Hence, the Contractor must supply and install the UPS and standby batteries to meet the following criteria:

(a) The amplifier cubicles shall be equipped with a UPS to supply power to the cubicle amplifiers to cater for a standby period of 24 hours and for a continuous broadcast of 30 minutes at full power.

(b) The UPS type shall be rack mounted and preferably be made by Tescom.

(c) An additional battery bank, preferably by Tescom to be connected to the UPS to ensure that the standby time is archived as mentioned in (a) above.

(d) The minimum life-span of the batteries shall be 5-10 years.

(e) The system must be capable of keeping the standby batteries in an optimal condition.

(21)

ii. Cabling

(a) All fire-rated speaker equipment must comply with EN54-54 specifications.

(b) Speakers should have ceramic terminal blocks, thermal fuses, and metal fire-dome where applicable.

(c) Speaker cabling shall be a minimum PH120 class as per EN50200/SANS10139.

(d) Cabling may be of the indoor and outdoor use application and must have a minimum cross-sectional core of 1.5mm.

iii. General Cabling Requirements

1. As a minimum, both indoor and outdoor, PH120 speaker cables shall be used.

a) All cabling is required to be protected against mechanical damage, chemicals, dust build-up and heat as per Eskom Standard Document: 240-56227443 Requirements for Control and Power Cables for Power Stations Standard. This cable standard will also apply to Eskom Facilities other than Power Stations.

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b) Cables are required to only be terminated in instruments, junction boxes or other approved equipment.

c) No intermediate cable joints are permitted.

d) For the coal staithes and coal bunker areas, there will be suspended coal dust in environment. Proper sealing of speakers and junction boxes (must be IP65) shall be observed as not to cause fires from the exposed circuits.

e) Cables are required to be routed separately from electrical power cables and crossovers that bring signal and power cables into close proximity shall be made at right angles.

f) Where possible, existing cable racking and routes shall be re-used else new racking and conduits are provided for by the *Contractor*.

g) On Eskom premises where specific cable numbering conventions are in force, the *Contractor* follows these conventions otherwise the *Contractor* proposes a coding system/structure for the approval of the *Employer*

2.

3.

4.

PERFORMING THE WORKS

In performing the works the *Contractor* performs the following:

- Assesses the condition of the existing system, consults with the *Employer* regarding the faults and performs repairs as agreed upon with the *Employer*.

- Assesses the degree of conformance of the existing PA system to the Eskom Public Address System standard 240-64720986. All deviations are listed and an action plan for correction is drawn up. The *Contractor* then consults with the *Employer* regarding the critical deviations to correct and implements the modified plan.

- Acoustical analysis of the areas where the extension system will be installed. A national or international standard, approved by the *Employer*, shall be followed for this activity. The *Contractor* submits proposals for the acoustical analysis standard to the *Employer* for acceptance.

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- Determination of the speaker specifications, layout (installation point of each speaker) and densities for the extension system. This activity is informed by the result of the acoustical analysis and aims at guaranteeing the intelligibility of voice messages at all points of the extension system over the normal range of environmental conditions experienced in these areas. The limits for speech intelligibility are stated as part of the design output.

- Proposal of installation points for PA system plant or materials (i.e racks, amplifiers, network equipment etc). *Employer* approves the installation points of this equipment. This does not include the installation points of the speakers.

- Cable selections and route determination. The speaker cabling used in the existing system is preferred for use in the extension system but where the *Contractor* can prove value in using cabling of a different specification, the *Employer* reviews and approves the new specification. The *Contractor* thoroughly familiarises themselves with each installation area prior to devising the cable routes.

- Design of the system extension system to comply with the Eskom PA system standard. Concessions can be discussed with the *Employer* where compliance is not achieved. The *Employer* decides whether concessions are to be approved or not.

- Selection or design of all equipment as per *Employer*'s specification, where applicable. This equipment includes junction boxes, equipment racks & cables. The *Contractor* procures and supplies this equipment for the purpose of the project.

- The acquisition, delivery and installation of all equipment and materials.

- All trenching, digging, cable laying, cable installation, cable joining, cable joint markings.

- All civil work required to complete the works.

- All mechanical work required to complete the works.

- All electrical work required to complete the works. All electrical work is tested and COCs are issued before handover.

- All Praesideo system programming, engineering and administration during the course of the project.

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- Provide software licensing and firmware update schedule for all the components. This makes it possible for the *Employer* to plan for system maintenance.
- Provision of design and as built drawings.
- Update relevant *Employer* drawings

ELECTRICAL ENGINEERING

(1) The power supplies for the public address system shall be the current 220V AC supplies. If, for the PA extension more power is required, the contractor to specify.

HUMAN FACTORS ENGINEERING REQUIREMENTS

(22)The current microphone annunciating system will be used. One will be at the SOR and the other at the GWPark building.

DOCUMENTATION

Procedure for submission and acceptance of Contractor's design

(1) The basis for the completion of all engineering activities is documentation as defined in:

i. Works Information.

(2) Technical clarification is where the *Contractor* clarifies with the *Project Manager* all the technical issues.

(3) The *Contractor* is responsible for maintaining the minutes of the meetings, a deviation schedule and list of open points (LOP) for all engineering activities and records of changes to scope during the engineering phases.

(4) Immediately after the technical clarification meetings, the *Contractor* provides two soft copies of the updated documentation .

(5) The *Project Manager* reviews the updated performance, functional, and equipment specifying documentation.

(6) The *Contractor* prepares the formal documentation for the engineering design freeze.

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As-built drawings, operating manuals and maintenance schedules

General Requirements

(1) The documentation requirements cover the various stages of the works, from the engineering stages; through installation and commissioning; and operating, maintenance and training stages of the project.

(2) All technical documentation is numbered and classified as specified in the C&I Documentation Requirements from Vendors.

(3) All documentation is accessible in paper form and addressable in databases.

(4) All documentation is in English

As-Built Documentation Package

(1) The documents are reviewed by the Project Manager for correctness and conformance to the accepted design.

(2) The OEM signs off on the completeness of the As Built documentation package

Documentation Modification

(1) The Contractor provides additional and amended pages, sufficient for all copies of manuals or document sets to ensure that they are complete, inclusive of detail such as final settings and modifications.

(2) The Contractor updates the soft copies of all documentation on the engineering system to ensure that they are complete, inclusive of detail such as final settings and modifications

(3) Amendment information is forwarded to the Project Manager, within the period for reply, following receipt of agreement to equipment or system design modifications

Vendor Document Submittal Schedule

(1) All documentation submitted by the Contractor conforms to all the requirements of the technical documentation index and are in an adequate state of completeness

Operating, Maintenance and Training Manuals

(1) The Operating, Maintenance and Training manuals provided as part of the *works* complies with the requirements of the following standards :

i. IEC 62079.

ii. VGB R171 e.

(2) The standard (IEC 62079) prescribes the type of information that is supplied by originators of user information, catalogues and schedules and other product support documentation required by the Employer. It also prescribes the quality of documentation that is provided by the Contractor.

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(3) The manuals are produced based on the agreed manual synopsis which forms part of the technical documentation index.

(4) The manual synopsis is a separate document from the documentation synopsis & hierarchy.

(5) All manuals provided are in English.

(6) The quantity of manuals provided per unit shall be as follows:

(23)Manuals	(24)Hardcopy	(25)Soft Copy
(26)Manual Synopsis	(27)1	(28)1
(29)First Draft	(30)1	(31)1
(32)Final Draft/Pre Print Proof	(33)1	(34)1
(35)Final Manual	(36)3	(37)1

(38)

(39)

(40)

(41)

(42)

(43)

(7) The manuals are submitted to the Project manager in the electronic format.

(8) A training skills profile report details the required skill profile needed by operating/maintenance staff in order to adequately/safely operate/maintain Public address System is be provided.

Functional Specifications and Functional Design Philosophies

(1) The *Contractor* produces Functional Specifications and Functional Design Philosophies for the aspects/sub-systems of the PA system from Vendors.

(2) A Functional Specification or Functional Design Philosophy is a written narrative that describes the design and specific configuration of the concerned system(s). The functional specification(s) is created during the basic engineering phase and is updated as necessary during the project implementation.

(3) The functional specification or functional design philosophy fulfils the following objectives:

i. Define how the contractual requirements related to the system are met.

ii. Clearly define the specific system configuration provided.

iii. Clearly describe the design principles followed and design choices made.

iv. Clearly define the system limitations.

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v. Provide basic technical information on the system's various software and hardware components.

vi. Provide references and links to detailed technical information of each system components.

vii. Define the characteristics of the system under normal conditions.

(4) The principles defined in the functional specification and design philosophy documents are applied throughout the execution of the works.

(5) The functional specifications are aligned with the OEM internal specifications, best practices and guidelines.

Scope, Interface and Construction Definition Documents

(1) The *Contractor* produces and supplies the scope, interface and construction definition documents.

(2) The *Contractor* consolidates all of the relevant process input information for scope, interface and construction definition documents and incorporates the *Contractor*'s own design information where applicable in a consistent manner.

(3) It is expected that the scope, interface and construction documents are updated and refined throughout the execution of the works.

Operating and Maintenance Manuals

(1) The *Contractor* provides 5 hard copies and 5 electronic cd copies of operating and maintenance manuals prepared by suitably experienced personnel indicating all the maintenance and operational requirements.

(2) Manuals contain, as a minimum, the following:

i. Design data including descriptions of control philosophy with alarms, set-points, interlocks and logics clearly explained

ii. Process and instrumentation diagrams

iii. Range, calibration factors, calibration certificates, data sheets, etc. for the pubic address equipment

iv. General arrangement and installation drawings and instructions

v. Operating procedures and instructions for normal and emergency conditions

vi. Commissioning and maintenance procedures and instructions for specific plant and equipment

vii. All drawings required for component location, dismantling and re-assembly for maintenance

viii. Equipment details such as make, model, type, specifications, etc.

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ix. Detailed parts lists and ordering instructions pertaining to storage of spare parts or to their shelf life

x. Exploded view type drawings clearly detailing the part and uniquely identifying it, technical descriptions of the equipment and component parts

xi. Catalogues, schedules and other product support documents

xii. Troubleshooting and fault finding guide

xiii. Safety procedures and instructions

xiv. All special tools and equipment required for maintaining and operating the works

(3) The maintenance instruction manuals are required to give a full technical description of the equipment concerned and to cover all aspects of erection, commissioning, operation and maintenance.

Packaging, Handling and Transporting Requirements

Packaging

i. All the identified equipment that will be re-used must be packaged such that it can be easily transported without being damaged.
ii. The equipment that needs to be packaged is clearly marked by the *Contractor* before decommissioning starts.
iii. The packaging material and specifications are supplied by the *Employer*.
iv. Equipment not marked for re-use is removed and transported to the dedicated disposal areas.

Storing of equipment

i. Dedicated equipment storage areas are provided by the *Employer* either as temporary or permanent storage areas.
ii. The temporary storage area is an area where the equipment may be gathered and packaged before it is transported to the permanent storage area.
iii. All storage areas are located within the boundaries of Hendrina Power Station.
iv. The *Contractor* maintains a detailed inventory of all equipment that has been removed from the plant and stored in the temporary or permanent storage areas.
v. For the duration of the *works*, the *Contractor* updates the inventory as and when equipment is removed or added to the storage areas.

Transporting

i. The *Contractor* is required to transport all the equipment to the temporary storage or to the disposal area.
ii. The *Contractor* is also required upon completion of packaging to transport the equipment to the permanent storage area.

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SYSTEM FUNCTION AND PERFORMANCE REQUIREMENTS

Functional Specifications and Functional Design Philosophies

(44)The *Contractor* produces Functional Specifications and Functional Design Philosophies for the aspects/sub-systems of the Public Address System

(45)The functional specification or functional design philosophy fulfils the following objectives:

i. Define how the contractual requirements related to the system are met.

ii. Clearly define the specific system configuration provided.

iii. Clearly describe the design principles followed and design choices made.

iv. Clearly define the system limitations.

v. Provide basic technical information on the system's various software and hardware components.

vi. Provide references and links to detailed technical information of each system components.

vii. Define the characteristics of the system under normal conditions.

Cabling Functional Specification

(1) The Contractor shall provide new field cabling from the Public Address amplifiers to the field equipment (speakers)

(2) The Contractor shall provide the cabling functional specification document that describes the following as a minimum:

i. Methodology followed for cabling designs.

ii. Installation of cabling within cabinets.

iii. Installation of cabling on racking.

iv. Use of redundant process and network cable routes.

v. Copper and fibre cable specifications.

vi. Testing of cabling.

Field Equipment Functional Specification

(1) The *Contractor* shall provide the field equipment functional specification describes the following points as a minimum:

i. General description of equipment, materials and installation requirements or standards for all field equipment including:

- Speakers
- Speaker stands

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- Cable piping supports
- Material specification
- Junction boxes
- Fire Cables
- Cable glands
- Cable supports
- Terminal blocks
- Field equipment labels

SYSTEM EXTERNAL INTERFACE REQUIREMENTS

Installation of the new Technology

If the PA system extension is done using a different Amplifier manufacturer other than Bosch, the following must be noted:

- A different amplifier (non-Bosch) must be interfaceable to the existing Bosch amplifier system. That means that all the messages from the Bosch system must be relay-able the other system.
- All requirements (power supplies, etc) must be specified of the new Amplifier manufacturer
- Specify all specifications that the new amplifier comply to,
- All other relevant information about a different amplifier must be submitted with the tender like how old is it in the market, how many installations are currently using it, serviceability, etc
- The Contractor to submit the methodology showing how this different amplifier will be interfaced and indicate on how the new zones will be addressed.

EXTERNAL ENVIRONMENTAL REQUIREMENTS

The *Employer's* standard 240-56355731 Environmental Conditions for Process Control Equipment Used at Power Stations Standard should be referenced.

i. The *Contractor* ensures that all equipment used in the designs/ solution offered conforms to all applicable environmental legislation.
ii. The *Contractor* adheres to Hendrina Power Station Environmental Management System that must meet the requirements for the Code of Practice for EMS, ISO 14001:2004.
iii. The EMS requirements are detailed in the latest revision of the following documents, which are available from the *Project Manager* on request, and include:
   a. The Hendrina Power Station Environmental Policy (HSPPPIN005).
   b. The Hendrina Power Station Identify & Update Environmental Aspects Procedure (HSPPIN024).

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c. The Objectives & Targets Procedure (HSPPIN026].
d. The Environmental Emergency Preparedness Procedure (HSPPIN032).
e. The Training, Awareness & Competence Procedure (HSPPIN029).
f. The Prevention & Cleaning of Oil Spills Procedure (HSPPON003).
g. The Waste Management Procedure (HSPPIN003).
h. The Roles and Responsibilities Procedure (HSPPIN028).
i. The EMS Non-Conformance, Corrective and Preventative Action (HSPPIN034)
j. The relevant Environmental Management Programmes (EMP's) and Aspects on the EMS database - this is continually changing and is available from the Employers Representative.
k. Compliance to all relevant environmental legislation, as detailed in the latest version of the Hendrina Power Station Legal Register available from the Employers Representative.
l. All operational procedures that include environmental requirements, relevant to the Works Information or Scope of this contract.

iv. The *Contractor* is responsible to comply with any new environmental requirements, relevant to the *Works* Information or Scope that may come into effect as part of Hendrina Power Station's EMS during the duration of this contract.
v. The *Contractor* is responsible to ensure representation at Environmental meetings that may require input for the updating of the EMS as well as training on an ad-hoc basis.
vi. If there is uncertainty around any environmental issues, the Environmental Department at Hendrina Power Station may be contacted on (013) 296 3011 or (013) 296 3910 or (013) 296 3013

SAFETY

i. The *Contractor* shall comply with the latest revision of Eskom Hendrina Power Station's Health, Safety and Environmental Specifications for Principal *Contractor's* requirements as mentioned in HSPHO 058 "*Safety, health and environmental specifications for principal contractors*".
ii. The *Contractor* shall comply with any other SHE requirements not stated in HSPHO 058, but required by the *Employer*.

General

i. The *Contractor* complies with the Occupational Health and Safety Act no 85 of 1993 and its regulations, Eskom SHE Policy, Standards, Procedures, Guidelines, Specifications and Regulations.
ii. The *Contractor* ensures safety awareness at all time through continuous training
iii. The *Contractor* is at all times responsible for the supervision of his employees, agents and Sub-Contractors and takes full responsibility and accountability for ensuring that they are competent, compliant and aware of the legal requirements and other requirements and execute the *works* accordingly.
iv. The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made in writing and that all appointees fully understand their responsibilities and are trained and competent to execute their duties.

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v. The *Employer*, or any person appointed by the *Employer*, may, at any stage during the term of the contract:
   a. Conduct health and safety audits by a competent person regarding all aspects of compliance with the SHEQ Requirements, at any off-site place of work, or the site establishment of the *Contractor*
   b. Refuse any employee, Sub-Contractor or agent of the *Contractor* access to the premises if such a person has been found to commit an unsafe act or any unsafe working practice or is found not to be competent or authorised
   c. Issue the *Contractor* with a stop order, should the *Employer* become aware of any unsafe working procedure or condition or any non-compliance.

vi. The *Contractor* immediately reports any incidents, disabling injury, near miss, first aid incident as well as any threat to health and safety of which it becomes aware at the *works* or on the Site to the Project Manager.

vii. The *Contractor* agrees that the *Employer* is relieved of any and all of its responsibilities and liabilities in terms of the Occupational Health and Safety Act no 85 of 1993 in respect of any acts or omissions of the *Contractor*, and the Contractor's employees, agents or Sub-Contractors, to the extent permitted by the Occupational Health and Safety Act no 85 of 1993.

viii. The *Contractor* ensures that all his personnel attend a Health and Safety Induction Course presented by ETD, Monday to Friday – 09:00 to 11:00, free of charge prior to commencement of any works. This is a two (2) hour course and is valid for the duration of one (1) year at Hendrina Power Station.

ix. The *Contractor* works strictly to regularly updated risk assessment.

x. The *Contractor* ensures supervised and authorised entry into the plant.

xi. The *Contractor* barricades the entire perimeter of the site.

xii. The *Contractor* ensures at all times compliance with the safety regulations imposed by any act of parliament, or any regulation or by law of any statutory authority.

xiii. The *Contractor* complies with the Occupational Health and Safety Act and Regulations, 1993 and all regulations made there under as well as the Employer's safety and operating procedures.

xiv. The *Contractor* acknowledges that he is fully aware of the requirements of all the above and undertakes to employ people who have received sufficient training that they can comply therewith. The *Contractor* undertakes not to do, or not to allow anything to be done which will contravene any provisions of the act, regulations or operating procedures.

xv. All employees of the *Contractor* must attend a safety induction course before they are allowed to work on site.

xvi. It is the responsibility of the *Contractor* to ensure that all employees have attended the safety induction.

xvii. The *Contractor* holds a Toolbox Talk and inspects all PPE before any work commences and keep written proof of such actions.

xviii. The *Contractor* complies with all of the applicable procedures as required by the *Employer*; Procedures are available from the *Employer's* Documentation Centre on request.

xix. The *Contractor* familiarizes himself with all permit requirements for work to be done on all plant systems and ensures that permits are applied for accordingly.

xx. The following risks are identified by the *Employer*, and the *Contractor* includes these in his risk assessment:

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a. Injury caused by hand tools.
b. High noise level.
c. Falling when working at heights.
d. Welding which may result in burning.
e. Movement of stairs while walking.
f. Falling objects.
g. Dust

xxi. Any tampering with the *Employer's* fire equipment is strictly forbidden.

xxii. All work done by the *Contractor* shall comply with the latest revision of *Employer's* SHEQ requirement as stated in the Safety, Health and Environmental Specifications for Principal Contractors Ref. No.: HSPHO/058 and all other *Employer* safety requirements.

xxiii. *Employer* compiles a baseline safety risk assessment to identify all the possible risks during the implementation of the project.

xxiv. The risk assessment includes all the mitigating strategies in order to minimise all the possible risks.

xxv. *Employer* provides the *Contractor* with the baseline risk assessment to use it as a minimum requirement to compile a risk assessment identifying all the risks before the implementation commences, the risk assessment compiled by the *Contractor* will clearly show all the mitigating strategies in order to minimise all the possible risks.

xxvi. No work shall be carried out without the risk assessment identifying all the risks and the mitigating strategies in place in order to address the identified risks.

Safety of workers

i. The *Contractor* ensures the safety of all persons working in the Site. Any hot work, including welding, will be applied for in accordance with the permit to work system. No welding will be allowed on site unless permission is granted in writing by the Project Manager.

ii. All welding, flame cutting and grinding work is properly screened to protect persons from arc flash or eye injuries. Fire blankets are fitted over the scaffolding planks and platforms. Precautions are taken to prevent any objects, welding or grinding splatter from falling.

Fire protection

i. The *Contractor* ensures that adequate firefighting apparatus is provided at all his work sites, and that his employees are trained in the use of the apparatus.

ii. The *Contractor* takes precautions to prevent any occurrence of fires or explosions while carrying out any work near flammable gas and liquid systems. Any tampering with the *Employer's* fire equipment is strictly forbidden.

iii. All exit doors, fire escape routes, walkways, stairways, stair landings and access to electrical distribution boards must be kept free of obstruction and not be used for work or storage at any time. Firefighting equipment must remain accessible at all times.

iv. In case of a fire, report the location and extent of the fire to the Electrical Operating Desk at 086 123 7566, 082 677 5295 or extension 5555 if phoning from an internal landline.

v. Take action to safeguard the area to prevent injury and spreading of the fire.

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First aid

i. The *Contractor* provides a first aid service to his employees and Sub-Contractors. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* Medical Centre and facilities will be available.
ii. Outside the *Employer's* office hours, the *Employer's* First Aid services are only available for serious injuries and life threatening situations.
iii. The *Employer* recovers the costs incurred, in the use of the above *Employer's* facilities, from the *Contractor*.

Hazardous substances

i. The *Contractor* manages hazardous substances in accordance with the requirements of the Occupational Health and Safety Act no 85 of 1993 and the NEMWA Act. The *Contractor* declares all hazardous chemical substances brought to Site.

Plant safety regulations

i. The *Employer*, on request from the *Contractor*, isolates required plant from all sources of danger as described in the Plant Safety Regulations.
ii. The Project Manager, on request, makes available a copy of the latest revision of the Plant Safety Regulations to the *Contractor*.
iii. The *Contractor* complies with all rules and regulations applicable to plant safety and completes the Workman's Register prior to working on the plant.
iv. The *Contractor* declares any grinding and welding to be carried out on the workers register.
v. At every permit change, the *Contractor* withdraws himself/herself/his staff for that period of permit suspension/revocation and thereafter only proceeds with the *works* after signing onto the new permit.
vi. The *Contractor* ensures that he/she/all Sub-Contractors/personnel/staff/his visitors are medically, physically and psychologically fit to enter Hendrina Power Station and especially any confined space.
vii. The *Contractor* is prohibited from entering Restricted Areas.
viii. The responsibility is on the *Contractor* to ensure that the correct confined/hazardous space requirements and tests have been met and done by the *Employer* prior to entry into any confined space or hazardous plant areas.
ix. The *Contractor* ensures that all personnel are competent to carry out the *works*.

The *Contractor* provides proof of competency for technical and safety aspects and must be available as and when required on site.

SYSTEM LIFE-EXPECTANCY

The Public Address Technology should be supported by the market for at least ten years.

SECURITY

Any new PA cubicle to be lockable to prevent unauthorised access.

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OTHER REQUIREMENTS OF THE CONTRACTOR'S DESIGN

ADDITIONAL REQUIREMENTS AND PREQUISITES

APPLICABLE NATIONAL STANDARDS

The *Contractor* is required to adhere to the latest editions of, and the normative references and national standards.

Additional Requirements and Prerequisites

1.3.3 General

(1) The *Contractor* is required to submit a comprehensive method statement of the works to the Project Manager for acceptance prior to the start of the works

(2) The *Contractor* is responsible for the design, erection, maintenance and removal of all temporary bracing or propping required for the execution of the works.

(3) The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the works.

PLANT CODING AND LABELLING

(1) During the design review stage(s) and cross referenced to all arrangement drawings, schematics, wiring diagrams, instructions and manuals and where practical to spare parts list/ ability of Contractor to manufacture and install KKS coded equipment's labels in the plant. Labels are manufactured and installed according to Plant Labelling Standard (240-71432150).Contractor will label all KKS coded equipment. The Coding Technician shall facilitate base-lining of all provider as a reference for the creation of equipment lists.

(2) Labelling of components inside electrical and C&I panels shall be done by the Contractor.

Plant Identification Labelling

(1) The *Contractor* supplies and installs codification as per the *Employer*'s procedure, KKS CODING AND LABELLING, in accordance with Hendrina Power Station Labelling Specification and Plant Coding Procedure.

(2) The *Contractor* requests numbering from the *Employer*.

(3) The *Contractor* updates the *Employer's* P&ID`s accordingly.

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AUTHORISATION

(46)This document has been seen and accepted by:

(47)

REVISIONS

(48)

(49)

DEVELOPMENT TEAM

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

(51)SS. Kubheka

ACKNOWLEDGEMENTS

(52)N/A

APPENDICES

(53)N/A

Note: The contractor who will be awarded this contract will be known as the **"Main contractor"** and any contractor appointed by the Main contractor will be known as the **"Appointed contractor"**

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3.2 LEGAL COMPLIANCE

3.2.1 Section 37(2) (Legal) Agreement

A section 37(2) agreement must be signed between Eskom and the main contractor at the time of submitting the safety file. The main contractor must ensure that a section 37(2) agreement is compiled between the main contractor and all their appointed contractors for the contract. The original copy of the section 37(2) agreement must be retained by the contractor, and a copy must be retained by the responsible project manager/end user. A copy of all the agreements must form part of the respective contractor's OHS file.

3.2.2 Hazardous Work by Children (Child Labour)

The constitution of the Republic of South Africa, in the "Bill of Rights", is clear on the rights of children, especially when it comes to:

1. *being protected from exploitative labour practices.*
2. *not be required or permitted to perform work or provide services that*
3. *are inappropriate for a person of that child's age; or*
4. *This places at risk the child's well-being, education, physical or mental health, or spiritual, moral, or social development* and the Basic Conditions of Employment Act, Chapter six, Section 43, "Prohibition of employment of children."

Before resorting to the use of child labour, due consideration must be given to the child's constitutional rights. Where work is being performed which is not prohibited in terms of the constitution, then such work must be conducted in terms of the OHS Act "Regulations on Hazardous Work by Children in South Africa" with emphasis on paragraph 2: Purpose and Interpretation. Eskom does not condone the use of child labour and, therefore, all effort must be exercised, and child labour should not be used.

3.2.3 OHS Act

The main contractor and appointed contractors shall have an up-to-date copy of the OHS Act and regulations which will be available to all employees.

3.2.4 Legislative Compliance

All contractors will comply with all the legislation pertaining to this contract being:
The Main contractor and all appointed contractors will comply with all the legislation pertaining to this project being:

- The Constitution of the Republic of South Africa (particularly Section 24 of the Bill of Rights).
- Occupational Health and Safety Act 1993 (Act 85 of 1993) and its Regulations.
- National Environmental Management Act 1998 (Act 107 of 1998).

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- Environment Conservation Act 1989 (Act 73 of 1989).
- National Water Act 1998 (Act 36 of 1998).
- Civil and Building Work Act.
- National Road Traffic Act 93 of 1996.
- Compensation for Occupational Injures and Diseases Act.
- SANS Standards –Contractor shall use the relative standards applicable to the project.

3.3 ESKOM REQUIREMENTS

All contractors shall, before commencement of the project ensure that all their employees are familiar with the relevant Eskom OHS documentation that is applicable to contract services.

3.4 SHEQ POLICY

A SHEQ policy is a statement of intent and a commitment by the organization's CE and senior management in relation to the relevant OHS roles and responsibilities, the achievement of their strategic objectives, and values of integrity, customer satisfaction, excellence, and innovation. The main contractor and all appointed contractors, if not already in place, will be required to compile an organisational SHEQ policy in line with their OHS responsibilities. The policy must be signed by the organisation's CE or the appointed assistant to the CE, OHS Act Section 16(2). The policy must be displayed in a prominent place within the workplace. A copy of the policy must be filed in the contractor's OHS files and attached as an annexure to the OHS Plan.

3.5 COVID -19 POLICY

Due to the current pandemic the contractors are required to submit the Covid policy signed by the most senior person. The policy must be displayed in a prominent place within the workplace. A copy of the policy must be filed in the contractor's OHS files and attached as an annexure to the OHS Plan.

3.5.1 Covid -19 requirements

Covid-19 costs are not for profit making purpose and Eskom reserves the right to accept and/or decline the list of PPE which will be listed in the detailed Covid-19 costs. Due to the current pandemic the contractors are required to provide Eskom with a Covid-19 risk assessment and a detailed plan on how to prevent the spread of the virus and what control measures will be put in place to protect Eskom employees and members of the public. The risk assessment must include the following but not limited to, adherence to Covid-19 protocols in designated smoking areas. Covid-19 costs are applicable for the duration of the pandemic and the Covid-19 costs will be ceased once the country has declared that Covid-19 is no more a pandemic. The contractors have an obligation to comply with the National Disaster Management Act including the appointment of the Compliance Officer.

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3.6 COID

The Main contractor and all his/her appointed contractors shall be registered with an appropriate employment compensation commissioner and have available a valid letter of good standing (LoG) from such commissioner. The obligation lies with the contractors to ensure that the LoG remain valid throughout the contract period. A copy of the LoG must be filed in the contractor OHS files.

3.7 COSTING FOR OHS WITHIN THE PROJECT

The costing for OHS must be itemised based on the overall scope of the project (i.e.) Training, provision of PPE, safety equipment purchases etc.

3.8 STATUTORY APPOINTMENTS

The Main contractor and all appointed contractors must appoint competent workers who will comply with the OHS Act for the duration of the contract. Before requiring appointees to accept an appointment, the employer must ensure that they have received appropriate training and/or information about their responsibilities. The relevant statutory appointments must be made in compliance with the OHS Act's criteria, which include appointing a qualified individual to the appropriate roles.

3.9 ESKOM LIFE-SAVING RULES

1. Eskom places a high value on health and safety and urges every organization that undertakes work for Eskom to do the same.

2. Eskom has developed five life-saving guidelines that will apply to all Eskom employees, agents, consultants, and contractors. Any Eskom employee or employee of a Main Contractor or appointed contractor who fails to follow these rules would be deemed a serious violation. These rules are in place to protect any employee, labour broker, or contractor working from significant injury or death.

3. If any contractual work (including delivery of any product) is to be undertaken on Eskom premises, the rules shall be obeyed by any contractor and their employees.

The rules are:

RULE	DESCRIPTION OF RULE
Rule 1	**OPEN, ISOLATE, TEST, EARTH, BOND, AND/OR INSULATE BEFORE TOUCH** (That is plant, any plant operating above 1000 V)

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Rule 2	**HOOK UP AT HEIGHTS** Working at height is defined as any work performed above a stable work surface or where a person puts himself/herself in a position where he/she exposes himself/herself to a fall from or into.
Rule 3	**BUCKLE UP** No person may drive any vehicle on Eskom business and/or on Eskom premises: Unless the driver and all passengers are wearing seat belts.
Rule 4	**BE SOBER** No person is allowed to be under the influence of intoxicating liquor or drugs while on duty
Rule 5	**PERMIT TO WORK** Where an authorisation limitation exists, no person shall work without the required permit to work.

Eskom will take a zero-tolerance approach to these policies.

Noncompliance to Life-saving rules is regarded serious misconduct and will result in serious disciplinary action, which may include dismissal.

This is to ensure that everyone who works on or visits an Eskom facility returns home to their families safely.

3.10 SUBSTANCE ABUSE

1. Alcohol and substance abuse are serious threats to any business, especially when it comes to workplace accidents and car driving. As a result, Eskom has the right to take reasonable procedures to identify and prohibit drunk people from entering the company.
2. General Safety Regulation 2A specifies the legal position on intoxication.
3. The allowable alcohol and drug level is 0%.
4. All contractors must follow Eskom's procedure 32-37 ("Substance Abuse Procedure"), taking into account that this is an Eskom Life-saving Rule number 4: (BE SOBER"), and anyone entering the Eskom site will be subjected to ad hoc alcohol testing if the BU has self-alcohol testing equipment.
5. Contractors are invited to develop their own manual and test their own employees for alcohol on a regular basis.
6. Test results must be marked "Confidential" and kept in the employee's personal file.
7. Eskom's life-saving rules must be included in the induction process.
8. All employees involved in the scope of work must sign the Life-saving rule pledge before commencement of work.

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3.11 CONTRACTOR ORGANISATIONAL STRUCTURE

3.11.1 Main Contractor Organogram

The Main contractor must provide an organisational organogram on the company's letter head related to this contract, depicting all the levels of responsibility from the CE down to the supervisors responsible for the contract. List the relevant positions held, names of appointees, legal appointments and the Organogram must be signed off by the company's 16(1) or 16 (2).

The Main contractor must ensure that all appointed contractors comply with this requirement. The Main contractor is responsible for keeping copies of all the organograms' as well as submitting them with the OHS plan. All organograms shall be updated timeously when appointments are changed.
This diagram must be kept up to date and filed in the project OHS files.

3.11.2 Appointed Contractor/s Organogram

1. Appointed contractors are required to compile their company organogram for the project on the company's letter head, listing the reporting structure from their CE down to their project supervisors. The diagram must list the names, positions held, any appointments made and must be signed off by the company's 16(1) or 16 (2).
2. This diagram must be kept up to date, a copy of which must be given to the Main contractor and a copy filed in the relevant project OHS files.
3. This diagram must be kept up to date and filed in the project OHS files.

3.12 ROLES AND RESPONSIBILITIES

Commitment

Visible commitment is essential to providing a safe work environment. Managers, supervisors and employees at all levels must demonstrate their commitment by being proactively involved in the day to day operations, in particular the Occupational Health and Safety aspects of any project / contract. Legislation requires that each employee must take reasonable care of themselves and their fellow workers, from management level down to the lowest employee level.

3.12.1 Main contractors and appointed contractors

Note 1: Most of the roles and responsibilities listed apply to both Main contractors and any appointed contractors. Where some of the listed do not apply to both, then the specific responsibilities will be listed and titled. The contractors shall:

1. Carry out all duties as listed in section 8, 9 and 10, the various other regulations that form part of the OHS Act and Regulation 7 of the Construction Regulations.
2. Carry accountability and responsibility for the safety and health of their employees and their appointed contractors within their working area, as contemplated by section 37(2) of the OHS Act;
3. Shall keep a record of all employees including the appointed contractor employees, including date of induction, relevant skills and licenses and be able to produce this list at the request of the Eskom Project Manager.

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4. Ensure that all their appointees are made aware of their accountabilities and responsibilities in terms of their appointment and that they advise and assist these appointees in the execution of their duties.
5. Ensure that the minimum legislative, regulatory and Eskom OHS requirements are complied with on all work sites.
6. Compile a OHS (Occupational health and safety) file where all relevant health and safety records must be kept for each work site.
7. The Main contractor must provide the project manager with the Compensation Commissioner's valid letter of good standing before the commencement of work and any future renewal letters obtained during the contract for record-keeping purposes. The letter of good standing shall reflect the name of the contractor's company. Similarly, the Main contractor must provide the Eskom project manager with all the valid letters of good standing from their appointed contractors. This requirement applies to the appointed contractors.
8. Appoint competent staff to perform the project work and ensure that all employees are trained in the health and safety aspects relating to such work and that the employees understand the hazards associated with all other work being carried out on the project.
9. Ensure that all employees are conversant with all relevant work procedures and that they adhere to such procedures. Similarly (without removing the appointed contractors' responsibilities), ensure that their appointed contractors and their employees are conversant with all relevant work procedures and that they adhere to such procedures.
10. Stop his /her employees and any appointed contractors if such work poses a threat to the health and safety of persons or a risk of degradation to the environment.
11. Ensure that Eskom OHS requirements are communicated to the appointed contractors, evaluate, and assess the appointed contractors OHS files. Only appoint contractors who are competent to do work, have satisfied the OHS compliance requirements and satisfied that the contractor has the necessary competencies and resources to perform the work safely.
12. Ensure that the supervisor or manager do not supervise work on any site other than the site for which such supervisor has been appointed for.
13. Not victimise or dismiss employees, by virtue of the employee's divulging health and safety information or suspecting such information has been divulged, in the interests of health and safety requirements.
14. Before the commencement of work, review the submitted baseline risk assessments to include site or emerging risks. This should be done by a competent person appointed in writing with a view to identify hazardous and potentially hazardous work operations.
15. Ensure that pre-task risk assessments are conducted and documented daily and prior to the starting of any new task, irrespective of whether it is a repetitive task or not.
16. Must ensure that an organisation medical surveillance programme for the duration of the contract is in place and maintained. Prior to having pre-employment and periodic medicals fitness examinations conducted, person/man job specifications must be compiled and handed to the occupational health practitioner.
17. Issue risk-based personal protective equipment (PPE) as a measure of last resort to their employees, inspect such equipment regularly and ensure recipients of PPE are trained in the proper use, care and where necessary, the maintenance of PPE;
    Note: should the Main contractor or his/her appointed contractors entertain visitors on site, they will be held responsible for the provision and wearing PPE.
18. Ensure that all incidents are reported and investigated timeously by competent incident investigators as and aligned with 32-95 requirements.
19. Be involved in all of their appointed contractor's incident investigations.

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3.12.2 Contractor site supervisor

The contractor site supervisor must be trained in the following:

- HIRA, Incident investigation training, Supervisor training, authorised person & PSR, Legal liability

Must:

1. Be competent to perform the required supervisory tasks;
2. Ensure their employees and all appointed contractors comply with the required statutory and Eskom project requirements;
3. Inspect all work done by the contractors to ensure adherence to Eskom's standards and specifications
4. Conduct follow-up inspections to ensure findings are closed out and preventative action is in place.
5. Monitor contractors for adhere to statutory requirements and safety standards.
6. Monitor contractors overall OHS performance on site in order to achieve excellent results
7. Discuss all OHS related problems with the relevant contractor management timeously in the first instance and thereafter the Eskom project manager in the second instance relating to procedure requirements, non-conformances identified, corrective actions, audits and inspection schedules.
8. Continual liaison between the Main contractor, appointed contractors and employees.
9. Ensures that employees and appointed contractors are aware of latest standards, procedures, work instructions and safety regulations issued by Eskom:
10. Conduct site Inspections for compliance to OHS requirements and compiles the relevant inspection reports.
11. Submit the observation reports to the relevant management.
12. Submit the required OHS reports communicated by Eskom e.g., manpower numbers, incident statistics report etc
13. Have meaningful participation in the project statutory health and safety committee meetings.
14. Participate in all appointed contractor incident investigations.
15. Participate in the Main contractor's emergency preparedness planning.
16. Ensure that their own employees and those of any appointed contractor are competent to perform the tasks assigned.
17. Issue site instructions on behalf of the Main contractor where and when the appointed contractors deviate from safety requirements.

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3.12.3 Contractor Health and Safety officer full/time

- Full time Safety Officer is required.

The contractor health and Safety officer must be trained in the following:

- SAMTRAC, HIRA, Incident investigation training, Legal liability, Training, knowledge and understanding of ISO 4500, Minimum work experience 2yrs, OHS Diploma (applicable to 3-5 years contract)

3.13 RISK ASSESSMENT (REFER TO 32-520)

It is a legal requirement in terms of Section 8 (2)(d) of the OHS Act for an employer to carry out risk assessments, to establish which risks and hazards are attached to the health and safety of persons due to any work which is performed, any article or substance which is, handled, stored, transported. A risk assessment is defined as an identification of the hazards present in the activity, work, site, and an estimate of the extent of the risks involved, considering whatever precautions are already being taken.

It is essentially a three-stage process:

- identification of all hazards.
- evaluation of the risks;
- Measures to control the risks.

Risk assessments are required to be maintained. This means that significant changes to a process or activity, or any new process or activity should be subjected to a risk assessment and that if new hazards come to light during the work process, then these should also be subjected to risk assessments. Risk assessments for long term processes should be periodically reviewed and updated. Method statements or written safe work procedures are an effective method as information and record of the way jobs / tasks must be performed. Daily or issue based or task specific or on the job risk assessments must be conducted at the place where work is to be performed/ conducted to allow managers and employees to assess any inherent risks that could have been overlooked during the initial risk assessment or any changes that might have occurred in a period of absence. For example if a job / task is extended over a day or halted due to inclement weather.

Guidelines for actual steps involved in a job/task specific risk assessment are:

- Each activity is listed.
- Specific hazards are identified and listed against each activity.
- The magnitude of each risk is rated as Low. Medium or High.
- All known documentary and supervisory controls are listed. For instance: What safe work procedures exist for ladders.
- The relevance, effectiveness and sufficiency of these controls are assessed.
- In the event of insufficient or deficient controls for the particular activity, steps to be taken to rectify this shall be recorded, and safe working procedures drawn up.
- Persons responsible for implementing and supervising the task shall be identified, nominated and duly assigned.
- Persons responsible for monitoring the task and carrying out the planned job observation must be nominated.

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- Completed risk assessment shall be handed to the Eskom project manager representative for comment and approval.
- The relevant section of the risk assessment shall be issued with a Transmittal Note to the Supervisor nominated as the responsible person; and the names of workmen who have received instruction on the work content and the sequence of the activities listed in the risk assessment shall be recorded, and their competence established. This instruction shall be done through an interpreter if required and recorded on the Pre-Job Brief (Daily Safe Task Instructions), with reference to applicable Risk Assessments.

3.14 SAFE WORK PROCEDURES / METHOD STATEMENTS

There must be written safe work procedures for all activities, the safe work procedures must be aligned with the risk assessments. Method statements / written safe work procedure are control measures used to prevent an incident from occurring during the execution of the project. A written safe work procedure/ method statements provide guidance how to execute the task safely. A safe working procedure should be written when: -

a. Designing a new job or task.

b. Changing jobs or task;

c. Introducing new equipment or substances; and

The safe working procedure should identify:

d. The supervisor for the task or job and the employees who will undertake the task;

e. The tasks that are to be undertaken that pose risks;

f. The equipment and substances that are used in these tasks;

g. The control measures that have been built into these tasks;

h. Any training or qualification needed to undertake the task;

i. The personal protective equipment to be worn;

J. Actions to be undertaken to address safety issues that may arise while undertaking the task.

3.15 FIRE EQUIPMENT AND MAINTENANCE

1. All firefighting equipment's that have been provided shall:
   a. Be clearly labelled
   b. Conspicuously numbered
   c. Entered in a register
   d. Inspected monthly by a competent person
2. Tested and serviced every 12 months.
3. Results entered in the register and signed by competent person.

3.16 FIRST AID AND EQUIPMENT

1. The requirements of the OHS Act GSR 3 must be observed.

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2. First aid appointments must be made to meet the legal requirements. Appointees must be trained to level 2 and the training service provider must be registered in accordance with section 26(1) of the Skills Development Amendment Act, Act No. 37 of 2008. It is good practice for all employees to be trained to at least level 1.
3. When appointing employees for work sites, cognisance must be taken into account the type of work performed, the distance teams are working apart and the terrain to be covered if an emergency should arise.
4. A list of emergency numbers must be displayed on the notice boards and made accessible for all employees.
5. Main Contractor must ensure that his /her employees and appointed contractor employees are familiar with the emergency numbers.
6. Contractors shall have one first aid box for the first 5 persons and thereafter one for every 50 or team of workers on site or part thereof, taking into account the type of work performed and the distance between teams.
7. More first aid boxes shall be provided in accordance with the risk assessment. Boxes must be available and accessible for the immediate treatment of injured persons at the workplace.
8. For offices, signs indicating where the first aid box or boxes are kept as well as the name and contact details of the First Aider of such first aid box or boxes shall be erected.
9. The Main Contractor and appointed contractor shall ensure that alternative arrangements be made for incidents occurring after working hours.

3.16.1 Boxes and equipment

The following is a list of minimum contents of a first aid box:

- Item 1: Wound cleaner/antiseptic (100ml).
- Item 2: Swabs for cleaning wounds.
- Item 3: Cotton wool for padding (100 g).
- Item 4: Sterile gauze (minimum quantity 10).
- Item 5: 1 Pair of forceps (for splinters).
- Item 6: 1 Pair of scissors (minimum size 100 mm).
- Item 7: 1 Set of safety pins.
- Item 8: 4 Triangular bandages.
- Item 9: 4 Roller bandages (75 mm X 5 m).
- Item 10: 4 Roller bandages (100 mm X 5 m).
- Item 11: 1 Roll of elastic adhesive (25 mm X 3 m).
- Item 12: 1 Non-allergenic adhesive strip (25 mm X 3 m).
- Item 13: 1 Packet of adhesive dressing strips (minimum quantity, 10 assorted sizes).
- Item 14: 4 First aid dressings (75 mm X 100 mm).
- Item 15: 4 First aid dressings (150 mm x 200 mm).
- Item 16: 2 Straight splints.
- Item 17: 2 Pairs large and 2 pairs medium disposable latex gloves.
- Item 18: 2 CPR mouth pieces or similar devices.

A content check list must be available with all boxes and boxes shall be checked on a regular basis, kept clean and dust free.

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3.17 OHS COMMUNICATION SYSTEMS

1. Main Contractor/s and their appointed contractors must develop a communication strategy outlining how they intend to communicate OHS issues to their staff, the mediums they will employ and how they will measure the effectiveness of their OHS communication. Below is a brief on how communication should take place. Where project meetings are conducted on site, OHS shall be included as a standing agenda point and minutes of these meetings shall be available on site at all times. Minutes of meeting must be compiled and filed in the relevant OHS files. All employees shall have access to these minutes. Attendance register shall be kept for all the health and safety meetings.

3.17.1 Statutory Health and Safety Committees

1. The Main contractor shall establish statutory health and safety committee in terms of Section 19 of the OHS Act. Similarly, appointed contractors shall establish their own statutory health and safety committee.
2. All appointed contractors shall be members of the Main contractor's safety committee.
3. The Committee shall meet to discuss OHS issues concerning the current work being performed, training, upcoming work and OHS requirements, incidents and lessons learned specific OHS problems, safety performance, action plans and other relevant OHS issues. Listed below is a preferred agenda.
4. OHS representatives for a workplace shall be members of the relevant workplace safety committees (Refer to Section 19 (2) (a) of the OHS Act).
5. The number of persons nominated by employer must not be more than the Health and Safety Representatives on that specific statutory health and safety committee. (Refer to Section 19(2)(c) of the OHS Act)
6. A statutory health and safety committee meeting shall be held at least 3 monthly (where medium to high risk work is involved, more frequent if required), and all appointed members of the committee shall attend the meeting.
7. Statutory health and safety committees may make recommendations to the Main contractor and the project manager and the Inspector at DEL.
8. All health and safety committees shall discuss all projects related OHS Act Section 24 and 25 incidents and other notified serious incidents.
9. Health and safety committees shall follow up on incident investigation recommendations and shall keep record of all recommendations made by the committee.
10. Statutory health and safety committees may make recommendations for the revision of current standards, procedures and practices.
11. The Main contractor and appointed contractors shall ensure that statutory and non-statutory health and safety committees carry out their duties.
12. The chairperson of the health and safety committees shall be selected and appointed by the contractor. The appointed chairperson must be competent to chair meetings and be able to make informed decisions.

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3.17.2 Non-statutory health and safety committees

1. Where there are large worksites, then non-statutory sub-committee must be established within that worksite to assist with the communication of health and safety related matters between the statutory health and safety committee and the workplace.
2. The duties and responsibilities of the non- statutory health and safety committees will be the same as the statutory safety committee

3.17.2.1 Agenda

1. The following serves as the guideline for the OHS Committee meeting agenda.

- List of agenda items:
- Matters arising from previous minutes
- Matters arising from Contractor's OHS meetings.
- Covid-19 compliance
- Audit results and feedback
- Review Health and Safety Representative Inspection Reports
- Review
  - Incident investigation reports
  - Non-Conformances
  - Announcements (near miss/injury/damage)
  - Follow up on recommendations made by the employer in incident investigation reports
- Accident Prevention – Safety Promotion
  - Planned Job Observations
  - OHS Training
  - Protective clothing and equipment
  - Incident Announcements / Recall
- Forthcoming High hazard activities.
- Non-conformances.
- Housekeeping.
- Work permits.
- Work procedures.
- Hazardous materials / substances.
- Fire Prevention
- Occupational Hygiene Assessments, Health Risks and Actions
- Security
- Rules, Instructions
- Public Safety
- Environmental Management
- Emergency Preparedness
- Statistics report

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- Closure

3.17.2.2 Minutes and action items for all health and safety committee meetings

1. Minutes and record of action items shall be kept of all health and safety committee meetings.
2. Action column with target dates and responsible person shall be clearly visible on the minutes and shall be completed during the meeting.
3. Statutory health and safety committee meeting minutes and record of action items shall be kept for the duration of the project or a minimum period of three years.
4. Non–statutory health and safety committee meeting minutes shall be kept for the duration of the project or a minimum period of 12 months.
5. All other meeting minutes where OHS is on the agenda, shall be kept for a minimum period of 12 months.
6. The original copy of the minutes and record of the action items must be signed by the chairperson.
7. The relevant project manager and Main contractor shall endorse the relevant minutes with his/her recommendations and return the minutes to the relevant contractors chairperson within 14 calendar days of the meeting.

3.18 TOOL BOX TALKS / DAILY TEAM TALKS / PRE JOB MEETINGS

1. A meeting must be held prior to the commencement of the day's work with all relevant personnel associated with the work task in attendance. The job, relevant procedures, associated hazards, safety measures, i.e. the task risk assessments shall be discussed. Each employee who attends the briefing shall sign an attendance list of that pre-job brief form undertaking that they have an understanding of the tasks, risks and control measures required.
2. Where possible, tool box talks can be included in the pre-job brief meetings. If this does not occur, then weekly tool box talks must be conducted. The toolbox talk topics will be based on OHS issues pertaining to the project site. The topic and the contents shall be in writing. Attendance registers with the topic listed shall be kept.

3.19 OHS TRAINING

1. The Main contractor, when making a bid for this project shall provide a breakdown list of the OHS training requirements and the costing of such requirements. Similarly, appointed contractor must provide the same requirements when bidding with the Main contractor.
2. The scope of training includes but is not limited to the type of work being performed and the relevant procedures. Additional to the requirements, will be that the Main contractor and appointed contractors must have the appropriate qualifications, certificates and employees should always be under competent supervision.
3. Where legislative and Eskom recommended appointments are made, the relevant training shall be given to those appointees prior to the acceptance of those appointments.
4. When there is an amendment to the Acts and/or to the regulations, OHS specification and OHS plan, all affected staff shall undergo the applicable refresher training.

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5. Appropriate time must be set aside for training (induction and other) of all employees.
6. Records of all training and qualifications of all contractor employees must be kept on the OHS file.

3.19.1 Main Contractor Induction training

The contractor is required to make arrangements with the Business Unit for its employees to attend induction in order to be granted permission to access site.

1. The Main contractor shall ensure that all his / her employees, appointed contractors and their employees have undergone the Eskom OHS induction training prior to commencing work on site.
2. Attendance registers must be completed of any induction training given, which must indicate that they have received and understood the induction training.
3. Prior to attending the induction training, all employees must undergo a pre-employment medical examination and found fit for duty. A copy of the certificate of fitness must be kept in the OHS file on site for the duration of the project.
4. All employees and visitors on site shall carry the proof of induction training.
5. It is the contractors responsibility to keep records of induction training.

3.19.2 Appointed Contractor induction training

The Main contractor shall ensure that all his / her employees and appointed contractor employees undergo site specific work induction with regard to the approved project OHS plan, hazards prevalent on the work site, scope specific risk assessment, rules and regulations, and other related aspects. The induction training should also include identification of sensitive features such as wetlands/vlei areas, red data species, graves, etc.

3.19.3 Visitors to site induction

1. Visitors to the site shall be required to undergo and comply with the Eskom site-specific safety induction prior to being allowed access to site.
2. All visitors must remain in the care and custody of a person (host) who has been properly inducted. No visitors are permitted to undertake any work onsite, of any nature.
3. Visitors who have completed site induction must be provided with a record of proof of Induction training.

3.20 GENERAL TRAINING

The Main contractor will be required to ensure that before an employee commences work on the project/site, the respective supervisor informs the employee of his scope of authority, the hazards associated with work as well as the control measures to be taken. This will include man-job specifications, the discussion of any task procedures or hazardous operational procedures to be performed by the employee. The Main Contractor is to ensure that the supervisor has satisfied himself

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that the employee understands the hazards associated with the work to be performed by conducting task/job observations.

3.21 CONTRACTOR SITE ESTABLISHMENT

where contractors are providing their own facilities, the following shall apply:

1. Prior to establishing a project site, a site plan is required to be drawn and submitted to the project manager, listing position of all buildings, amenities, storage, stacking areas and temporary electrical installations. The appropriate colour coding and demarcation of storage and stacking areas must be carried out.
2. When compiling the site plan, cognisance must be taken to the establishment of the site camp, ablution facilities and dining area in relation to one another and away from stacking and storage areas.
3. Main contractor's site facilities should be managed and kept hygienically clean.
4. Where the materials are stored at the work sites, proper stacking and storage shall be carried out and maintained in good order at all times.
5. The contractor shall during the enquiry make provision for the Occupational Hygiene Surveys costs in the bill of quantities as per the OHS Act and its regulations and inline with the scope of work.

Where Eskom is making provision of the facilities to the contractor, the following shall apply:

1. Prior to handing over the site to the contractor, the client (project managers/end users) shall together with the contractor management conduct inspections, draft and sign the service level agreement.
2. Main contractors shall manage and keep the allocated Eskom facility hygienically clean at all times.
3. It is the responsibility of the contractor to maintain and keep the facility in a good condition.
4. It is the contractor's responsibility to immediately report to the Eskom contract manager/project manager the defects incurred.
5. Eskom reserves the right to conduct unannounced site inspections.

3.22 VEHICLE MANAGEMENT

1. It is the responsibility of the driver to ensure:

    a. Their passengers wear seat belts whilst the vehicle is in motion.
    b. Comply with all traffic road rules, safety, direction and speed signs.
    c. Ensure that vehicle loads are properly secured prior to moving off.
    d. Ensure that vehicles are not overloaded.

2. No persons maybe transported at the back of the bakkie.
3. Drivers are required to conduct the route risk assessment prior to travelling/driving.

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4. No drivers or operators may text, talk on cell phones or two-way radios whilst driving.
5. All drivers shall have a valid medical fitness certificate.
6. The First aid box with valid contents and fire extinguishers must be included in the vehicle, be services annually and inspected monthly. Drivers must be trained on how to use the First aid box and fire extinguishers.
7. Two triangles must be included in the vehicle and the emergency number be displayed at the back of the vehicle.
8. Each Project site that is enclosed by demarcation will have system/ process to manage vehicle access to site.
9. Contractor must maintain their vehicles in a roadworthy condition and a vehicle license must be valid at all times and this is applicable to yellow plant.
10. Drivers of light vehicles must avoid stopping or parking in the vicinity of machines. At least 30 (thirty) meters must be left clear between such a vehicle and such a machine.
11. Contractor vehicles can be subject to inspections by the Client/Agent's representative. Vehicles which are not roadworthy will not be permitted to be used on site.
12. Drivers/operators shall be responsible for the travel-worthiness of all loads conveyed by them. Precautions shall be taken to secure all loads properly. Loads projecting from vehicles shall be securely loaded and in daytime a red flag and during darkness a red light or red reflective material shall be attached to the extreme end of such projecting materials.
13. The vehicle inspection checklist must include but not limited to:
    - Reverse alarm / beeper
    - Yellow reflective tape
    - Mud flaps
    - Fire Extinguisher
    - 2 Triangles
    - First Aid Box
    - Safety belts for every seat
    - No fold-up or jockey seat
    - Tyres
    - License disc
    - Yellow reflective tape that must be fitted at a height of between 250mm and 1.5 metres
    - Speed warning sigh (100km/h) at the back of the minibus
    - Driver have a Public Driving Permit

3.23 HOUSEKEEPING AND ORDER

1. All contractors shall maintain a high standard of housekeeping within their sites and vehicles for the duration of the project/contract.
2. Prompt disposal of waste materials, scrap and rubbish is essential and be stored temporarily in a designated waste area, awaiting disposal.
3. Materials/objects shall not be left unsecured in elevated areas – falling objects may cause serious injuries/fatalities.

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4. Nails protruding through timber shall be bent over or removed so as not to cause injury.
5. All packaging material including boxes, pallets, crates, etc. to be removed from the work area immediately.
6. On completion of his / her work, the contractor is responsible for clearing his / her work area of all materials, scrap, temporary buildings and building bases to the satisfaction of the client/agent.
7. In cases where an inadequate standard of housekeeping has developed, compromising safety and cleanliness, anyone has the responsibility to bring it to the attention of the Main contractor in the first instance and the Eskom project/contract manager in the second instance.
8. The Eskom project/contract manager has the right to instruct the Main contractor and appointed contractors to cease work until the area has been tidied up and made safe. Neither additional costs nor extension of time to the contract shall be allowed as a result of such a stoppage. Failure to comply with this requirement will result into site cleaning by another cleaning contractor company at the cost of the Main contractor.
9. The Main contractor shall carry out regular safety/housekeeping inspections daily to ensure maintenance of satisfactory standards. The Main contractor shall document the results of each inspection and shall maintain records for viewing.

3.24 WORKPLACE SIGNAGE AND COLOUR CODING

1. Symbolic safety signage shall be displayed where it is required by legislation.
2. All symbolic safety signage shall conform to the requirements of SANS standard 1186.
3. Signs shall be positioned to be seen from most positions within the work sites / areas.
4. All signage must be clear at all times and be replaced timeously when worn out.
5. Contractors establishing sites must erect a company sign at their site offices to reflect the name and contact details of the: contractor site/responsible manager; supervisors; Health and Safety Manager/Practitioner; First Aider; Health and Safety Representative and Evacuation warden.
6. The location of every first aid box; fire extinguisher and emergency exit is to be clearly indicated by means of a sign.
7. When using, an explosive power tool the appropriate signage shall be erected, warning people of its use.
8. Contractors shall provide signage where work is conducted and where unauthorised entry is prohibited and/or where alerting and cautioning passers-by to be aware of potential dangers.
9. The meanings of the appropriate symbolic signage must be discussed during induction training and toolbox talks.
10. Where possible, within workshops, work areas and established premises, the appropriate sign indicating the meaning of symbolic safety signs must be displayed.

3.25 TOOLS AND EQUIPMENT

1. Contractors shall ensure that all tools and equipment are identified, safe to be used and is maintained in a good condition.

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2. Contractors shall ensure that all tools and equipment are listed on an inventory list, be regularly inspected at least monthly or as required by legislation and risk assessments. The equipment should be numbered or tagged so that it can be properly monitored and inspected.
3. Where applicable, tools and equipment must have the necessary approved test or calibration documentation prior to being brought onto the project and the records shall form part of the OHS plan. Maintenance calibration shall be undertaken in terms of the manufacturer's requirements.
4. All fuel driven equipment must be properly maintained in accordance with the manufacturer's recommendations and legal requirements.
5. Eskom reserves the right to inspect tools or items of equipment brought to site by contractors for use on this project.
6. Should Eskom personnel find any item that is inadequate, faulty, unsafe or in any other way unsuitable for the safe and satisfactory execution of the work for which it is intended, the Eskom personnel shall advise the contractor in writing and the contractor shall forthwith remove the item from site and replace it with a safe and adequate substitute.

   Note: In such cases, the contractor shall not be entitled to extra payments or extensions of time in respect of delay caused by Eskom's instructions.
7. Where defective tools and equipment's are identified, such tools and equipment shall be removed out of site immediately, locked away to prevent further use until such time as the tool or piece of equipment has been repaired.
8. Contractors shall ensure that the appropriate records are kept for all tools and equipment used on the project. Such tools and equipment's shall be subjected to regular inspections.

3.25.1 Hand tools

1. All hand tools (hammers, chisels, spanners, etc.) must be recorded on a register and inspected by the construction supervisor on a monthly basis as well as by users prior to use.
2. Under no circumstance will the contractors be allowed to use their equipment's with mushroom heads, to be removed at the end or beginning of shift prior to use.
3. Tools with sharp points in toolboxes must be protected with a cover.
4. All files and similar tools must be fitted with handles.
5. No make shift tools are permissible on the project.

3.26 LADDERS

1. Ladders used shall conform to the requirements of GSR 13A and used in terms of GSR 6.
2. The appropriate head protection, with chin strap shall be worn by employees working from a ladder or with climbing irons.
3. The ladder wheels, brakes and platform must be in good condition.
4. All metal parts to be in good condition, no cracks.
5. The appropriate head protection, with chin strap shall be worn by employees working from a ladder or with climbing irons.

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6. Non-slip devices must be in good condition and no paint to be on wooden ladders
7. Climbing irons are permitted to be used in place of ladders on condition that the requirements of GSR 6 are not compromised and from an electrical point of view not damage any cabling. The working at heights risk assessment must indicate the use of climbing irons.
8. Employees using climbing irons shall be suitably trained in the use, care and maintenance of such climbing irons.
9. When using climbing irons, the appropriate rope grab fall prevention system shall be used.
10. The correct fall protection equipment shall be worn and used whilst climbing up, working from and climbing down ladders.
11. The appropriate head protection, with chin strap shall be worn by employees working from a ladder (risk based) or with climbing irons.
12. A detailed inspection of all ladders shall be conducted monthly by a competent person and every time prior to climbing by employees using such ladders. The inspection check lists must be filed in the site OHS files

3.27 AUDITING

3.27.1 Approval and compliance of Main contractor OHS plan

The Contractor's OHS Plan will be audited against compliance checklist so as to verify compliance to the requirements of the Eskom OHS specifications. Once there is compliance only then will the Main contractors OHS plan be approved by the project manager or an appointed Eskom contract custodian. The implementation of the OHS Plan shall be assessed / audited by Eskom personnel on a regular basis. This will include physical conditions evaluation.

3.27.2 Eskom OHS audits

Eskom shall evaluate all contractors' OHS performance on an ongoing basis against the legal, Eskom requirements, OHS specification and the contractors OHS plans.

Note: Eskom reserves the right to conduct unannounced audits on contractors

There will be monthly audits conducted by Eskom on the Main contractor/s and/or appointed contractors. These audits shall be attended by the contractor's site manager or his representative.

If there are any findings / non-compliance identified as serious in these audits, an activity will be stopped for that specific Main Contractor and appointed contractor. Refer to section on "Work Stoppage" in this OHS Specification.

3.27.3 Contractor audits

Main Contractors are required to conduct internal audits on both their employees and their appointed contractors on the implementation of their OHS Plan on a monthly basis or when the scope of work changes. A summary of the findings and the proposed corrective actions shall be submitted to Eskom project manager within one week after completion of the audit. Where appointed contractors are audited by the Main contractor a copy of the audit report shall be submitted to the appointed contractor within 7 days of the audit.

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3.28 SMOKING

The national smoking policy must be observed and smoking is permitted in designated areas only (Eskom Smoking Procedure 32-36).

3.29 CELLULAR PHONES

The National Road Traffic Act requirements regarding the use of cellular phones must be observed, when driving and or operating mobile equipment and or machinery. The personal use of cell phones in the plant is prohibited unless it is an emergency or for work purpose. The use of cell phone camera in the plant must be in line with the national key point Act and the Plant safety regulation.

3.30 OCCUPATIONAL HEALTH, HYGIENE AND REHABILITATION

All contractors are required to develop an Occupational Health, Hygiene and Rehabilitation program. The program is intended to ensure that the risks to health are identified and controlled.

3.30.1 Medical Assessments

Note: Eskom will only accept medical surveillances conducted by an Occupational Health Practitioner who holds a qualification in occupational health.

1. Main contractors must ensure that their employees and their appointed contractor employees have a medical surveillance program whereby their employees undergo entry, periodic and exit medical fitness examinations.
2. The health risk assessment must be used to compile the man job specification and address the hazards that the employees will be exposed to.
3. For the appropriate medical examinations to be conducted, each employee must have a man job specification, which must indicate the description of work, list of hazards and potential occupational exposure limits, physical hazards and required physical attributes.
4. Medical fitness certificates shall be renewed annually for employees who are working on site. This shall be maintained until completion of the contract.
5. The Main Contractor must ensure that his / her employees and appointed contractor employees have undergone pre-entry medical examination before starting work on the contract.
6. The Main contractor shall provide a documented process for managing those employees who are issued with a conditional certificate of fitness.
7. The contractor shall include in the OHS file the record of the employees exit medical fitness certificates as and when their employees leave the company.

3.31 ROLES AND RESPONSIBILITIES

All contractors are required to list employee's roles and responsibilities pertaining to the contract.

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3.32 WORKING AT HEIGHTS

3.32.1 General Requirements

Wherever reasonably practicable, preference is given to the performance of work at ground level as opposed to the elevated position. Where work in an elevated position is necessary, preference is given to fall prevention measures such as, but not limited to, effective barricading and the use of work platforms. Persons may only work from a fall risk position if a site-specific fall protection plan developed by the appointed competent person (as per 32-418 procedure) is in place and correctly implemented and consists of the following:

1. All appointments for the fall protection plan developer and implementer are in place.
2. Baseline risk assessment, which is specific and incorporates the working at height risk assessment, as well as the site-specific risk assessment, has been completed for the work to be conducted.
3. Safe working procedure/task analysis and work instructions, approved by a competent person, are in place.
4. A fall rescue plan, along with necessary equipment's and trained rescuers, are in place.
5. Appropriate training, as determined by the risk assessment, has been provided.
6. Appropriate height safety equipment and personal protective equipment have been issued to the individual.
7. There are equipment inspection procedures and up-to-date inspection records.
8. Individuals are medically fit to work at height, and records of this are kept.
9. A site-specific risk assessment is performed.

While work is in progress, adequate warning signs and/or barricades shall be used in all areas where there is a risk of persons being injured by materials or equipment falling from the work area. Barricades should be continuous and easily visible.

A drop zone shall be established with appropriate warning signs and barricading, warning personnel below of workers above and potential falling objects.

Every employer shall ensure that work at height is:

1. properly planned;
2. appropriately supervised; and
3. carried out in a manner that is, as far as is reasonably practicable, safe and that its planning includes the selection of work equipment.

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3.33 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

1. The Main contractor must provide a detailed programme that includes the issuing, maintenance and replacement of PPE for all his employees and appointed contractors on site.
2. All contractors shall comply with the requirements of GSR 2 of the OHS Act and

PPE Specification Standard 240-44175132.

3. The risk based PPE matrix must be compiled detailing the types of PPE that is required to be issued to employees performing the respective tasks.
4. If there are exceptional circumstances in which certain activities necessitate the use of additional PPE, a risk assessment must be done, in which such PPE requirements will be determined and issued.
5. All contractors shall ensure that their visitors wear and use the correct PPE whilst on worksites.
6. Where PPE is required and visitors are not in possession of, then it is the individual contractor's responsibility to provide the PPE.
7. All PPE purchased and used by all contractor employees including visitors must comply with the relevant SANS standards.
8. Where deemed as a requirement (as per risk assessment), then high visibility vests shall be worn.
9. Monthly inspection records of PPE must be kept in the Safety file
10. The contractor shall provide training to his/her employees on the correct use, care and maintenance of PPE and keep the record.

3.34 INCIDENT INVESTIGATION

All incidents shall be investigated in terms of OHS Act General Administrative Regulations 8 and 9, using Eskom Procedure 32-95 OHS incident management as a reference, and where injuries as contemplated in sections 24 and 25 have been sustained, be reported to the Department of Employment and Labour.

Contractors shall use the Eskom Flash report to report incidents immediately or before end of shift. The standard General Administrative Regulation Annexure 1 "Recording of an Incident form" for all incident investigation reports. The objective of incident investigation, should not only be a legal requirement, but should establish why and how the incident occurred and find out the real root cause of the incident and to decide on precautionary measures that are required to address the root cause to prevent any further recurrences of the same or similar incidents.

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3.35 EMERGENCY MANAGEMENT

The art of emergency preparedness and response is to minimise the effects of any emergency and to restore normal activities as soon as possible. The contractor must develop and align their own Emergency response plan with Eskom's to address any emergency which might arise at any given point in time. The contractor to familiarise themselves with the Eskom emergency response plan and procedure. Periodic emergency drills must be undertaken to test the effectiveness of their plan. This must be recorded and provided on request.

3.36 NON-CONFORMANCE AND COMPLIANCE

1. Any non-compliance to any health and safety requirement in this OHS specification is subject to discipline in terms of the Eskom Procurement and Supply Chain Management Procedure.
2. Main contractors are required to implement a non-conformance procedure (if not already in place) for issuing to contractors for transgressions. The procedure can include "quality" related non-conformance issues. Similarly, appointed contractors must implement a non-conformance procedure.
3. The procedure for the issuing and closing off of non-conformance reports shall be strictly adhered to.
4. Contractor project management must monitor the close out of non-conformances issued, in not doing so; any recommendations made may not be implemented.
5. Where non-conformances are issued by Eskom then one of the close-out steps of the procedure will be for the offender to be called by the responsible project manager to explain the non-conformance issued and what plan is in place to prevent a recurrence of the non-conformance.
6. Should the contractor fail to provide adequate PPE (as per PPE standards) to their employees for the tasks being performed and/or to visitors; failure to enforce the wearing of such PPE will be viewed as a transgression of the legislative and Eskom requirements.

3.37 OHS FILES

1. OHS file means documents or records in permanent form, containing the information about the safety and health management system from inception, execution to completion of works.

2. All contractors are required to keep the OHS file on every project site. If there is more than one site per project, a file per site shall be kept at that site. Contractors may keep additional files at their head office as additional records. The OHS file shall be maintained by all the contractors on their project sites and shall be available on request for audit and inspection purposes.

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3. The OHS file shall consist of the OHS documentation/information in line with the OHS requirements/specification, legal and other requirements.
4. The sequence of filing the documentation must be kept in the same sequence as listed in this OHS requirements /specification and the OHS plan.
5. Each record shall be separated by partitions to afford easy identification and access. Each partition must be labelled.
6. On completion of the work/project, the main contractor must hand over a consolidated health and safety file to the project manager.
7. In case where the project is extended, should the documentation in the OHS files become cumbersome, the older documentation must be archived in boxes which shall be correctly labelled and be available for auditing purposes. The archived documentation must be handed over at the completion of the project.

3.38 WORK STOPPAGE

1. Any person may stop any activity where an unsafe act or unsafe condition that poses or may pose an imminent threat to the safety and health of an individual or create a risk of degradation of the environment. This includes any unauthorised work or service performed by, or legally or contractually non-compliant acts or omissions by, any contractor contracted to work at that site.
2. Work stoppages that are initiated due to OHS concerns, non-compliance, or poor performance related to the contractor's works or services shall not warrant any financial compensation claim lodged against Eskom where the contractor has not met the requirements defined legally or contractually.
3. Where stoppages are carried out, the required non-conformance report shall be raised.
4. All work stoppages ideally should be investigated and documented by contract custodians.

3.39 HOURS OF WORK

The requirements of the Basic Conditions of Employment Act, Chapter Two "Regulation of Working Time" must be adhered to. All contractors are required to maintain an accurate record of time worked by each employee.

3.39.1 Normal work

All work conducted on site shall fall within the legal requirements in accordance with the Basic Conditions of Employment Act. Contractors will notify their Eskom Supervisor or project manager of any work that needs to be performed after hours according to the agreed arrangements. (The application needs to be submitted timeously). Where applicable, the notification should include proof of application, for overtime, to the Department of Employment and Labour and /or the letter of approval from the Department of Employment and Labour.

3.39.2 Night work

When night work is to be performed, the baseline risk assessment must be reviewed to include the management of night work. Contractors shall provide sufficient lighting to enable the entire work site to be illuminated to a degree that employees will not work in dark (un-illuminated) or dimly lit areas.

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Care must be exercised as not to use few lights with high light intensives as this will cause night blindness.

If work is continuing from day light into night, at dusk, a tool box talk must be held where all employees will be advised of the hazards of night work and the extra precautions which require to be taken, i.e. poor housekeeping, stepping on uneven ground, stepping into holes etc.

3.39.3 Overtime

When overtime is required to be performed, the appointed contractors shall inform the Main contractor of such action. The Main contractor shall inform the Eskom project manager of such function and provide proof of exemption from the Department of Employment and labour. Contractors shall be aware of the effects of human fatigue and regulate overtime accordingly. The baseline risk assessment must be reviewed to include the management of overtime work.

3.40 OMISSIONS FROM SAFETY AND HEALTH REQUIREMENTS SPECIFICATION

By drawing up this OHS specification Eskom has endeavoured to address the most critical aspects relating to OHS issues in order to assist the contractor to adequately provide for the health and safety of employees on site.

Should Eskom not have addressed all OHS aspects pertaining to the work that is tendered for, the contractor needs to include it in the OHS plan and inform Eskom of such issues when signing the contract.

3.41 CONTRACTOR PERFORMANCE MONITORING

Contractor management is required to do the following as part of the continuous improvement initiatives:

- Visible Felt leadership by top management
- Identify critical tasks and monitor by conducting Job Observations
- Contractor Chief Executive or Managing Director shall present the lost time incidents at Business Unit Power Station General Managers meeting

3.42 CONTRACT SIGN OFF

On completion of the project, all Eskom team must conduct the final audit, inspections, and housekeeping to identify defects, outstanding actions, and open incident cases, and present their findings to the contractor and Eskom contract manager, who must facilitate the closeout. Once the contractor has closed all findings the Eskom's team will verify and sign off prior to issuing a completion certificate and final payment.

3.43 ESKOM'S RIGHT TO TERMINATE THE CONTRACT

The contractor/supplier shall at all times comply with Eskom's occupational health and safety (OHS), legal and other requirements as amended for the duration of the contract. In addition, the contractor shall comply with the requirements contained in the SHE Specification. Eskom reserves the right to

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terminate the contract in the event that the contractor has built up a history of poor performance or non-conformance in relation to matters of Eskom OHS and legal compliance. No work may commence until the health and safety file has been approved by Eskom OHS personnel.

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