 Eskom	Guideline	Power Delivery Projects
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Title: **Occupational Hygiene Management** Document Identifier: **240-68429621**

Alternative Reference **PDPMAN-GL-50**
Number:

Area of Applicability: **PDP**

Functional Area:

Revision: **3**

Total Pages: **19**

Next Review Date: **March 2022**

Disclosure
Classification: **Controlled Disclosure**

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1. Introduction

Occupational hygiene is the identification, evaluation and control of those environmental factors, arising in or from the work place that may cause illness, injury, or discomfort to the employees or the surrounding communities.

As stipulated in the Occupational Health and Safety act, 85 of 1993, the employer shall make the workplace safe for employees.

2. Supporting Clauses

2.1 Scope

This program covers the following;

- Scope of work for Power Delivery Projects,
- Health hazards applicable to Power Delivery Projects,
- Processes that are followed to execute occupational Hygiene management,
- Control measures taken to mitigate exposure to the hazards.
- Communication of occupational hygiene requirements.

2.1.1 Purpose

The Occupational Hygiene Program provides information to all personnel in a project management environment, to allow for informed decision-making regarding exposure to occupational hazards in the workplace as well as the monitoring and evaluation of Occupational hygiene stressors.

The purpose of this programme is to guide the management of AIA functions in Eskom to improve Occupational Hygiene (OH) performance in Eskom and to influence policy, objective, standard and procedure development.

2.1.2 Applicability

This programme is applicable to all Eskom PDP employees, offices and sites, including contractors, sub-contractors, suppliers and consultants doing business within Group Capital Power Delivery Projects.

2.1.3 Effective date

As of the authorisation date

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2.2 Normative/Informative References

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

2.2.1 Normative

- [1] ISO 9001
- [2] OHS ACT 85 of 1993
- [3] OHSAS 18001
- [4] SANS 10083
- [5] SANS 10114
- [6] SANS 17020
- [7] Environmental, Occupational Health and Safety Incident investigation procedure 32-95

2.2.2 Informative

- [8] Implementation of occupational hygiene management programme-240-2262670

2.3 Definitions

Hazard - a source of exposure to danger

Risk - the probability that harm will occur

Employer - any person who employs or provides work for any person and remunerates that person expressly or tacitly under stakes to remunerate that person.

Employee - any person who is employed by or works for an employer and who receives or is entitled to receive remuneration or who works under the direct supervision of an employer or any other person

Medical surveillance - a planned programme or periodic examination (which may include clinical examination, biological monitoring or medical tests) of an employee by an Occupational health practitioner or in prescribed cases, by an Occupational medical practitioner

Principal contractor - means an employer who performs construction work and is appointed by the client to be in overall control and management of a part of the whole of a construction site

Approved Inspection Authority (AIA) - Means any person who, with the aid of specialized knowledge or equipment or after such investigations, tests, sampling or analyses as he may consider necessary, and, whether for reward or otherwise, renders a service by making special findings, purporting to be objective findings.

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

OD-Occupational disease

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2.4 Abbreviations

Abbreviation	Description
SHE	Safety Health and Environment
SHEQ	Safety Health, Environmental and Quality
OH	Occupational Hygiene
PPE	Personal Protective Equipment
SANS	South African National Standards
SANAS	South African National Accreditation System
HSE	Health and safety Executive
ALARP	As Low As Reasonably Practicable
RA	Risk Assessment
OD	Occupational Disease
COID	Compensation for Occupational Injuries and Diseases
EH&S	Environmental, Health and Safety

2.5 Roles and Responsibilities

2.5.1 Eskom Power Delivery Projects Management

- Ensuring that the Occupational Hygiene Programme is in place, implemented, and enforced.
- Conducting audits on the principal contractors and sub-contractors at least once a year to monitor compliance.

2.5.2 Principal Contractor

- Ensure that the Occupational Hygiene Program is implemented;
- Ensuring that a thorough health risk assessment is conducted and documented to provide a basis for the implementation, monitoring, measuring and control of any identified occupational hygiene stressors.
- Ensuring that relevant occupational Hygiene surveys are conducted, reports communicated to employees, attendance registers signed and recommendation implemented;
- Ensuring that the above mentioned surveys (all regulated activities) are done by a SANAS 17020 accredited AIA.
- Ensuring that resources are available for the implementation of this program;
- Ensuring that all potentially exposed workers are provided with appropriate controls, including personal protective equipment;
- Follow the hierarchy of control in mitigating the identified hazards;

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- Conduct audits on the sub-contractors to ensure occupational hygiene compliance.
- Ensuring a report and action plans are developed after each survey conducted and submitted to the client.
- Ensuring that all identified issues are effectively addressed.

2.5.3 Medical Surveillance

Employers (PDP/Contractors) must ensure that employees undergo medical surveillance which must be inclusive of;

- Pre- employment medical
- Periodic medical
- Transfer medical
- Exit medical

Medical surveillance should only be conducted by an Occupational Health Doctor/Practitioner

Person job specification must be prepared by the responsible manager based on the person job profile and it should be submitted to the Occupational Health Doctor/Practitioner prior to the medical being conducted to ensure that the medical is risk/hazard based, and should be signed by employee, Manager, Occupational Hygiene/safety Practitioner, and Occupational Health Practitioner.

2.5.4 Personal Protective Equipment

Employers should ensure that employees have the correct PPE taking in to account the type of hazard and risk of the job, the PPE (in accordance to Eskom PPE procedure) to be provided should include but not limited to;

- Suitable goggles
- Face shields
- Hard hats with chin strips
- Protective helmet
- Protective footwear (safety boots)
- Reflective vest for visibility (Overalls with reflective straps).
- Dust masks (disposable dust masks, respirators)
- Hearing protection (ear muffs, ear plugs)
- Protective gloves
- Harnesses and fall arrests (for climbers)
- Long sleeve shirts and long pants\ trouser

2.5.5 Employees (Eskom and Contractors)

- Attend required training sessions on workplace hazards;

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- Attend any scheduled awareness training on Occupational Hygiene;
- Participate in personal monitoring and medical surveillance when required to do so;
- Wear personal protection equipment, where required (also applies to contractors and visitors); Ensuring that it is worn in accordance to PPE specification requirement.
- Ensure that personal protection equipment is in a sanitary condition and proper working order by following proper maintenance procedures and inspections;
- Report workplace hazards and defective or damaged personal protective equipment to the appropriate supervisor.

2.6 Process for Monitoring

In order to monitor that requirements in this document are implemented, the Eskom Occupational Hygiene Management Team (Senior Occupational Hygiene Advisors / Officer Occupational Hygiene) shall:

- Conduct audits or site inspections on the principal contractors and could extend it to sub-contractors at least once a year to monitor compliance.

2.7 Related/Supporting Documents

Implementation of occupational hygiene management programme 240-4226670

3. Document Content

3.1 Communication of occupational hygiene requirements

- Power Delivery Projects will give contractors the requirements as stipulated in the SHE Specification.
- Eskom Power Delivery Projects will submit annually crystalline silica report to the department of labour as well as the six monthly occupational hygiene work done.
- New legislation and requirements are also communicated to contractors during contractor forums held regularly this will be done by the Occupational Hygienist and or SHEQ Manager

3.2 Occupational Diseases management

- [9] All occupational diseases including noise induced hearing loss must be confirmed by an Eskom occupational medical practitioner as per the requirements of 32-95(Environmental, Occupational Health and Safety Incident investigation procedure

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3.2.1 ACTIVITIES IN POWER DELIVERY PROJECTS

LINE CONSTRUCTION

Bush Clearing
Access roads construction
Tower pegging
Soil Nomination
Excavations
Reinforcing/Shutters
Concrete Foundations
Backfilling
Steel Assembly and excavations
Column building
Tower erection
Stringing
Regulating
Tower labels
Bird guards + diverts
Environmental Rehabilitation

3.2.2 CONSTRUCTION IN SUB STATIONS

- Earth works
- Civil works
- Electrical works
- Commissioning
- Energisation

3.2.3 The following are associated occupational hygiene stressors:

- Noise from jack hammers, excavators, drillers, pet foot rollers, generators and compressors
- Dust from excavations and mixing sand and cement, road works and compaction
- Temperature extremes (heat or cold)
- Biological hazards from snake bites and bee stings, spider bites
- Electromagnetic fields during energisation

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- Ergonomic stressors from holding pneumatic tools and working in awkward postures during stringing activities,
- Hand arm and whole body vibration from vibrating hand held tools and driving trucks and bobcats in rough terrains
- Ultra violet radiation from sunrays

3.2.4 The following are associated occupational hygiene stressors for office people:

- Temperature levels that may not be adequate for human occupancy
- In-house gases that may be over the required limits for human occupancy (Carbon-dioxide, Carbon-monoxide)
- Illumination levels below required levels
- Asbestos exposure due to asbestos containing material e.g. Asbestos roof ,or pipes

3.2.5 The following are regulated Functions that are performed by inspection bodies (AIA):

Inspections or examinations required to be performed by Occupational Hygiene Inspection Bodies (Approved Inspection Authorities) in terms of Regulations promulgated under the Occupational Health and Safety Act:

- Asbestos Regulations GN R 155 dated 10 February 2002, (Regulations 8 & 18)
- Lead Regulations GN R 236 dated 28 February 2002, (Regulations 7 & 14)
- Noise-Induced Hearing Loss Regulations GN R 307 dated 7 March 2003, (Regulations 7)
- Hazardous Chemical Substances Regulations GN R1179 dated 25 August 1995, (Regulations 6 & 12)

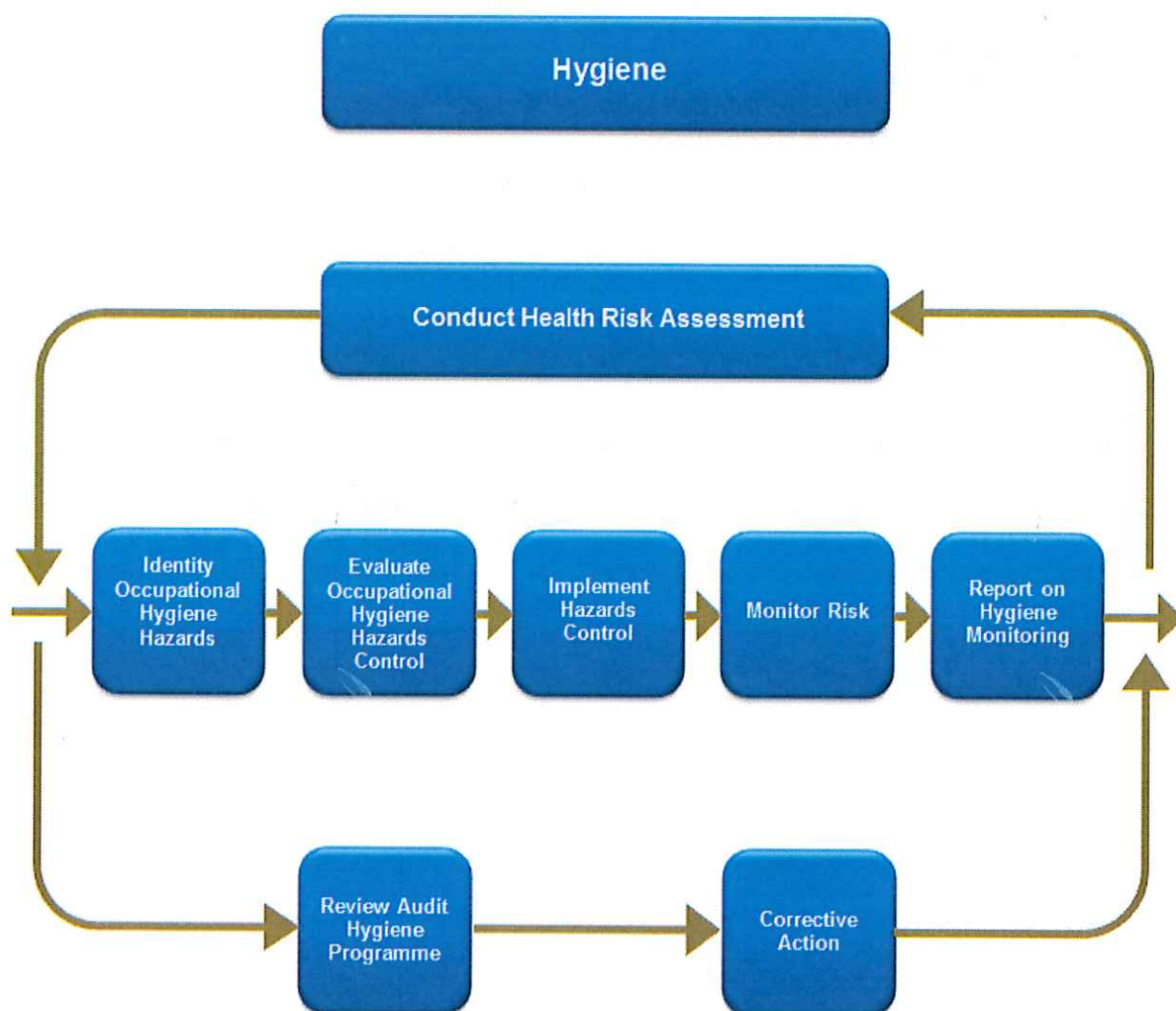
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4 OCCUPATIONAL HYGIENE PROCESSES

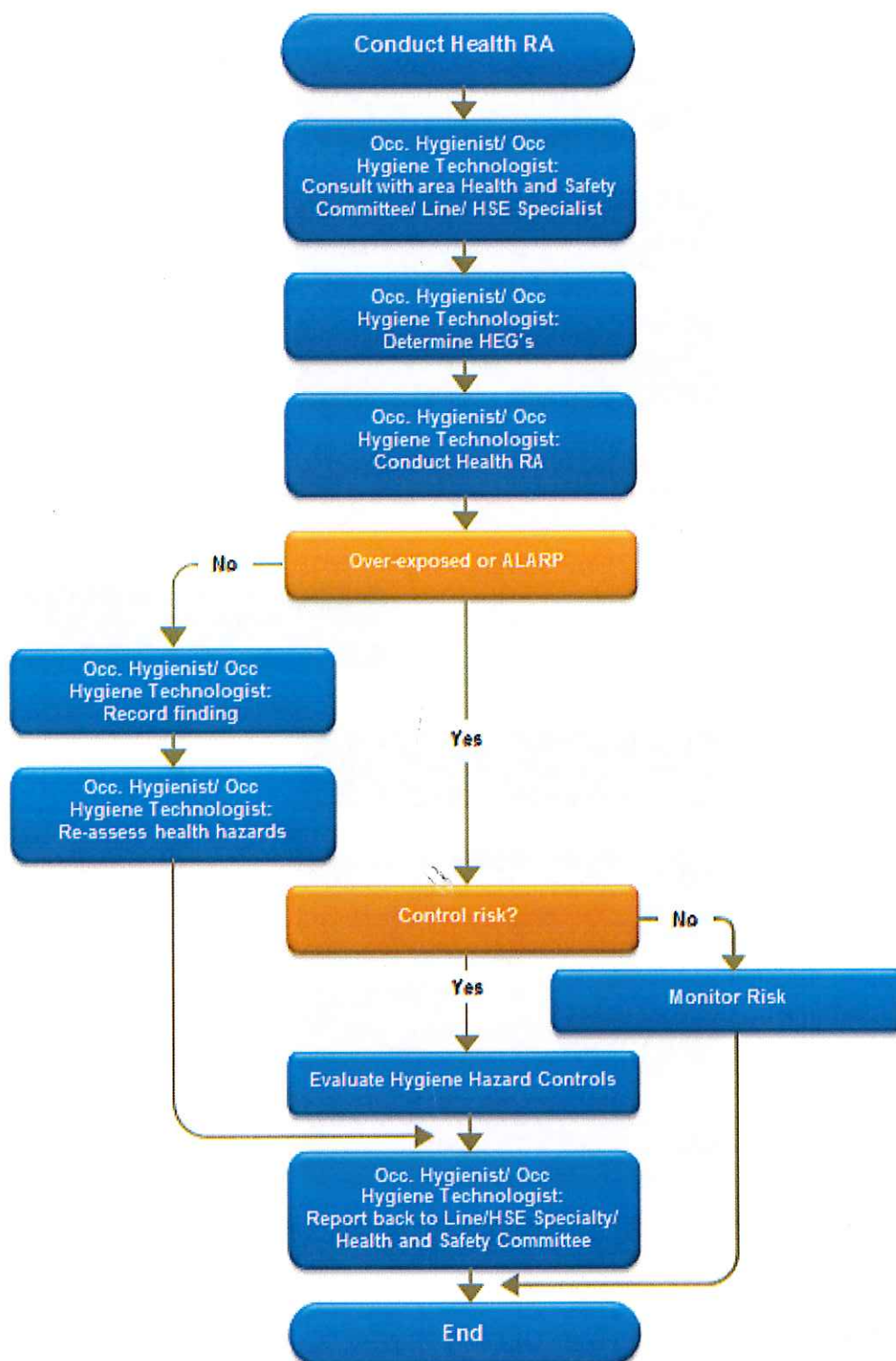
To ensure occupational hygiene stressors are identified, quantified, and controlled effectively, following processes are applied.



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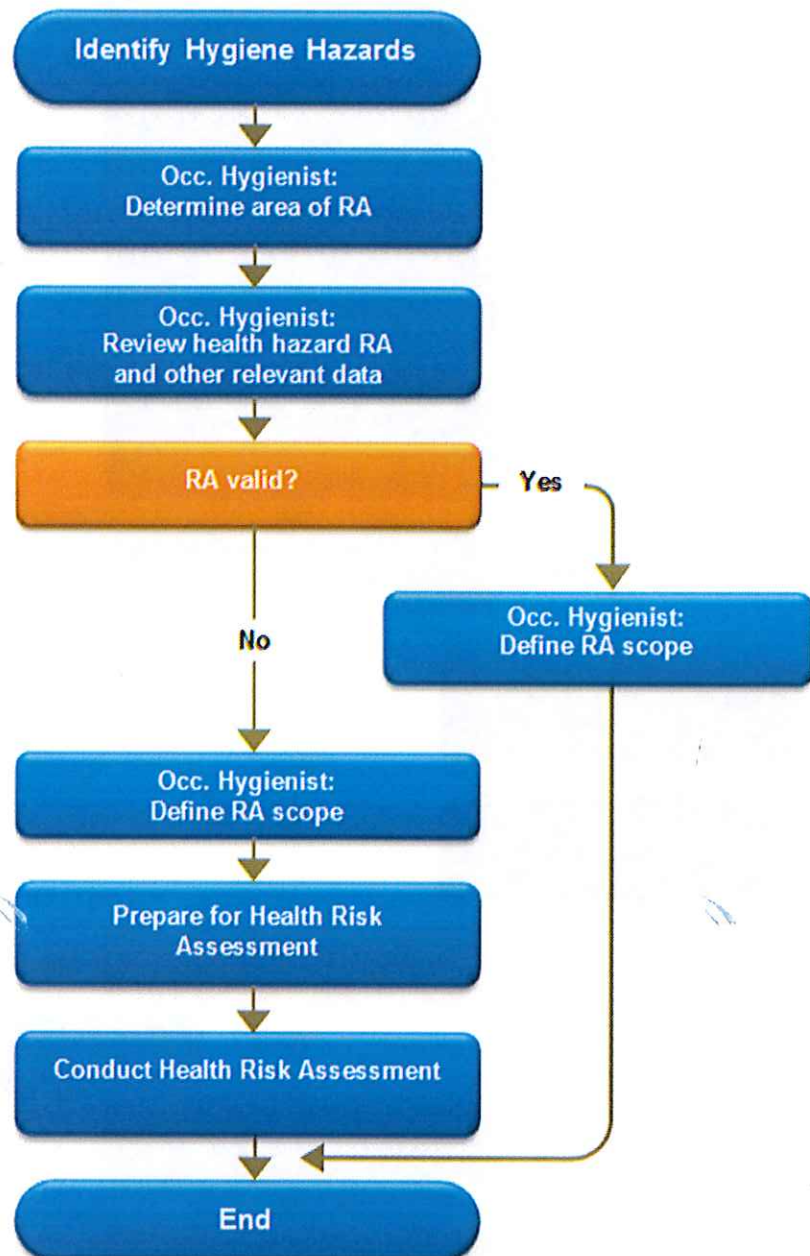
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Health Risk Assessment**CONTROLLED DISCLOSURE**

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Identification of Hazards



Identification of occupational hygiene hazards/stressors comprises of the following but not limited to:

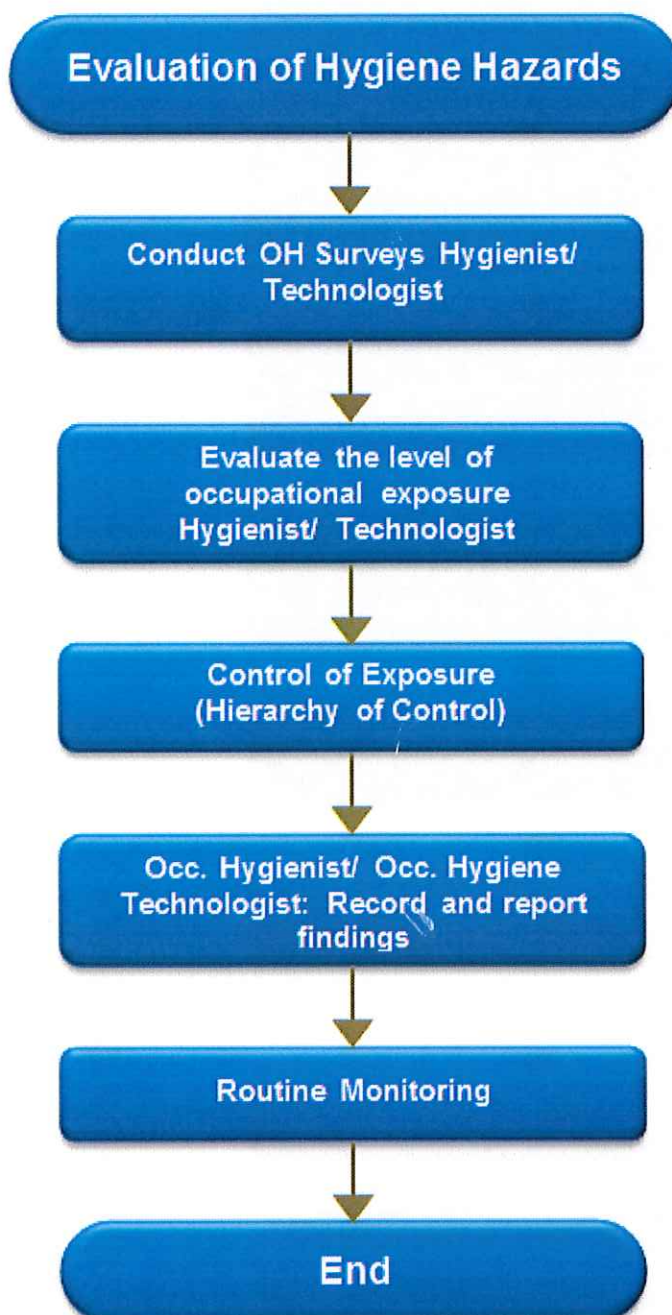
- Walk through surveys;
- Interviews with employees, management and SHE representative;
- Assessment of existing control measures

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Evaluation of Hygiene Hazards



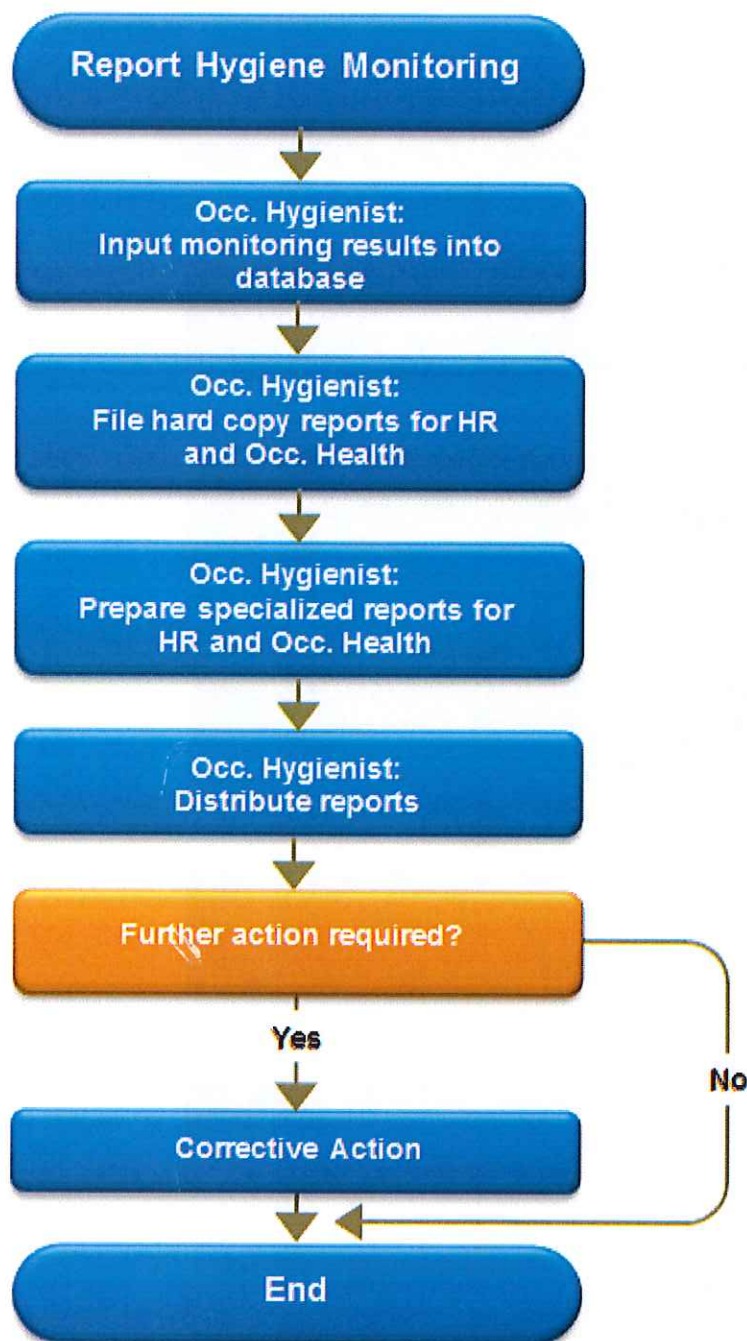
Evaluation of occupational hygiene hazards comprises of quantification of hazards by means of applicable instruments or tools.

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Reporting of Monitoring results



A formal report is compiled after occupational hygiene assessments are conducted. These reports are distributed to relevant stakeholders for information as well as implementation of recommendations. The reports are kept for a minimum of 40 years.

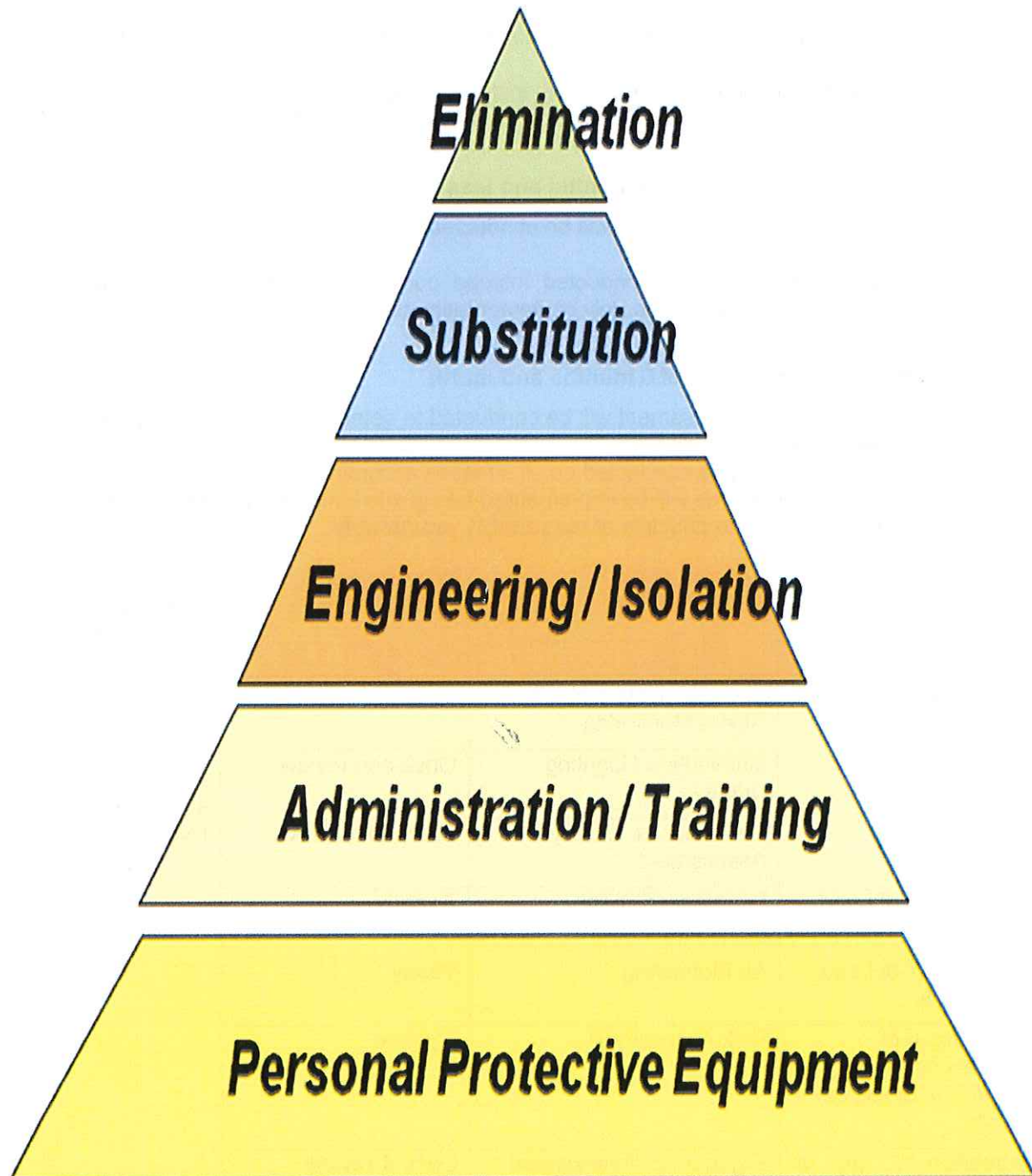
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Implementing controls

An employer should as far as reasonably practicable implement control measures to mitigate the identified risks and hazards in accordance with the hierarchy of control:

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5 IMPLEMENTATION PLAN FOR OH PROGRAMME

Due to the nature and duration of projects in Power Delivery Projects, the following guideline will apply regarding monitoring of occupational hygiene stresses.

Projects that are outage based;

- A health risk assessment will be conducted to determine and rate occupational stresses
- Monitoring will not be conducted, instead, comparison will be made with similar projects in the area and only implementation to control exposure will be done

Projects with planned duration of 6 months and less;

- A health risk assessment will be conducted to determine and rate occupational stresses.
- Monitoring will not be conducted, instead, comparison will be made with similar projects in the area and only implementation to control exposure will be done.

Projects with planned duration of 6 months and more;

- A health risk assessment will be conducted to determine and rate occupational stresses.
- Monitoring will be conducted on all stresses according to the risk analysis.
- Control measures will be implemented taking into consideration the **hierarchy of control** and the principle of **reasonably practicable**.

APPLICABLE ACT / REGULATIONS	ASSESSMENT	FREQUENCY	AUTHORISED PERSON TO PERFORM THE ASSESSMENT
Environmental Regulations	Thermal (Cold & Heat) Stress Monitoring	2 yearly	Occupational Hygienist / Occupational Hygiene Technologist or Assistant under direct supervision of the Hygienist
	Illumination / Lighting Survey	Once and review	
	An Indoor Air Quality Assessment	Once and review	
Regulation 6 of Lead Regulations	Lead Assessment	2 yearly	
Regulation 7 of Lead Regulations	Air Monitoring	Yearly	
Regulation 6 of Regulations for Hazardous Biological Agents	Risk Assessment	2 yearly	
Regulation 7 (6) of Construction Regulations	Ergonomics Assessment	Once & review	

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Asbestos regulations Demolition work	Air Monitoring (the contractor is responsible to carry out the monitoring, have an asbestos plan, and make use of the services of an approved asbestos contractor)	As and when Asbestos is discovered.	Occupational Hygienist / Occupational Hygiene Technologist or Assistant under direct supervision of the Hygienist
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A. APPLICABLE LEGISLATION

APPLICABLE ACT / REGULATIONS	ASSESSMENT	FREQUENCY	AUTHORISED PERSON TO PERFORM THE ASSESSMENT
Regulation 5 of Hazardous Chemical Substances Regulations	Baseline Occupational Health Risk Assessment	2 yearly or as soon as there are changes to the processes	Occupational Hygienist / Technologist, Occupational Health / Medical Practitioner, SHE Representative, Safety Personnel etc.
Regulation 7 of Construction Regulations		Prior to and during construction	
Noise-induced Hearing Loss	Noise Assessment & Monitoring	2 yearly	Occupational Hygienist / Occupational Hygiene Technologist or Assistant under direct supervision of the Hygienist
Regulation 6 of Hazardous Chemical Substances Regulations	Hazardous Chemical Substance Monitoring	Yearly for Table 1 Substances & 2 yearly for Table 2 Substances	
Asbestos Regulations	Asbestos Assessment	2 yearly	

6. Acceptance

Name	Designation
Naresh Hari	General Manager – Power Delivery Projects
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7. Revisions

Date	Rev.	Compiler	Remarks
October 2015	1	B.Matshiane	New Document
May 2016	2	S.Mathe	3.1 Change in DOL requirements 3.1.5 Regulated functions as per SANS 17020 5. implementation plan for OH
April 2019	3	S.Mathe	3.2 Management of occupational diseases

8. Development Team

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

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9. Acknowledgements

None

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