



PROCEDURE

Duvha
Power
Station

RESPONSIBLE FUNCTIONAL AREA SAFETY RISK MANAGEMENT

TITLE:

SAFETY, HEALTH & ENVIRONMENTAL
SPECIFICATIONS FOR CONTRACTORS

Allocation Centre: 03A

Document ID: SAS0012

Alternate Doc. ID: -

Revision: 8

Total Pages: 29

Revision Date: MAY 2015

Next Review Date: MAY 2018

APPROVAL AND AUTHORISATION

COMPILED/ REVIEWED BY:

**RECOMMENDED BY
(FUNCTIONAL RESPONSIBILITY):**

AUTHORISED BY:

S MATSEBE

Name (Caps)

S Matsebe

Signature

SAFETY RISK MNGR

Position

07/07/2015

Date

O MOHALE

Name (Caps)

O Mohale

Signature

RISK MNGR MNGR

Position

14/07/2015

Date

A.KUZELJ

Name (Caps)

A Kuzelj

Signature

POWER STATION MANAGER

Position

14/7/2015

Date

THIS DOCUMENT HAS BEEN SEEN AND ACCEPTED BY:

NAME	POSITION
W Khumalo	Outage Manager
G Beech	Project Manager
K Moabelo	Human Resource Manager
N Toerien	Engineering Manager
L Fourie	Senior Occupational Health Nursing Practitioner
P Buthelezi	Maintenance Manager
T Sibeko;	Head of Protective Services
H Gana	Section Chemist

Document Security Classification: **Controlled Disclosure**

When downloaded from the Duvha EDMS this document is uncontrolled and is only valid for a period of 1 working day.
The responsibility rests with the user to ensure that this document is in line with the authorised version

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 2 of 29
---	---	----------------------------	-----------------------------------

TABLE OF CONTENTS

1.0	PURPOSE	3
2.0	SCOPE	3
3.0	REFERENCES	3
4.0	DEFINITIONS AND ABBREVIATIONS	3
5.0	RESPONSIBILITIES	5
6.0	DUVHA POWER STATION REQUIREMENTS	8
7.0	PRINCIPAL AND CONTRACTOR SHE REQUIREMENTS	22
8.0	HOUSEKEEPING	26
9.0	BEHAVIOUR BASED SAFETY	27
10.0	IMPORTANT NUMBERS	27
11.0	ANNEXURES	28-29

REV	DESCRIPTION OF REVISION	DATE
5	MAJOR REVIEW AND REWRITE	01/05
6	UPDATE TO BRING IN LINE WITH ESKOM PROCEDURE EPC 32-136.	5/2010
7	CHANGES TO PARAGRAPHS ::6.1.9,6.2.1, 6.2.2, 6.3.2, 6.3.6, 6.5, FORMAT	9/2011
8	MAJOR CHANGES TO CONTENT TO ALIGN WITH CONSTRUCTION REGULATIONS:2014	5/2015

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 3 of 29
--	---	----------------------------	-----------------------------------

1.0 Purpose

(a) The purpose of this specification is to provide the relevant Principal Contractor (and his /her contractor) with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of contracted work for Duvha Power Station

(b) The specification further serves to ensure that the Principal Contractor (and his /her contractor) is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations including the applicable safety standards.

(c) This specification is supplementary to the requirements of the relevant legislation and the conditions of the contract.

2.0 Scope

This procedure defines the specifications applicable to health, safety and environmental requirements for work to be carried out by contractors at Duvha Power Station, in order to comply with the provisions of the Occupational Health and Safety Act 85 of 1993 and other related legislation.

Furthermore, although the definition of Health and Safety Specifications stipulates a documented specification of all health and safety requirements pertaining to associated works on site, so as to ensure the health and safety of persons it is required that the entire scope of the Labour legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention. No work shall be commenced on site until the requirements of this document are complied with.

3.0 References

- 3.1 Occupational Health and Safety Act No 85 of 1993, as amended
- 3.2 Compensation for Occupational Injuries and Diseases Act 130 of 1993
- 3.3 National Environmental Management Air Quality Act No 107 of 1998
- 3.4 Construction Safety, Health and Environmental Management (EPC 32-136)
- 3.5 Waste Management Procedure, ENVP0005

4.0 Definitions and Abbreviations

4.1 "client" means any person for whom construction work is performed;

4.2 "competent person" means a person who -

(a) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 4 of 29
---	---	----------------------------	-----------------------------------

National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and
(b) is familiar with the Act and with the applicable regulations made under the Act;

4.3 "construction work" means any work in connection with—

(a) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or

(b) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

4.4 "contractor" means an employer, as defined in section 1 of the Act, who performs construction work and includes principal contractors;

4.5 "design" in relation to any structure includes drawings, calculations, design details and specifications;

4.6 "ergonomics" means the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimize human well-being and overall system performance;

4.7 "hazard identification" 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;

4.8 "health and safety file" means a file, or other record in permanent form, containing the information required as contemplated in these regulations;

4.9 "health and safety plan" means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified;

4.10 "health and safety specification" means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons;

4.11 "method statement" means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

4.12 "principal contractor" means an employer, as defined in section 1 of the Act who performs construction work and is appointed by the client to be in overall control and management of a part of or the whole of a construction site;

4.13 "provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations under the Act;

4.14 "risk assessment" means a program 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;

4.15 "the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 5 of 29
---	---	-----------------	------------------------

- 4.16 "ECSA" means Engineering Council of South Africa
- 4.17 "agent" means a competent person who acts as a representative for a client;
- 4.18 "construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;
- 4.19 "construction site" means a work place where construction work is being performed;
- 4.20 "construction supervisor" means a competent person responsible for supervising construction activities on a construction site;
- 4.21 "construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work;
- 4.22 "agent" means a competent person who acts as a representative for a client;
- 4.23 "bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;
- 4.24 "designer" means -
- (a) a competent person who -
 - (i) prepares a design;
 - (ii) checks and approves a design;
 - (iii) arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
 - (iv) designs temporary work, including its components;
 - (v) an architect or engineer contributing to, or having overall responsibility for a design;
 - (vi) a building services engineer designing details for fixed plant;
 - (vii) a surveyor specifying articles or drawing up specifications;
 - (viii) a contractor carrying out design work as part of a design and building project; or
 - (ix) an interior designer, shop-fitter or landscape architect;
- 4.25 "demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;
- 4.26 "fall protection plan" means a documented plan, which includes and provides for -
- (a) all risks relating to working from a fall risk position, considering the nature of work undertaken;
 - (b) the procedures and methods to be applied in order to eliminate the risk of falling; and
 - (c) a rescue plan and procedures;
- 4.27 GVM: Gross Vehicle Mass
- 4.28 Tremcard" means the transport emergency card listing the hazards and emergency information for a material being transported for use by the driver during an incident, or by the emergency services, if required;

5.0 Responsibilities (of the Client)

5.1 Agent

A client must ensure that the principal contractor keeps a copy of the construction work permit contemplated in subregulation (1) in the occupational health and safety file for inspection by an inspector, the client, the client's authorized agent, or an employee.

5.1.1 It is the responsibility of the Agent to supply the following information prior to tendering:

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 6 of 29
---	---	-----------------	------------------------

a. Project specific health and safety risks that should be taken into account by the principal contractor at the time of tendering. This is to enable the principal contractor to accurately plan for health and safety aspects in his technical planning, and cost planning. This information should be supplied as per form 03A SAS0012-1 and it forms part of the Health and Safety Specification supplied to the principal contractor at the time of tender issued.

5.1.2 The Agent should evaluate the following as part of the tender evaluation:

- a. That every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to commencing work on site [CR 4(1)(g)];
- b. That potential principal contractors submitting tenders, have made provision for the cost of health and safety measures during the construction process [CR 4(1) (h)];
- c. Ensure that you are reasonably satisfied that the principal contractor which is intended to be appointed has the necessary competencies and resources to carry out the work safely [CR 4(4)];

5.1.3 The Agent is responsible for the following after the tender has been awarded to the principal contractor, but prior to the principal contractor starting work:

- a. Discuss and negotiate with the principal contractor the content of the health and safety plan and thereafter finally approve the health and safety plan for implementation [CR (4)(2)];
- b. In the health and safety plan of the principal contractor, particular attention should be given by the Agent to the risk assessment carried out by the principal contractor [CR 7(1)];
- c. Ensure that the principal contractor has given notification to the provincial director of the construction work to be carried out [CR 3(1)], and keep a copy of this notification.
- d. Appoint each principal contractor in writing - Annexure B [CR 4(1)(c)];

5.1.4 The Agent is responsible for the following after a contract has been awarded to a principal contractor:

- a. Promptly provide the principal contractor and his / her agent with all the information which might affect the health and safety of any person carrying out construction work [CR 4(1)(b)];
- b. Take reasonable steps to ensure that each principal contractor's health and safety plan is implemented and maintained [CR 4(1) (d)];
- c. That Principal Contractor carries out self-audits monthly and that the Client will carry out SHE audits every six months as per Eskom's Exemption letter from the Department of Labour
 - b. Obtain a copy of the documented plan of safe work procedure to mitigate or control the risks and hazards that have been identified [CR 7(1)];
 - c. Stop any contractor from executing construction work which is not in accordance with the principal contractor's health and safety plan, or which poses a threat to the health and safety of persons [CR 4(1)(e)];
 - d. Ensure that where changes are brought about to the design or construction, sufficient health and safety information and appropriate resources are made available to the principal contractor to execute the work safely [CR 4(1)(f)];
 - e. Ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor [CR 4(3)];

5.1.5 In cases where the principal contractor has appointed other contractors, the Agent should:

- a. Obtain copies of the appointments of each of the contractors appointed by the principal contractor [CR 5(3) (b)];

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 7 of 29
--	---	-----------------	------------------------

- b. Ensure that the principal contractor has supplied all contractors with the sections of the Duvha health and safety specification pertaining to the construction work which has to be performed [CR 5(3)(a)];
- c. Monitor the level of cooperation between the principal contractors and other contractors and take appropriate action if required [CR 5(2)];
- d. Ensure that the principal contractor carries out monthly audits on his contractors [CR 5(3)];
- e. Ensure that all cases where the principal contractor stops the work of a contractor i.t.o. CR 5(3)(d) are reported to him or her;

5.1.6 Upon finalization of the contract, the agent has the responsibility to:

- a. Ensure that the consolidated health and safety file is handed over to him or her by the principal contractor [CR 5(8)];
- b. Ensure that all access permits of contractor staff are returned to Protective Services. Retrieval of a person's site access permit must be done on resignation or termination of service. Should a site access permit be lost, it must be reported to Protective Services and reissue fee of R25 will be charged. Payment logistics shall be arranged with Protective Services.
- c. Should there be a need to extend a contract, the agent or project manager must provide the contractor with a new purchase order number to that effect and supporting documents whether the scope has been changed or not. Project scope change will require reviewed project specific risk assessment.

5.2 Procurement

The Procurement Department is responsible for the following:

- a. Ensure that the Agent has completed the "Project Specific Risks" part of the Health and Safety Specification;
- b. Attach the complete Health and Safety Specification to the 'Invitation to Tender' document;
- c. Include a statement in the invitation to tender that:
 - the project specific risks should be taken into account when submitting a tender;
 - the requirements of the health and safety specification should be taken into account in the tender.
 - the cost of health and safety measures for doing the construction work should be indicated separately;
- proof of good standing with the compensation fund or with a licensed compensation insurer [CR 4(1)(g)] should be submitted as part of the tender; and
- the Safety, Health and Environmental policies of the contracting company should be submitted with the tender.
- d. On return of the tenders, ensure:
 - that there is proof of good standing with the compensation fund or with a licensed compensation insurer [CR 4(1)(g)];
 - that there is proof that provision has been made for the cost of health and safety measures during the construction process [CR4(1)(h)];
 - a copy of the Safety, Health and Environmental policies of the contracting company;
 - That there is a completed Environmental Requirements Check sheet (SAS0012-6)

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 8 of 29
---	---	----------------------------	-----------------------------------

e. Ensure that a technical evaluation is carried out to determine whether the contractor has the necessary competencies and resources (including tools, equipment, vehicles and manpower) to carry out the construction work;

5.3 Safety Risk Management

Safety Risk Management is responsible for the following in terms of the Construction Regulations:

- a. Develop and maintain the generic Health, Safety and Environmental Specification for Duvha Power Station;
- b. Assist the Agent with information to determine the 'Project-specific risks' [CR 5(1) (a)] so as to determine the project baseline risks.
- c. Monitor compliance of contractors to the Duvha Health, Safety and Environmental Specification;
- d. Monitor that the monthly SHE audits on the contractors are carried out monthly; contractors not engaged in construction work as per definition in the Construction Regulations 2014 shall be audited 6 monthly.
- e. Keep record of all work that was stopped due to health and safety reasons, as well as the actions to address the issues;

5.4 Construction work carried out by Duvha Power Station

In cases where construction work is carried out by Duvha personnel, the project/ line manager is responsible for the following:

- a. Project-specific risks should be identified in order to enable accurate planning (technical and financial) for health and safety aspects of the project;
- b. Ensure the staff who will be performing the construction work has the necessary competencies to carry out the work safely;
- c. Develop a health and safety plan for the work to be carried out. This plan should contain the following:
 - Risk assessment based upon the project-specific risks;
 - Actions to mitigate the risks on the project;
 - Safe working procedures based upon the risk assessment
 - PPE to be issued and worn by staff performing the construction work;
 - Schedule of safety / toolbox talks related to the construction work to be carried out and the precautionary measures that should be observed with respect to the risks and hazards of the task;
 - Application for construction permit in terms of CR 3.1 of the construction work should be given to the provincial director if the work:
 - (a) exceed 180 days;
 - (b) will involve more than 1800 person days of construction work; or
 - (c) the works contract is of a value equal to or exceeding thirteen million rand or Construction Industry Development Board (CIDB) grading level 6.
 - Identify and comply with all applicable sections of the Construction Regulations.

6.0 Duvha Power Station Requirements

6.1 Occupational Health and Safety Act

It is expected of the Contractor to comply with all the relevant requirements of the Occupational Health and Safety Act No 85 of 1993, which include, but is not limited to the following requirements:

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 9 of 29
---	---	----------------------------	-----------------------------------

6.1.1 Fall Protection Plan (CR 10)

A fall protection plan will be compiled whenever a task risk assessment indicates that there is a risk of a person falling from or onto a structure or unsafe area.

A fall protection plan will be compiled to show the responsibilities and the processes to be followed to ensure that the possibility of a person falling from an elevated position will be eliminated or mitigated.

A competent person will be appointed in writing to compile a fall protection plan.

The duties of the dedicated employer sec 16(2) (person in charge) the supervisor and the workers will be clearly recorded.

The fall protection plan will include: -

- A proper risk assessment
- Proper training of risk assessment and the fall protection plan by a competent person appointed in writing.
- Attendances register which includes the date of training and the names and signatures of all trainees and will be kept on site and are available for inspection at all times
- Maintenance registers as per checklists of the fall protection equipment and fall arrestors will be kept and inspected by a competent person appointed in writing. A rescue procedure shall be in place.

6.1.2 Machine guarding and Lifting Equipment

All dangerous moving parts of machinery must be securely fenced or guarded so that accidental contact with these parts is not possible, i.e. open pulleys, chains, gears, etc.

6.1.3 Lifting gear and lifting machines, cranes. Refer OHS Act - Driven machinery regulation 18.

- A competent person must be authorized in writing
- Equipment must be kept on register and inspected every three months by Approved service provider
- Cranes must be inspected at least once every twelve months by Approved Service Providers
- A competent person must carry out inspections (per specification of particular inspections). (Proof of registration to be available)
- Every hook must be fitted with a device to prevent accidental unhooking of the load.
- Slings, chains and ropes must bear a mark indicating the maximum load and serial number
- Lifting equipment must be stored in such a manner that damage and unnecessary exposure to the weather is prevented
- The latest inspection records must be available on site for verification purposes.
- Load testing shall be performed by a registered LME; (Lifting Equipment Entity) proof of registration with Dept. of Labour shall be available on site. Lifting equipment shall be inspected by a registered Lifting Equipment Inspector (LMI) registered with the Engineering Council of South Africa.

6.1.4 Cranes (CR 22)

A Contractor shall ensure that where tower cranes are used:

- a) account is taken of the effects of wind forces on the structure;

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 10 of 29
---	---	----------------------------	------------------------------------

- b) account is taken of the bearing capacity of the ground on which the tower crane is to stand
- c) the bases for the tower cranes and tracks for rail-mounted tower cranes are firm and level;
- d) the tower cranes are erected at a safe distance from excavations;
- e) there is sufficient clear space available for erection, operation and dismantling;
- f) the tower crane operators are competent to carry out the work safely; and
- g) The tower crane operators are physically and psychologically fit to work in such an environment and being in possession of a Medical certificate of fitness

6.1.5 Suspended platforms (CR 17)

A contractor shall ensure that all suspended platform work operations are carried out under the supervision of a competent person who has been appointed in writing, and that all suspended platform erectors, operators and inspectors are competent to carry out their work. The requirements of Construction Regulations 17 shall apply

6.1.6 Ladders

- Ladders must be constructed of suitable material of adequate strength.
- Homemade ladders will not be allowed on Site.
- All ladders shall be prominently identified with the contractor's name and ladder number.
- Ladders shall be checked on a monthly basis.
- Records are to be kept.
- Register must be available for audit purposes.

6.1.7 Scaffolding (CR 16)

- a) Every contractor using access scaffolding shall ensure that such scaffolding, when used, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act i.e. SABS 085, SABS 1808 and SABS 1093.
- b) A contractor shall ensure that all scaffolding work operations are carried out under the supervision of a competent person who has been appointed in writing and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

6.1.8 Compressed gas cylinders

- Industrial gases must be stored in an isolated and well-ventilated covered area at least 10m away from building or boundary fences.
- Empty cylinders are to be stored away from full cylinders.
- Cylinders must be stored out of direct sunlight.
- 2 x 9kg. Dry powder extinguishers shall be placed near the gas store.
- Equipment must be kept in sound condition at all times.
- Cylinders must be kept in an upright position at all times, and must be adequately chained or strapped to prevent them from falling over.
- Valves must be closed when equipment is not in use and each set must be provided with a locking spanner.
- Handling and storage of gases must be in accordance with the manufacturer specifications and good practices.
- Flame cutting equipment shall be fitted with flashback arrestors.
- Hoses are to be free of joints.
- Clamps shall be used to fit the hoses to fittings.
- The oxygen and the acetylene hoses shall not be tied together with electrical straps, wire, and insulation tape. Hose clips must be used.
- Where flame-cutting work is in progress a protective blanket shall be used in such a manner as to protect persons and equipment in areas below.

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 11 of 29
--	---	----------------------------	------------------------------------

6.1.9 Pressure equipment and records. OHS Act, Pressure Equipment Regulations
 The latest pressure test certificate will accompany all pressure vessels, e.g. compressors, air containers.

The construction of the vessels and their associated equipment shall comply with the relevant OHS Act Regulation.

6.1.10 Construction vehicles and mobile plant (CR 23)

A contractor shall ensure that all construction vehicles and mobile plants:

- a) are of an acceptable design and construction;
- b) are maintained in a good working order;
- c) are used in accordance with their design and the intention for which they were designed,
- d) having due regard to safety and health;
- e) Construction vehicles shall comply with the requirements of Eskom procedure 32-345. This document is handed over at the tender stage of the contract.

6.1.11 Hand tools

All tools on site, including privately owned tools, must be kept in sound condition at all times. All tools shall be inspected on a regular basis by supervisors or an appointed tool inspector. Homemade/self-made tools must be declared, kept on register and be inspected regularly.

6.1.12 Portable electrical equipment

All equipment fed through a flexible cable from a plug point-220, 380 or 500V, This would include welding machines, power tools, extension cables, etc.

- All portable electrical equipment shall be suitably numbered.
- A register shall be kept.
- All portable electrical equipment shall be inspected once a month and the results entered into the register.
- The inspection shall include damaged or joined cables as well as plugs. Such damaged equipment must be properly scrapped, taken out of circulation and not be used.

6.1.13 Earth leakage relays

Earth leakage relays - portable or permanently fixed - must be provided and tested on a regular basis.

Records shall be kept.

6.1.14 General electrical installations

These must be inspected once a month by a competent person appointed in writing for:

- Polarity of wall sockets
- Earth continuity
- Open switchboards
- Damaged extension leads
- Broken switches etc.

The results of above inspections must be entered into a suitable register.

6.1.15 Electrical installations and machinery on construction sites (CR 24)

Notwithstanding the provisions contained in the Electrical Installation Regulations promulgated by Government Notice No.R.2920 of 23 October 1992 and the Electrical Machinery Regulations

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 12 of 29
---	---	----------------------------	------------------------------------

promulgated by Government Notice No. R.1953 of 12 August 1988, respectively, as amended, a contractor shall ensure that:

- a) before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
- b) all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
- c) in working areas where the exact location of underground electric power lines is unknown, employees using jackhammers, shovels or other hand tools which may make contact with a power line, are provided with insulated protective gloves or otherwise that the handle of the tool being used is insulated;
- d) all temporary electrical installations are inspected at least once a week and electrical machinery on a daily basis before use on a construction site by competent persons and the records of these inspections are recorded in a register to be kept on site; and
- e) The control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing.

6.1.16 Fire Precautions on Construction Sites (CR 29)

1). Subject to the provisions of the Environmental Regulations for Workplaces promulgated by Government Notice No.R.2281 of 16 October 1987, as amended, every contractor shall ensure that:

- a) all appropriate measures are taken to avoid the risk of fire;
- b) sufficient and suitable storage is provided for flammable liquids, solids and gases;
- c) smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
- d) in confined spaces and other places in which flammable gases, vapors or dust can cause danger-
 - I. only suitably protected electrical installations and equipment, including portable lights, are used;
 - II. there are no flames or similar means of ignition;
 - III. there are conspicuous notices prohibiting smoking;
 - IV. oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
 - V. adequate ventilation is provided;
- e) combustible materials do not accumulate on the construction site;
- f) welding, flame cutting and other hot work are done only after the appropriate precautions as required have been taken to reduce the risk of fire;
- g) suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
- h) the fire equipment contemplated in paragraph (g) is inspected by a competent person, who has been appointed in writing, in the manner indicated by the manufacturer thereof;
- i) a sufficient number of workers are trained in the use of fire- extinguishing equipment;
- j) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- k) the means of escape is kept clear at all times;
- l) there is an effective evacuation plan providing for all
 - m). persons to be evacuated speedily without panic;
 - n) persons to be accounted for, and
 - o) plant and processes to be shut down; and

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 13 of 29
---	---	----------------------------	------------------------------------

- p) a siren is installed and sounded in the event of a fire.
q) All employees are conversant with the meaning of all alarms at Duvha Power Station.

6.1.17 Use and Temporary Storage of Flammable Liquids On Construction Site (CR 25)

1) Notwithstanding the provisions for the use and storage of flammable liquids as determined in the General Safety Regulations promulgated by Government Notice No.R1031 dated 30 May 1986, as amended, a contractor shall ensure that:

- a) where flammable liquids are being used, applied or stored at the workplace concerned, this is done in such a manner that a fire or explosion hazard is not caused, and that the workplace is effectively ventilated: Provided that where the workplace cannot effectively be ventilated-
- I. every employee involved is provided with a respirator, mask or breathing apparatus of a type approved by the chief inspector, and
 - II. steps are taken to ensure that every such employee, while using or applying flammable liquids, uses the apparatus supplied to him or her;
- b) no person smokes in any place in which flammable liquids are used or stored, and such contractor shall affix a suitable and conspicuous notice at all entrances to any such area prohibiting smoking;
- c) flammable liquids on a construction site are stored in well-ventilated fire resistant containers, cage or room and kept locked with proper access control measures in place;
- d) an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
- e) only the quantity of flammable liquid needed for work on one day is to be taken out of the store for use;
- f) all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site and safely disposed of;
- g) where flammable liquids are decanted, the metal containers are bonded or earthed; and
- h) No flammable material such as cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids.
- i) A 16 Point MSDS is available for every HCS used and handlers of these substances shall be made aware of the safe use of the substance

6.1.18 Without taking away anything from the Act, the Contractor is expected to comply with the following:

- a) Have a written Health and Safety Policy;
- b) Maintain a working environment that is safe and without risk to the health of employees;
- c) Establish what hazards are attached to the health and safety of persons performing the work and mitigate the risks by taking the necessary precautionary measures;
- d) Informing persons performing the work of the risks involved as well as the precautionary measures which should be taken with respect to the risks and hazards;
- e) Providing training to persons performing the work such that they can perform the work effectively and safely;
- f) Informing employees of the scope of their authority in terms of section 37 (1) (b) of the Act.

6.1.19 Employees of the Contractor performing work at Duvha Power Station are expected to comply with the following:

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 14 of 29
---	---	-----------------	-------------------------

- a) Take reasonable care for the health and safety of themselves and others who may be affected by their acts (e.g. wearing PPE issued to them, not taking chances or short cuts, reminding other employees to wear their PPE);
- b) Cooperate with the Contractor w.r.t. their duties in terms of the Act (e.g. reporting unsafe machines, carrying out planned job observations, following safe work procedures); Carry out any awful instruction given to them by the employer in the interest of health and safety (e.g. wearing PPE, obeying warning signs);
- c) Report any situation which is unsafe or unhealthy to the employer as soon as it is practicable (e.g. damaged or missing machine guards);
- d) Report any incident which caused an injury or which may affect their health and safety. This should be done as soon as practicable, but not later than the end of the shift on which the incident took place (e.g. any incident where someone was hurt, persons reporting for work under the influence);
- e) Not to interfere with, damage or misuse anything which was provided in the interest of health and safety (e.g. abuse of a fire extinguisher or hydrant);

6.2 General Safety Requirements

The contractor and his employees are expected to adhere to all safety requirements at all times. Non-compliance may lead to suspension of the contractors' employee, or the termination of the contract.

6.2.1 General Safety

- a) Don't enter the plant without the required PPE;
- b) Don't start work without a signed permit to work;
- c) Ensure good housekeeping at the work place and site office at all times;
- d) Report any fire risks or fires immediately on phone no 7911/2222. From a cellphone dial 013-6900222
- e) Report any emergency situations immediately on phone no 7911/2222
- f) Emergency situations are alerted by an announcement over the PA system followed by a continuous alarm;
- g) Obey instructions given by evacuation wardens in the event of an emergency.
- h) Please note that the emergency alarm is tested every Monday at 10:00. During that time no action is required.
- i) Asbestos is present on this site, but asbestos areas are clearly marked. Do not disturb any asbestos without the necessary authorization and plan. If in doubt, ask the Agent or project manager
- (j) Only drink water from potable water sources;
- (k) Report any unhygienic situation immediately.
- (l) A contractor must, in addition to the construction site provisions in the Facilities Regulations, 2004, promulgated by Government Notice No. R. 924 of 3 August 2004, provide at or within reasonable access of every construction site, the following clean, hygienic and maintained facilities:
 - (a) Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons;
 - (b) at least one sanitary facility for each sex and for every 30 workers;
 - (c) changing facilities for each sex; and
 - (d) sheltered eating areas.

A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 15 of 29
---	---	----------------------------	------------------------------------

between the site and their homes, or other suitable living accommodation, is not available.(CR 30)

6.2.2 Road Safety

- a) Speed limit is 40km/h on site
- b) Speed limit is 10km/h in the plant area with the vehicle lights switched on.
- c) All roads signs and road markings shall be adhered to.
- d) Vehicles may only be parked in designated parking areas.
- e) Watch out for pedestrians when approaching a stationery bus.
- f) Watch out for pedestrians at crossings and intersections as they have the right of way.
- g) Don't use a cell phone or hand held radio when driving. Pull off safely if required.
- h) Only persons with valid driver's licenses (for the type of vehicle they are authorized to drive) are allowed to drive on site.

6.2.3 Pedestrians

- a) When disembarking from a bus wait until the bus has departed before crossing the road.
- b) Ensure that it is safe to cross a road before you do so.
- c) Never run when crossing the road. Use the pedestrian Crossings / Intersections.
- d) Don't walk in the road; walk on the sidewalk or on the side of the road facing oncoming traffic.

6.2.4 Passengers

- a) No transporting of passengers is allowed at the back of a lorry or trailer unless all approved safety facilities are installed e.g. crab crews
- b) Never jump from, or onto a moving vehicle
- c) Don't hitch a ride on any equipment or vehicle that was not designed to carry passengers.

6.2.5 Transportation of dangerous goods

- (a) Dangerous Goods are classified into nine classes which indicate the hazard of the goods, explosives, gases, flammable liquids, flammable solids, oxidizers, toxic and infectious, radio actives, corrosives and miscellaneous. Packing groups, where allocated, indicate the risk of a substance.
- (b) Drivers of all Dangerous Goods vehicles must be trained annually by an accredited training provider under SAQA Unit Standard 123259.
- (c) Drivers of Heavy Goods Vehicles (>3.500kg GVM) must obtain a Professional Drivers Permit (PrDP) category G (Goods) and D (Dangerous Goods) every two years.
- (d) Transport emergency cards must be carried in the cab (Designated space/Orange Box) of any vehicle carrying Dangerous Goods in quantities exceeding the exempt quantities in terms of the Road Traffic Act and its regulations. The purpose of these cards is to instruct the driver in the event of an incident. They may also assist emergency response team on site, as they carry information that is specific to the particular goods being carried. A separate card must be carried for each Dangerous Goods item in the load.
- (e) Companies that transport Dangerous Goods have a responsibility to ensure the vehicles and ancillary equipment they select to transport Dangerous Goods comply with the required standards, are well maintained and all appropriate safety systems are in place and are operable.

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 16 of 29
--	---	----------------------------	------------------------------------

6.2.6 Eskom Vehicle Safety Specification

The specifications are in line with the Eskom procedure 32-345.

All vehicles purchased or hired shall meet the following basic requirements, when available in the market:

- Factory-fitted antilock brake system (ABS).
- Factory-fitted driver and passenger airbags.
- Factory-fitted alarm/immobilizer.
- Factory-fitted power steering.
- Tyres as per manufacturer's specifications for the intended purpose.
- Emergency warning triangle.
- Factory-fitted safety belt warning light or signal.
- All LDVs shall be fitted with a roll bar suitable for cab protection in the event that the vehicle overturns, in accordance with SANS 1563.
- Crew Crabs: A fixed or removable crew cab must be fitted must be designed in accordance with the National Road Traffic Act specification. A certificate of approval must be obtained from SANS with every installation.

6.3 Occupational Health/Hygiene requirements

Occupational Hygiene

Occupational hygiene factors and stresses are those that affect a person over a long period of time e.g. noise - results in deafness during old age, exposure to asbestos could result in Asbestosis in time.

6.3.1 Noise

- a) All employees who are exposed to noise must be trained and made aware of the harmful effects of long-term exposure to noise.
- b) They must be provided with approved hearing protection where necessary and record must be kept of such issues.
- c) Noise areas must be demarcated with the appropriate signboards. The following areas should be considered, e.g. where compressors, jackhammers, explosive tools, riveting tools, etc. are used.

6.3.2 Heat/Cold(Thermal Stress)

- a) When employees are working in hot conditions, clean cool drinking water must be supplied with easy access to all workers.
- b) Employees must be made aware of the dangers of heat exhaustion/stroke and the signs and symptoms of impending heat collapse.
- c) Frequent and extended rest periods must be provided in accordance with the Environmental Regulations Section 2 (Thermal requirements).
- (d) When employees are working in cold conditions required PPE must be provided.

6.3.3 Illumination

- a) Adequate and sufficient illumination is essential and where it is insufficient the contractor must make additions to ensure safe-working conditions at all times.
- b) Ensure that all roof lights, light fittings and fanlights are kept clear and unobstructed.

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 17 of 29
---	---	----------------------------	------------------------------------

- c) When use is made of artificial lighting where machinery is being used all moving parts must be clearly visible.
- d) Illumination provided must be so designed to avoid glare, reflections and stroboscopic effects
- e) The contractor shall provide additional lighting where required. Such portable lighting shall be inspected regularly by a competent person.
- f) Duvha Power Station conducts lighting surveys in the plant and offices, contractors are required to conduct such surveys in their offices and workshops

6.3.4. Hazardous Chemical Substances

When any chemical substances are brought onto site, Duvha Safety Risk Management must be provided with the following information:

- a) A list of all the substances
- b) A 16 point material safety data sheet (MSDS) for the specific substances
- c) Training records showing what training the employees have received
- d) Handling and storage of chemicals must be according to the Manufacturers specifications.
- e) Persons handling the substances must be trained in its uses, dangers and precautions
- f) Adequate precautions must be taken when toxic substances are used, e.g. notices posted, demarcation and warning signs.
- g) Personal protective clothing must be provided and employers must ensure its correct usage and compliance with recognized code.
- h) Adequate measures must be taken to remove gases generated from the working environment.
- (i) In a case where bulk chemical storage is required and the chemical classified as flammable, a permit must be obtained from the Emalahleni Fire Department and the Duvha Power Station fire department must be notified of the existence of such bulk storage in order for pre fire plans to be updated accordingly.

6.3.5 Dust / Asbestos

- (a) All employees must be made aware of the inherent dangers of dust. Employers must take such measures as may be necessary to decrease the generation of dust and post warning signs.
- (b) The use of Thermal Insulation Materials containing asbestos is not allowed at Duvha Power Station. Where any process necessitates the breaking up, grinding, pulverizing, crushing or cutting of asbestos cement products the client agent/project manager must be notified immediately of the quantity and location.
- (c) Where employees are exposed to dusts such as silica, asbestos cement, fiberglass and cement, etc. adequate protective clothing and appliances must be provided.
- (d) Removal and disposal of asbestos containing material shall be done in line with the requirements of the Asbestos Regulations as per most recent revision.

6.3.6 Medical Examination CR7(8) CR10(2)(b) and CR 23(d)(ii)

- (a) The OHS Act 16(2) Designated person/Construction Supervisor 8(7) shall ensure that all the employees under his control undergo a medical examination consisting of a physical examination and audiometry, lung function, vision screening and where indicated by the type of work, Chest X-Rays before entering the premises to start work. The medical

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 18 of 29
--	---	----------------------------	------------------------------------

screening is to be conducted by an Occupational Health Practitioner. A certificate of medical fitness shall be kept on site in the Health and Safety file.

- (b) This will include psychological fitness evaluation for employees working at heights.
- (c) A man-job specification for every employee shall be submitted to the occupational health practitioner to assist in performing the required medical examinations.
- (d) No site SHE induction will be conducted without a valid proof of a medical certificate of fitness
- (e) A final decision by the Occupational Health Practitioner on the medical surveillance shall be done on the Annexure 3 of the Construction Regulations. Form attached at the end of this document)

6.3.7. Radiation

Non-destructive testing, commonly abbreviated NDT is simply defined as the testing of materials for surface or internal flaws without causing any destruction or harm to the material under test.

NDT is the most widely used chemical and physical inspection method to investigate the composition of materials by means of sound waves, electrical currents, X- and Gamma rays, magnetic fields, thermal waves and tracer liquids directed into and in most cases , penetrating the materials under test.

- Control or management of radiation is done according to Duvha Radiation Procedure HMS 0002.
 - People handling radiation sources wear dosimeters to measure their exposure to prevent unnecessary overexposure. These people undergo yearly medical surveillance and biological monitoring as per legal requirement.
 - Warning messages on ionizing radiation are displayed on all lift doors in the plant warning everyone on the radiation process taking place. Please adhere to those warnings to prevent unnecessary exposure incidents.
 - People are warned not to pick up pigtails, isotopes or any radiation sources as these are detrimental to health with serious consequences depending on the dosage that the person has been exposed to. In the event that these are seen they should be reported to EOD/Safety Department or Protective Services. The area will be barricaded at once and relevant processes will be followed to address the situation.
- Anyone conducting NDT requires accredited training and certification by the relevant body

6.3.8. First Aid Facilities

Every contractor shall have on site a first-aid box that is equipped as required by the OHS Act. Every contractor will comply with the requirements of the OHS Act, General Safety Regulations 3, regarding First Aid boxes and 5 regarding training of first aiders. Duvha provides a fully equipped Medical Station and Ambulance under the supervision of qualified Occupational Health Professional. In serious cases involving injury on duty contractors may make use of this facility.

- All injuries shall be reported to the Medical Centre or Fire Station before end of shift. The clinic closes at 16:00 after that the Fire Station with a paramedic on site takes over. The Fire Station is open 24 hours a day and over weekends and public holidays.

6.3.8 Fatigue management

Fatigue management is also a legal requirement in terms of the Basic Conditions of Employment Act 75 of 1997 and in Section 7: Regulation of working time:

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 19 of 29
---	---	----------------------------	------------------------------------

Every employer must regulate the working time of each employee -

- (a) in accordance with the provisions of any Act governing occupational health and safety;
- (b) with due regard to the health and safety of employees”.

Fatigue affects anyone, no matter whether you are management or a general worker, and it can impact on a person’s physical as well as mental abilities. Fatigue is also not limited to shift work, being on stand-by etc. Should an employee do traveling by road on behalf of the employer, it can bring about fatigue.

A fatigue management programme must be in place where such a risk has been identified irrespective of the position of the worker in the company.

6.3.9 Induction Training

All contractors will attend the client’s general induction training before an access permit will be issued. The client’s general induction will not replace the contractors own compulsory induction training or exempt any employer from his responsibilities or accountabilities. Visitors of the contractor will be required to undergo SHE induction before entering the workplace

A name list of people requiring SHE induction, written on the company letterhead, shall be submitted to the Safety Department when such a booking is made. This may be done electronically, by fax or hand delivered.

No contractor employee may work on site without Safety specific training. Induction training alone shall not be considered to be Safety specific training.

6.3.10 Personal Protective Equipment

The contractor’s Employer shall issue all his employees on site with SABS approved personal protective equipment.

The equipment shall be worn where required and where it is indicated by symbolic safety signs and as determined by the task risk assessment.

Personal protective equipment shall include, but will not be restricted to, the following:

- Head protectors (Hard hat shall be fitted with chin straps)
- Eye and face protection e.g. grinding, flame cutting
- Footwear
- Respiratory equipment e.g. dusty areas
- Hand protection e.g. material handling
- Hearing protection e.g. grinding, drilling
- Safety harness e.g. when working in position higher than 2m above ground level(double lanyard)
- Protective clothing e.g. overalls
- Personal protective equipment shall be maintained in a good and clean condition.
- The equipment shall be checked on a regular basis to ensure that it is being worn.
- Torn equipment should be replaced when necessary.
- Records of issue and routine inspection shall be kept for each employee.
- All PPE shall bear the company’s logo

No employee shall wear another company’s PPE unless employed by such company.

6.3.11. The following shall apply to height safety equipment:

- (a) Eskom procedure 32-418 (Working at heights) requirements shall be adhered to.
- (b) Inspect all equipment according to the manufacturer’s instructions. An inspection check sheet shall be compiled and used accordingly.

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 20 of 29
--	---	----------------------------	------------------------------------

- (c) If a fall has been arrested, remove all components of the system from service and follow the manufacturer's instructions for disposal. If required by the manufacturer, return the equipment to the manufacturer for inspection, repair, or recertification
- (d) Should it be found not to be fit for use, such equipment shall be removed from the register.
- (e) When not in use, fall protection equipment should be stored in a cool, dry and clean place out of direct sunlight. Avoid areas where heat, moisture, light, oil, chemicals (or their vapors) or other degrading elements may be present.
- (f) Equipment that is damaged or in need of maintenance should NOT be stored in the same area as usable equipment. Heavily soiled, wet or otherwise contaminated equipment should be properly cleaned and dried prior to storage.
- (g) Prior to using equipment which has been stored for long periods of time, a formal inspection by a competent person should be performed.

6.4 .Environmental Requirements

Duvha Power Station is ISO 14001 compliant and management would not like anything to jeopardize this achievement

Contractors are required to develop and maintain their Environment Management Plans. The basic elements of an EMS complying with ISO 14001 are:

- 4.7.12.1 A list of potential environmental impacts;
- 4.7.12.2 Set of operational procedures for monitoring, controlling and reducing impacts, and recording the results; and
- 4.7.12.3 Procedure for internal audits of the procedures.

Environmental Management Plans (EMP's) should contain the following components:

- Summary of Impacts: The predicted negative environmental impacts for which mitigation is required and should be summarized.
- Description of mitigation measures: The EMP identifies feasible and cost effective mitigation measures to reduce significant negative environmental impacts to acceptable and legal levels. Mitigation measures should be described in detail and be accompanied by designs, equipment descriptions, and operating procedures.
- The technical aspects of implementing the mitigation measures should be described.
- A monitoring programme should be highlighted to ensure compliance to plans. Regular reviews of the company's environmental performance are necessary during the operational phases of a project to ensure procedures are appropriate, and to ensure that environmental objectives and targets are being achieved.
- Employees should undergo environmental awareness training. This should be in addition to any specific detailed training they may require to conduct monitoring. Environmental awareness training is critical for the employees to understand how they can play a role in achieving the objectives specified in the EMP.
- Non-compliance to the Duvha environmental requirements or the National Environmental Management Act may have negative contractual consequences as determined by the Client Agent and contract conditions
- Waste should be disposed of only in the correct waste containers as per Duvha requirement.
- Hazardous waste should be disposed of in the correct way at a licensed disposal site. A copy of the hazardous waste disposal certificate must be submitted to the Client Agent.

Below is a guide in terms of how different type of waste should be disposed at Duvha Power Station:

Colour	Waste Type
--------	------------

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A	REV	Page
	DOC ID NUMBER SAS0012	8	21 of 29

(Bins & Skips)	
Red	Hazardous waste (which includes sulphur, soiled PPE, FFB's, fluorescent tubes, asbestos)
White	Domestic (which includes office waste)
Yellow	Coal & Ash discards
Maroon	Scrap Metal
Brown	Oil rags / absorbent

6.5 Permit to Work, Lock-Out Procedures, Safe Work Procedures

A Permit To Work is required before any work is carried out on the plant at Duvha Power Station. A contractor should have positive verification that a valid Permit To Work is in place prior to commencing with any work. It is the right of any contractor to refuse to start work without a valid Permit to Work.

The Responsible Person shall ensure that:

- The conditions of permits are strictly adhered to.
- That lock-out procedures, mechanical as well as electrical, are strictly adhered to and any deviations are corrected immediately.
- That safe work procedure as laid down by Duvha Power Station and as determined by the Risk Assessment shall be followed.

6.7 Life Saving Rules:

Eskom-Duvha Life Saving Rules:

What are they and what are the consequences of non-compliance at Eskom?

- Lifesaving rules, previously known as Cardinal rules are.....“Non-negotiable Rules”
- Lifesaving Rules are rules that describe such extreme behavior that all reasonable employees would agree that anyone guilty of knowingly and wilfully violating one of them is putting their life in jeopardy.
- These rules are generally determined in terms of the consequences of the behaviours they describe, i.e. if a particular set of behaviours or actions have a very high probability of causing disabilities or fatalities, when performed.
- These rules are created to enforce “zero tolerance” of serious at risk behaviours.

6.7.1 Five rules have been developed that will apply to all Eskom employees and contractors;

1. Open, Isolate, Test, Earth, Bond and/or Insulate before Touch
2. Hook up at Heights
3. Buckle Up
4. Be Sober
5. Ensure that you have a Permit to Work

6.6.2 Duvha has additional two (2) Life Saving rules supplementing those above:

6. Wear the correct Personal Protective Equipment (PPE) at all times
7. Report all injuries. Refer MPP0033, OHSAct Section 14. (e)

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 22 of 29
---	---	----------------------------	------------------------------------

6.7.3 Consequences of Violating a Life Saving Rule

- In terms of general health and safety in Eskom if any of the Life Saving rules is not adhered to, it will result in a disciplinary process, which will have the power of dismissal.
- It must be highlighted that Eskom takes a ZERO TOLERANCE stance to violation of these rules and will therefore push for a sanction of dismissal during a disciplinary hearing.
- If a Life Saving Rule is broken the consequences will be applied consistently and uniformly throughout the business.

For more information on the Life Saving rules please contact the Safety Risk Department at 013-6900143.

7.0 Principal and Contractor SHE Requirements (CR 7)

- The Contractor is to ensure that he/she has a thorough understanding of the requirements of the OHS Act and its regulations, and that he/she has a thorough understanding of the implications to him/her as a contractor.
- Any person who employs or uses the services of a child worker must comply with the requirements of Regulations on Hazardous Work by Children in South Africa ("Child" means a person under 18 years old)

7.1 Planning and Documentation

Planning should be based on the scope of work as provided in the invitation to tender. The project-specific risks should be addressed in the planning as well.

7.2 The following documentation must be submitted with the tender submission for evaluation purposes:

- Proof of good standing with the compensation fund or with a licensed compensation insurer [CR 7(1)(c)](iv)
- Proof that provision for the cost of health and safety measures have been made during the construction process [CR 7(1)(c)](ii)
- A copy of the Safety, Health and Environmental policies of the Contracting Company

• A completed check sheet on site establishment (SAS0012-) shall be handed over to Safety Risk Management as soon as company has had the site identified with client agent or project manager.

7.3 Risk Assessment (CR 9.(1))

7.3.1 A risk assessment is defined as an identification of the hazards present in an organization and an estimate of the extent of the risks involved, taking into account whatever precautions are already being taken.

It is a legal requirement in terms of Section 8 (2)(d) of the OHS Act for an employer and Construction Regulations 9(1) for contractors to carry out risk assessments to establish what hazards regarding health and safety of persons are attached to any work which is performed,

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 23 of 29
--	---	-----------------	-------------------------

any article or substance which is produced, processed, used, handled, stored, transported and any plant or machinery which is used in his/her business and he/she shall as far as reasonably practicable further establish what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons and shall provide the necessary means to apply such precautionary measures. It is essentially a three stage process:

- Identification of all hazards;
- Evaluation of the risks;
- Measures to control the risks

It is the responsibility of the contractor to include within their risk assessment process how they intend to protect the health and safety of members of the public where their activity as per scope of work is likely to affect such members of the public, thus safeguarding Eskom's name and reputation

7.3.2 Every contractor performing construction work shall, before the commencement of any work or work associated with the construction work, and during construction work, ensure that a risk assessment is undertaken by a competent person, appointed in writing, and the risk assessment shall form part of the health and safety plan to be applied on the site

7.3.4 In terms of Regulation 5(1), a principal contractor shall provide and demonstrate to Duvha Power Station a suitable and sufficiently documented health and safety plan, based on Duvha Power Station's documented health and safety specifications, which shall be applied from the date of commencement of and for the duration of the contracted work.

7.3.5 This risk assessment needs to be submitted to the Agent for approval prior to the commencement of construction work. This risk assessment should take into account, but not be limited to the project-specific risks supplied by Eskom.

7.3.6 The Contractor shall ensure to demonstrate through his risk management process the hierarchy of controls stipulated as follows;

- Eliminate
The complete elimination of the hazard.
- Substitute
Replacing the material or process with a less hazardous one.
- Redesign
Redesign the equipment or work process.
- Separate
Isolating the hazard by guarding or enclosing it.
- Administrate
Providing control such as training, procedures etc.
- Personal Protective Equipment (PPE) All PPE shall be risk based and inspected before use.
- Use of appropriate and properly fitted PPE where other controls are not practical.
(PPE as the last resort)

7.3.7 Risk assessment must be risk ranked and a risk matrix needs to be attached.

7.3.8 Risk assessments are required to be maintained. This means that significant changes to a process or activity, or any new process, activity or operation, should be subjected to a risk assessment and that if new hazards come to light during the work process or following a serious accident, then these should also be subjected to risk assessments.

TITLE :	ALLOC CENTRE:	REV	Page
SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	03A		
	DOC ID NUMBER	8	24 of 29
	SAS0012		

7.3.9 Risk assessments for long term processes should be periodically reviewed and updated

7.3.10 Risk assessment document must have Duvha Power Station Project details (contract number, Project name and area) on it and also signed and acknowledged by the person who developed and approved by the company Agent

7.3.11 Risk assessment must be acknowledged by the management and communicated to all employees of the company.

All after hours work is considered High Risk Activity and contractors shall ensure that supervision is present on site at all times. This requirement is compulsory.

7.4 Demolition Work Safety Requirements (CR 14)

7.4.1 All contractors must adhere to safe work practices. Before beginning any demolition work, an Engineering Survey Report is required. Once demolition work has started, there will be additional safety requirements for various activities. A Competent Person is required to conduct the Engineering Survey prior to beginning any demolition work. The purpose of the Engineering Survey is to thoroughly evaluate the project to identify potential hazards and develop controls to prevent accidents occupational health hazards including asbestos, hazardous chemical substances, etc.

7.4.2 It is the responsibility of the person, who intends to demolish an installation or a building that contains asbestos insulation or asbestos lagging, to ensure that before demolition or alteration commences that all asbestos and asbestos-containing materials during demolition work that may release airborne asbestos fibres are identified and appropriately attended to.

7.4.3 A method statement must be compiled detailing the process to be followed before the demolition work may commence. Safety is paramount, and the local Department of Labour will need to be notified by the demolition contractor on the method that will be used to demolish a structure or installation.

7.4.4 Amongst others, contents of the method statement need to address specific safe work procedures and practices and safety equipment that should be in place when demolition activities begin. The statement should be tailored to the specific demolition tasks being undertaken.

7.5 Health and Safety Plan (CR 7.1(a))

The successful contractor to whom a contract has been awarded must prepare and submit to the client for approval, a health and safety plan as contemplated in the Construction Regulations Section 7(1). This health and safety plan should address all the relevant issues from the Construction Regulations as well as the Duvha-specific requirements.

Where applicable the health and safety plan should at least cover the proof of notification of construction work to the provincial director [CR 4(1.)

A contractor who intends to carry out any construction work other than work contemplated in regulation 3(1), must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will

- include excavation work;
- include working at a height where there is risk of falling;
- include the demolition of a structure; or
- include the use of explosives to perform construction work.

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 25 of 29
---	---	-----------------	-------------------------

7.6 Health and Safety File

A Health and Safety File of the Principal Contractor should be available on site and should at least contain the following:

- All items specified in the health and safety plan as well as the approval of the safety plan by the client
- All notifications received from the client i.t.o. CR 4. (1)
- A copy of the appointment as principal contractor i.t.o. CR 5(1) (k)
- A copy of all audits performed by the client i.t.o. CR 5(1) (o) as well as proof that issues that were identified have been addressed
- All notifications by the client for work to stop i.t.o. CR 5(1) (q) as well as proof those corrective actions were taken
- All notifications from the client on changes to the design or construction where it affects health and safety i.t.o. CR 5(1) (r)
- Record that contractor, making a bid to do construction work for the Principal Contractor was, provided with a copy of the health and safety specification [CR 5(1) (b)]
- Appointments of all contractors doing construction work for the Principal Contractor [CR 7(1) (c)]
- Audits performed on contractors i.t.o. CR 7 (1) (c) (vii)

The Client and/or its Agent on its behalf reserves the right to conduct any other ad hoc audits and inspections as it and/or its Agent on its behalf deem necessary. A representative of the Principal Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Client and/or its Agent on its behalf on all audits and inspections. The Client and/or its Agent on its behalf must provide the contractor with the audit report in order for corrective actions to be addressed.

- Any notifications to contractors to stop work i.t.o. CR 7(1) (c) (viii)
- Any notifications to contractor about design changes i.t.o. CR 7(1) (c) (ix)
- Proof that any contractor doing construction work for the Principal Contractor is in good standing with the compensation fund [CR 7(c)(iv)]
- Proof that all contractors doing construction work for the Principal Contractor have made provision for the cost of health and safety measures i.t.o. CR 7(1) (c) (ii)
- The health and safety plan for all contractors doing construction work for the Principal Contractor i.t.o. CR 7(1) (a)
- A comprehensive and updated list of contractors on site accountable to the principal contractor, the agreements between the parties and the type of work i.t.o. OHSAct 37.2
- An evaluation of the competencies and resources of the contractors appointed by the Principal Contractor i.t.o. CR 7(2) (c)
- The appointment of the construction supervisor, as well as proof of his competence, [CR 8(7)] and if competent employees are appointed to assist him, the same is required for them [CR 8. (8)].
- No construction supervisor appointed under subregulation (7) may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated under subregulation (7) on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.
- The consideration of the appointment of a safety officer [CR 8(5)], and if as a result of this consideration, it is decided to appoint such a safety officer, then the appointment of the safety officer and proof of his competence [CR 8(5)] should be in the file as well.

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 26 of 29
---	---	----------------------------	------------------------------------

- The appointment and proof of competence of the person doing the risk assessment i.t.o. CR 9(1).
- A copy of the risk assessment [CR 9(1)] (a) – (e)
- Proof of consultation on the risk assessment i.t.o. CR 9(3).
- Proof of instruction and training of employees i.t.o. CR 9(3)
- Proof those contractors have been informed of hazards i.t.o. CR 9(3)
- Proof that ergonomic related risks have been considered i.t.o. CR9 (2)
- Records of induction carried out i.t.o. CR 7(5) – 7(7)
- Records of induction carried out i.t.o. CR 7(7)
- Principal Contractor shall submit monthly staff complement and man hours to Safety Risk Management by the 3rd of each month. (SAS0012)

IMPORTANT: The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its Agent on its behalf at the time of completion of the project. Every contractor shall be in possession of the most recent copy of the Occupational Health and Safety Act, 1993, as amended.

7.7 Operational responsibilities for occupational health and safety (SHE Appointments)

- (a) The principal contractor shall appoint designated competent employees and/or other competent persons to assist with the operational responsibilities for occupational health and safety.
- (b) These appointments must be in writing and the responsibilities clearly stated together with the period for which each appointment is made. This information must be communicated to and agreed with by the appointees who will sign the appointment letter.
- (c) The principal contractor must provide Duvha Power Station with an organogram listing the staff, their designations and their responsibilities for all contractors that he has appointed or intends to appoint and keep this list updated as and when changes occur.

8.0 Housekeeping

Good housekeeping will be maintained at all times. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

8.1 A contractor must, in addition to compliance with the Environmental Regulations for Workplaces (ERW), 1987, promulgated by Government Notice No. R. 2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each site, including -

- (a) the proper storage of materials and equipment;
- (b) the removal of scrap, waste and debris at appropriate intervals;
- (c) ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;
- (d) ensuring that materials which are no longer required for use do not accumulate on and are removed from the site at appropriate intervals;
- (e) ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in CR 14(6);
- (f) ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and

TITLE :	ALLOC CENTRE:	REV	Page
SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	03A		
	DOC ID NUMBER	8	27 of 29
	SAS0012		

(g) ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger or possibility of persons being struck by falling objects.

8.2. The Contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project. Fully rehabilitate (e.g. clear and clean area, rake, pack branches etc.) all disturbed areas and protect them from erosion.

This list must not be taken to be exclusive or exhaustive!

NOTE: Form 03A SAS0012-2 shall be used to check compliance of the contractor to the Contractor Health and Safety requirements at Duvha Power Station.

9.0 Behaviour Based Safety

The objective of behavioral safety observations is to assess and address the actual safe and unsafe behaviours of people in the workplace; as well as workplace conditions - which are caused by the actions or non-actions of employees, contractors or their supervisors.

The intent of the behavioral observation process is for management to be visible in the workplace, and for them to

- recognize and encourage positive behaviours so that they are sustained
- immediately address and correct unsafe behaviours and conditions
- provide a two-way communication channel to discuss health and safety achievements and concerns with employees, contractors and visitors

In order to conduct behavioral safety observations effectively, it is advisable that observers go through the appropriate behavioral observation training. Contractor site managers and supervisors must obtain the training schedule from Safety Risk Management and conduct their weekly observations within their teams .A plant walk down schedule is available and contractor site management and safety officers shall form part of the walk down.

Unsafe conditions or acts must be corrected and good safety practices commended and encouraged.

10.0 Important Numbers

Department	Responsible for	
Electrical Operating Desk (EOD)	Emergency Incident Reporting	2222
Medical Centre	Medical Services	2179/2280/2386
Security/Protective Services	Security related issues	2894/2518/2120/2284
Fire Station	After Hours Injuries on Duty; Hot work permits; Fire Incidents	2953/2199
Safety Risk Management	All Occupational Hygiene and Safety related matters	2143/2474/2470/2339/2949 Fax 013-6900407
Environment Department	All environmental related matters(Office hours,	2320

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A DOC ID NUMBER SAS0012	REV 8	Page 28 of 29
--	---	----------------------------	------------------------------------

11.0 Annexures

Up to date versions of the following forms are used with this procedure.

- 03A SAS0012-1 Project – specific risks
- 03A SAS0012-2 Construction Regulations Checklist
- 03A SAS0012-3 (this form is replaced by Hyperwave doc 240-59678141 Section 37(2)
Agreement Form (April 2015)
- 03A SAS0012-4 Construction Regulation Audit Checklist
- 03A SAS0012-5 Contractor Monthly Statistics Form
- 03A SAS0012-6 Environmental Requirement Checklist
- 03A SAS0012-7 Contractors Specifications- Notification Of Construction Work
- 03A SAS0012-8 Contractor Site Establishment Checklist
- 03A SAS0012-9 Contractors Specifications- Excavations Permit

TITLE : SAFETY, HEALTH & ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTORS	ALLOC CENTRE: 03A	REV	Page
	DOC ID NUMBER	8	29 of 29
	SAS0012		

ANNEXURE 3
OCCUPATIONAL HEALTH AND SAFETY ACT NO.85 OF 1993: Construction Regulations.
2014

Medical Certificate of Fitness

Name of Employee _____ ID Number _____ Co. Number _____

Occupation e.g. General Worker; Welder; Bricklayer; Steel fixer; Mobile Crane Operator, etc.	*Possible Exposures e.g. noise, heat, fall risk, confined space, etc.	*Job Specific Requirements e.g. Operating Mobile Crane, Digging Trenches, Erecting Formwork and Support work etc.	*Protective Equipment e.g. Dust Respirator (Light Duty), Welding Gloves etc.

The Employer to complete the information in the spaces marked with an * before sending the Employee for a medical examination

Declaration by the Medical Examiner:

I certify that I have, by examination and testing, using the above criteria specified by the employer, satisfied myself that the abovementioned employee is fit to perform the duties as described by the employer in the matrix above.

Occupational Medicine Practitioner / Occupational Health Nursing Practitioner (Please Print Name) _____

Signature _____ Practice Number: _____ Date: _____
Address: _____