

	<b>SAFETY, HEALTH AND ENVIRONMENTAL (SHE) SPECIFICATION</b>	<b>AME: Transmission Division</b>
---	---	---------------------------------------

Title: **Apollo CS: 11 KV Breaker Replacement** Document Identifier: **240-73198174**  
**-MV indoor primary switchgear**  
**Replacement Project**  
**(Apollo Grid)**

Project Reference Number:  
**CTXS0901**

**Compiled by**



**David Pelesane**

**Snr Safety Advisor**

Date: 19/09/2016

**Supported by**



**S. Mathews**

**Project Manager**

Date: 19/09/2016

**Authorized by**



**C. Potgieter**

**Programme Manager**

Date: 19/9/16

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

Hard copy printed on: 20 September 2016

<b>Content</b>	<b>Page</b>
1. Introduction .....	6
2. Supporting Clauses .....	6
2.1 Scope.....	6
2.2 Purpose.....	6
2.3 Applicability .....	6
3. Normative/Informative References .....	7
3.1 Normative.....	7
3.2 Informative .....	7
4. Definitions .....	8
5. Abbreviations.....	10
6. Roles and Responsibilities.....	11
6.1 Commitment.....	11
6.2 Principal Contractor's accountabilities for their Contractors .....	11
7. Management and Supervision of Construction Work .....	12
8. Construction Health and Safety Manager/s and Officer/s .....	12
9. Process for Monitoring.....	12
10. Document Content .....	13
10.1 Scope of work .....	13
11. SHE Specification.....	14
11.1 Principal Contractor Organogram .....	14
11.2 Principal Contractors .....	15
11.3 Compliance and Non-Conformances.....	15
11.4 Legal and Other Requirements .....	15
12. Section 37 (2) (Legal) Agreement.....	16
13. Hazardous Work by Children (Child Labour) .....	16
14. OHS Act .....	17
15. SHE/Q Policy.....	17
16. Costing for SHE.....	17
17. Appointment of a Principal Contractor .....	17
18. Appointment of Contractors .....	17
19. Appointments and Competencies .....	18
20. Training .....	18
21. Site Induction .....	18
21.1 General construction site induction carried out by the Principal Contractor .....	18
21.2 Visitors to Site .....	18
22. Access and Security Control.....	19

**CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

23. Contractor's Site Facilities .....	19
24. Public Safety .....	20
25. Project and Site Rules (Zero Harm to People and the Environment) .....	20
26. Disciplinary Process .....	22
27. Hazard Identification and Risk Assessment.....	22
28. High Risk Activities .....	22
29. Pre-Task Risk Assessment.....	23
30. Safe Work Procedures and Practices .....	23
31. Planned Task Observations (PTO) .....	23
32. Work at Elevated Positions and Roof Work .....	24
33. Occupational Health, Rehabilitation and Hygiene .....	25
33.1 Compensation of Occupational Injuries and Diseases Act (COIDA) .....	25
33.2 Occupational Hygiene Management Program .....	25
33.3 Employee Health and Wellness Programme .....	26
33.4 Medical Surveillance Programme .....	26
33.5 Emergency Care .....	27
33.6 Employee Assistance Programs (EAP) .....	27
33.7 Rehabilitation .....	27
34. Emergency Preparedness and Response .....	27
35. Site plans .....	28
36. Fire hazard .....	28
37. Waste.....	28
38. Material requirement.....	28
39. Dust and Noise.....	28
40. Signing off of the contract .....	29
41. Construction Vehicles and Employee Transportation.....	29
42. Housekeeping .....	30
43. Signage .....	31
44. Personal Protective Equipment (PPE) .....	31
44.1 Issue, Replacement and Control of PPE .....	32
45. Machinery, Tools and Equipment .....	32
46. Machine Guarding .....	33
47. Hand Tools and Pneumatic Tools.....	33
48. Offices sites.....	34
49. Electrical Installations and Machinery on Construction sites.....	34
50. Work Stoppage.....	34

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

51. SHE Audits.....	35
52. Compliance and Approval of Contractor SHE Plan.....	35
53. Contractor SHE Performance Evaluation.....	36
54. Internal Audits .....	36
55. SHE Plan Audits.....	36
56. Investigation of Fatalities / Injuries / Diseases / Near Misses (Principal Contractor and Contractors) .....	36
57. Health and Safety Behaviour Observations and Inspections.....	38
58. Monthly SHE Statistical and Non-Statistical Reports .....	38
59. Contractors SHE Plan .....	39
60. Omissions of this SHE Specification.....	39
61. SHE File .....	39
62. Hours of Work .....	39
63. Employees' right of refusal to work in an unsafe situation.....	40
64. Contract Sign Off.....	40

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

**1. Eskom Project Manager: Susha Mathews**

The discipline/contract manager is responsible for managing the contract with the Principal Contractor and ensures that the SHE specifications are developed and issued with tender enquiries and that the Principal Contractor's SHE plan is approved prior to commencement of work. He must ensure that all the statutory, Eskom, SHE specification and SHE plan requirements are adhered to by Principal Contractor and (if applicable) their contractors at all times

**2. Eskom Project/site Supervisor:**

He is responsible for the overall management of the project on-site and is accountable to the Discipline/Contract Project Manager.

**3. Eskom Health and Safety Manager/ Practitioner: David Pelesane**

The responsibility of the Health and Safety Manager/Practitioner is to provide assurance, as well as advice, assist and support to the **Project /Site Manager** in the management of the health and safety issues on the project which includes ensuring proper co-ordination amongst the various Contractors. The SHE Manager/Practitioner will also be responsible for assisting in the development of site and project specific SHE Specifications, and ensuring that SHE specification is issued with enquiry documents and that the Contractors SHE plans are submitted; evaluated and approved. She/he will be responsible for auditing and ensuring compliance to legal requirements.

**CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

## **1. Introduction**

The aim of the Safety, Health and Environmental (SHE) specification is to make Contractor/s and suppliers/national contracts aware of the risks relating to the scope of work, the project site as well as the project specific SHE and the Eskom requirements that they need to adhere to in order to demonstrate their commitment towards the zero harm of the environment and persons working on site and/or visiting the site and during the manufacturing/transporting of equipment's related to Eskom.

Eskom strives to exceed the minimal SHE standards prevailing throughout construction projects and requires full commitment from all parties to be pro-active and actively achieve best SHE business practice.

The SHE Specification shall be included with the tender enquiry documentation to ensure that the tenderer is timeously made aware of:

- Eskom's requirements, including
- Information that might affect the health and safety of any person at work whether directly or indirectly;
- Activities that may have an impact on the direct and surrounding environment.

The Principal Contractor and their contractors are expected to develop a SHE plan which meets these requirements as well as the relevant applicable legislation.

This specification may not thoroughly address all hazards and aspects associated with any specialised activity or operation. In such situations, contractors shall be responsible for developing their own health and safety plans/procedures/manuals/work instructions to adequately address their specialised activities and scope of operation.

## **2. Supporting Clauses**

### **2.1 Scope**

This specification sets out the minimum legislative and organisational requirements for construction work that is specific to the scope of work, site and type of project.

### **2.2 Purpose**

Indicate to all potential types of contractors the SHE requirements on the project, upon which their planning for the management of SHE will be based on and thus produce their SHE plan.

### **2.3 Applicability**

This specification is applicable to all Principal Contractors, Contractors, Service Providers, Suppliers and all the activities and processes carried out for and on behalf of Eskom Transmission construction (AME) work are performed.

For best practice reasons, where the work scope does not fall within the definition of Construction Regulations 2014 this specification shall also apply as a minimum.

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

### 3. Normative/Informative References

Parties using this specification shall apply the most recent edition of the documents listed below.

**Note:** Where the date for revision of a document on the Eskom Document Centre website has passed, the document is still current, irrespective of its revision date having passed.

#### 3.1 Normative

- [1] 32-727: Safety, Health, Environment and Quality Policy
- [2] 240-62196227: Life-saving Rules Standard
- [3] 240-62946386 Vehicle & Driver Safety Management Procedure
- [4] 32-37 Substance Abuse
- [5] 32-136 Contractor Health and Safety Requirements
- [6] 32-95 Eskom Environmental, Occupational Health and Safety Incident Management procedure
- [7] 32-93 Eskom Vehicle and Driver Safety Management
- [8] 240-43848327 Employees' right of refusal to work in an unsafe situation
- [9] 32-418: Working from Heights Procedure
- [10] 32-520: Procedure Manual for Performing Occupational Health and Safety Management and Environmental Management: Conducting EH&S Risk Assessment
- [11] 32-407 Behaviour Safety Observation Procedure
- [12] Occupational Health and Safety Act and Regulations No 85 of 1993
- [13] Construction Regulations of 2014 or latest edition as per government gazette.
- [14] 32-726: SHE Requirements for the Eskom Commercial Process
- [15] 32-524 Manual, Developing a SHE Specification
- [16] National Environmental Management Act No 107 of 1998
- [17] 32-1134 Access Control at Eskom Premises
- [18] All relevant South African legislation-provincial, municipal by-laws

#### 3.2 Informative

**Note:** The following is a list of documents that can be used as a guide in order to meet legal and Eskom requirements

- [1] OHSAS 18001:2007, Occupational Health and Safety Management systems-Requirements
- [2] ISO 9001: 2008 Quality Management Systems- Requirements
- [3] ISO 14001:2004, Environmental Management Systems Specification with guidance for use
- [4] Relevant South African National Standards for the task/Project.

#### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

#### 4. Definitions

**Agent:** means a competent person who acts as a representative for a client.

**Baseline risk assessment:** (32-520) baseline operational risks refer to the health and safety risks associated with all standard processes and routine activities in the business.

**Client:** any person for whom construction work is being performed.

**Competent Person:** means:

a person who 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 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 is familiar with the Act and with the applicable regulations made under the Act;

**Contractor:** means an employer as defined in section 1 of the Act who performs construction work and includes principal contractors. In relation to this document, where the word "contractor" is used, it will mean all or some of the following: principal contractors, appointed contractors, suppliers, vendors, service providers and consultants.

**Construction Work:** means any work in connection with:

- The construction, erection, alteration, renovation, repair, demolition or dismantling of, or addition to, Building or any similar structure;
- The construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runaway, 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.

**Construction site:** means a work place where construction work is being performed

**Critical Lifts:** There are categories for which a lift can be defined as a Critical Lift; (1) any lift weighing in excess of 20 tons, (2) any lift involving a crane suspended work platform (man cage), (3) any lift over critical operating and/or process equipment and (4) any lift that exceeds 85 % of the crane's load chart (5) any lift that utilises more than one lifting device (Tandem Lift).(6) Load transfers.(7) night lifting.

#### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.



**Eskom Requirements:** Eskom requirements which evolve from directives, policies, standards, procedures, specifications, work instructions, guidelines or manuals.

**Fall Protection Plan:** means a documented plan which includes and provides for:

All risks relating to working from a fall risk position, considering the nature of work undertaken, the procedures and methods to be applied in order to eliminate the risk of falling, and a rescue plan and procedures.

**Hazard:** means a source of, or exposure to danger

**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

**Medical surveillance:** means a planned programme or periodic examination (which may include clinical examinations, biological monitoring, or medical tests) of employees by an occupational health practitioner or, in prescribed cases, by an occupational medicine practitioner

**Method Statement:** is a written document detailing work procedures and sequences of operations.

**On Site/At Site:** Any workplace where the contractor or his employees performs contract related work.

**Planned Task Observation:** is an independent observation made during the planned period in which the task is being executed.

**Pre-Task Risk Assessment (DSTI):** a meeting which is held prior to the commencement of the day's work with all relevant personnel associated with the work task in attendance.

**Risk:** the probability that injury or damage will occur.

**Risk Assessment:** means a programme to determine any risk associated with any hazard at a construction site in order to identify the steps needed to be taken to remove, reduce, or control such hazard.

**Safety Health and Environmental file:** means a file or other record in permanent form, containing the information on the SHE management system during construction including all information relating to construction phase after the handover to Client.

**Safety, Health and Environmental Plan:** means a written plan that addresses hazards identified during the risk assessment process as well as the identified impacts in the SHE specification. This would typically include safe work procedures to mitigate, reduce or control the hazards identified and is specific to each construction project undertaken. This is usually compiled by the Principal Contractor or contractor and approved by the Client/Agent for which contracting work will be performed.

#### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

**Safety, Health and Environmental (SHE) Specification:** including the base line risk assessment: means a documented specification of significant residual SHE requirements for a construction site, which a competent and resourced Principal Contractor or sub-contractor would not have been aware of. This is to ensure the health and safety of employees and the direct and indirect communities, as well as duty of care for the environment. The Client/Agent compiles the SHE specification which shall be specific to each construction project.

**Safe Work Procedures:** Safe work procedures are a series of specific steps that guide a worker through a task from start to finish in a chronological order. Safe work procedures are designed to reduce the risk by minimizing potential exposure.

## 5. Abbreviations

Abbreviation	Explanation
COID Act	Compensation for Occupational Injuries and Diseases Act
CR	Construction Regulations 2014
DMR	Driven Machinery Regulations
DOL	Department of Labour
DSTI	Daily Safety Task Instruction
GSR	General Safety Regulations
HCS	Hazardous Chemical Substances
HIRA	Hazard identification and risk assessment
HV	High Voltage
JSA	Job Safety Analysis
LTIR	Lost Time Incident Rate
NEC	New Engineering Contract
NEMA	National Environmental Management Act
NWA	National Water Act (Act No. 36 of 1996), as amended
NQF	National Qualifications Framework
OHNP	Occupational Health Nursing Practitioner
OHS Act	Occupational Health and Safety Act No. 83 of 1993
OHS	Occupational Health and Safety
ORHVS	Operating Regulations for High Voltage Systems
PPE	Personal Protective Equipment
PTO	Planned Task Observations
RoD	Record of Decision
SACPCMP	South African Council for the Project & Construction Management Professions
SAQA	South African Qualifications Authority.
SHE	Safety, health, and environment

### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

## 6. Roles and Responsibilities

### 6.1 Commitment

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

### 6.2 Principal Contractor's accountabilities for their Contractors

- In the event that the Principal Contractor needs to introduce a new contractor, the Principal Contractor must first inform the Client. Such contractors must, in every respect, meet the Client's SHE requirements.
- Should the Principal Contractor appoint a contractor, the principal contractor would then have the same role and responsibility in relation to the contractors, in a similar way as the Client has in relation to the principal contractor.
- The Principal Contractor is directly accountable for the actions of his contractors. The Principal Contractor will also be responsible for initiating any remedial action (recovery plan) that may be necessary to ensure that the contractor complies with all requirements.
- The Principal Contractor shall ensure that the contractors appointed have the necessary competencies and resources to perform the work safely.
- The Principal Contractor shall provide any contractor who is making a bid or appointed to perform construction work, with the relevant sections of the documented SHE specification, who would in turn provide the client/agent with a SHE plan for review.
- The Principal Contractor shall carry out audits on the contractor at least monthly to ensure that their SHE plan is being implemented and maintained.
- The Client/Agent and/or the Principal Contractor shall stop any contractor from executing construction work which poses a threat to the safety and health of persons or the environment or if it does not comply with the approved SHE plan.
- The Principal Contractor shall have a disciplinary process and an organisational structured procedure to deal with employees who have transgressed organisational and legal requirements.
- The Principal contractor's Construction Manager/Supervisor shall provide a list of names and contact telephone numbers of all his employees as well as the contractor employees on site. This list shall be updated as and when new contractors commence on site.
- The Principal Contractor's Construction Manager/Supervisor shall keep a record of all employees including the contractor employees, including date of induction, relevant skills and licenses, and be able to produce this list at the request of the relevant officials. These records shall be filed in the SHE File.
- The Principal Contractor shall ensure that his managers and supervisors give clear and unambiguous instructions for the work in hand to the personnel for whom they are responsible for. The instructions shall include, but not necessarily be limited to:

#### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

- description of the objective/scope of work
- sequence of work/method statements
- hazard identification and risk assessment (prior to commencement of work)
- Precautionary/preventative measures that are to be taken.
- Identification of sensitive features that may be impacted upon by the project.
- Employees are responsible for their own health and safety and that of their co-workers in their respective areas of work on the project. They must be made aware of their responsibilities during induction and awareness sessions some of which are:
  - Familiarising themselves with their workplaces and health and safety procedures.
  - Working in a manner that does not endanger them or cause harm to others.
  - Keeping their work area tidy.
  - Reporting all incidents/accidents and near misses
  - Protecting fellow workers from injury.
  - Reporting unsafe acts and unsafe conditions.
  - Reporting any situation that may become dangerous.
  - Carrying out lawful orders and obeying health and safety rules.
- Every employee must undergo site induction provided by the Client before commencement of the contracted work. Only once this induction has been received, will each employee receive a site access permit.
- It must be highlighted to all employees, that anyone who becomes aware of any person disregarding a health & safety notice, instruction or regulation shall immediately report this to the person concerned. If the person persists, stop the person from working and report the matter to the Eskom Site/Project Manager and the Principal Contractor Supervisor immediately.

## **7. Management and Supervision of Construction Work**

The Principal Contractor shall ensure that the performance of all specified work is managed and supervised in accordance with the requirement of OHS Act CR 8 throughout the contract period.

The number of appointed persons shall be determined by the size and the risk of the project. Construction Manager shall be registered with the **SACPCMP**.

## **8. Construction Health and Safety Manager/s and Officer/s**

The Principal Contractor and contractor shall appoint a Construction Health and Safety Manager and officers considering the nature and the scope of work being performed in accordance with the requirement of CR 8 (6) and these appointees shall be registered with the **SACPCMP**.

### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

## **9. Process for Monitoring**

This document is subject to document control procedures and will be updated when it is due for revision or when conditions dictate.

## **10. Document Content**

### **10.1 Scope of work**

#### **1 PROJECT DESCRIPTION**

##### **Electrical works and scope of work high level sequence for Option 1**

1. Perform all minor modifications for the existing switchgear room where applicable.
2. Fit contractor safety barriers against the risk of internal arc venting while performing the project on the first set of the de-energised panels, while the other part is still energised and a risk to the contractors performing the replacement scope of works
3. Decommission, disconnect and remove the first set of panels. This will include all required MV cable disconnections between the two opposite panel sets where required.
4. Design, supply, deliver and install the single busbar withdrawable pattern MV indoor primary switchgear panels in the switch room as per OEM design drawings and OEM installation manuals. It is required that the OEM also supply and install the steel support structures to ensure the switchgear can be installed on top of the existing trenches. It is also required to supply plates to cover all trenches.
5. Install and connect the on board protection schemes.
6. Install and commission the internal arc sensors and related protection scheme.
7. Re - install and re-connect the existing ABB control system.
8. Install the LV power and control cables for the switchgear panels.
9. Perform cross trenching to locate existing cables and services where applicable for MV cable system work.
10. Install the cable feeder and incomer cables joints, cables and terminations to the switchgear in the project execution sequence advised.
11. Implement protection settings and utilise application drawings
12. Commission the indoor switchgear.
13. Start the reconnection of the existing MV loads onto the new switchgear in the project execution sequence advised.

##### **Electrical works and scope of work high level sequence for Option 2**

1. Perform all minor modifications for the existing switchgear room where applicable.
2. Fit contractor safety barriers against the risk of internal arc venting while performing the project on the first set of the de-energised panels, while the other part is still energised and a risk to the contractors performing the replacement scope of works.
- 3.
4. Decommission, disconnect and remove the first set of panel circuit breakers. This will include all required MV cable disconnections between the two opposite panel sets where required.
5. Design, supply, deliver and install the new MV indoor primary switchgear circuit breakers for the existing required panels in the switch room as per OEM design drawings and OEM

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

- installation manual. It is required that the OEM also supply and install any racking plates to ensure the switchgear circuit breakers can be installed correctly.
6. Perform CT, VT, bus bar and cable compartment upgrades and replacements where required.
  7. Retrofit and upgrade the panel front and side enclosures for the type tested and approved retrofit design.
  8. Install, refurbish and commission the internal arc sensors and related protection scheme.
  9. Re-commission the on board protection schemes.
  10. Re-commission the existing ABB control system.
  11. Perform cross trenching to locate existing cables and services where applicable for MV cable system work where required for defects or failures identified.
  12. Install the cable feeder and incomer cables joints, cables and terminations to the switchgear in the project execution sequence advised where required for defects or failures identified.
  13. Re-commission protection settings and utilise application drawings
  14. Commission the indoor switchgear.
  15. Return plant to normal service positions.

Training to be performed by equipment suppliers for the Apollo Grid and DC station on operating and maintaining the new MV Indoor Primary Switchgear in accordance with Normative Reference: **Specification for 11 kV to 33 kV Fixed Pattern Metal-Enclosed Indoor Primary Switchgear Standard-240-56062704**

Primary plant to be employed in the design should be in accordance with the latest Eskom Specifications and should comprise of equipment that has been pre-qualified and approved by Eskom equipment specialists.

All Apollo DC station MV auxiliary supply outages to be agreed as part of the project execution strategy.

#### **NOTE TO PRINCIPAL CONTRACTOR AND ITS CONTRACTORS**

The SHE specifications are Eskom's minimum requirements. The contractor is expected to develop a SHE plan which meets these requirements as well as all the relevant applicable legislation. Eskom in no way assumes the Contractors legal responsibilities. The Contractor is and remains accountable for the quality and the execution of his health and safety program for his employees and contractor employees. This SHE specification reflects minimum requirements and should not be construed as all encompassing.

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

## 11.2 Principal Contractors

The Principal Contractor carries primary accountability and responsibility for the health and safety of his/her employees and his/her contractors within his/her working area, as contemplated by Section 37(2) of the OHS Act. None of the additional safety requirements specified by the Client reduces the Principal Contractor's accountability and responsibility for the health and safety of his employees and contractor employees within his working area.

The Principal Contractor shall be appointed by Eskom on the awarding of the contract and shall be responsible and accountable for all legislative and Eskom requirements for the duration of the contract.

The Principal Contractor may appoint contractors to assist in the contract. All appointments shall be done in writing.

## 11.3 Compliance and Non-Conformances

As legislation forms part of any country's legal system, the Client requires all of its Contractors to comply with legislation as part of the contract. All expenses to the Contractor, which result from compliance with this legislation as well as special requirements specific to the site, will be for the Contractors account.

Should the Principal Contractor appoint a contractor, the Principal Contractor would then have the same role and responsibility in relation to the contractors, in a similar way as the Client has in relation to the Principal Contractor.

The Client/Agent's representative reserves the right to stop work and issue a non-conformance report whenever safety, health or environmental violations are observed for both Principal Contractors and/or their contractors. Expenses incurred as a result of such work stoppage and standing time shall be for the Principal Contractors account. Any non-conformances/findings/observations found in these audits/inspections on contractors shall be raised and discussed with the relevant Principal Contractor (with whom the contractor is contracted with).

The requirements within this specification should not be considered to be exhaustive and the Client reserves the right to add, delete or modify conditions where it is considered to be appropriate.

**No claim will be accepted as a result of any costs or delays being incurred due to the Principal Contractor or his contractors not complying with legislation, this SHE specification or their SHE plan approved by the Client.**

## 11.4 Legal and Other Requirements

It is required that all Contractors on site comply with the relevant applicable legislation, specifications and standards in accordance with the scope of the project:

As a minimum but not limited to the following:

- The Constitution of the Republic of South Africa (particularly Section 24 of the Bill of Rights)
- Occupational Health and Safety Act 1993 (Act 85 of 1993) and its Regulations
- Control of Access to Public Premises and Vehicle Act( Act 53 of 1985)
- National Environmental Management Act 1998 (Act 107 of 1998)

### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

- Environment Conservation Act 1989 (Act 73 of 1989)
- National Water Act 1998 (Act 36 of 1998)
- Conservation of Agricultural Resources Act 1983 (Act 43 of 1983)
- Civil and Building Work Act
- COID Act
- Any other applicable South African legislation
- Applicable South African National Standards (SANS)
- Applicable international standards
- National Building Regulations and Building Standard Act 1977( Act 103 of 1977)
- Relevant Eskom Procedures and standards
- OHSAS 18001, ISO 9001 and ISO 14001-Contractor shall use as guidelines.
- Local Authority By Laws

It is the duty of the Principal Contractor and contractor to ensure that they are familiar with the necessary SHE legislation required.

The Principal Contractor shall compile a legal register listing all applicable legislation and standards that may have an impact on the scope of work that they are performing on the construction project. The register shall be updated biannually.

## **12. Section 37 (2) (Legal) Agreement**

A section 37(2) agreement must be signed between Eskom and the principal contractor at the time of awarding the contract.

The principal contractor must ensure that a section 37(2) agreement is compiled between the principal contractor and all their appointed contractors for the contract.

The original copy of the section 37(2) agreements must be retained by the contractor and a copy retained by the Eskom responsible manager.

Copies of all agreements must form part of the respective contractor's SHE files.

## **13. Hazardous Work by Children (Child Labour)**

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

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

### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.



- Before resorting to the use of child labour, due consideration must be given to the rights of the child in terms of the constitution.

Where work is being performed which is not prohibited in terms of the constitution, then such work must be conducted in terms of the OHS Act "Regulations on Hazardous Work by Children in South Africa" with emphasis on paragraph 2 Purpose and Interpretation.

Eskom does not condone the use of child labour and therefore all efforts must be exercised to avoid it.

#### **14. OHS Act**

All contractors shall have an up to date copy of the OHS Act and Regulations at all work sites which will be available to all employees. (Reference GAR 4).

#### **15. SHE/Q Policy**

The Principal Contractor and the contractor companies shall each have a SHE/Q Policy authorised by their Chief Executive (OHS Act Section 16(1) appointee) that clearly states overall SHE/Q objectives and commitment to improving Safety, Health, Environment and Quality performance and must be displayed and shared with all stakeholders.

Eskom has a SHEQ Policy that clearly states the guiding principles by which Eskom operates and the commitment to SHEQ excellence and is authorised by the Chief Executive and the Managing Directors.

#### **16. Costing for SHE**

The Principal Contractor/contractor shall ensure that the submitted tender adequately made provision for the cost of Health, Safety and Environmental measures.

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

#### **17. Appointment of a Principal Contractor**

The Principal Contractor will be appointed by Eskom Project Manager on the awarding of the contract and shall be responsible and accountable for all legislative and Eskom requirements for the duration of the contract.

Contractors shall not commence with the project work until such times as he/she has been appointed in writing in terms of OHS Act Construction Regulation 5(k), by Eskom Project Manager.

#### **18. Appointment of Contractors**

The Principal Contractor may appoint contractors to assist in the contract. All appointments shall be done in writing and will form part of the SHE plan that is required to be submitted to Eskom. Adequate training and instruction must be given to the appointees and the principal contractor must ensure that all appointed contractors understand their roles and responsibilities.

#### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

The Principal Contractor shall when selecting contractors to assist on this project carry out a selection process, and vet potential contractors. Once the selection process is completed, then such contractors shall be appointed in writing for the relevant period as required.

## **19. Appointments and Competencies**

The Principal Contractor shall ensure that all their appointees are made aware of their accountabilities and responsibilities in terms of their appointment, and advise and assist these appointees in the execution of their duties.

The Principal Contractor shall ensure that competent persons are appointed in writing in accordance with the applicable appointments.

Copies of all the appointments shall be kept in the SHE File.

## **20. Training**

The aim of this section is to outline Eskom's expectations with respect to the scope of the training which the Principal Contractor and contractor employees receive. The scope of the training includes but is not limited to the type of work being performed and the relevant procedures. In addition to the requirements, the Principal Contractor and contractor employees would require the appropriate qualifications, certificates and tickets, and be under competent supervision. Records of all training and qualifications of all contractor employees must be kept. The Contractor shall maintain comprehensive records of all employees under his control (including all employees of the contractor) attending induction training. Acknowledgement of receiving and understanding the induction must be signed by all persons receiving the induction respectively.

**When there is an amendment to the Acts and/or to the regulations, a SHE plan must be reviewed, updated accordingly and changes must be communicated to all relevant employees.**

## **21. Site Induction**

### **21.1 General construction site induction carried out by the Principal Contractor**

The Principal Contractor shall ensure that all his employees and contractor employees undergo their company induction with regard to the approved SHE plan, general hazards prevalent on the construction site, construction risk assessment, rules and regulations, and other related aspects.

Proof of client site specific induction signed by Inductor and trainee must be submitted to the Safety department before an access permit will be issued.

### **21.2 Visitors to Site**

All visitors must remain in the care and custody of a person (host) who has been properly inducted. No visitors are permitted to undertake any construction work, of any nature.

## **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

## **22. Access and Security Control**

Access and Security control shall be done according to the Eskom Access Control Policy (32-1134)

Employees, contractors and visitors shall be subjected to induction training and substance abuse tests for the detection of illegal substances when entering Eskom sites, or as and when required whilst on Eskom sites.

It may be required that prior to access being granted that person(s) complete the required training e.g. plant access training, employee training, occupational health and safety training or any other prescribed training.

The following are prohibited items and shall not be allowed on Eskom sites unless the necessary authorisation for possession has been obtained:

- Firearms and ammunition (excludes Eskom official firearms/ ammunition and firearms/ ammunition issued to the South African Security Forces)
- Liquor/ Alcohol
- Dangerous weapons
- Drugs (excludes items/ substances authorised for use and possession of medical centres or in possession under doctor's prescription)
- Any other items that may be declared prohibited

## **23. Contractor's Site Facilities**

Site facilities shall be established and maintained by the contractor or be maintained as agreed with the Site Manager and/or in accordance with the contractual agreement. The facilities include, but are not limited to the following: (refer to OHS Act Construction Regulation 30)

- Temporary Facility Layout Plan
- Sheltered eating facilities
- Change rooms
- Ablution facilities
- Site Sheds, Offices and Amenities
- Lay down and Storage
- Temporary Site Services

Reasonable and suitable living accommodation may be provided for employees who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available

The Principal Contractor must develop their site establishment procedure.

### **CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

## 24. Public Safety

Legislation requires that employers shall be responsible, as far as reasonably practicable, for safeguarding persons other than those in their employment who may be directly affected by their activities so that they are not exposed to hazards to their health and safety (Section 9 of the OHS Act).

Contractors shall factor in, in their safety plan, how they intend safeguarding/ controlling any members of the public against their activities during the project.

## 25. Project and Site Rules (Zero Harm to People and the Environment)

The objective of this section is to define the rules that are over and above the internal regulations and procedures of Eskom and relevant legislation which will ensure zero harm to persons and the environment. These rules will be specific to the project and site.

### Eskom Life Saving Rules

Five Life Saving rules have been developed that will apply to all Eskom Employees, agents, consultants, contractors and visitors. Failure to adhere to these rules by any Eskom employee or employee of a Principal Contractor or contractor will be considered a serious transgression. These rules are being implemented to prevent serious injury or death of any employee, labour broker or contractor working in any area within Eskom.

The rules are:

<b>RULE</b>	<b>DESCRIPTION OF RULE</b>
Rule 1	<b>OPEN, ISOLATE, TEST, EARTH, BOND, AND/OR INSULATE BEFORE TOUCH</b> ( That is plant, any plant operating above 1000 V)
Rule 2	<b>HOOK UP AT HEIGHTS</b> Working at height is defined as any work performed above a stable work surface or where a person puts himself/herself in a position where he/she exposes himself/herself to a fall from or into.
Rule 3	<b>BUCKLE UP</b> No person may drive any vehicle on Eskom business and/or on Eskom premises: Unless the driver and all passengers are wearing seat belts.
Rule 4	<b>BE SOBER</b> No person is allowed to be under the influence of intoxicating liquor or drugs while on duty
Rule 5	<b>PERMIT TO WORK</b> Where an authorisation limitation exists, no person shall work without the required permit to work.

### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.