

**MTN (PTY) LTD.**

**PROPOSED MARINE TELECOMMUNICATIONS SYSTEM (ACE  
CABLE SYSTEM) TO BE LANDED AT VAN RIEBEECKSTRAND ON  
THE WEST COAST OF SOUTH AFRICA**

**EMERGENCY EVACUATION PLAN**

Prepared for:

MTN (Pty) Ltd.  
216 - 14<sup>th</sup> Avenue, Fairland  
Johannesburg  
2195

Prepared by:

ACER (Africa) Environmental Consultants  
PO Box 503  
Mtunzini  
3867

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## TABLE OF CONTENTS

1.	Project Description .....	3
1.1	Marine Fibre Optic Cable .....	3
1.2	Beach Man Hole.....	3
1.3	Terrestrial Cable.....	3
2.	Emergency Evacuation Plan.....	4
2.1	Project locality in relation to Koeberg.....	4
2.2	Traffic Evacuation Model.....	4
2.3	Community broadcast and emergency notification system .....	4
2.4	Emergency levels .....	5
2.4.1	Alert .....	5
2.4.2	Site emergency .....	5
2.4.3	General emergency.....	5
3.	Evacuation procedures and items for action.....	5
3.1	Offshore cable laying near Van Riebeeckstrand .....	5
3.2	Cable laying at Van Riebeeckstrand Beach .....	6
3.3	Construction of the Beach Man Hole and Cable laying to the Cable Landing Station in Duynefontein.....	6
4.	Conclusion .....	8
	Appendix A – Emergency Evacuation Routes .....	9

## 1. PROJECT DESCRIPTION

The section of the ACE Cable system to which this Emergency Evacuation Plan (EEP) applies includes the section of cable from where it enters the shallow waters off the beach of Van Riebeeckstrand (up to 2 km offshore) onto land until it reaches the MTN Cable Landing Station (CLS) at Duynfontein. As such, the project description given below incorporates the materials comprising the ACE Cable System and the methods to be used to install the cable system in the marine and terrestrial environments.

The ACE Cable System is comprised of the following project components from where it enters the shallow waters off Van Riebeeckstrand until it reaches the MTN CLS site in Duynfontein:

- Marine Fibre Optic Cable (marine environment (2 km offshore to the Beach Man Hole)).
- Beach Man Hole (BMH) located behind the coastal dune cordon near Van Riebeeckstrand.
- Terrestrial Fibre Optic Cable (Beach Man Hole to the CLS site in Duynfontein).

### 1.1 Marine Fibre Optic Cable

The cable will be buried beneath the sandy seabed of these shallower marine waters. This is typically achieved with the use of a specially designed plough which is submerged onto the seabed by the cable laying ship. The cable is then fed from the ship to the plough which effectively buries the cable to a depth of approximately 1 - 1.5 metres.

The ACE Cable System will be installed using a purpose-built cable ship fully equipped with all the necessary equipment, tools and facilities to safely handle and install, join, test, and power the submerged plant including simultaneous lay and plough burial. The vessel will have sufficient power and dynamic positioning capability to carry out the installation in the expected weather and current conditions.

### 1.2 Beach Man Hole

Once the fibre optic cable has made landfall and been buried through the beach section of the route the cable will be anchored at the Beach Man Hole (BMH) which will be constructed on the edge of the residential area at Van Riebeeckstrand. The BMH will be constructed underground and will have the following dimensions: length (4.0 m); breadth (2.0 m) and depth (2.0 m). The BMH is expected to take two months to construct and once complete the only visible sign of the structure will be the manhole covers and cement roof slab.

### 1.3 Terrestrial Cable

From the BMH the land cable will be installed to the Cable Landing Station (CLS) located in Duynfontein. The final alignment of this cable is as yet unknown but two route alternatives are being considered to get the cable from the BMH positions at the preferred landing point (Site 1) and alternative landing point (Site 2) to the CLS site. The trench for the cable will be dug by both mechanical (TLB) and manual (spades) means depending on the alignment selected and the presence of other service infrastructure within the area. The trench will be excavated to a depth of 1 m before the cable is installed and which will be housed within High-density polyethylene (HDPE) or PVC ducts. The width of the excavated trench is expected to be approximately 500 mm.

#### **Project implementation period**

The project construction period for all components of the proposed development is not expected to exceed 6 months until completion.

## **2. EMERGENCY EVACUATION PLAN**

Regulations promulgated under the National Nuclear Regulator Act, No. 47 of 1999 (NNRA) require that an evacuation due to an incident at Koeberg Nuclear Power Station (KNPS) must be demonstrated to be within 4 hours for the Precautionary Action Zone (PAZ 0-5 kilometre radius around KNPs), and 16 hours for the Urgent Protective Action Zone (UPZ: 5-16 kilometre radius around KNPS).

The Emergency Evacuation Plan has been compiled based on the Koeberg Nuclear Emergency Plan – Evacuation Routes Map produced by the City of Cape Town – Department of Emergency Services (2011).

### **2.1 Project locality in relation to Koeberg**

The proposed construction footprint of the ACE Cable System falls within 5 km of the KNPS and as such falls within the Precautionary Action Zone (PAZ) which is located within a 0 – 5 kilometre radius around the KNPS. Arrangements have been made to take urgent protective actions in the event of a nuclear or radiological emergency to reduce the risk of severe health effects within this zone.

### **2.2 Traffic Evacuation Model**

In line with the regulations, a Traffic Evacuation Model (TEM) was prepared in 2005 for the City of Cape Town (CCT) which calculated evacuation times under various time of day scenarios and time horizons for five year intervals within the 0 – 5 km zone. Based on population projections and phased infrastructure proposals, the 2006 approved TEM demonstrated that the prescribed evacuation criteria could be complied with for all time of day scenarios with the existing population density and transport infrastructure in place. This TEM was updated again in 2012 and demonstrated that the prescribed evacuation criteria could be complied with for all time of day scenarios with the existing population density and transport infrastructure in place (Please see Appendix A for the Emergency Evacuation Routes).

### **2.3 Community broadcast and emergency notification system**

A siren/public address system has been installed in Atlantis, Duynefontein, Melkbosstrand, Van Riebeeckstrand, Philadelphia, Bloubergstrand, Bloubergstrand, West Beach, Sunningdale, Parklands, Robben Island and the farms surrounding Koeberg Nuclear Power Station. In the event of an incident at Koeberg the residents of these areas will be notified via the siren/public address system of the actions that need to be taken. In addition to the above further information will be provided on the following radio stations Kfm 94.5 MHz and Good Hope Fm 94-97 MHz.

A team consisting of members from Eskom, the local authorities, and other support organisations are available around the clock to handle any emergency at the power station. In the unlikely event of an emergency at Koeberg, Eskom will notify the City of Cape Town Disaster Risk Management immediately. Eskom will recommend appropriate protective actions to the relevant authorities. Representatives of National, Provincial and Local Government will authorise the appropriate protective actions to be implemented.

## 2.4 Emergency levels

There are three levels of emergency currently in place should an incident or event occur at Koeberg. These emergency levels can be summarised as follows:

### 2.4.1 Alert

An alert is declared when an event has occurred that could reduce the level of safety of the plant, but backup plant systems will still function. Local authority officials are notified and response facilities are established on a standby basis.

### 2.4.2 Site emergency

In a site emergency, a problem with a safety system has occurred, or is likely to occur. Local authority officials are mobilised at this stage in preparation for the possibility of a more serious situation.

### 2.4.3 General emergency

A general emergency is the most serious but most unlikely emergency situation. Radioactive material could be released beyond the plant site boundaries. Local authority officials will take action to protect residents living near the plant. People in affected areas will be advised via the public notification system to stay indoors and shelter or to evacuate.

If located within 5 km of the power station there will be an immediate warning via the public notification system in the area. Evacuation instructions will be issued via the public notification system, Good Hope FM, Kfm and local SABC television channels. This area will be constantly monitored for radiation during a general emergency and suitable steps will be taken to protect everyone.

## 3. EVACUATION PROCEDURES AND ITEMS FOR ACTION

Depending on the area in which work is being undertaken the following procedures and actions will be undertaken by all project staff in the event of a general emergency being declared by the City of Cape Town Disaster Risk Management team:

### 3.1 Offshore cable laying near Van Riebeeckstrand

When bringing the ACE Cable System onshore boats will be required in the near shore environment to assist with cable laying operations. Typically these boats will be relatively small compared to the main Cable Vessel and capable of ferrying workers into shallow waters where vessels require shallow drafts. In the event of a general emergency being declared at the KNPS the following actions will be taken:

- All staff and vessels are to leave the PAZ immediately and a roll call of all staff must be taken before the vessels make way out of the area.
- The skippers/captains of the vessels must liaise with the local Melkbosstrand NSRI (Tel: 082 990 5958) to establish where the vessels must navigate to for safe anchorage.
- Workers offshore must be able to communicate with the land based workforce either through hand held radio (VHF) or cell phone.
- The project manager must have contact numbers for all work teams and is responsible for ensuring that the notification of the general emergency is communicated to all work teams.
- All vessels must have enough fuel on board to reach a Port or registered launch site (smaller vessels) outside of the 16 km Urgent Protective Action Zone (UPZ: 5-16 kilometre radius around KNPS).

### 3.2 Cable laying at Van Riebeeckstrand Beach

When bringing the ACE Cable System onshore workers will be required to enter the beach and intertidal areas to assist with the landing of the marine cable. In the event of a general emergency being declared at the KNPs the following actions will be taken:

- All staff and vehicles are to leave the PAZ immediately and a roll call of all staff must be taken before staff leave site.
- The project manager must inform all work teams of the declared emergency.
- Evacuation from the beach must be to the closest authorised beach access point.
- All staff must pay attention to the public address system for further information on required evacuation actions.
- All managers of the work teams must have the following phone numbers available with them at all times (City of Cape Town Disaster Management Centre Tel: 021 480 7700; and Melkbosstrand SAPS Tel: 021 553 8220).
- Ensure that sufficient vehicles are available to transport all staff off site.
- If there is a General Emergency, the public notification system will be supplemented by regular instructions and messages on Good Hope FM 94-97 MHz and Kfm 94.5 MHz as well as on local SABC television channels. Tune into the radio and listen for further instructions.

If instructed to take shelter the following actions must be taken if no shelter is available:

- If in a vehicle close all windows and doors to keep outside air out.
- If outside, protect your breathing. Place a damp cloth or towel over your nose and mouth.
- Switch off systems that draw in outside air such as vehicle air-conditioning units.
- Minimise use of the telephone - keep the phone lines open for emergency use only.
- If in a vehicle, load fellow workers, close the windows and air vents and leave the affected area.
- Keep listening to your radio and the public address system for further instructions.

### 3.3 Construction of the Beach Man Hole and Cable laying to the Cable Landing Station in Duynfontein

When construction of the Beach Man Hole (BMH) for the ACE Cable System and trenching from the BMH to the Cable Landing Station is underway the following emergency evacuation procedures will apply.

In the event of a general emergency being declared at the KNPS the following actions will be taken:

- All staff and vehicles are to leave the PAZ immediately and a roll call of all staff must be taken before staff leave site.
- The project manager must inform all work teams of the declared emergency.
- All staff must pay attention to the public address system for further information on required evacuation actions.
- All managers of the work teams must have the following phone numbers available with them at all times (City of Cape Town Disaster Management Centre Tel: 021 480 7700; and Melkbosstrand SAPS Tel: 021 553 8220).
- Ensure that sufficient vehicles are available to transport all staff off site.

- If there is a General Emergency, the public notification system will be supplemented by regular instructions and messages on Good Hope FM 94-97 MHz and Kfm 94.5 MHz as well as on local SABC television channels. Tune into the radio and listen for further instructions.

If instructed to take shelter the following actions must be taken if no shelter is available:

- If in a vehicle close all windows and doors to keep outside air out.
- If outside, protect your breathing. Place a damp cloth or towel over your nose and mouth.
- Switch off systems that draw in outside air such as vehicle air-conditioning units.
- Minimise use of the telephone - keep the phone lines open for emergency use only.
- If in a vehicle, load fellow workers, close the windows and air vents and leave the affected area.
- Keep listening to your radio and the public address system for further instructions.

#### **4. CONCLUSION**

It is ACER's opinion that the emergency evacuation plan compiled for the proposed construction of the section of the ACE Cable System from where it enters the shallow waters off the beach of Van Riebeeckstrand (up to 2 km offshore) onto land until it reaches the MTN Cable Landing Station (CLS) at Duynfontein adequately addresses the emergency evacuation requirements as required by the City of Cape Town – Department of Emergency Services.

It must be noted however; that this emergency evacuation plan does not supersede any instruction given over the public address system should a general emergency be declared. The appointed Health and Safety Officer together with the appointed Environmental Control Officer should revisit this emergency evacuation plan and update it as required for implementation on site.



APPENDIX A – EMERGENCY EVACUATION ROUTES

