

CATEGORISATION OF SOPS

A. SOPS – Fleet Enroute Operations



Responsibility:

Driver

Conductor

1. E-Bus Driver Safety Guide during Floods & Heavy Rainfall (On-Route)
2. E-Bus Driver Safety Guide during Heatwaves (On-Route)
3. Safety Procedures of What to do when Battery Fails (On-Route)
4. E-Bus Driver Safety Guide Post Accident/ Collision (On-Route)

B. SOPS – Charging Operations



Responsibility:

Charging Staff

Electrical safety lead

Maintenance Team

1. SOP for Isolation of Charging Infrastructure during flood/ heavy rainfall
2. Procedures for handling High Voltage system and Lockout/ Tagout system

C. SOPS – Emergency Response within the depot



Responsibility:

Depot Managers/
Staff

Maintenance Team

Electrical safety lead

1. SOP for Safe Power Shutdown during extreme weather conditions
2. SOP for Emergency Isolation of Bus with Faulty Battery in Depot
3. SOPs for tackling Cyber Attack/ Threat
4. Procedures for Safe Handling of E-Bus Battery
5. Safe Evacuation procedure for Depot Staff

D. SOPS – Passenger Safety and Evacuation



Responsibility:

Driver

Conductor

1. E-Bus Driver & Conductor Safety Guide for Safe Evacuation of Passenger (On-Route)

E-BUS DRIVER SAFETY GUIDE

Flood/ Heavy Rains



1

AVOID FLOODED ROADS

Divert route as per instructions from control room.

2

STOP AT ELEVATED SAFE POINTS

Avoid halting in deep water zones



3

WATER DEPTH LIMIT

No deeper than half tyre height

4

SMOOTH DRIVING

Avoid sudden breaking and accelerations



5

EMERGENCY EVACUATION

If caught in rising water, Evacuate passengers to a higher ground

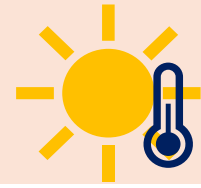
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FOLLOW INSTRUCTIONS

From Control Room or depot manager



E-BUS DRIVER | SAFETY GUIDE DURING HEATWAVES



1

Evacuate passengers if smoke or overheating occurs



2

Take the bus to a shaded and Isolated area away from traffic, if overheating



3

Set HVAC to maximum cooling



4

Report unusual smell or warning lights & Cut Off Power



5

Contact Control Room with details



6

Don't restart until authorized



What to do when Battery Fails ??

SAFETY PROCEDURES

DRIVER

CONDUCTOR



1 Evacuate Passengers
to a Safe Zone



2 Report Location to
Control Room



3 Attempt Fire Suppression
only, If Safe!

IF BATTERY RISK ESCALATES



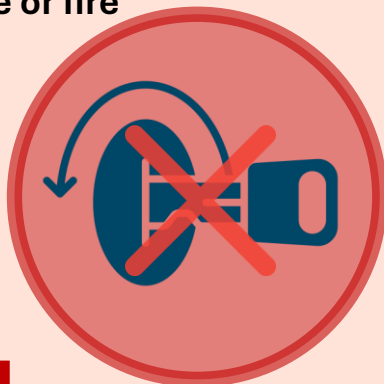
1 Evacuate Passengers
Immediately, if
smoke or fire



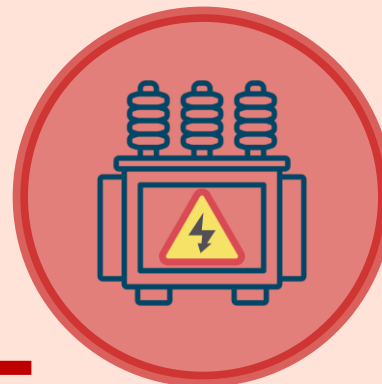
2 Call emergency
services for fire



3 Use, Onboard fire
suppression system,
If Safe



4 Do not restart or
move the vehicle
until cleared



5 Avoid contact with
high-voltage
components

E-BUS DRIVER SAFETY GUIDE Post Accident



1 Evacuate
Passengers



2 Stop bus and activate
hazard lights



3 Cut-off high-voltage
system



4 Call Police, Fire and Ambulance



5 Provide first aid



6 Stop passengers from reboarding or retrieving of belongings

ISOLATION OF CHARGING INFRASTRUCTURE

FLOOD/ HEAVY RAINFALL

CHARGING STAFF ELECTRICAL SAFETY LEAD



1 Stop all the Charging Sessions wear PPE and Inspect cables



2 Inform Control Room on emergency isolation



3 Activate Emergency Stop buttons On charging units



4 Isolate the main power supply from the electrical panel



5 Notify Emergency Services & Communicate status to Control Room



6 Do not restart system Until cleared by safety officer



7 Place Warning Sign with barriers, Restrict Access to exposed area



8 Keep fire suppression system on standby



9 Conduct Visual Check to confirm all system are safely shut down

High Voltage Handling Procedure

Maintenance Team



1
Perform LOTO
before maintenance



2
Verify zero voltage using
insulated multimeter



3
Use arc-rated PPE (gloves,
face shield, boots)



4
Maintain high-voltage permits
for authorized personnels

LOCKOUT TAGOUT (LOTO) PROCEDURE



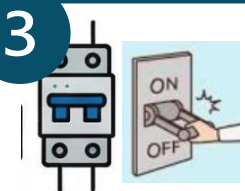
1 Prepare & Notify

Prepare shutdown and
notify all employees



2 Shutdown Equipments

Follow procedures and
shutdown all equipments



3 Isolation

Disconnect all energy
sources



4 Lockout & Tagout

Secure all energy sources
with locks & tags



5 Release Stored Energy

Dissipate residual energy



6 Verify Isolation

Verify isolation and zero
energy state



7 Perform Work

Conduct maintenance or
repair services



8 Restore Services

Remove locks/tags, notify
and restart equipments

EMERGENCY POWER SHUTDOWN PROCEDURE

DEPOT MANAGER

ELECTRICAL SAFETY LEAD



1 Assess the Situation
confirm for full shut down



2 Use Appropriate PPE
during the procedures



3 Activate Emergency Power Off (EPO)
switch or master breaker



4 Secure the Site
& restrict access



5 Notify Emergency Services & Communicate status to Control Room



6 Monitor for any Abnormal sounds, smell or heat signatures



7 Keep fire suppression
system on standby



8 Lock Electrical Room
and post "POWER OFF – DO NO OPERATE" signage



9 Wait for clearance
before restoring power
(after Inspection)

EMERGENCY

ISOLATION: BUS with FAULTY BATTERY

MAINTENANCE TEAM

ELECTRICAL SAFETY LEAD



1 Stop Power
Immediately through
SCADA/ Manual



2 Evacuate Personnel
to a Safe Zone



3 Wear appropriate
PPE Kit



4 Isolate the bus using
cone or barriers



5 Apply Lockout Tagout
to EVSE



6 Keep fire
suppression
system nearby



7 Notify OEM & fire
services if fire risk is high



8 Move bus to quarantine
zone, once safe



9 Follow Protocols,
Await Clearance

TACKLING A CYBER ATTACK OR THREAT

DEPOT MANAGER



1



Inform IT Security Lead

2



Disconnect affected chargers

3



Switch to manual operations

4



Coordinate with drivers for
route instructions over call

5



Track buses manually and log
trips & charging data offline

6



Support IT and OEM teams
during recovery



1 Only trained personnels to handle batteries



2 Wear PPE: arc-rated clothing, insulated gloves



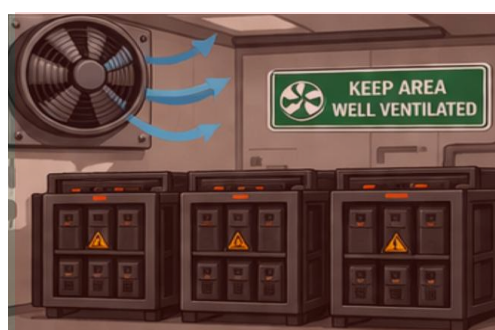
3 Remove metal jewelry while handling battery



4 Follow Lockout/Tagout (LOTO) procedures



5 Avoid dropping or puncturing battery cells



6 Ensure proper ventilation



7 Avoid water near battery terminals



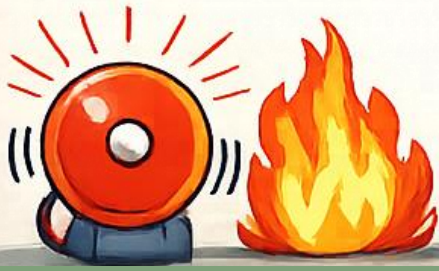
8 Monitor for heat, swelling, or unusual odors

SAFETY GUIDE

**Maintenance
Team**

SAFE HANDLING OF E-BUS BATTERY

Fire Alarm or Thermal Alert



**STEP 1:
ALARM
ACTIVATION**

Automatic Fire Alarm triggers evacuation



Initiate Depot Evacuation Plan



STEP 2: STAFF ACTIONS

Move all personnel to Safe Zones

Account for staff using attendance log



Lockdown Depot, Restrict Access



Technicians:
Isolate HV System



Coordinate with
Emergency Services

**SAFE EVACUATION
PROCEDURES FOR DEPOT STAFF**

E-BUS DRIVER

SAFETY GUIDE

SAFE EVACUATION OF PASSENGERS



1 EVACUATE PASSENGERS

Guide all passengers to a safe point



2 SHIFT THE BUS

Move bus away from traffic



3 ACTIVATE HAZARD LIGHTS

Turn off ignition and activate hazard lights



4 INFORM AUTHORITIES

Call control room and share location



5 PREVENT CROWDING

Don't allow passengers to gather close to the vehicle

