

Vehicle Hazard Analysis			Page .1. of .1
Job Description:	Job Address:	Job Area:	Date:
Tembo Electric LV	BHP Olympic Dam	Vehicle System	20/10/2018

IMPORTANT : The requirements of Standards do not override the regulatory authorities or OH&S Legislation. This document is only an extract of the requirements of standards – this is a starting point only, and does not replace the need to read and refer to the full standards

Hazard Analysis shall be carried out by personnel competent in risk assessment, with consultation from the Owner, Operator, Maintenance Personnel, Supplier, Insurer and other persons where applicable. The hazard analysis should be updated continuously at intervals (within 5 years) or when any changes are made to the equipment, the operating environment, the operator or if an incident, such as a fire or collision, occurs.

Type of Hazard Class A Class B Class E Class D

Determine the possible fire scenarios. This includes: What can happen? When and where can it happen? Why and how can it happen? Examples of information that should be included in this section is fuel sources, ignition sources, normal operational conditions, foreseeable misuse and the effects of possible fires. In vehicles, areas in which possible fire scenarios can occur include but are not limited to;

Risk Area	Addressed by System
Battery Compartments	Yes
DC Convertor / Charger	Yes
Hydraulics systems (including piping, hoses, pump and valves)	Yes
Lubrication systems (including engine and transmission systems and grease systems located in engine bay only)	Yes
Braking systems (including retarders, park brakes and service brakes located in engine bay only)	Yes
Electrical systems (including alternators, generators, batteries, wiring and switch gear)	Yes

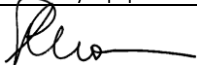
Quantify the risk exposure by determining the likelihood and consequences of the fire scenarios. This shall take into account normal operating conditions as compared to intended operating conditions. This includes, poor maintenance practices, operator use/misuse, inexperienced operators, use of oils and greases, equipment interaction, wear and tear of components and the operating environment (for example; road conditions, equipment speeds or time of day). The analysis should include the following, where applicable;

- Health and safety of the operator and passengers,
- Health and safety of people in the vicinity,
- Property loss
- Production loss,
- Environmental damage.

Prioritize the possible fire risks based upon the likelihood of a fire event occurring and the potential damage caused. This should take into account existing controls such as; the availability of firefighting equipment and/or personnel, egress points, means of fire detection and the availability and response time of external support. If the results of the risk evaluation indicate an unacceptable level of risk exists, then fire risk reduction measures should be undertaken.

What Can Happen? Determine the possible fire scenarios. Include When, Where and How it can happen. Include drawings/schematics.	How likely is this to happen? Quantify the risk exposure by determining the likelihood and consequences of the fire scenarios.	Prioritise the possible fire risks. What risk needs to be addressed first, and how? What existing controls are in place?
Electrical Fire during operation	Unlikely – maintenance of vehicle to be performed to manufacturer’s specifications.	Ensure Maintenance cycle. Complete vehicle shutdown for any for any event.
Environmental fire involving the vehicle	Unlikely	Site specific risk assessment to be performed for specific use

System Design Agreement	
Fire Fighting Agent	FirePro Aerosol
Detection System	Linear Heat Detection - 185°C
Control System	FP-08451 Control Panel – All monitored circuits
Shutdown Protocols	Connected to E-Stop of vehicle.
Operating Limitations	Site Specific Risk Analysis

Hazard Analyst:	Phil Morris	Hazard Analyst:		Hazard Analyst:	
Position:	Fire Safety Equipment	Position:		Position:	Wormald
Signature:		Signature:		Signature:	