

# **Safety Share:**

Activity: Ground Magnetics

**Location: Central Chile** 

Date: November 2014

Actual consequence: Fatal

**Risk potential: Fatal** 

What happened: While attempting to use a portable generator to charge a 12v lead-acid battery, an employee of the geophysical contractor unintentionally inserted the 12v battery charging cables into the 240v DC parallel operation outlet. The individual received a fatal electric shock.

#### Immediate actions:

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- The charging cables were disconnected from the generator
- First aid (CPR) was initiated
- Local emergency services were called to the scene

### Preliminary causes

- The generator was new to the camp and had not previously been used for the task (charging batteries)
- The new generator had unmarked 240v DC Parallel Operation Outlets (that resembled the 12v outlets of a more familiar generator)
- The banana plugs of the charging cables were inserted into the 240v DC outlet
- The alligator clips of the 12v charging cables had exposed metal
- A dedicated battery charger was not available

### Immediate learnings/applications

- All generator outlets to be clearly labelled with output voltage
- Battery charging to be conducted using generator manufacturer approved cables or dedicated 12v battery charger
- electrical equipment should not be plugged directly into the generator with an GFCI/RCD unit incorporated between the generator and functional sockets



## HSEC Share Summary/Recommendation:

#### Equipment in use at time of incident:

familiar 6.5kVA generator with round 12v outlets



12v 2.5AH rechargeable battery



'new' 2.0kVA generator with round 240v DC outlets and unique 12v outlet socket



12v battery charging cables (banana plugs and alligator clips)



# Re-designed generator configuration with RCD/GFCI panel:

