



### What?

- Electricity is created by various methods including nuclear reactors, burning fossil fuels, wind power etc., and transmitted through cables to the point of use
- High voltages are used during transmission to reduce the size of the cable and then reduced to lower voltages using transformers to drive machines and other equipment
- Chemical reaction is also used to generate electricity in the form of batteries especially where the electrical source needs to be portable

### Why?

- Electrical systems are insulated to prevent the "charged" parts discharging to earth since the energy needs to be stored until it can be used to operate equipment
- If the system is not insulated properly where accidental contact can be made with "live" parts the electricity will pass through the body to earth causing electric shock which can be fatal
- If "live" parts make accidental contact with a neutral source or earth, arcing can occur causing serious burns

### Do



- ✓ Follow the isolation procedures at all times
- ✓ Use proper means of isolation
- ✓ Ensure that all equipment is appropriate and electrically insulated
- ✓ Check test instruments are inspected and tested
- ✓ Ensure when testing or working live you are authorised and follow the safe system of work
- ✓ Close and lock electrical cabinets
- ✓ Check there are written instructions for all electrical equipment in the building.
- ✓ Make sure you are trained and competent before working on electrical equipment
- ✓ Keep unauthorised personnel away from electrical equipment

### Don't



- ✗ Start work without assessing risk and putting in place suitable control measures
- ✗ Use inappropriate equipment
- ✗ Start work without properly isolating the system and locking it off
- ✗ Test or work live unless authorised

#### Don't overload and know the limit!

