Pakistan Oilfields Limited
HSE Bulletin
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"A FAULTY WIRE CAN CAUSE A FIRE"

Electrical Safety

What is Electricity?

Electricity is a form of energy caused by flow of electrons through any material. In today's life electricity is the major source for lighting, heating, cooling for operating appliances, computers, electronics machinery etc. There are two types of electricity we use in our daily life.

- **Direct Current (DC)**
  This type of current is typically found in our car batteries, cells, mobile phones & portable devices etc. where long term storage of low voltage electricity is required.
- **Alternating Current (AC)**
  This type is most common in our daily life and almost everything in our house or office runs on alternating current (AC). This type of current is used where long distance transmission of electricity is required.

What are Electricity Hazards?

Electricity has the power to cause serious injury or even death in seconds. All types of electricity can cause harm depending upon the conditions and exposure. Following are the main hazards associated with electricity:

Electrocution

Electrocution or death may occur if a person is exposed to lethal amount of electrical energy. For example 220 Volts for more than 10 seconds or 11000 Volts for less than 1 second.

Electric Shock

Electric shock is received when relatively less current is passed through the body. Severity of the shock depends on path of current through the body, amount of current & duration of contact.

Electrical Burns

Electrical burns may occur on the body part which comes in contact with electricity. When this happens, the electricity can damage tissues and organs. This damage can be mild or severe and it can even cause death.

Fire Hazard

Fire may occur due to burning or over heating of electrical wires or appliances. This happens usually due to use of faulty wires, loose connections, use of substandard appliances and overloaded circuits. The fire may turn into explosion if the voltages are too high.

Fall from Height

Fall from height is most common indirect hazard of electricity. When a person working at height receives an electric shock often get loss of muscle control and may fall from height.

Tripping Hazard

Loose and unmanaged cables on walkways can present serious tripping hazard. Persons can trip and injure themselves due to striking with the trailing cable. It can also pull the plug causing damage to electric cable, appliance or socket which may lead to further incidents. Similarly tangled electrical cords under desks can pose serious entanglement and tripping hazards.

How to Avoid Electricity Hazards?

Electricity is dangerous only, when an electrical connection, cable or appliance is present in your surroundings and there is chance of exposure with the electricity. Control measures can be taken to either prevent from electrical contact or to reduce the severity of electrical contact.

Following are some of the tips & control measures to avoid electricity hazards:

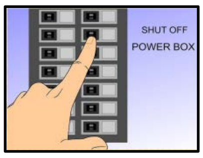
First Aid for Electrical Shock

Electrical shocks always need emergency medical attention even if the person seems to be fine afterward. Follow these steps to provide first aid to someone who got an electric shock;

- Protect yourself first. Call for medical assistance & don't go near the person as he/she could be in contact with live electricity line.

زخمی شخص کو چھونے سے پہلے خود کو محفوظ کریں۔ طبی امداد کے لیے کال کریں اور زخمی شخص کے قریب نہ جائیں کیونکہ وہ بجلی کی تار سے رابطے میں ہو سکتا ہے۔

- Switch off the electricity from main circuit board as there could be current flowing from other paths too.



مین سرکٹ بریکر سے بجلی بند کر دیں کیونکہ کسی دوسری تار سے بھی بجلی آسکتی ہے۔

- If power cannot be switched off, remove the victim from the electrical supply using wooden stick or any other insulator.

اگر بجلی بند نہیں کی جا سکتی ہے تو لکڑی کی چھڑی یا کسی انسولیٹر کا استعمال کرتے ہوئے متاثرہ شخص کو بجلی کی سپلائی سے ہٹا دیں۔

- Do not attempt to move the victim unless they are in further danger. There might be wounds or burns which may get worse.

متاثرہ شخص کو خود سے دوسری جگہ منتقل کرنے کی کوشش نہ کریں جب تک کہ وہ مزید خطرے میں نہ ہوں۔

- If the victim is unconscious, check to see if they are breathing and have a pulse. Try talking with the victim & making him conscious.

اگر متاثرہ شخص بے ہوش ہے تو اس سے بات کرنے اور اسے ہوش میں لانے کی کوشش کریں۔

- Perform CPR if you are trained. If you don't know how to perform CPR then cover the victim with a blanket to keep the body temperature regulated.

اگر آپ تربیت یافتہ ہیں تو CPR انجام دیں۔ اگر آپ تربیت یافتہ نہیں تو متاثرہ شخص کو کمبل سے ڈھانپیں تاکہ جسم کا درجہ حرارت کنٹرول میں رہے۔ طبی امداد پہنچنے تک متاثرہ شخص کے ساتھ رہیں۔ متاثرہ شخص کو جلد از جلد قریبی ہسپتال منتقل کریں۔