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## Chilworth Technology is Now DEKRA (India) Pvt. Ltd.

For the past sixteen years we have been a partner to many of India's leading organisations in Process Safety Consulting, Training and Testing. Over the years with the patronage of our clients, we have grown and have expanded our service portfolio and made a significant contribution in the field of Process Safety in India.

With the acquisition of Chilworth Technology worldwide by DEKRA we are now a part of the DEKRA SE Group. DEKRA SE is one of the world's leading professional safety firms. Headquartered in Stuttgart, Germany, DEKRA have over 44,000 employees in 50 countries, and has been active in the field of safety since 1925.

Chilworth Technology Pvt Ltd will henceforth be known as **DEKRA (India) Pvt Ltd**. With our global network and support, we will be able to provide you even better services, continuing as your partners for Process and Behavioural Safety.

### What changes?

No changes with regards to:

- The contact person you know
- The agreed terms and conditions
- The services and their specifications

Changes will be as follows:

- Company Name: DEKRA (India) Pvt Ltd. Our offices are in New Delhi, Mumbai and Hyderabad.

[Click here](#) for more details.

### Our Mumbai Office has moved.

Our new address is :

708, Lodha Supremus  
Nehru Nagar  
Kanjur Marg (East)  
Mumbai 400 042  
Tel.: +91 22 66942350



## ELECTRICAL SAFETY - EVALUATE & CONTROL

Risk is described as a chance of something happening that will have an impact. It can be counted by its consequence and likelihood. Safety, hence, is defined as reduction of risk to a level that is as low as reasonable and as practicable.

Electrical safety is one of the most important section of Industrial Safety. Electrical injury incidents begin when a worker becomes part of an electrical circuit. "Humans are more conductive than the earth (the ground we stand on), which means if there is no other easy path, electricity will try to flow through our bodies".

The four main types of electrical-related injuries are:

- |                   |              |
|-------------------|--------------|
| 1. Electrocution  | 3. Burns and |
| 2. Electric shock | 4. Falls     |

**Effects of a current passing through a human body depend on a number of inter-related factors. These are:**

- |                     |                    |
|---------------------|--------------------|
| • Current Path      | • Duration of time |
| • Frequency         | • Body Impedance   |
| • Current magnitude | • Body sensitivity |

The effect of electric shocks ranges from arrest of the heart or the breathing muscles, or both, burns, bleeding, neurological damage and ventricular fibrillation. Electricity always follows the shortest circuit path that pertains least resistance. If a human body creates a path to follow, electricity will flow to the ground or complete the circuit through the body. The effects of electric shocks are severe and the table below presents the amount of current and its effect on human body:

S.No	Current in milliamperes	Effects
1.	1 or less	No sensation, probably no effect noticed
2.	1 to 3	Mild sensation not painful
3.	3 to 10	Painful shock
4.	10 to 30	Muscular control could be lost or muscle clamping
5.	30 to 75	Respiratory paralysis
6.	75mA to 4 amps	Ventricular fibrillation
7.	Over 4 amps	Tissue begins to burns. Heart muscles clamp and heart stops beating.

*Note: - Source taken from Cadick, Capelli-Schellpferffer and Neitzel (2006)*

### What must be done to be safe?

Use the three-stage safety model: recognize, evaluate, and control hazards. To be safe, you must think about your job and plan for hazards. To avoid injury or death, you must understand and recognize hazards. You need to evaluate the situation you are in and assess your risks. You need to control hazards by creating a safe work environment, by using safe work practices, and by reporting hazards to a supervisor or manager.

### How do you recognize hazards?

- |   |                                      |
|---|--------------------------------------|
| • Inadequate wiring.  | • Damaged power tools and equipment. |
| • Exposed electrical parts.   | • Using the wrong PPE.               |
| • Overhead powerlines.  | • Using the wrong tool.              |
| • Electrical systems and tools that are not grounded or double-insulated. | • Ladders that conduct electricity.  |
| • Overloaded circuits.  |                                      |

**“Electrical hazards can be made worse if the worker, location, or equipment is wet”.**



## ELECTRICAL SAFETY- EVALUATE& CONTROL

### How do you evaluate your risk?

After hazard recognition, the next step is to evaluate the risk from the hazard.

- Look for “clues” that hazards are present.
- Evaluate the seriousness of hazards.
- Decide if you need to take action.
- Don't ignore signs of trouble.

### How do you control hazards?

In order to control hazards, you must first create a safe work environment, then work in a safe manner. Generally, it is best to remove the hazards altogether and create an environment that is truly safe.

- Lock out and tag out circuits and machines.
- Prevent overloaded wiring by using the right size and type of wire.
- Prevent exposure to live electrical parts by isolating them.
- Prevent exposure to live wires and parts by using insulation.
- Prevent shocking currents from electrical systems and tools by grounding them.
- Prevent shocking currents by using GFCIs.
- Prevent too much current in circuits by using overcurrent protection devices.
- Prevent against electric shock or arc blast when working live by using proper PPE and protective tools.

### How do you work safely?

Before you begin a task, ask yourself: What could go wrong? Do I have the knowledge, tools, and experience to do this work safely?

Control electrical hazards through safe work practices:

- Plan your work and plan for safety.
- Avoid wet working conditions and other dangers.
- Avoid overhead powerlines.
- Use proper wiring and connectors.
- Use and maintain tools properly.
- Wear correct PPE.

### About the Author

Yashpal is an Assistant Manager at DEKRA (India), based in New Delhi. Yashpal has 10 years of experience in the field of Process Safety, Risk Management and Environment Health Safety and has worked in various types of industry.





## UPCOMING TRAINING PROGRAM

### **CHEMICAL REACTION HAZARD TRAINING ON 3<sup>rd</sup> AUGUST at HYDERABAD**

DEKRA Process Safety Academy organizing Chemical Reaction Hazard training in Hyderabad for one day on 3<sup>rd</sup> August, 2018. This training workshop will enable the participants to identify and assess Chemical Reactivity Hazard and explain the methodology necessary to select suitable safety measures for protecting the Plant against runaway reaction.

[https://www.dekra-process-safety.in/images/trainingbrochures/Training%20Brochure\\_CRH\\_3rd%20AUG%202018\\_Hyderabad.pdf](https://www.dekra-process-safety.in/images/trainingbrochures/Training%20Brochure_CRH_3rd%20AUG%202018_Hyderabad.pdf)



### **VAPOR/DUST CLOUD FIRE & EXPLOSION HAZARD TRAINING ON 24<sup>TH</sup> AUGUST AT NEW DELHI.**

DEKRA Process Safety Academy organizing Vapor/Dust Cloud Fire & Explosion Hazard Training in New Delhi for one day on 24<sup>th</sup> August, 2018. The Training Session would equip the participants to identify and understand the hazards associated with the use of flammable liquids, gases and solids in plant, in order to be able to specify appropriate measures to reduce the Risk of a gas or vapour or dust fire and explosion occurring.

[https://www.dekra-process-safety.in/images/training-brochures/Training-Brochure\\_VDCF&EH\\_Delhi\\_24-Aug-2018.pdf](https://www.dekra-process-safety.in/images/training-brochures/Training-Brochure_VDCF&EH_Delhi_24-Aug-2018.pdf)

