Trade Safety Series:
WHS in Electrical Trades -
Assessing risks

About the Video:
In this video we take an in-depth look at the hazards in the electrical trades workplace today. Jason Thomas, managing director of Eascom Electrical takes us through them using practical, real-world examples to illustrate.

Year of Production: 2014
Total length of video: 4.57
Supporting resource writer: Ben Harding BA (Communication Studies), Grad. Dip. Film and Television.
Timeline

00.00 Introduction and injuries
00.26 Assessing risk focus.
01.04 Identify nature of the work
01.20 Individual competence
01.46 Arc flashes
02.05 Isolation
02.39 Assess based on environment
03.08 Confined spaces
03.50 Safe Work Methods Statements.
Mapping information

CPCPCM2043A - Carry out WHS requirements

Elements and Performance Criteria

2. Assess risks
   2.1 Hazards in the work area are identified, assessed and reported to designated personnel.
   2.2 WHS issues and risks in the work area are identified, assessed and reported to designated personnel.
   2.3 Safe work practices, procedures and instructions are followed.
   2.4 WHS, hazard, accident or incident reports are completed according to workplace procedures and statutory and regulatory authorities and legislation.

3. Identify hazards and hazardous materials on work site.
   3.1 Hazardous materials on a work site are identified, secured and tagged using appropriate signs and symbols; and if appropriate, handled and used according to company and legislated procedures.
   3.2 Measures for controlling risks and construction hazards are applied effectively and immediately.
   3.3 Asbestos-containing materials (ACM) are identified on a work site and reported to designated personnel.

4. Plan and prepare for safe work practices.
   4.1 Quality assurance requirements of company operations and safe work practices are identified and adhered to.
   4.2 Personal protective equipment (PPE) is selected, correctly fitted and used according to the requirements of the job.
   4.3 Tools and equipment are selected consistent with safe work practice requirements, checked for serviceability, and any faults are reported to supervisor.
   4.4 Required barricades, hoardings and signage are determined and erected at job location.
   4.5 Material safety data sheets (MSDS) are identified and applied.
   4.6 Sustainability principles and concepts are observed when preparing for and undertaking work process.

5. Use safe work practices to carry out work.
   5.1 Work is carried out safely and according to state or territory statutory requirements and company policy.
   5.2 Safety hazards and common workplace accidents and incidents are identified in the course of work and reported according to policy.

   6.1 Safety signs, identified in terms of colour and shape, symbols and alarms, are adhered to.
   6.2 Hazardous chemicals and materials are identified, handled and stored, maintaining the safety to self, others and the environment.
   6.3 Incidents are reported according to legislative requirements and workplace procedures.
   6.4 Common causes of accidents in the industry are identified and prevention measures implemented in line with site induction.
   6.5 Site area is maintained to prevent incidents and accidents and protect self and others.

7. Use electricity safely.
   7.1 Safest supply and route for electrical supply are determined.
   7.2 Leads are supported and placed according to regulations.
   7.3 Power board visual check is conducted.
   7.4 Leads and equipment are checked for tags and visual damage.
   7.5 Electrical hazards are identified and reported.
CPCCOHS1001A - Work safely in the construction industry

Elements and Performance Criteria

2. Identify construction hazards and control measures.
   2.1. Basic principles of risk management are identified.
   2.2. Common construction hazards are identified and discussed.
   2.3. Measures for controlling hazards and risks are identified.

3. Identify OHS communication and reporting processes.
   3.1. OHS communication processes, information and documentation are identified and discussed.
   3.2. Role of designated OHS personnel is identified and explained.
   3.3. Safety signs and symbols are identified and explained.
   3.4. Procedures and relevant authorities for reporting hazards, incidents and injuries are identified.

4. Identify OHS incident response procedures.
   4.1. General procedures for responding to incidents and emergencies are identified and explained.
   4.2. Procedures for accessing first aid are identified.
   4.3. Requirements for the selection and use of relevant personal protective equipment are identified and demonstrated.
   4.4. Fire safety equipment is identified and discussed.

Other units

CPCCOHS2001A - Apply OHS requirements, policies and procedures in the construction industry

UETTDRRF01B - Apply ESI safety rules, codes of practice and procedures for work on or near electrical apparatus

UEENEEE033B - Document occupational hazards and risks in electrical work

UETTDREL16A - Working safely near live electrical apparatus
Learning Activities

For consideration prior to viewing:

*These activities can be undertaken with participants working individually or in one or more small groups. They are designed so responses can be made in different ways, including brainstorming, discussion, written responses, role-plays etc.*

1. Pair students up. Ask them to brainstorm and list all of the risks associated with working with electricity. Compile the list of all the pairs as a class. What did they identify? What did they not identify? Discuss.

2. Arcing. Ask students to research all the possible injuries acquired through arcing and discover what arcing is, under what situations it often occurs and the best approach to minimizing its occurrence. Discuss the findings as a class.

3. Ask individuals or pairs to research the difference between Direct and Indirect contact with electricity; find out the most commons causes of each, and the best ways to work safely and avoid injury.
Questions about the video:

1. List the two main injuries from electricity.
   1. ______________________________________________________________
   2. ______________________________________________________________

2. Arcing can cause injury both ____________ and ______________.

3. Assessing risk focuses on...
   1. ______________________________________________________________
   2. ______________________________________________________________

4. List the four components of identifying the nature of the work.
   1. ______________________________________________________________
   2. ______________________________________________________________
   3. ______________________________________________________________
   4. ______________________________________________________________

5. What are the three pieces of safety equipment should you use to avoid injury from arcing?
   1. ______________________________________________________________
   2. ______________________________________________________________
   3. ______________________________________________________________
6. “Isolation” means...

____________________________________________________________________
____________________________________________________________________

7. You should assess a job site based on...

1. ____________________________________________________________________

2. ____________________________________________________________________

8. In confined spaces, __________, ____________, and ____________
can be much worse, and ____________ ____________ can be much harder.

9. What are the three key tasks associated with a SWMS?

1. ____________________________________________________________________

2. ____________________________________________________________________

3. ____________________________________________________________________
Questions about the video: Answer key.

1. List the two main injuries from electricity.
   A: 1) Burns 2) Electrocution

2. Arcing can cause injury both _____________ and _____________.
   A: Directly, Indirectly

3. Assessing risk focuses on...
   A: 1) the consequences if someone is exposed to a hazard 2) the likelihood of it occurring

4. List the four components of identifying the nature of the work.
   A: 1) Size 2) Location 3) Complexity 4) Time

5. What are the three pieces of safety equipment should you use to avoid injury from arcing?
   A: 1) Gloves 2) Arc shields 3) Rubber mats

6. “Isolation” means...
   A: stopping the flow of electricity into an area

7. You should assess a job site based on...
   A: 1) Nature of the workplace 2) Environmental factors

8. In confined spaces, _____________, _____________, and _____________ can be much worse, and _____________ _____________ can be much harder.

9. What are the three key tasks associated with a SWMS?
   A: 1) List work items 2) Identify risks 3) Create solutions
**Follow-up activities**

*These activities can be undertaken with participants working individually or in one or more small groups. They are designed so responses can be made in different ways, including brainstorming, discussion, written responses, role-plays etc.*

1. Google and download a Safe Work Method Statement template. Describe a work situation or environment to the class then run through all possible hazards necessary for the SWMS.

2. Ask the class to research the appropriate safe work practice when it comes to isolating electricity on a work site.

3. Find and download an incident report form from the Internet. Go through this as a class discussing and outlining what each question means, why it is important, and the possible responses.
**Suitable resources**

Risks associated with electrical installations:


Building and Construction Industry Guidelines for Electrical Practices:


Safety handbook for the building and construction industry 2013:


Hierarchy of hazard control:


Incident report form:


Safe work method statement template: