

Electricity Safety in the Agricultural Sector

18 August 2015, Crowne Plaza

FARMERS INDABA WORKSHOP



Presentation Structure

- 1) Common Causes of Accidents
- 2) Electrical Hazards
- 3) Effects of Electrical Hazards
- 4) Legislation
- 5) Mitigation Measures and Obligations
- 6) Public Safety Regulations
- 7) Conclusion



Most Common Causes of Accidents

- Lack of protective equipment
- Financial constraints, time pressure and fatigue
- Lack of awareness / training / information
- Subcontracting, seasonal workers, migrant workers



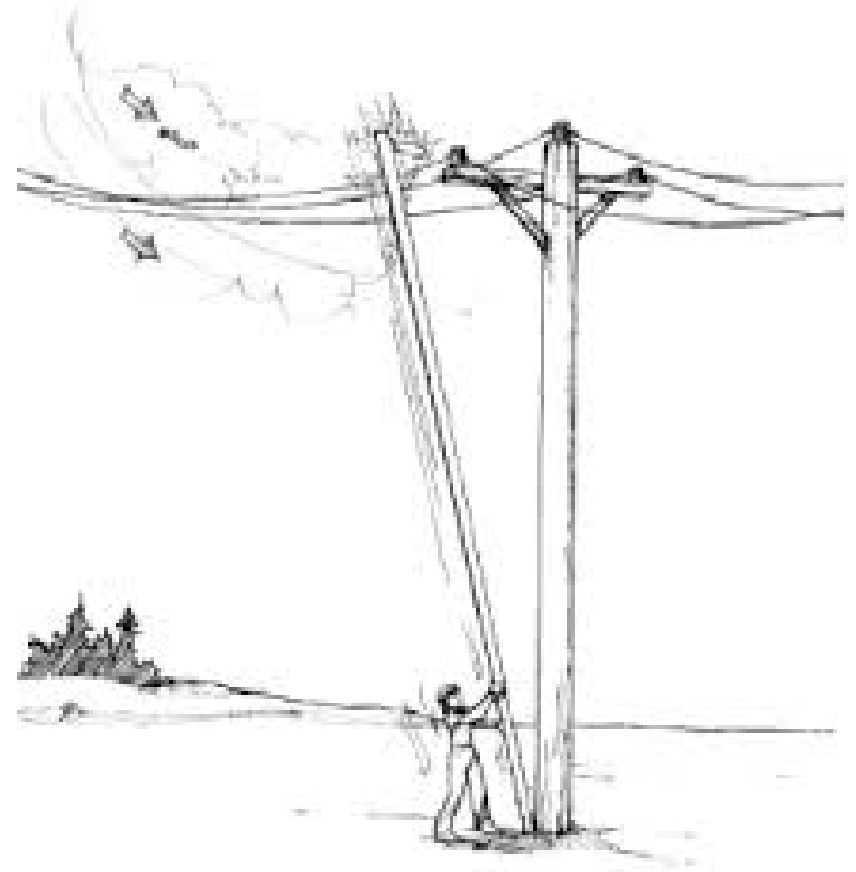
Electricity Hazards in Agriculture

- Contact with overhead distribution lines
- Absence of proper earthing
- Overloaded circuits
- Damaged wiring
- Missing safety shields
- Unsafe and illegal extensions



Contact with Power Lines

- Many workers have been electrocuted when moving irrigation pipe (20 foot sections) and contact overhead power lines
- Workers also electrocuted when moving and when contacting power lines with front end loaders



ELECTRICAL HAZARDS EFFECTS

- **SHOCK.** Electric shock occurs when the human body becomes part of the path through which current flows.
- The direct result can be electrocution.
- The indirect result can be injury resulting from a fall or movement into machinery because of a shock.
- **BURNS.** Burns can result when a person touches electrical wiring or equipment that is energized



Legislation

Legislation applicable to theft of electricity, illegal connections and carrying of irrigation pipes under electricity lines is as follows;



Electricity Act [Chap 13:19]

[Section amended by section 20 of Act 6 of 2005]

60A Offences in relation to electric current and apparatus

- (1) Any person who, without lawful excuse, the proof whereof shall lie on him or her—
- (a) abstracts or diverts any electric current or causes any electric current to be abstracted or diverted;
 - (b) uses any electric current, knowing it to have been unlawfully abstracted or diverted;

shall be guilty of an offence and liable to a fine not exceeding level fourteen or imprisonment for a period not exceeding five years or both such fine and such imprisonment.

(2) Any person who, without lawful excuse, the proof whereof shall lie on him or her, extinguishes, damages or destroys any electric lamp or other electric apparatus provided for the convenience or safety of the public, shall be guilty of an offence, and if there are no special circumstances peculiar to the case as provided for in subsection (4), be liable to imprisonment for a period of not less than one year.

- (3) Any person who, without lawful excuse, the proof whereof shall lie on him or her—
- (a) tampers with any apparatus for generating, transmitting, distributing or supplying electricity with the result that any supply of electricity is interrupted or cut off; or
 - (b) cuts, damages, destroys or interferes with any apparatus for generating, transmitting, distributing or supplying electricity;

shall be guilty of an offence, and if there are no special circumstances peculiar to the case as provided for in subsection (4), be liable to imprisonment for a period of not less than ten years.

(4) If a person referred to in subsection (2) or (3) satisfies the court that there are special circumstances peculiar to the case, which circumstances shall be recorded by the court, why the penalty provided under subsection (2)

(3) should not be imposed, the convicted person shall be liable to a fine up to or exceeding level fourteen or to imprisonment for a period not exceeding ten years, or to both such fine and such imprisonment.

When sentencing a person to imprisonment under subsection (2) or (3) shall not order the suspension of the sentence if the convicted person will serve—



Public Safety Regulations (Draft)

ZERA has drafted Public Safety Regulations which criminalize acts of omission or commission by farm owners.

Extract from Regulations:

Irrigation Pipes and Over-Height loading

12. (1) Every employer or farm owner must induct employees on hazards associated with electricity, safe working procedures and precautions within the environment in which they work
- (a) No employer or farm owner shall permit the carrying of irrigation pipes in the upright position so as to encroach or make contact with power lines within his/her premises
- (2) The maximum loading height for all vehicular mode of transport by road shall be 5.5meters.
- (a) abnormal load movement of height exceeding 5.5meters shall seek clearance and escort from the local electricity supplier.



Public Safety Regulations (Draft) cntd

Illegal Connections

5. (1) All designated responsible officials, inspectors, electrical consumers, landlords and tenants, owners, occupiers, electrical contractors, electrical workmen and suppliers must ensure that:
 - (a) No electrical installation work, including but not limited to additions, alterations, repairs and adjustments to existing installations, shall be carried out on the premises of or on behalf of any consumer, supplier, landlord and tenants/owner or occupier for the purpose of supply to such consumer, supplier, owner or occupier except by an artisan as articulated in Subsection 2 of Section 4 above and in accordance to ZWS 400:2006 Electrical wiring of premises (ZWS wiring rules)
 - (b) No electrical installation work which has been carried out in contravention of clause (a) above shall either be energised or connected to the works of any licensee.
 - (c) All electrical installation work, including additions, alterations, repairs and adjustments to existing installations, carried out upon the premises for or on behalf of any consumer, supplier, owner or occupier for the purpose of supply to such consumer, supplier, owner or occupier shall be inspected by an appointed ZETDC qualified inspector before energizing. No installation shall be approved or connected unless it complies with the ZWS 400:2006 Electrical wiring of premises (ZWS wiring rules).



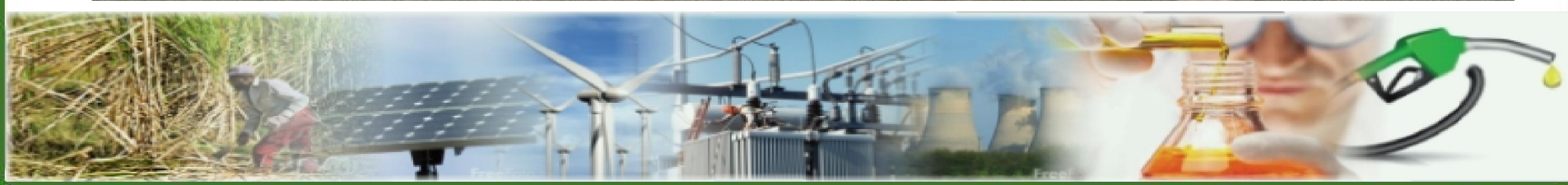
Unsafe and illegal extensions



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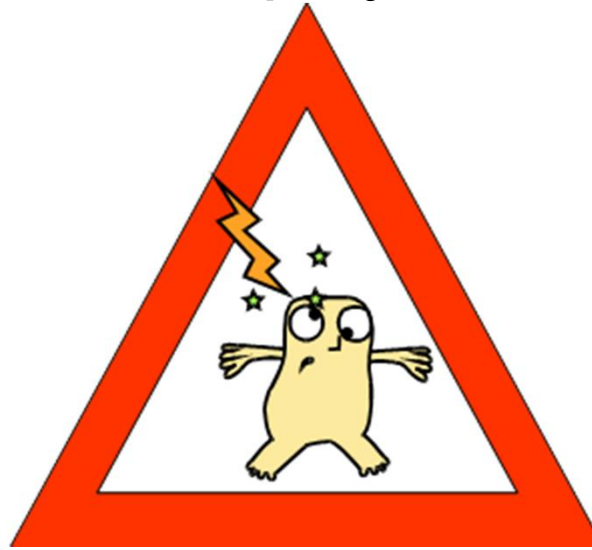


Unsafe and illegal extensions



Employer Obligation

- Electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees



CONCLUSION

Work Shouldn't be...



Shocking!



Thank You

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