Electric Power OSHA Training Session 1 Overview and Resources

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Electric Power OSHA Standards
Vertical Standards

1910.269
OSHA General Industry
Electric Power Generation, Transmission and Distribution

1926 Subpart V
OSHA Construction
Electric Power Transmission and Distribution

2

Application

1910.269(a)(1)
1926.950(a)

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Covered Work

Work areas with **electrical system hazards**.

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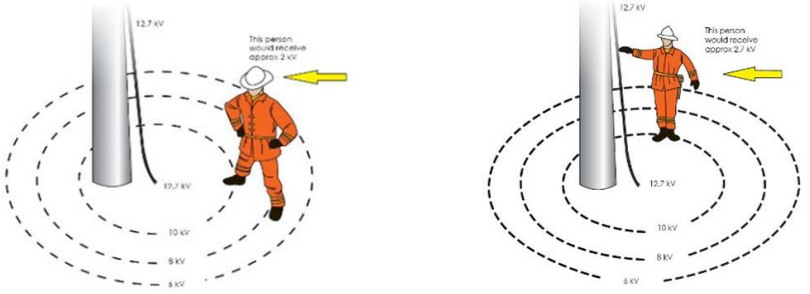
Electrical System Hazards

- Step and Touch Potentials



- Equipment Fires or Arc Flash

5

Training

- Qualified Employee

- Non-Qualified

Worker performing non-electrical work in restricted areas with Electrical System Hazards

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Resources

- 1910.269, 1926 Subpart V- Appendix A- Flow Charts
- OSHA Electric Power Preamble Pages 20337-20368
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html

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Information Transfer

1910.269(a)(3)

1926.950(c)

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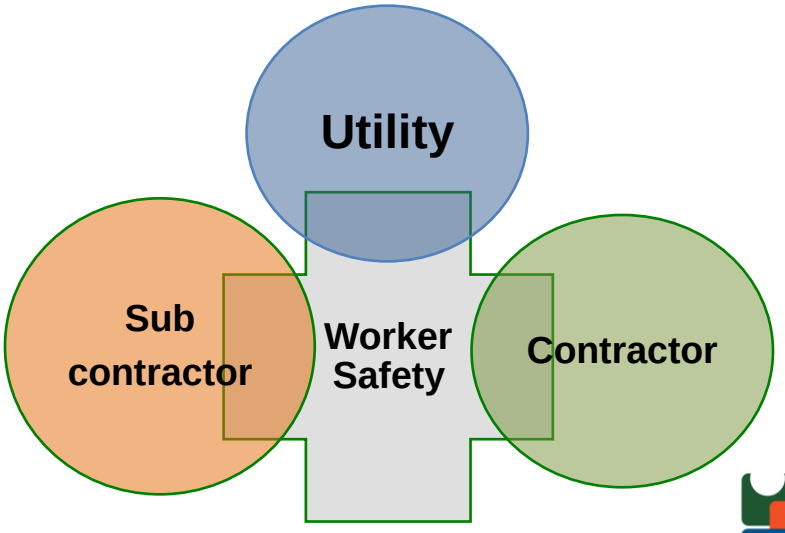
Working with Contractors



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Information Transfer

1. **When is information required to be shared?**
   - When a contract employer/subcontractor is working in a covered process.
     - Work areas with **electrical system hazards**.
2. **Who is required to share and receive information?**
   - Host Employer
   - Contract Employer
3. **How is information required to be shared?**
   - An appropriate method
     - The method must pass along information so workers in field can use the information to safely perform work.

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Resources

- OSHA Electric Power Preamble Pages 20353-20374
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html

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Minimum Approach Distance

(MAD)

1910.269(l)(3)

1926.960(c)(1)

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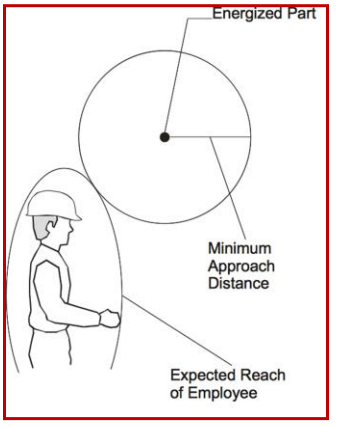
Minimum Approach Distance

OSHA

The employer shall ensure that no employee approaches or takes any conductive object closer to exposed energized parts than the employer's established MAD.

- The employee is insulated from the energized part, **or**
- The energized parts is insulated, **or**
- Appropriate live line bare hand work is being performed.



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Resources

- 1910.269, 1926 Subpart V- Appendix B- Working on Exposed Energized Parts
- OSHA Electric Power Preamble 20417-20458
- IEEE-516 Guide for Maintenance Methods on Energized Power Lines
- IEEE-524 Guide for the Installation of Overhead Transmission Line Conductors
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html

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Protection from Flames and Electric Arcs

1910.269(l)(8)
1926.960(g)

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Principle Requirements

- **Assess** workplace for hazards from flames or electric arcs.
- **Estimate** incident energy when there is exposure.
- **Prohibit** clothing when incident energy could ignite clothing.
- **Require** FR under certain conditions.
- **Select** clothing with an arc rating greater than the estimated incident energy.

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Resources

- 1910.269, 1926 Subpart V- Appendix E- Protection From Flames and Electric Arcs
- OSHA Electric Power Preamble 20459-20502
- ASTM Committee F-18- Electrical Protective Equipment for Workers.
  - F18.15 Worker Personal Equipment
    F18.25 Insulating Cover-Up Equipment
    F18.35 Tools & Equipment
    F18.45 Mechanical Apparatus
    F18.55 Inspection and Non-Destructive Test Methods for Aerial Devices
    F18.60 Terminology
    F18.65 Wearing Apparel
- National Electrical Safety Code- C2-2017 Part 4
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html

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Job Briefing

1910.269(c)
1926.952

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Requirements

The job briefing shall cover **at least** the following:

- Hazards associated with the job.
- Work procedures involved
- Special precautions
- Energy source controls
- PPE requirements.

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Resources

- OSHA Electric power Q&A
  https://www.osha.gov/dsg/power_generation/QandAFinal.html

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Fall Protection

1910.269(g)(2)
1926.954(b)

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Height Requirements

General OSHA Requirements	OSHA Electric Power Requirements
General Industry 1910.28(b)(1)(i) – 4 feet	**General Industry** 1910.269(g)(2)(iv)(B) & 1910.269(g)(2)(iv)(C)(2) – 4 feet
Construction Industry 1926.501(b)(1) – 6 feet **Exception:** "employees working from aerial lifts or on poles, towers, or similar structures while engaged in the construction of electric transmission or distribution lines or equipment."	**Construction Industry** 1926.954(b)(3)(iii)(B) – 4 feet **Applies to:** Structures that support overhead electric power lines and equipment.

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Resources

- OSHA Electric Power Preamble 20381-20404
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html
- ASTM F887 Standard Specification for Personal Climbing Equipment
- IEEE- 1307 IEEE Standard for Fall Protection for Electric Utility Transmission and Distribution on Poles and Structures

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Grounding for Protection of Employees

1910.269(n)
1926.962

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Equipotential Zone Grounding

Temporary protective grounds shall be placed at such locations and arranged in such a manner that the employer can **demonstrate** will prevent each employee from being exposed to hazardous differences in electric potential.

Appendix C- Protection From Hazardous Differences in Electric Potential

Guidelines- OSHA will deem grounding practices meeting these guidelines as complying with equipotential zone grounding requirements

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Appendix C

Protection from Hazardous Differences in Electrical Potential

1. Analyze the **hazard** (step and touch potentials)
2. Protect workers
3. Safety related considerations

1910.269 Appendix C

1926 Subpart V Appendix C

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Resources

- 1910.269, 1926 Subpart V- Appendix C- Protecting Workers from Hazardous Differences in Electrical Potential
- OSHA Electric Power Preamble 20511-20522
- IEEE-1048 Guide for Protective Grounding of Power Lines
- IEEE-1246 Guide for Temporary Protective Grounding Systems Used in Substations
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html

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Hazardous Energy Control (lockout/tagout) Procedures

1910.269(d)
Generation Only

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Generation Lockout/Tagout

1910.269(d)

An energy control program shall be established consisting of:

- Energy control procedures,
- Employee training, and
- Periodic inspections

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Deenergizing Lines and Equipment for Employee Protection

1910.269(m)
1926.961
T&D Only

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General Requirements

1910.269(m)

System Operator

Clearance

Requesting Clearance

Deenergizing Lines and Equipment

Tags

Working as Deenergized

Reenergizing

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Resources

- OSHA Electric Power Preamble 20503-20510
- National Electrical Safety Code- C2-2017 Part 4
- OSHA Electric power Q&A https://www.osha.gov/dsg/power_generation/QandAFinal.html

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