The heightened demand for heavy oil and natural gas will require thousands of new employees.

- Center for Disease Control and Prevention’s “Reducing Non-contact Electric Arc Injuries: An Investigation of Behavioral and Organizational Issues” report: http://1.usa.gov/UaiRss
- GE Industrial Solutions’ “Arc Flash: The Real Danger of Conducting Business” fact sheet
- A 1999 Electric Power Research Institute (EPRI) study pegged total direct and indirect costs of an arc flash incident.

Global demand for energy continues to grow, especially in developing countries such as China, the Middle East and Brazil.

For more information on arc flash and electrical hazards, visit www.geindustrial.com/arcflash, and to learn how GE is working with customers in the oil & gas industry to reduce their risk of arc flash, visit www.geindustrial.com/oilandgas.

**IS YOUR OIL & GAS FACILITY PREPARED FOR ELECTRICAL SAFETY?**

**GE’S SAFETY RECOMMENDATIONS:**

- **PREVENTING ARC FLASH INCIDENTS**
  - Attend IEEE Events
  - Attend NFPA 70E training for qualified individuals
  - Enroll in Plant Engineering’s Arc Flash University

- **ENSURE PROPER TRAINING**
  - Evaluate your system for hazard locations
  - Calculate incident energy exposure & arc flash boundaries
  - Use warning labels to indicate arc flash hazards

- **PERFORM HAZARD ANALYSIS**
  - Integrate arc flash mitigation by design
  - Consider arc resistant equipment for new installations
  - Install devices to deliver energy vs. contain energy
  - Solutions for fast fault clearing

**THE COST OF ARC FLASH +**

- 16.1% of all fatalities at oil & gas facilities are the result of technical accidents, explosion or fire

**THE DANGERS OF AN ARC FLASH**

- Arc flash has a serious-injury radius greater than 5-10 ft.
- An estimated 5-10 arc flashes happen daily in the U.S.
- Arc flash blast releases molten metals, hot metallic oxides and toxic burning smoke
- Arc blast is hotter than the surface of the sun (35,000°F)
- Pressure exceeding 700 mph, projectile-producing pressure, can throw a person across the room
- As loud as a jet engine (140+ dB)

**THE BLAST RELEASES**

- **MOLTEN METALS**
  - Hotter than the surface of the sun (35,000°F)
- **HOT METALLIC OXIDES**
  - Toxin burning smoke
- **SHRAPNEL**
  - Metal shards thrown by the blast
- **WAVES**
  - The shock wave
- **SHOCK WAVES**
  - The blast wave
- **AN ESTIMATED 5-10 ARC FLASHES HAPPEN DAILY IN THE U.S.**

**OIL & GAS INDUSTRY IS GROWING**

- This year, global oil demand will increase by 840,000 barrels per day (bpd).
- Global oil demand is now expected to total 90.2 million bpd in 2013.
- Global demand for energy continues to grow, especially in developing countries such as China, the Middle East and Brazil.

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