

# Arc Flash Alert

## Healthcare Feeling the Heat from NFPA 70E

*“There are systems in the hospital that we just can’t shut down, and must perform our inspections on live parts.”*

Mr. Clayton Denny, Director of Engineering Services for EMRMC



## Arc Flash Programs Becoming a Priority for Hospitals

### What is arc flash?

An arc is a flow of electrical current through ionized air after an initial flashover or short circuit caused by accidental contact, dropped tools or the build up of dust, dirt, corrosion and particles. These arcs release dangerous levels of radiant heat energy capable of causing severe to fatal burns within five feet of the arc. The heat produced vaporizes the surrounding metal and the heating of the air produces dangerous blast pressure waves containing hot shrapnel.

### Why should hospitals care?

Hospitals are covered under the OSHA standard. Arc flash/blast incidents can cause severe employee injury and loss of electrical power to key functions of patient care, while the cost of injury treatment may exceed \$1,000,000 per case with permanent disability and probable litigation.

### What is the first step?

The first step is to assess the magnitude of the hazards to your organization and determine your level of internal capabilities. If external resources are

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## IESO L.L.C. Risk Management

- Reliability** We use the most up-to-date universally accepted software program on the market – EasyPower 9.0
- Cost** Our efficiency allows us to consistently achieve a lower cost to our clients than our competitors
- Quality** Each program is reviewed and approved by an electrical engineer and includes work permits
- Experience** IESO has been chosen by many clients from distilleries to the US government to ensure their arc flash program compliance



To learn more about our arc flash program services, expert staff and experience, please visit our website at [www.iesollc.com](http://www.iesollc.com) or call us at 877-265-6384

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needed, call a qualified expert. They should perform an arc flash hazard study, label all affected equipment, integrate arc flash safety into your organization safety program and conduct arc flash safety training for all affected employees including energized work permit programs, PPE requirements and rated tool requirements. Beware of “in-and-out” site visits, over-the-phone analysis or fill-in-the-blank programs. With arc flash, one size most definitely does not fit all.

The advantages to our services are numerous. Included in our arc flash studies is a comprehensive hazard and flash threshold report with full one-line schematics reflecting complete component and arc flash information. We do it right.

### IESO, L.L.C. Healthcare-Specific Services

IESO, L.L.C. was the first to develop and instruct a healthcare-specific OSHA 511 30-hr course, and with its own title on the OSHA-authorized outreach trainers website ([www.outreachtrainers.org](http://www.outreachtrainers.org)). Our course was built from the ground up with industry-specific topics including HICS and mass casualty plans; patient-handling ergonomics, industry specific exposure control methodology and plans, nosocomial hazards and infections and OSHA related TJC and DNV guidelines. The shorter OSHA 10-hr course is designed for housekeeping and non-managers to receive basic OSHA awareness of the same topics.



### Health Care Services

\*OSHA 511 30-hr Course for Healthcare

\*OSHA 10-hr Course for Healthcare

Patient Handling Ergonomics

Industrial Hygiene

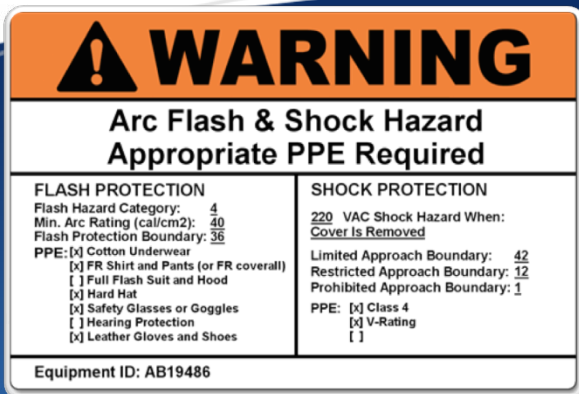
HICS and Mass Casualty Plans

Exposure Control Plans

ISO 14001 for Healthcare

OHSAS 18001 for Healthcare

TJC/DNV Health and Safety



## Is NFPA 70E Enough?

IESO, L.L.C. experts recently published an article on our website in which we continue to recommend the rigorous analysis prescribed by IEEE 1584, and warn against “quickie” or generic 70E arc flash solutions.

An industrial facility asked IESO to evaluate arc flash results from another firm that reportedly used a customized program for arc flash analysis. The facility management was concerned about the lack of time the consultant spent on-site, the minimal review of electrical components and the generic results.

Our review revealed highly inaccurate information on 90% of the labels including incident energy ratings *underestimated by 200-450%*, clearly endangering employee safety.

“There is a widespread misconception leaving organizations with a huge safety problem: Arc Flash Hazard studies are being performed, and labeling implemented, based on the premise that energized work can be performed at any time if the employee adheres to the requirements of the label when in fact a work permit is required under NFPA 70E 130.1” – Chet Davis, P.E.