

Calculations and Applications

Part 2 – Arc Flash

Seminar No. 00202

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SEMINAR TITLE: Calculations and Applications – Part 2 – Arc Flash
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FOREWORD

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FOREWORD

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FOREWORD

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Signed

Carl Scrivner, PE (Texas, by exam)

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1 Scope

This seminar discusses OSHA, IEEE Std 902™ - 1998©, Copyrighted, IEEE 1998, IEEE Guide for Maintenance, Operation, and Safety of Industrial and Commercial Power Systems, IEEE Std 1584™ - 2002©, Copyrighted, IEEE 2002, IEEE Guide for Performing Arc-Flash Hazard Calculations, 2008 National Electrical Code®, and NFPA 70E® - 2009, Standard for Electrical Safety in the Workplace, regarding arc-flash calculations and applications.

The following is included in the discussion:

Detailed examples using the IEEE Std 1584 – 2002©, Copyrighted, IEEE 2002, Guide, Arc Flash Calculator (the Bolted Fault Calculator is not discussed)
Detailed example calculations for various industrial facilities situations
Use of commercial software
General mitigation techniques
Arc flash analysis request-for-bid technical contract and sample proposal details

2 What This Seminar Does Not Include

The following is not discussed:

Detailed derivation of the origin of arc flash calculations
Detailed analysis of possible refinements to IEEE Std 1584 - 2002©, Copyrighted, IEEE 2002, Guide, or alternative arc flash calculation methods
Use and application of PPE
NFPA 70E – 2009 shock boundaries
Electrolytic cell lines, etc.
Forensic analysis of arc flash incidents
Lockout/Tagout procedures
Electrical safety programs
Problems with ongoing arc flash analysis [IAM5]
Arc flash exposure with regard to testing [NT4]
Detailed arc blast calculations (although some general discussion is included)
Impact of equipment maintenance on arc flash exposure (although some general discussion is included)

3 Definitions Used in This Seminar

AHJ	Authority Having Jurisdiction
Code	2008 National Electrical Code® (unless noted otherwise)
GIGO	garbage-in/ garbage out (primarily related to data quality)
HRC	hazard/risk category
NECH	2008 National Electrical Code® Handbook
NRTL	Nationally Recognized Testing Laboratory
PPE	personal protective equipment
Program	commercial software program used to perform arc flash calculations