



## San Francisco Chapter Meeting Notice: Tuesday – November 16, 2004

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## Arc Flash Calculations for the Consulting Engineer

**Co-Presenters:** 

## George Puffett, PE, Cammisa and Wipf Consulting Engineers

## Rick Miller, PE, RNM Engineering, Inc

Arc Flash hazards are a concern in the electrical industry. Recently there has been an increased focus on these concerns due to changes in the NEC, NFPA 70E, IEEE standards, and OSHA guidelines. Recent incidents involving arc flash have resulted in injuries throughout the country, including the Bay Area. One incident in Chicago resulted in a power outage to a large portion of O'Hare International Airport as well as injury to an electrical worker. This presentation will provide a brief history of this issue and the applicable codes. The arc flash hazard will be explained and means of personal protection will be shown. Various calculation procedures from simple hand calculations to sophisticated computer programs will be presented. The calculations are used to determine the incident energy available from arc flash hazards at a given piece of electrical equipment and the type of personal protective equipment required when working on this energized equipment. The scope and breath of the code requirements will be emphasized, as well as the application of the codes as they relate to performing calculations prior to working on energized electrical equipment.

George Puffett has 21 years experience in the electrical industry, specializing in medium and low voltage power distribution. He is a Registered Professional Engineer with Cammisa and Wipf Consulting Engineers in San Francisco. He has extensive experience in power system studies relating to the analysis and design of power distribution systems. Power system studies include load flow, short circuit, protective device coordination, and most recently, arc flash studies. He has been active in IEEE throughout his career. He is a past Chairman of the San Francisco PES and San Francisco Section. Presently George serves as the San Francisco Section Director.

Rick Miller has provided lighting and electrical engineering services for commercial, industrial, and governmental facilities having designed power distribution systems, building control systems, lighting, computer room, fire alarm, telecommunication, and security systems for more than 30 years. He has recently presented seminars on Lighting for LEED accreditation, and DALI Lighting Control Systems. He has taught lighting design at the Pacific Energy Center and at the Chicago Lighting Institute. Mr. Miller is a licensed Professional Engineer in California and several other states.

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pacific Avet Sydney G Viation Jackson St Square	Date:	Tuesday - November 16, 2004
Washington St Embarcadero Plaza Clay St Embarcadero Plaza	Time:	5:30 pm (Attitude Adjustment) 6:00 pm (Meeting) 7:00 pm (Dinner)
Pine St Bush St	Location:	Sinbad's Restaurant Pier 2 Embarcadero Street San Francisco, CA 94111 415.781.2555
Part 3 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	Cost:	\$25 (At the door) \$25 (email pre-registration qualifies for drawing of IEEE Color Book at dinner)
200 m 02002 Yahoo In 02002 Yahoo In 000 n 02002 Yahoo In 000 n 0200	Contact:	Sonny Siu EYP Mission Critical Facilities®, Inc. <u>ssiu@eypmcf.com</u> 415.901.4318