

SCANFAX

December 2001

Volume 53, Issue 10

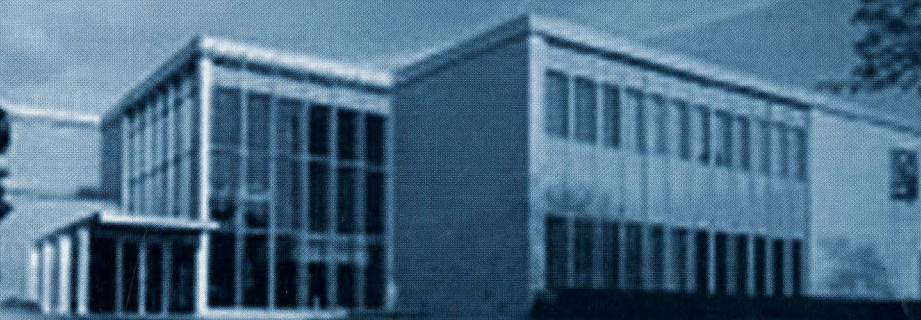


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EARLY 1900'S INVENTION LAUNCHED CHICAGO'S S&C



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*These are the same classes formerly offered by Don through the University of Wisconsin.



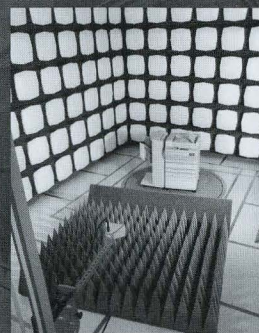
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Wednesday, December 12, 2001

CHICAGO SECTION EXECUTIVE COMMITTEE MEETING

Tuesday, December 11, 6:30 pm

DeVry DuPage, Room TBA, 1221 N. Swift Rd., Addison, IL

No Registration Needed

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EARLY 1900'S INVENTION LAUNCHED CHICAGO'S S&C



BY SANDY RYAN

After a catastrophic electrical generating station fire in 1909, founders Edmund Schweitzer and Nicholas J. Conrad invented a liquid fuse that went on to launch a company named S&C Electric Company in 1911. The fuse provided faster, more reliable circuit interruption than other power fuses and is said to have helped bring about wide spread adoption of outdoor distribution substations.

After WWII, Nicholas' son John Conrad took over the reins of the company and expanded both product lines and the Chicago campus operations. The 46-acre complex took 50 years to build and is located about one mile from Lake Michigan and eight miles north of downtown Chicago. The company remains privately owned and is guided today by S&C President John Estey.

The company also has engineering offices and manufacturing facilities in East Troy, Wisconsin and subsidiaries operate in Alameda, California; Toronto, Canada; Curitiba, Brazil; and Suzhou, China.

S&C's product line has broadened great-

ly since its beginnings but focused dedication to the field of electric power switching and protection continues to drive company goals today. The company provides electric power systems equipment and services globally and designs and manufactures switching and protection products for electric power transmission and distribution.

Some S&C products are used to switch circuits while others minimize damage to equipment in the event of a fault or reduce the area of an outage by automatically rerouting power flow. The company also offers engineering, laboratory, and testing services for electric utilities, commercial, industrial, and institutional power users.

Easily installed equipment that operates reliably with little maintenance is important to electric utilities and power users and S&C works to provide new products or variations of older ones to address those needs. To reach that goal, S&C uses computerized fabrication equipment to shorten lead time during production while maintaining consistent high quality.

Testing products and systems is another

crucial part of S&C operations. At its own laboratories, sophisticated tests are applied to products including extensive field measurements and computer models that reproduce realistic circuit conditions. Specially designed environmental chambers produce customized weather from sub-freezing to tropical and a 1.6 million volt impulse generator in S&C's high voltage dielectric test facility produces voltage surges that simulate lightning strikes and live switching operations.

Power frequency dielectric and coronadischARGE tests are conducted using a cascaded transformer set and the Nicholas J. Conrad Laboratories include facilities for high voltage, high power, mechanical, chemical, analytical, and environmental testing. Computerized data collection and high-speed video systems allow analysis under a wide variety of conditions.

The Chicago facility serves as S&C's headquarters and employs over 1,700 people — a workforce that includes over 200 engineers and technicians, a global sales operation, finance and accounting offices

and over 1,000 machinist, manufacturing, assembly, and support positions.

S&C remained committed to staying in the City of Chicago when many companies left during the 1950's and 1960's and the Chicago complex recently broke ground for a 2001 \$18 million facilities expansion.

Located in the Rogers Park neighborhood, S&C supports a variety of neighborhood and city causes through participation in area organizations and providing training opportunities and other resources to Misericordia Home North, a neighboring residential facility for developmentally disabled adults. The company is also a part of skills training programs for high school students and adults, and works closely with 10 universities and colleges and contributes to over 60 registered charities.

S&C employs hundreds of engineers, designers, and technicians who help lead the company to new or refined existing technologies. While experts in electronics, mechanics, chemistry, and metallurgy explore advanced approaches to switching and protection, marketing engineers work directly with customers to address specific needs and goals. Steve Strand, S&C's marketing support senior team leader, said

S&C employees are the company's biggest strength and therefore the company is very dedicated to them.

"I think one of the most unique things about the company is we are very committed to the people who work for us and the people we serve," said Steve Strand, S&C's

marketing support senior team leader. "During the recession in the early 1990's, there were no layoffs — everyone found something to do here. We are a company committed to keeping its people and keeping them busy." ■

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LUNCH MEETING

Chicago Chapter of the IEEE Power Engineering Society A Perfect Place for a New Power Plant: Siting and Transmission Studies Wednesday, December 12, 2001

William Bloethe and Husam Beidas, Sargent & Lundy

About the Topic:

Identifying a market opportunity, finding a suitable site, and finally permitting and building a new generating plant, is a long and expensive process. A large number of factors (location, transmission, water, fuel, markets, environmental and regulation) must be balanced to find a good site. The first part of this presentation will review some of these factors and will describe some of the studies that are often performed to evaluate potential sites.

Once the proposed location and plant size of a new generation project have been identified, the generation project developer submits an application for interconnection to the grid. The transmission provider, pursuant to the applicable Open Access Transmission Tariff, will conduct a number of transmission system studies to identify specific system reinforcements required and confirm that the proposed generation

meets applicable reliability standards. The second part of this presentation will review the studies performed and the established planning and operation reliability criteria and standards used by the utilities and the regional reliability councils.

The presentation will conclude with a critical assessment of the degree of success that the present methods and interconnection application requirements have achieved in meeting the objectives of system reliability while encouraging open access and competition.

About the Speaker:

Mr. Bloethe (Consultant) has a Master degree in electrical engineering and has more than 26 years of experience as an electrical engineer involved with power system analysis and design. He has worked on a number of system impact studies for the interconnections of new generation facilities to existing transmission systems.

Mr. Bloethe is a registered professional engineer and has authored a number of technical papers related to systems studies, inductive mitigation and other electrical power system topics.

Mr. Beidas (Project Associate) has a Ph.D. degree in electrical engineering and has 10 years experience in the electric utility industry. He has worked for a major electric utility company and for an industry-recognized supplier of electrical system operation and control equipment. Mr. Beidas' current experience involves performing transmission impact studies for the addition of new IPP generation facilities. Mr. Beidas has authored a number of technical papers in the areas of power systems analysis and control.

Location:

Chicago Bar Association
321 South Plymouth Court
Chicago, IL 60604
(Near Jackson and Dearborn)

Time:

11:30 AM Social
12:00 PM Lunch (optional)
12:15 PM Presentation
1:00 PM Adjourn

Reservations:

Lunch tickets can be purchased in the lobby bookstore (\$10.50). Please call the IEEE Business Office at (800) 898-IEEE to make your reservation.

For more information, please visit the Chicago Chapter IEEE PES web site:

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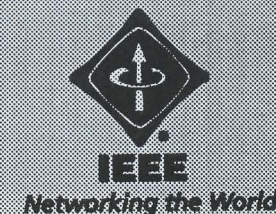
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READERSHIP

Approximately 7,000 professionals are members of IEEE Chicago Section. These members represent more than 200 companies in the Chicago area. You can reach this targeted audience with your advertisement in SCANFAX.

From the size and attractive masthead to the full color cover and additional information provided, we intend to make SCANFAX even more of an essential handbook for IEEE Chicago Section members.

MECHANICAL REQUIREMENTS

SUBMISSION REQUIREMENTS (Traditional): Camera-ready reflective art (100 line screen) or negative film (right-reading, emulsion down, not to exceed 150 line screen). It is suggested that any ads containing halftone photos or screens be supplied as negative film. Provide print proof with all film (matchprint for 4/c process ads required).

SUBMISSION REQUIREMENTS (Electronic): Platform: Macintosh (preferred) or Windows. Disk Format: 3-1/2, Zip (100MB), or CD. File Format: Quark Xpress (or Illustrator if saved as .eps). Unsupported Formats: Due to software limitations for production efficiency, we are NOT able to accept the following programs: PageMaker, WordPerfect, Microsoft Word, Microsoft Publisher, Harvard Graphics, PowerPoint, Excel, Corel Draw. Electronic Ad Submission Checklist: Verify ad dimensions. Don't use color if ad is black-only. Copy all materials to disk (include all placed graphics, scans, logos). Include all fonts on disk. Provide laser print of ad.

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1/3 Page Horizontal..... 4-7/8" x 4-7/8"
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1/6 Page Horizontal..... 4-7/8" x 2-3/8"
Vertical..... 2-3/8" x 4-7/8"

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ADVERTISING SCHEDULE*

2002 January Issue
EDITORIAL FOCUS: Circuits and Devices
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Nov. 26, 2001

February Issue
EDITORIAL FOCUS: Industrial Applications
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Dec. 25, 2001

March Issue
EDITORIAL FOCUS: Communications Technology
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Jan. 25, 2002

April Issue
EDITORIAL FOCUS: Electromagnetics and Radiation
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Feb. 25, 2002

May Issue
EDITORIAL FOCUS: Engineering and Human Environment
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: March 25, 2002

June Issue
EDITORIAL FOCUS: Education/Universities
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: April 25, 2002

September Issue
EDITORIAL FOCUS: Energy and Power Engineering
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: July 25, 2002

October Issue
EDITORIAL FOCUS: Computers
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Aug. 26, 2002

November Issue
EDITORIAL FOCUS: Signals and Applications
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Sept. 25, 2002

December Issue
EDITORIAL FOCUS: Systems and Control
SPACE RESERVATIONS AND CAMERA READY
MATERIALS DUE: Oct. 25, 2002

EVENING MEETING

IEEE EMC Society Chicago Chapter

Measurements and Analysis for Switchmode Design

Wednesday, December 12, 2001

Steve Murphy, BSEE, LeCroy Corporation

About the Topic:

This presentation covers the measurements of interest for designers of switchmode power conversion circuits and devices. We review the acquisition of voltage and current, their relationship in switchmode power conversion circuits, and the analysis of power device switching losses, conduction losses, safe operating area, and dynamic on-resistance. The challenge is to perform accurate analysis while the power transistor or diode is operating in the non-ground referenced primary circuit of an off-line switchmode power supply. Instrumentation requirements such as overdrive recovery, high frequency common mode rejection, and channel to channel time delay matching will be covered. A unique technique will be covered for using information contained in

the pulse width modulation signal to find a power circuit's step response and soft start performance. EN61000 3-2 precompliance testing for line current harmonics and power factor is included.

Applications and Analysis Covered:

Switching Device Transition Losses; Device Saturation Voltage, Conduction Loss, and Dynamic-On Resistance; Device Safe Operating Area (SOA); Eliminating Propagation Delay Differences of Current and Voltage Probes; Capturing Upper and Lower Gate Drive Signals; Control Loop Response Analysis; DV/DT Measurements; Measurement of Apparent Power, Real Power, and Power Factor; Line Current Harmonics, Conducted Emissions; Review of Methods for Making Differential Voltage Measurements in Power Design Applications.

About the Speaker:

Steve Murphy, BSEE, is the Power Business Development Manager for LeCroy Corp. He has been in test and measurement for over 20 years with the past few years strictly focused on power design applications.

Location:

Elite Electronic Engineering
1516 Centre Circle
Downers Grove, IL 60515
Phone: 630-495-9770 Steve Laya
Directions: www.elitetest.com/illinois.htm

Time:

6:30 PM Social
7:00 PM Meeting



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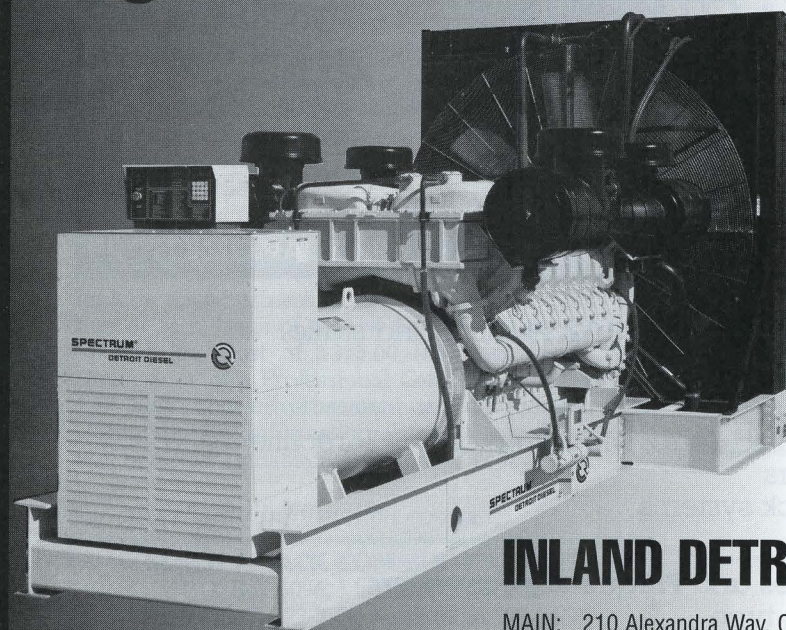
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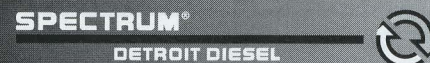


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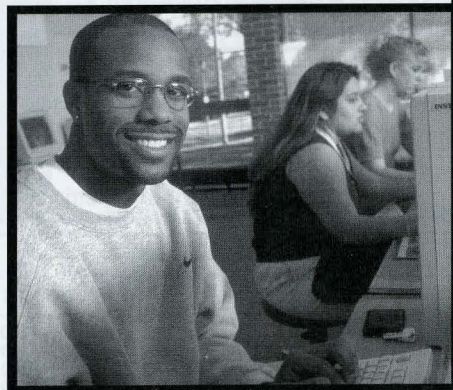
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