

Mr. Cochran is a highly trained electrical engineer with over 40 years of broad experience in the design, construction, master planning, commissioning, operations, and maintenance of electrical distribution systems for a wide variety of applications and markets, ranging from commercial needs, to mission critical facilities, to heavy industrial and utility requirements. His expertise ranges from theoretical analysis to hands-on and he is equally comfortable in the court room and the construction trailer.

Prior to joining ESi, Mr. Cochran spent over 30 years as a consulting design engineer lending his expertise to various industries in the construction and renovation of facilities to suit the technical and business needs of the client.

Mr. Cochran has worked for some of the largest, most renowned engineering design houses and has consulted for global financial institutions, major telecommunications companies, utilities, fortune 500 corporations, medical institutions, NASA, FAA, Naval Facility Engineering Command, and various military contractors. As the “Engineer of Record”, he has designed and sealed over \$4 billion of construction.

Education

BS, Electrical Engineering. University of Illinois. 1984
Curriculum in Power Applications

Industries / Market Segments

- Critical Facilities
- Utility
- Power Generation
- Campus Distribution
- Central Plant
- Federal
- Defense Industry
- Civilian Aviation
- Municipal
- Institutional
- Hospital / Medical
- Performing Arts
- Food Service
- Commercial

Contact Information

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ESi Dallas

10338 Miller Road
Dallas, TX 75238

Areas of Specialization

- Electrical Engineering
- Electric Shock and Electrocution
- Standard of Care
- Electrical Safety
- Catenary Lines
- Copper / fiber data cabling
- Codes and Standards
- Engineering / Construction Contract Scope
- Grounding Systems
- Design and Analysis of Electrical Systems ranging from 120V thru 230kV (230,000 volts)
- Equipment selection, specification, and procurement
- Protective Relaying
- Station Batteries – 480 VDC
- Construction, Start Up Testing, and Commissioning
- Operations and Maintenance (O&M)
- MOPs (Method of Procedure) and SOPs (Standard Operating Procedure)

Licensed Professional Engineer (PE)

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|-----------------------|----------------|-----------------------|-------------|
| • State of Texas | 98812 | • State of New Mexico | 20752 |
| • State of California | E-13364 | • State of Louisiana | 28315 |
| • State of Colorado | 45878 | • State of Minnesota | 58582 |
| • State of Missouri | PE-2010-029705 | • State of Georgia | 46519 |
| • State of Oklahoma | 25561 | • State of Michigan | 620-1309564 |
| • State of Arkansas | 14951 | • State of Florida | 91386 |
| • State of Maryland | 53745 | • State of Indiana | Retired |
| • State of Kansas | 26759 | • NCEES Record | 35592 |

Licensed Marine Electrician

- Republic of Panama Retired

Partial List of Representative Projects / Areas

Power

- Multiple 230 kV substations
- Multiple combined cycle combustion turbine / steam turbine power plants
- EUSERC (Electric Utility Service Equipment Requirements Committee) standards for forming a municipal utility
- Commercial nuclear power stations
- Multiple campus power distribution systems
- Multiple steam plants, largest being 500,000 pounds per hour
- 100,000 ton-hour thermal storage (stratified water) facility
- 35,000 ton district cooling plant

Critical Facilities

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|--|-----------------------------------|
| • Uptime Institute™ Certified Tier 4™ data centers | • Multiple FAA facility projects |
| • Campus data distribution for Military / Universities | • Telecommunication facilities |
| • Multiple (non-certified) data centers | • Emergency operations center |
| • Multiple financial operations centers | • Multiple co-location facilities |

Industrial

- Multiple Department of War facility projects
- Domestic and international commercial airports
- Various aircraft testing facilities for defense contractors
- Multiple NASA facility projects
- Rail maintenance facility
- Rocket test gantry
- Rocket fuel research facility

Commercial

- Mental health facility
- Solar arrays
- High security penitentiary
- Municipal water pumping stations
- Performing arts theater
- Municipal school district facilities
- Stadium lighting
- Medical facilities
- Laboratories
- Animation studio
- Commercial office towers
- Residential apartment building

Positions Held

Engineering Systems, Inc., Dallas, Texas

- Senior Consultant, December 2018 – Present

Cyxtera (formerly CenturyLink), Dallas, Texas

- Manager, Global Engineering Operations, December 2014 – February 2018

Syska Hennessy Group, Dallas, Texas

- Associate Partner / Technical Manager, August 2006 – October 2014

Carter Burgess Group, Los Angeles, California

- Principal Electrical Engineer, August 1998 – July 2006

DMJM, Engineers & Constructors, Los Angeles, California

- Chief Electrical Engineer, January 1995 – August 1997

Carlson Design Construction, Los Angeles, California

- Chief Electrical Engineer, September 1992 – December 1994

Daniel, Mann, Johnson & Mendenhall (DMJM), Los Angeles, California

- Senior Electrical Engineer, August 1990 – August 1992

Facilities Systems Engineering Corporation, Los Angeles, California

- Electrical Engineer, November 1988 – July 1990

Majestic Cruise Lines, Curacao, Netherlands Antilles

- Ship Chief Electrician, July 1986 – May 1988

Sargent & Lundy, Chicago, Illinois

- Electrical Engineer, June 1984 – April 1986

Professional Affiliations/Honors

Institute of Electrical and Electronic Engineers (IEEE)

- Member
- Power & Energy Society
- Industry Applications Society

Technical Reports

Mr. Cochran has authored countless reports addressing various topics such as:

- Motor failure due to Inverter Drives
- Transformer Failures due to Transients-related voltage restrike in medium voltage vacuum breakers
- Proper Design and Application of High Resistance Grounding Systems
- Integrating Signal Reference Grid into Code required Safety Grounding
- Code Requirements for Grounding, Bonding, and Insulated Ground Conductors
- Analysis of Vertical Cable Supports
- Code Analysis of Service Entrance Requirements
- Economic Analysis and ROI for High Efficiency Medium Voltage Transformers
- Code Analysis of NFPA 75 and Emergency Power Off device for Data Center Application
- Code Analysis of NFPA 76 and Emergency Power Off device for Telecommunication Application
- Cause of Electric Shock and Electrocution
- Contractor / Subcontractor responsibilities
- Evaluation of the electrical means and methods
- Evaluation of electrical safety in accordance with OSHA 1910 Subpart S, OSHA 1926 Subpart K, and NFPA-70E Standard for Electrical Safety in the Workplace
- Evaluation of maintenance requirements in accordance with NFPA 70B Maintenance and International Electrical Testing Association (NETA)

- Evaluation of high voltage electrical safety for catenary lines in accordance with OSHA 1910.268, OSHA 1910.269, and the National Electrical Safety Code
 - Evaluation of installation of overhead communication lines in accordance with OSHA 1910.268 and the National Electrical Safety Code
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Presentations

“Medium Voltage Uninterruptable Power Supply, Case Study”, Presentation for:

- Data Center Dynamics, Dallas, Texas, November 2010
- Data Center Dynamics, New York, New York, March 2011
- Data Center Dynamics, Sao Paulo, Brazil, October 2011
- CB Richard Ellis National Conference, Dallas, Texas, August 2013
- International Computer Room Experts Association, Mexico City, Mexico, May 2015

“Transformers in Power Generation and Distribution”, Presentation for:

- Onshore Energy Conference, Masterclass, London, UK, November 2019
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Seminars Attended

- International Computer Room Experts Association – Mexico City, Mexico, May 2015
- Uptime Institute™ - Fall Conference, October 2015
- BattCon – Stationary Battery Conference – Advanced Lead Acid Battery Consortium, June 2017
- Onshore Energy Conference – London, UK, November 2019