



Mark Treat, P.E.

Owner – COCOSOLAR

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EDUCATION

M.S.E., Industrial Engineering Department, U of Arkansas, 2004

B.S.E.E., U of Arkansas, 1997

B.S.M.E., U of Arkansas, 1995

HONORS

National Merit Finalist

Arkansas Governor's Scholar

Chouteau 2 Power Plant Project awards include AECI Innovative Action Team Excel Award, Association of Building Contractors Southwest Division Project of the Year and The Industrial Company Project of the Year.

LICENSURE AND CERTIFICATION

Licensed Professional Engineer (P.E.) in AR

Former Project Management Professional (PMP), Project Management International

Former Professional Engineering Manager (PEM), American Society of Engineering Management

EXPERIENCE

Founder/Owner 1/2023 – Present

Competitive Community Scale Solar, LLC (COCOSOLAR)

Founded Solar Business focusing on 1 to 5 MW Ground Mount Engineer-Procure-Construct (EPC) and Power Purchase Agreement (PPA) projects. Responsible for all aspects of the business.

Utilizing relationships with former and new engineering, construction and equipment supplier entities and individuals to minimize risk while optimizing quality, scope, and schedule. Additionally focused on utility scale solar training as shown in training.

Principal Engineer/Senior Engineer 7/2006 – 12/2022

Associated Electric Cooperative, Inc. (AECI), Springfield, MO

Resource Planning — Performed System modeling for Cost of Service and Long Range Financial Forecast. Served as technical liaison between divisions for tasks such as obtaining and reviewing new equipment inputs for the Integrated Resource Plan. Member of Long Range Generation

Planning Team performing activities such as gas plant improvements and facilitating transmission interconnection studies.

Chouteau 2 New Power Plant Project —Successful implementation achieved with completion \$75M under budget and 7 days ahead of schedule. Equipment consists of a 540 MW 2-on-1 Combustion Turbine Combined Cycle Plant utilizing V84.3.A.2 Siemens Combustion Turbines, K-N Siemens Steam Turbine and Vogt Heat Recovery Steam Generators (HRSG). Project completed with only one lost time accident. Ninety percent of equipment had been stored in the desert for a decade when the project began. Responsibilities as Owner's Project Manager included equipment inspections, overseeing bid process, negotiation and oversight for all contracts including Owner's Engineer, Engineer-Procure-Construct, Civil Site Preparation, etc. Oversaw interactions through one year warranty period.

Flexibility Improvement —Team leader of Flexibility Improvement Team - Objectives included improving coal plant turn down and ramp rate. Testing phase completed successfully. Implementation ongoing with two of three units released for improved turndown. Work involved bringing in outside engineering and operations experts to improve operations and equipment in a cost effective manner as well as Steam Turbine Flexibility and Catalyst Studies. Development of a charter by the Flexibility Improvement Team signed by both Plant and Divisional Management facilitated success. Flexibility achievements prior to formation of the team includes modifying Holden V84.1 units to fast start, Cost of Cycling Summary Study, and a prior Catalyst Study. The Holden V84.1 units were the first 60 Hz units tuned for nine minute starts.

Dry Ash Conversion — Owner's Project Manager for equipment changes to meet CCR and ELG regulations — Oversaw New Madrid design for Submerged Flight Conveyors, Light Ash System, and Belt Conveyor. Developed strategy to address Thomas Hill requirements.

Select Other Power Production Work — Frequently functioned as a liaison between Power Production and Engineering & Operations Divisions - Work included reviewing new technology such as Reciprocating Internal Combustion Engines (RICE) and Solar, researching and submitting new unit information for Integrated Resource Plan input, identifying options to increase capacity of existing units, and supporting development of new capacity testing procedures. Significant support provided to Long Term Strategic Plan.

Engineered Fire Protection and Boiler Machinery Program — Developed and managed program across all eight facilities to address findings of Insurance Underwriters Assessments concerning Fire Protection and Boiler Machinery. Created recognized model for collaboration across sites. Achievements included organizing separate inspections and responses into a common process resulting in one audit visit per plant with a standard process for responses. The program culminates in an annual Vice President level meeting with outputs into the budgeting process. After developing and managing over four years, trained a replacement who assumed management of the program.

Quality Control Engineer— Led organizational efforts related to ASME code and jurisdictional inspections. Strong time management skills as well as ability to identify unacceptable safety issues required for this position which officially required twenty five percent of my time over a period of several years.

Owner's Project Manager for New Madrid Landfill Construction Project - Project completed on time and on budget. The largest utility landfill in Missouri, it currently serves the power plant with an estimated 50 years of capacity. It complies with all current and proposed regulations.

Senior Engineer, 6/2002 - 7/2006

General Physics Corporation, Pine Bluff, AR

Team member tasked to develop and provide the full spectrum of engineering and technical services on a long term technical contract to the Pine Bluff Arsenal. Work focused on the OSHA Process Safety Management Program.

Non-licensed Nuclear Power Plant Operator, 11/1999 - 6/2002

Entergy Arkansas Nuclear One, Russellville, AR

Performed hands on monitoring and operation of plant equipment. Used mechanical, thermodynamic, fluids, heat transfer, and electrical knowledge extensively to assure safe and efficient operation of the plant. Initiated procedure improvements, engineering changes, and safety improvement. Completed and maintained category III advanced radiation worker, self-contained breathing apparatus (SCBA) and fire brigade training qualifications.

Project Engineer, 5/1996 -10/1999

Stark Manufacturing, Russellville, AR

Designed and debugged company's first international work cell and robotic work cells.

MEMBERSHIP AND LEADERSHIP POSITIONS

Missouri Public Utility Alliance – Associate Membership

Solar Energy Industries Association - Company Membership

Arkansas Advanced Energy Association

Efactory Missouri State University Business Incubator – Company Membership

Project Management International — Current member - Attend local chapter meetings and training

ASME — Current member of B31.1 General Requirements, Former Chair of Arkansas Section, Leadership Development Initiative Intern, and Committee on Early Career Development

IEEE — Current member

Theta Tau — Professional Engineering Fraternity — Former Chair of U of AR Chapter

AECI Sertoma Chili Cookoff Team — Former member

OTHER SPECIALIZED TRAINING

Multi-day Courses

2023 NABCEP Conference - Megawatt-Scale PV: Design Considerations and Case Studies and short sessions.

EUCI – Utility Scale Solar Plant Fundamentals, Solar Development and Transaction Due Diligence, Renewable Energy Power Purchase Agreements

Renewable Energy Plus (Formerly Solar Power International) – Attended multiple times and took multiple classes including Megawatt-Scale PV and short sessions.

Heatspring – Currently enrolled in Multiple Solar Courses in pursuit of NABCEP certification. These include Solar PV Boot Camp, Advanced PV Certification, Interconnection of Utility -Scale Solar PV to Distribution, Utility Scale Solar Construction, and Project Management.

Harvard Business School — Leading Complex Capital Projects

Courtenay Thompson & Associates — Controlling Construction Costs

PowerGen International — Effective Project Management for the Power Project Professional

ASME — Negotiating Techniques for Engineers, Nuclear Power Plant Design, ASME B&PV Code Section AMA — How to Communicate with Diplomacy, Tack and Credibility, Building Better Work Relationships, and Management Skills for New Supervisors

PMI — Project Management Professional Bootcamp

Catalyst— Primavera Project Management

Sandler – Sales Foundation Training

National Board — Boiler and Pressure Vessel Repair

General Physics — Improving Combined Cycle Power Plant Performance ISA
— Design and Tuning Feedback and Advanced Regulatory Control Strategies

Other Courses

PowerGen International — Renewable Energy Venture Capital, EPC Contracts for Power and Energy Projects, Power Plant Construction Management, Capital Investment Analysis for Power Plant Projects, Structuring and Negotiating Turbine Procurement Agreements, Developing Effective Plans for High-Visibility, High-Risk Utility Projects and Programs, Design & Commissioning of Combined Cycle HRSGs, Basic Hydraulics, and HRSG Fundamentals

RMEL— Your Project On Time and Under Budget

Arise - ASME Sections 1, 831.1, IX & NBIC

PUBLIC PROFESSIONAL PRESENTATIONS

ASME B31.1 — 2019 — Flexible Operation of Coal Plants

PRB Users Group — 2019 — Flexibility Testing and Implementation

AREGC - 2017 - CCR/ELG Solutions

AREGC — 2012 —Chouteau Unit 2 2X1 Combined Cycle Plant Completion Summary

AECI Annual Meeting 2011 — Chouteau Unit 2 Progress

AREGC — 2010 — Chouteau Unit 2 2X1 Combined Cycle Plant Project Progress Update

Spoke as Chair of the AR ASME Section at numerous events.