



Mission:

Greenenergy Engineering is an engineering and consulting firm based in Chicago, Illinois. For every project we look strive to help design teams make sustainable and cost effective buildings. Our experience allows us to minimize cost while providing value to our customers. Our team has worked on projects including power plants, office buildings, multi-family buildings, laboratories, educational facilities and hospitals.

Energy Modeling:

Greenenergy uses several tools including eQuest, Ecotect, EnergyPlus and Therm 5 to create powerful building models to predict annual energy performance. All of our modelers are LEED® certified and well versed in ASHRAE 90.1 compliance. The energy modeling can be used to provide valuable design insight into envelope, HVAC, and lighting decisions. The analysis can be used for LEED compliance as well as EPAct tax deductions. The staff at Greenenergy has performed LEED analysis and documentation on several projects using district plants and is well versed in the special documentation required for these projects.

Projects:

Oakland Hospital

Description: Design and stress analysis of cryogenic vent piping for MRI machines at Oakland Hospital and adjacent Hospital Service Building. During venting the system will reach temperatures of -450° F and requires the system to be analyzed for thermal contraction in addition to wind, seismic and unbalanced pressure loads.

Hearing Help Express

Description: Produce design drawings for the mechanical, electrical and plumbing systems for an office build out in an existing warehouse facility. Required to incorporate LEED design choices in order to full fill the certification requirements. Performed energy analysis for the project in accordance to LEED standards and helped consult the project on energy performance.



Pasco County Hurricane Shelter

Description: Produced the final LEED energy model for the Pasco County Hurricane shelter. The project is a hurricane shelter in Pasco County, FL that also includes a health clinic that operates four days per week.

Revolution Environmental

Description: Worked with Revolution Environmental to develop accurate residential energy prediction. The tool helps users make intelligent energy efficiency decisions for their homes.

Toyota Dealership – Bradenton, FL

Description: Greenergy performed the LEED energy modeling on this 70,000 SF facility in Bradenton, FL. The project incorporated high efficiency HVAC systems and lighting controls.

Dunkin Donuts – St. Petersburg, FL

Description: This project is currently pursuing LEED certification under LEED 2009 Retail. Greenergy has performed energy model for LEED analysis as well as design assistance.

Osa Mayor Multi-family Development

Description: Osa Mayor is multi-family LEED development in Peru. Greenergy is performing the energy model for LEED certification and design analysis. This project is located in a temperate climate and the buildings focused on passive design.

International Seismic Application Technology

Description: Performed seismic and thermal piping analysis for high pressure and low pressure steam, heating hot water, chilled water and vent systems on major university and hospitals throughout the United States. Here is a list of a few of the projects: Stanford Varian, Boeing 9-90 Seattle Plant, University of Oregon Central Plant, Las Vegas Veterans Hospital, Fort Detrick, US Federal Courthouse in Seattle and Children's Hospital of Orange County.

Duke Energy



Description: Evaluated the condition of the Hinds combined cycled natural gas plant in Jackson, Mississippi. The clay soil would swell when it become saturated causing it to lift up as much as four inches on the pipe rack between the heat recovery boiler and the turbine. Field walk down was conducted and an analysis was conducted to determine if in the increased nozzle loads on the turbine were outside the limits allowed by the manufacturer. Drain lines were recommended at the new low points as a result of the soil swell to prevent water slugs from damaging the turbine blades.

Alstom Power

Description: Consulting work has been performed for Alstom Power at many different fossil fuel plants. One project was the South Coast Power Authorities Plant in Ponce, Puerto Rico where survey work was conducted to accurate model the main steam piping. A study was conducted to resolve issues with the main steam line pushing over the steam chest. The study and the final design solution allowed the plant to stay operation and improve the overall safety of the plant.

Another such project was the Shoiba Power Plant in Jeddah, Saudi Arabia. There were original design mistakes associate with the boiler recirculation pumps secondary piping due to differential expansion. A site assessment was done along with a detailed analysis followed by a design solution.

Team

LARRY A. LOZIUK

EDUCATION

M.S., Structural Mechanics - University of Illinois - Chicago, 1972

B.S., Structural Mechanics - University of Illinois - Chicago, 1970

PROFESSIONAL CERTIFICATIONS

Code Participation

Member - ASME B31.9 – Building Service Piping (2003- Present)

Vice Chairman - ASME QME - Subcommittee on Qualification of Active Dynamic Restraints (1994-1997)

Member - ASME III SubGroup Design (1990-1995)

Chairman - ASME III Working Group on Reinforced Fiberglass Pipe (1980-1995)

Training Seminars

Course Director - CFPA Short Course on Piping Design, Analysis and Fabrication.

Course Director – Piping Seismic Retrofit of California Hospitals



Registered Professional Engineer in the State of Illinois
Registered Professional Engineer in the State of California
Registered Professional Engineer in the State of Pennsylvania
Registered Professional Engineer in the State of Nevada
Registered Professional Engineer in the State of Washington
Registered Professional Engineer in the State of Oregon

EXPERIENCE

Mr. Loziuk is currently president Greenergy, Inc. Previously he spent 10 years with Duke Engineering & Services as a Senior Consultant. Prior to DE&S, he was Vice-President of Engineering for GDS Associates, a Chicago based Engineering Consulting firm. Mr. Loziuk also spent 10 years with Sargent & Lundy Engineers in their Structural and Engineering Mechanics Departments.

Mr. Loziuk has practiced engineering for over 35 years in the areas of Piping Design & Analysis, Vibration, Finite Element analysis, Structural analysis, Stress analysis, Fluid Transients, and Heat Transfer. During the past 25, years, Mr. Loziuk has lectured in the United States, Canada, South America, Europe and the Middle East in the area of Piping Design and Analysis. He has consulted to the Power, Refinery, Chemical, Process, Paper, Fiberglass, Manufacturing and Testing industries. He served as a Member of ASME Section III - Sub Group on Design and as Vice Chairman of ASME QME - Subcommittee on Qualification of Active Dynamic Restraints. He also served as the Chairman of the ASME Section III Working Group on Fiberglass Reinforced Pipe. He is currently a member of ASME B31.9 – Building Service Piping.

Michael McDonald

EDUCATION

B.S., Civil Engineering – Bradley University
Graduate level courses in Structural Engineering at the University of Illinois

PROFESSIONAL CERTIFICATIONS

Registered Structural Engineer in the State of Illinois and Utah
Registered Professional Engineer in the State of Illinois, Utah, Alaska, Nebraska, Kentucky, Missouri, Indiana, Michigan, Wisconsin, Ohio, North Carolina and Pennsylvania

EXPERIENCE



Mr. McDonald is a Structural Engineer with more than 30 years of experience in the analysis and design of utility, industrial, and commercial structures. His expertise's are in the areas of building design and modification, material handling and equipment design, seismic qualification and dynamic analysis and facility improvement projects.

Mr. McDonald directs activities to oversee all structural engineering work; as well as, developing and administering engineering design procedures for conducting engineering work in accordance with all local and governmental building codes. Mike prepares and reviews design calculations, responds to field construction problems, prepares and reviews structural drawings, conducts field examinations for structural modifications, and prepares written reports, design criteria, specifications, and total installed cost estimates. Mike has also worked in the fossil-fuel power and renewable energy divisions for Duke Engineering & Services (formerly Impell Corporation) as a Supervising Structural Engineer and Sargent & Lundy Engineers.

Mr. McDonald has authored and presented papers for the American Power Conference on the evaluation of in-place structural steel framing for increased loading and on remedies for the build-up of ice in front of plant intake structures. He is also a professional member with the American Institute of Steel Construction, the American Concrete Institute and former committee member on the Technical Council for Forensic Engineering with the American Society of Civil Engineers.

He is proficient in the use of STAAD Pro, GTStrudl, and RISA 3D structural analysis and design software

ALEX HERMSEN

EDUCATION

B.S., Mechanical Engineering - University of Colorado, 2007

PROFESSIONAL CERTIFICATIONS

Engineering in Training
LEED AP BD & C

EXPERIENCE

Mr. Hermsen has extensive energy modeling experience. He has performed LEED energy analysis and completed LEED documentation for over 25 projects. His LEED experience includes new constructions, existing, core & shell and commercial interiors projects. His modeled several facility types including multi-family, educational, recreational, medical, and office buildings. His experience with modeling central plant



systems will be an asset to this project and will help insure the project reaches its LEED and energy goals. Mr. Hermsen primarily uses eQuest, Ecotect, EnergyPlus, Therm 5, and Window 5 to provide valuable insight during the design process. Mr. Hermsen has successfully modeled several advanced HVAC system such as; variable refrigerant flow, under floor air distribution, and chilled beam technology.

DAVID LOZIUK

EDUCATION

B.S., Civil Engineering - University of Colorado, 2005

PROFESSIONAL CERTIFICATIONS

Registered Professional Engineer in the State of Illinois

EXPERIENCE

Mr. Loziuk has operated as a Project Engineer responsible for civil, mechanical, electrical & plumbing designs. He was responsible for producing construction documents that meet the International Building Code. Mr. Loziuk has also acted as design engineer responsible for incorporating innovative technologies to ensure the project attains LEED certification. Mr. Loziuk has experience performing building energy modeling and thermal building analysis. His experience will help facilitate a better building design along with a smooth LEED submittal. His project experience includes the Cottage Hospital, Las Vegas Veterans Affairs Medical Center, Kaiser Anaheim Hospital, Santa Clara Valley Medical Center, Kaiser Fontana Hospital, Torrance Memorial Medical Center, Children's Hospital of Orange County, Oakland Hospital, Sequoia Hospital and Huntington Hospital.

RACHEL LOZIUK

EDUCATION

B.S., Mechanical Engineering - University of Colorado, 2002
Acton School of Entrepreneurship – Austin, Texas, 2010

PROFESSIONAL CERTIFICATIONS

Engineer in Training

EXPERIENCE

At Greenergy, Mrs. Loziuk works on day-to-day operations and marketing. She also oversees new business development for wind energy projects.



Prior to joining Greenenergy, Mrs.Loziuk worked at Invenergy LLC, one of the largest independent power producers in North America. She oversaw the wind resource and turbine suitability studies for more than fifty (50) project sites in North America and worked first hand with large wind turbine manufacturers, including GE, Enercon and Vestas. Having a background in Wind Turbine Supply Chains, she created a vendor evaluation strategy to repair assets valued at over \$1.5 Billion USD. She also worked with the US Department of Energy's National Renewable Energy Laboratory to help improve wind turbine reliability. Prior, Mrs.Loziuk worked for Clipper Windpower, a US manufacturer of utility-sized wind turbines, and was part of a team of Engineers that discovered the root cause of failing gearboxes valued at over \$15 Million USD.