

Eric Lysiak

Doylestown, PA - Email me on Indeed: [indeed.com/r/Eric-Lysiak/d08a141837226cd7](https://www.indeed.com/r/Eric-Lysiak/d08a141837226cd7)

WORK EXPERIENCE

Marine electrical engineer manager

United States Navy, NAVSEA - Washington, DC - September 2009 to Present

Headquarters, Washington, DC, September 2009 ~ present

Electrical Engineering Senior Manager, Marine Engineering, Navy Technical Authority (NTA), Subject Matter Expert (SME) 05Z32

Senior member of the Institute of Electric & Electronic Engineers / Power Engineering Society / Insulated Conductors Committee for medium and high voltage cable standards, along with all shipboard NEMA cable committees. Review issues to determine risk and update internal construction & engineering specifications and standards, including work instructions and test requirements. Address real time issues along with the evaluation and mitigation of electrical risks and contractual technical requirements for submarine Hull, Mechanical and Electrical (HM&E) systems. Identifying relevant emerging technologies across the Naval enterprise to include solutions and initiation of corrective actions to technical problems as they arise. Manage engineering development programs involving shipboard system modifications and configuration changes.

* Presently working on the next series of nuclear carriers, destroyers and submarines (SUBSAFE). My responsibilities include acquisitions reviews, inspections and high density electrical systems (medium and high voltage along with high ampacity applications), including power distribution, nuclear generation, weapons systems, radar and communications (RF) electronics, designs, installations logistics, testing and maintenance requirements.

* Responsible for total ship power systems which includes; medium voltage cables, connector and splices, along with related specifications and related instructions. Includes in-depth analyses, comprehensive analytical evaluations research, development, test and evaluation, design, production, assembly production qualification test and evaluation, maintenance, life cycle engineering and acquisition of all related ship board power systems; this includes Naval Ships' Technical Manuals (NSTM) standards and specifications.

* Research and develop real time technical solutions to problems found during construction and operations underway.

* Instrumental in changing the Qualified Product List (QPL) requirements, using third party accredited laboratories for the qualification of materials and products to reduce fraud and provide more accountability of our vendors.

* Instrumental in providing maintenance guidance for medium voltage testing to ensure reliability using new Very Low Frequency (VLF) dielectric testing, partial discharge, AC withstand and Doble (power factor) testing.

Private Consultant

Iberdrola Wind, Private Consulting - May 2009 to September 2009

Failure mode analysis on field failures for wind turbines acquisitions (electrical systems and mechanical components), diagnosed an ongoing power generation risk and provide solutions to production and field engineering services to prevent the condition in the future.

* Performed in-depth analysis and comprehensive analytical electrical evaluations regarding; acquisitions, designs, inspection, test and evaluation, commission, operations, planning and maintenance of new and in service power generation wind-turbines.

Standards Engineer, Transmission & Distribution Standards and Substations

Pennsylvania Power Light, System Maintenance - Allentown, PA - August 2006 to March 2009

Allentown, PA, August 2006/March 2009

Standards Engineer, Transmission & Distribution Standards and Substations; Systems Maintenance

Active member of the Institute of Electric & Electronic Engineers/Power Engineering Society/Insulated Conductors Committee, medium and high voltage standards, along with an appointed member of the Association of Edison Illuminating Companies - Cable Engineering Committee. Review and update internal Construction & Engineering Specifications and Standards, including work instructions and test requirements.

* Root case and failure mode analysis, Transmission and Distribution safety, hands on training of craft personnel along with new designs for underground medium and high voltage power cables, connections and coordination devices used within substations, acquisitions reviews.

Address electrical failures: identify their failure mode, review the designs and instructions to identify the source, update drawings, instructions, installations, and training to ensure actions to prevent future installations and design errors from occurring in the future.

* Wrote and implemented a mechanical engineering Connector Design criteria used to mathematically model the connector, conductor and compression die combination, used to improve reliability. Add new technology to reduce labor cost while increasing and maintaining a vast power system. For example, ShearBolt connectors were added to inventory and splice kits, reducing the direct labor costs and errors caused by improperly maintained equipment; improper dies, oil levels, incorrect die head tonnage damaged equipment, etc.

* Use Cyme and Etap software to simulate cable ampacity and ICEA Standards to calculate short circuit currents to align cable designs to meet our Transmission and Distribution system fault duty requirements.

* Increase compression connector performance and reliability by aligning the connector to match our compact conductor designs; this action increased ampacity, while reducing overheating and failures.

* Increase our primary metallic shield fault duty 275%, while reducing the direct and indirect overall cost by \$1000/reel. The new design increased safety while reducing the over cost of the equipment and the total overall cost of the installation since an additional wire or cables did not have to be pulled. In some cases, I was told by the electrical foremen that the additional cable/wire was not included because they forgot, making the new design error free, a Pokie-Okie design.

* Reengineered the smaller sized conductor primary metallic shield from full neutral/phase to a 1/3 neutral/phase resulting in an overall cost savings, while increasing the ampacity of the circuit.

* Model our larger conductors to meet our electrical systems fault duty requirements, while having a positive impact on reducing our inventory and providing an easier installation, using a single contained design in place of a separate neutral design.

* Argue the substation equipment fault duty side, addressing the Code of Federal Regulatory & Public Utilities Commission request to improve reliability, (SAIDI and CAIDI) ensuring that low and high set relay settings stay in place, removing the chance of relying on Time over Current (ToC) and burning up the smaller shield and reducing the overall life cycle of the underground cables.

Product Engineer/Manager, Underground (URD) Medium & High Current

Thomas & Betts, Elastimold Division - Hackettstown, NJ - June 1998 to August 2006

Research, Development, Test & Evaluation Center), Hackettstown, NJ, June 1998 / August 2006

Product Engineer/Manager, Underground (URD) Medium & High Current/Voltage Transmission & Distribution; connectors, dielectric materials and performance, cables and accessories, working knowledge of IEEE C57, 386, 404 & 48, ANSI C119.4, IEC 61238, ICEA & AEIC specifications.

Supervised 4 direct reports in designing and delivering high-voltage underground T&D products. Provide electrical training, define risk, plan, coordinate and manage projects, meet with customers and secure contractors. Provide support in facilities maintenance for an (R&D) center along with operations and maintenance of a 230–15kV substation; which supports a momentary cell, a medium voltage loadbreak cell, 2 resonant test sets (600 & 300kV RTS) and a 1.2MV Marx impulse generator; medium and high voltage test and evaluation.

- * Updated all steel overhead doors to insulated, reducing the energy consumption. Updated R&D test lab HVAC controls to automatically control temperature and humidity, implemented an overhead crane inspection system, address facilities issues day to day operations. address deionization water systems problems and take actions for future (decreasing down time, and maximizing high voltage testing), replace cinderblock and metal railing to monolithic concrete pour and stainless steel railing.

- * Ensure quality control and reliability through compliance to IEEE, IEC, NEC and ANSI Standards regarding medium and high voltage applications and connections for URD cables, worldwide.

- * Plan and coordinate a re-engineered (by design) 138kV transmission splice to meet the IEEE-404, IEC 60840 and customer requirements; exceeding the requirements. Developed a pressure profile device, used to confirm the molded interface on all transmission splices before dielectric testing to the IEEE 404 standard. This test maximized splice testing, while reducing man-hours for cable preparation.

- * Plan and implement a program to convert all bound test report and laboratory note books into a PDF searchable database. This cost savings allowed for quicker searches and sharing of data among all along with instant access to all test reports to share with our customers.

- * Provide continuous support to my staff, encouraging them to push themselves further thru advanced education.

Project/Controls Engineer, Process

engineering consulting firm supplying services to Techneglas Inc - Pittston, PA - 1996 to 1998

automation designs and installation of very large conveyor feed servo driven production lines, total of 36 lines.

- * Directed electrical projects valued up to \$30 million that included overhaul/update product lines, and highly refined process tracking technologies. This software allowed for statistical process control to be fine tuned in order to meet the companies six sigma/lean requirements.

- * Supervised electricians and up to 12 contractors to meet safety requirement and consistently deliver electrical and facilities projects on time and within budget, meeting the National electrical code (NEC) specifications.

- * Designed, installed and provided trouble shooting for Allen Bradley PLCs, inverter drives and fully automated very large production lines, wrote and updated code as needed to improve manufacturability and safety related issues.

- * Identified the source of harmonics back feeding the transmission substation. Redesigned and updated the invertors to include filters, chokes and motors with Class H insulation, power electronics.

EDUCATION

Power Engineering Villanova University - Villanova, PA
2006 to 2007

Doctors in Software Engineering

Penn State Great Valley
2004 to 2006

MSEE in Electrical Engineering

Penn State Great Valley
2001 to 2004

Electrical Engineering

Penn State University

1991 to 1996

Planning, Research

Defense Acquisition University - Washington, DC

Masters in Systems Engineering

Penn State Great Valley