



## Curriculum Vitae of

### TRENT D. THOLEN, BSEE, MEEE, ADMBA, P.E.

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#### SYNOPSIS

Mr. Tholen has obtained a broad background working for the Air Force, the private sector, and academia. In the private sector, he gained hands-on experience troubleshooting, reconditioning, and rewinding three-phase transformers and motors up to 8500 Hp for his first foray into engineering. He then worked for FMC Jetway Systems providing electrical design for Jetway Passenger Boarding Bridges and was awarded a patent for one of his component designs. Mr. Tholen then transitioned to working for the Air Force and has provided engineering installation design and troubleshooting for industrial plant equipment and support for facility electrical distribution. His responsibilities have included designing, analyzing, and reviewing facility electrical distribution. Mr. Tholen has been a staunch proponent of implementing electrical preventive maintenance and complying with electrical safety. Mr. Tholen participates in a monthly Department of Defense (DOD) electrical discipline working group to help make changes to the DoD Unified Facility Criteria (UFC) and Unified Facility Guide Specification (UFGS) documents. Mr. Tholen has used modeling software for facility electrical distribution design and analysis of load flow, voltage magnitude, short circuit, arc flash, and circuit breaker coordination studies. Mr. Tholen specializes in power quality analysis and has conducted many power quality studies to determine the power quality and the source of any power quality anomalies not in compliance with industry standards. Mr. Tholen also specializes in electrical machinery and has taught part-time for 5 years Power Systems (ECE 3510) and Advanced Power Systems (ECE 5510) at Weber State University. Mr. Tholen is also a principal committee member of National Fire Protection Agency (NFPA) 77, *Recommended Practice on Static Electricity*. Mr. Tholen has a great interest in NFPA 70e and the NEC and has taught licensed electricians the NEC and 70e changes to meet their training requirements, as approved by the states of Utah and Oklahoma. Mr. Tholen has participated in failure analyses related to fires, explosions, and electrical equipment. In addition, Mr. Tholen's experience with electrical equipment design and maintenance, and his knowledge of the use of electrical equipment in a hazardous environment together with his experience regarding workplace safety have given him a practical understanding of the complexity of electrical accidents enabling him to readily identify the cause and origin of electrical incidents. Mr. Tholen has investigated shock or arc flash incidents and developed electrical safety training for Hill Air Force Base and other Air Force bases to address the gaps observed in training.

#### EDUCATION

University of Utah, Salt Lake City, UT.

**B.S. Electrical Engineering**

**1993**

University of Idaho, Moscow, ID. (Online)

**M.E. Electrical Engineering**

**2019**

**(Emphasis on Power Systems)**

University of Tennessee, Knoxville, TN.

**MBA Aerospace & Defense**

**2022**

## REGISTRATION

Registered Professional Engineer in Utah  
Registered Professional Engineer in Idaho (Retired status)

## EXPERIENCE (Full-Time)

Hill Air Force Base, HAFB, Utah

<b>Lead Systems Integrator – Ground Based Strategic Defense</b>	<b>2023 – Pres</b>
<b>Supervisory General Engineer – Industrial Plant Equipment Engineering</b>	<b>2021 – 2023</b>
<b>Senior Engineer – Industrial Plant Equipment Engineering</b>	<b>2011 – 2021</b>
<b>Electrical Engineer – Industrial Plant Equipment Project Support</b>	<b>2004 – 2008</b>

Ramstein Air Base, Germany

<b>Section Chief – Infrastructure Engineering</b>	<b>2008 – 2011</b>
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FMC Airport Systems - Jetway, Ogden, Utah

<b>Electrical Engineer</b>	<b>1996 - 2004</b>
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Equipment Maintenance Services, West Valley City, Utah

<b>Electrical Engineer / Electric Motor Winder</b>	<b>1993 - 1996</b>
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## EXPERIENCE (Part-Time)

Palmer Engineering and Forensics, LLC, Kaysville, Utah

<b>Senior Electrical Engineer</b>	<b>2023 – Pres</b>
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Weber State University, Ogden, Utah

<b>Adjunct Instructor – Electrical &amp; Computer Engineering Department</b>	<b>2019 – 2023</b>
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Select Engineering Services, Layton, Utah

<b>Electrical Design Engineer – MEP Design for Commercial Buildings</b>	<b>2013 – 2018</b>
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## INCIDENT INVESTIGATIONS

Mr. Tholen has investigated electrical incidents varying from shock and arc flash to electrical equipment failure for decades. As a recognized expert he has traveled to other states and countries to support equipment or electrical incident investigations while working for the Air Force. He has investigated numerous equipment failures to determine root causes and mitigation. He has investigated numerous personal injuries to determine root causes and necessary training improvements. Mr. Tholen is a go-to person for troubleshooting complex equipment and means of failure as well as investigations of violations of the NEC or NPFA 70e.

## PROFESSIONAL AFFILIATIONS

Mr. Tholen is a member of the following technical and professional societies:

SAME - Society of American Military Engineers

NFPA - National Fire Protection Association (NFPA 77 Principal Committee Member)