

# Montana Professional Engineers Hall of Fame

## Frank E. Perusich, P.E.

Montana Professional License Number 1995E

- \* United States Air Force, 1954-1958
- \* Montana State (College) University – B.S. Degree, Electrical Engineering, 1962  
University of New Mexico – M.S. Degree, Electrical Engineering, 1964  
Member: Tau Beta Pi Engineering Honor Society and Phi Kappa Phi Honor Society
- \* Engineer at Sandia (Corporation) National Laboratory, Albuquerque, NM, 1962-1965 in the nuclear weapons field test department responsible for instrumentation development and testing for nuclear weapons hardening.  
Engineer-in-charge at Sandia (Corporation) National Laboratory, Tonapah Test Range, Tonapah, NV, 1965-1968 responsible for development and testing of instrumentation systems for nuclear weapons testing and development.
- \* Engineer at Aerospace Research Inc. (ARI), Brighton, MA, 1968-1975 for the development of a foliage penetration radar system for planned use in the Vietnam War including field testing. Worked on development of applying adapted radar technology for use in ultrasonic and infrared intrusion alarm systems.
- \* Supervising Engineer for Planning & Analysis and a Senior Technical Engineer at SSR Engineers/HDR Engineering, Billings, MT, 1975-2015.
- \* Engineer for over 40 years of electrical power system transmission and distribution planning & analysis studies for numerous municipalities, public power districts, rural electric cooperatives and independent power suppliers and users throughout the western United States helping to provide reliable electrical power to consumers, many located throughout rural Montana. System analyses included large motor starting and generator loading and pickup applications.
- \* Engineer for field testing, troubleshooting and commissioning of electrical control systems in electrical power substations and industrial facilities including preparation of protection relay device settings for implementation.
- \* Engineer for the study how to serve loads at the Zortman mine near Landusky over a long weak distribution line owned by Big Flat Electric Cooperative to support water quality processing mandated by the State of Montana. Analysis and solution included multiple modifications to the distribution line adding voltage correcting equipment along the line and at the end of the line, as well as local standby generation at the mine site.
- \* Engineer for study and analysis for improving the power system quality in the Powder River Basin region of Wyoming impacted by large coal mines served by heavily loaded transmission lines. Study commissioned jointly between Powder River Energy and various coal mines included recommended correction measures to mitigate unacceptable voltage swings on the power system created by large drag lines during motoring and re-generation conditions during drag line operation. Study results were presented to the Western Mining Electrical Association for application to industry and implementation.
- \* Engineer for study, analysis and field testing for the evaluation of electrical power system harmonics created by large motors driven by variable speed drives installed throughout the Bakken oil region of western North Dakota and eastern Montana. Study encompassed Electric Cooperative systems including Slope Electric, McKenzie Electric and Burke Divide Electric in North Dakota and Lower Yellowstone Electric in Montana. Coordinated the development of harmonic filters needed to eliminate harmful harmonics improving power quality on the electrical power system.
- \* Provided technical support to Planning and Analysis engineering staff during preparation of engineering studies for campus electrical distribution system upgrades at Montana State University – Bozeman. Engineer supporting outage and power quality analysis including harmonics at Montana State University – Bozeman with recommendations to correct these problems.

Inducted November 4, 2015

Presented by the Montana Society of Engineers  
A state society of the National Society of Professional Engineers

