

TONY KRIEL, PE, LEED® AP BD+C, LEED® AP O+M

Education

B.S., Mechanical Engineering, University of Wisconsin – Madison, 2007

Professional Licenses

Professional Engineer (PE) – Wisconsin

USGBC LEED® Accredited Professional (LEED AP BD+C and LEED AP O+M)



Professional Affiliations

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

Professional Experience

Mr. Kriel is SCS Engineers' National Expert on Facility Energy Management. He has 13 years of consulting experience as a mechanical engineer and his project experience includes specializing in Cx, RCx, ASHRAE Level I-III energy audits, and other design-related energy services. Tony has managed multiple large (>million square foot) projects and has worked with industrial, commercial, military, federal, state, municipal, and solid waste clients.

Cx - Commissioning

Implemented and managed the commissioning (Cx) process for a variety of buildings. Performed both fundamental and enhanced Cx services as outlined in the U. S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program. Cx activities included assistance in developing and reviewing the owner's project requirements and basis of design documents. Additional Cx activities include reviewing design development, construction documents, and submittals; developing construction checklists; administering system performance tests; evaluating owner training; developing building systems manuals; and conducting operation and warranty site visits.

- Marshal Erdman Headquarters, Madison, WI; 132,000 SF
- Milwaukee Public Library – Zablocki Branch, Milwaukee, WI; 54,000 SF
- Iowa County Health & Human Services Building, Dodgeville, WI; 30,000 SF
- Lake Mills Middle School, Lake Mills, WI; 97,000 SF
- UW-La Crosse – Eagle Residence Hall, La Crosse, WI; 228,000 SF
- UW-Oshkosh – Elmwood Student Success Center, Oshkosh, WI; 42,000 SF
- VA Medical Center, Madison, WI; 1,400,000 SF
- Lovell FHCC, North Chicago, IL; 16,000 SF
- VA Medical Center, Iron Mountain, MI; 30,000 SF & 6,000 SF

RCx - Retro-Commissioning

Performed retro-commission (RCx) services for a major mid-western university's medical education and research facility. Worked with service personnel, performed trend analysis, identified energy conservation opportunities, implemented sample opportunities, prepared energy and cost savings

figures, and estimated implementation costs. Developed and reviewed findings with service personnel and implemented facility-wide energy conservation measures.

- University of Iowa – MERF, Iowa City, IA; 214,000 SF
- Immaculata Monastery, Norfolk, NE; 125,000 SF
- University of Iowa – Pomerantz Family Pavilion, Iowa City, IA; 785,000 SF
- Arraj Federal Courthouse, Denver, CO; 327,000 SF
- Denver Federal Center, Denver, CO; 730,000 SF
- VA Medical Center, Madison, WI; 1,400,000 SF
- VA Medical Center, Tomah, WI; 200,000 SF
- Peoria Air National Guard Base, IL; 50,000 SF
- Wallace F Bennett Federal Office Building, Salt Lake City, UT; 386,000 SF

ASHRAE Energy Audits

Lead energy auditor for hospitals and manufacturing facilities. Obtained/reviewed previous facility energy data, evaluated on-site energy equipment and issues (e.g., HVAC equipment, building controls, lighting, boilers, chillers, air compressors, building envelope, etc.) in order to identify potential energy conservation measures (ECMs). Obtained site-specific information in order to perform energy and cost saving calculations. Calculated energy and water conservation measures.

- VA Medical Center, Madison, WI; 1,400,000 SF
- Gulfstream, Long Beach, CA; 355,000 SF
- Gulfstream, Mexicali, Mexico; 335,000 SF
- BMACT Energy Assessments – Quad Graphics; 7,200,000 SF
- WI DHS – Mendota Campus, Madison, WI; 1,300,000 SF
- VA Medical Center, Iron Mountain, MI; 320,000 SF

Energy Modeling

Generated numerous building energy models for LEED under the Energy and Atmosphere Credit #1: Optimize Energy Performance. Worked extensively with Wisconsin's Focus on Energy New Construction Program to perform energy modeling at over 50 facilities (greater than 3.2 million square feet) with a unique approach to evaluate, choose, use, calibrate, and interpret the results of energy modeling software when applied to buildings and process systems. Proved competency in modeling new and existing buildings and systems with their full range of physics. Projects have ranged from traditional offices to hospitals, schools, higher educational facilities, and manufacturing facilities.

- Virtua Replacement Facility, Voorhees, NJ; 680,000 SF
- Lincoln County Jail, Merrill, WI; 74,000 SF
- Bellin College School of Nursing, Green Bay, WI; 73,000 SF
- Aurora Hospital, Grafton, WI; 500,000 SF
- UW-Madison LaBahn Ice Hockey Arena, Madison, WI; 120,000 SF
- UW Health – Wingra Clinic, Madison, WI; 75,000 SF

Implemented Measurement and Verification (M&V) plans for a variety of facilities. Detailed the process in which the project's energy conservation strategies would be measured and determined the actual savings produced by those measures. Reviewed the results with the project team.

- Aurora Hospital, Grafton, WI; 500,000 SF

- Lake Mills Middle School, Lake Mills, WI; 97,000 SF
- UW-Oshkosh – Elmwood Student Success Center, Oshkosh, WI; 42,000 SF

Geothermal Feasibility and Design Services

Conducted feasibility studies for various types of facilities. Determined energy and cost savings, and estimated implementation cost, simple payback, and life cycle payback. Performed cost savings calculations using computer-generated energy models. Used RSMMeans data and contractor feedback to estimate implementation costs.

Prepared detailed design plans and specifications for exterior geothermal field system installations including site layout, field parameters, ground conditions, and other geothermal related detail sheets. Provided geothermal construction administration services. Worked closely with the Wisconsin Department of Natural Resources and the local municipal utility representative to ensure a successful geothermal installation. Ensured that the system was installed per the contract documents.

- Glacial Drumlin Middle School, Cottage Grove, WI; 160,000 SF
- Shawano Elementary School, Shawano, WI; 125,000 SF
- City Hall, Edgerton, WI; 6,000 SF
- Village Hall and Police Department, Mt Pleasant, WI; 72,000 SF
- Utilities Operations Center, Plymouth, WI; 50,000 SF
- Oneida Nation – Residential Care Facility, Oneida, WI; 98,000 SF
- Promega Manufacturing Facility, Fitchburg, WI; 260,000 SF

Solar PV

Engineer for utility scale PV system installed on top of landfill final cover system. Project PV feasibility assessment included conducting a solar site evaluation, conducting a utility interconnection assessment, conducting a site engineering assessment, evaluating ground mounted PV system types, evaluating PV conceptual design, and conducting economic analysis of the proposed PV system.

- Rock River Generating Station – Beloit, WI
- City of Janesville Sanitary Landfills – Janesville, WI

Conducted third-party energy modeling certification for solar hot water heating systems. Certification integrates results of collector tests and system tests with evaluations against minimum standards of system durability, reliability, safety and operation; as well as factors affecting total system design, installation, maintenance, and service. Helped solar hot water heating manufacturers improve performance and reliability of solar products.

- OG-300 Solar System Certification, Solar Rating & Certification Corporation

Design and Consulting

Designed mechanical heating and cooling systems. Mechanical systems included variable air volume terminal units, four-pipe fan coil units, chilled beam, induction units, geothermal heat pump, constant volume single zone units, radiant floor, underfloor air distribution, variable refrigerant flow, boiler, chillers, campus steam, and district chilled water systems.

- Discovery World – Milwaukee, Milwaukee, WI; 120,000 SF

- Harley Davidson Museum, Milwaukee, WI; 130,000 SF
- Medical College of Wisconsin, Milwaukee, WI; 60,000 SF
- Issaquah Medical Center, Issaquah, WA; 55,000 SF
- ANGI, Janesville, WI; 141,000 SF
- Denver Federal Center, Denver, CO; 730,000 SF

Publications and Presentations

“Save Money by Eliminating Air Leaks,” Graphics Journal (Volume 3, Issue 6, July 2018), pages 22-23.

“H₂S is Bad News – Prevention & Treatment,” Presented to Wisconsin Integrated Resource Management Conference, Elk Hart Lake, WI, March 2018.

“Final Cover State of the Practice,” Presented to Wisconsin Integrated Resource Management Conference, Elk Hart Lake, WI, March 2017.

“Saving Energy Makes Dollar\$ and Sense,” Graphics Journal (Volume 1, Issue 10, November 2016) pages 12-13.

“Applying Commercial Energy Conservation Measures at Wastewater Treatment Plants,” Presented to Central States Water Environment Association, Minneapolis, MN, 2014.

“Energy Modeling Quality Assurance,” Presented to American Society of Heating, Refrigerating, and Air Conditioning Engineers, Milwaukee, WI, 2012.

“Commercial Geothermal Installs - an Engineer’s Perspectives,” Presented to Wisconsin Geothermal Association, Wisconsin Rapids, WI, 2011.

“Municipal Sustainability Strategies,” Presentation given on behalf of Town & Country Resource Conservation Conference to municipal employees, Pewaukee, WI, 2010.

“Energy Systems in Buildings,” Presentation for Half Moon Seminars, Pewaukee, WI, 2009.