

ENERGY EFFICIENCY AND DATA CENTERS

October 28, 2015

7:30 am until 4:30 pm

**Comfort Suites Airport
3180 N. Washington Street
Helena, MT 59602**

Registration Fee: \$139

*Registration fee is **waived** for employees of companies that are NorthWestern Energy electric customers—limit of one employee per Large USB Choice Customer. Due to limited class size and limited opportunities to provide this training in Montana, the number of representatives from any single organization may be limited; a waiting list will be developed if needed. Northwestern Energy customers, please enter the following discount code when registering online: **NWE**

0.7 Continuing Education Units through Washington State University may be made available for this training

Key Learning Objectives

- Develop basic understanding of how energy is used in data centers and how IT and facility systems interact
- Identify commonly found opportunities for improving energy efficiency and reducing energy operating costs
- Identify available tools and common benchmarks for evaluating data center energy performance
- Learn about potential solutions to overcome typical barriers for improving energy efficiency

Who Should Attend

- Senior management
- IT Staff – equipment and software
- Facilities staff
- Finance staff – capital and expense

Agenda

- 7:30 Registration (breakfast provided)**
- 8:00 Morning Session**
 - Introductions – “Why are you here?”
 - Utility introductions
 - Data center components, equipment, energy use, and typical operations management
 - Benchmarking – examples and exercise
- 11:30 Lunch (provided)**
- 12:30 Afternoon Session**
 - Opportunities for improved efficiency by increasing equipment purchasing specs.
 - IT opportunities for improved efficiency
- 2:00 Break**
- 2:15 Afternoon Session Continued**
 - Facility (HVAC) opportunities, examples of best-in-class practices
 - Design approaches: Google, Yahoo, Microsoft
 - Possible utility incentives
 - Where to go for help
 - Bringing IT, facilities, and finance together
- 4:15 Summary and Evaluation**
- 4:30 Adjourn**

Course Description: Attendees will gain a fundamental understanding of how energy is consumed, industry best practices, and opportunities for improving energy efficiency in data centers. Different systems and components will be introduced, exploring how their various components interact and influence energy consumption and efficiency of the data center. The course is not intended to provide comprehensive information on how to design or operate all the equipment and systems discussed, but focuses on system interactions the potentially large opportunities for improved energy efficiency.

Instructor: **Mike Bailey** leads the engineering team at the Energy Trust of Oregon, and also provides independent engineer consulting for energy efficiency projects, particularly data centers. He has over 20 years of engineering and project management experience in a wide range of industries, including data centers. A licensed mechanical Professional Engineer in Oregon and California, Mike has extensive experience with the design and operation of facility systems and brings a strong background in financial analysis and business management. Mike has an MBA from Babson College and previously worked for Intel as a finance manager responsible for over \$1 billion in annual capital purchases.

Hosting Sponsors



Co-Sponsoring Organizations



This training is provided by Ecova. For more information: <http://www.ecova.com/>

The Northwest Regional Industrial Training project is coordinated and funded by the Northwest Energy Efficiency Alliance (NEEA), a private non-profit organization funded by Northwest utilities, the Energy Trust of Oregon, and Bonneville Power Administration. NEEA and its stakeholders subsidize up to 85% of the cost to attendees, which means the cost listed on the front of this brochure is significantly less than the average price in the marketplace. NEEA works in collaboration with its stakeholders and strategic market partners to accelerate the sustained market adoption of energy-efficient products, technologies, and practices. NEEA's market transformation efforts address energy efficiency in homes, businesses, and industry.

How to Register

Registration deadline is **October 14, 2015**

Register online:

www.regonline.com/159neea-industrialtraining

Or fax, email, or mail the below registration form to:

Phone: 888-720-6823

Fax: 503-525-4800

Email: industrial-training@industrial.neea.org

NEEA Industrial Training c/o Ecova
100 SW Market St, Suite 200
Portland, OR 97201

Please make checks payable to NEEA Industrial Training c/o Ecova#2300

Questions

Visit <http://neea.org/get-involved/calendar> or contact the training center at 888.720.6823 or industrial-training@industrial.neea.org

Registration Form – Please register me for the **Data Centers** training on **October 28:**

First Name	Last Name	Title	Phone/Fax
Company Name		Utility Provider	E-mail Address
Address			Please indicate special diet needs: <input type="checkbox"/> Vegetarian <input type="checkbox"/> Other _____
Zip	City	State	
Participation approved by: _____ Supervisor name		Supervisor e-mail _____	

Other Payment Options

Please enclose a check with this registration form and mail to the above address.

If paying by purchase order please call 888-720-6823 or fax registration form to 503-525-4800.

Discount Code: _____ Purchase Order: _____

Cancellation Policy: Full refund of registration fee if attendance is cancelled by October 14; half refund thereafter.