

Industrial Refrigeration Systems Energy Management



HOSTED BY OKANOGAN COUNTY PUD

March 28, 2018

Okanogan County PUD
1331 Second Ave N
Okanogan, WA 98840

Registration Fee: \$139

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

Class size is limited to 25 attendees

Key Learning Objectives

- Learn basic principals of ammonia refrigeration systems
- Understand strategies to reduce system capital costs
- Learn about financial utility incentives to support energy efficiency

Who Should Attend

- System operators, maintenance personnel and plant managers
- Contractors, equipment suppliers, technicians and consultants
- Energy efficiency professionals
- Utility staff

Agenda

7:30 Registration (breakfast provided)

8:00 Morning Session

- Utility bills
- Ammonia refrigeration fundamentals
- Compressors and condensers
 - Performance
 - Typical efficiency opportunities
 - Case studies
- Variable frequency drives

11:30 Lunch (provided)

12:30 Afternoon Session

- Evaporators
 - Performance
 - Typical efficiency opportunities
 - Case studies

2:00 Break

2:15 Afternoon Session Continued

- Systematic defrost optimization
- Regional utility incentive review
- Questions and answers

4:15 Summary and Evaluation

4:30 Adjourn

Course Description

With a focus on industrial refrigeration systems that use ammonia as the refrigerant, this training will equip attendees with the knowledge and tools to reduce energy usage and operating costs, and improve the reliability of refrigeration systems. Training will focus on technical basics, operation of refrigeration systems, energy efficiency potentials, and case studies of successful energy efficiency projects and implementation strategies. Participants will receive a copy of the Industrial Refrigeration Best Practices Guide, which serves as the course's technical foundation and a roadmap for making industrial refrigeration systems, both energy efficient and productive. With the knowledge and tools gained, past attendees and their customers have implemented low/no cost strategies resulting in annual energy savings greater than \$50,000.

Instructor

Dave Moser

Dave Moser is a senior project engineer at Cascade Energy in Portland, OR. Cascade Energy is a nationally recognized leader in industrial refrigeration energy efficiency, providing scoping, analysis, commissioning and verification of energy efficiency projects throughout the United States and Canada. Mr. Moser holds a BS in Mechanical Engineering from Iowa State University. He works on a variety of projects and programs at Cascade Energy, all focused on cost-effectively improving the performance of facilities through improved building operations.

Hosting Sponsor

Okanogan County PUD

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- Columbia REA
- Douglas County PUD
- Franklin PUD
- Northwest Food Processors Association
- Pacific Power
- Washington State University

Training Registration Form on Page 3

How to Register

Deadline is March 14, 2018

Register Online:

www.regonline.com/189neea-industrialtraining

Or phone or mail the registration form on the next page to:

Phone: 888-720-6823

Email: industrial-training@industrial.neea.org

NEEA Industrial Training c/o CLEAResult
100 SW Main St, Suite 1500
Portland, OR 97204

Please make checks payable to NEEA Industrial Training c/o CLEAResult Consulting

Questions

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

This training is provided by Cascade Energy, Inc. For more information, please visit:

<http://cascadeenergy.com>

The Northwest Regional Industrial Training program 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.

Register Online

www.regonline.com/189neea-industrialtraining

Registration via Mail or Email

Please register me for the **Industrial Refrigeration Systems Energy Management** training on **March 28, 2018**:

First Name	Last Name	Title	Phone
Company Name	Electric Provider		Email
Address			Please indicate special diet needs
			<input type="checkbox"/> Vegetarian
			<input type="checkbox"/> Other _____
City	State	Zip	

Payment Options

Please mail this registration form with a check to the address on NEEA Industrial Training c/o CLEAResult Consulting, 100 SW Main St, Suite 1500, Portland OR 97204

If you have a discount code, purchase order number and/or would like an invoice, please indicate so below.

Discount Code: _____ Purchase Order: _____ Invoice Request: _____

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