

Bo K. Petersson, PE | Forensic Engineer

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Professional Summary:

Bo is a licensed Professional Engineer in several states in the United States.

Bo has over 30 years' experience in designing, operating, troubleshooting, and failure analysis of mechanical systems such as air handlers, chillers, boilers, steam, natural gas and propane, thermal distribution systems as well as plumbing components and systems. Additionally, Bo has experience in operating and designing chilled water plants and central heating plants. Bo is proficient in researching, analyzing, and interpreting local and national codes and standards.

In addition to designing and operating mechanical systems, Bo has significant experience with system controls and energy efficient applications. His experience includes systems for complex facilities such as laboratory buildings, cleanrooms, biocontainment facilities, healthcare facilities, and museums. He has additional experience in analyzing control system trends, building energy usage and control system troubleshooting.

Bo's experience includes higher education facility operations, building commissioning, and engineering design as well as failure analysis.

Bo's expertise includes:

- Plumbing component, appliance, and systems
- Mechanical equipment and system analysis
- Building Commissioning
- System operation and energy use analysis
- Control systems
- Code reviews
- Troubleshooting
- Mechanical system design and design reviews and system selections.

Licenses and Certifications:

Professional Engineer, New Hampshire, 9175

Professional Engineer, Vermont, 018.0134420

Professional Engineer, Rhode Island, 13070

Professional Engineer, Maine, PE16274

Professional Engineer, Connecticut, 34242

Professional Engineer, Massachusetts, 55501

Professional Engineer, New York, 102777

OSHA 10 Certified

LEED-AP Certified

Professional Experience:

EFI Global, Forensic Engineer, 2019-present
Berry Wehmler Design Group, Senior Mechanical Engineer, 2018-2019
Cornerstone Commissioning, Director of Engineering Services, 2008-2018
Dartmouth College, Campus Mechanical Engineer, 2006-2008
Cornerstone Commissioning, Senior Commissioning Engineer, 2004-2006
Dartmouth College, Assistant Director Engineering and Utilities, 2002-2004
Dartmouth College, Campus Mechanical Engineer, 1994-2002
National Medical Care, Facilities Mechanical Engineer, 1993-1994
R.G. Vanderweil, Energy Engineer, 1992-1993
Charles R. Wilson Engineering, Design Engineer, 1989-1992

Specialized Education:

Leginella Tech Session, , ASHRAE Granite State Chapter, 2019
Air Source Heat Pumps, ASHRAE Granite State Chapter, 2019
Residential Natural Gas Systems, CFI Trainer.net, 2019
Investigating Natural Gas Systems, CFI Trainer.net, 2019
Intergrated Building Design, ASHRAE Granite State Chapter, 2019
Fire Protection Systems, CFI Trainer.net, 2019
Residential Building Construction, CFI Trainer.net, 2019
Electrical Safety, CFI Trainer.net, 2019
Basic Electricity, CFI Trainer.net, 2019
Fundamentals of Interviewing, CFI Trainer.net, 2019
Arc Mapping, CFI Trainer.net, 2019
Making Energy Efficiency a Reality, ASHRAE Webinar, 2019
Improve Boiler Performance, Cleaver-Brooks Webinar, 2019
Boiler plant optimization, Cleaver Brooks Webinar, 2019
High Performance School Design, ASHRAE Granite State Chapter, 2019
Future of Refrigerants for Unitary and VRF Systems, ASHRAE Webcast, 2019
Basics for Boiler Venting, Cleaver Brooks Webinar, 2019
Sizing and Selection for Heat Pumps, ASHRAE Granite State Chapter, 2019

Specialized Education (Continued):

Optimized Ventilation for High Performance Buildings, ASHRAE Webinar, 2019

Electrical Microgrid Systems, ASHRAE Granite State Chapter, 2018

Moisture Issues in Buildings, ASHRAE Granite State Chapter, 2018

Shaft Grounding Rings, Aegis Webinar, 2018

Keep Your Boilers Operating Safely, Cleaver Brooks Webinar, 2018

Boiler Operating Trends, Cleaver Brooks Webinar, 2018

Fan laws and Fan Curves, ASHRAE Granite State Chapter, 2018

Residential Wood Fired Boilers, ASHRAE Granite State Chapter, 2017

Steam Fundamentals, ASHRAE Granite State Chapter, 2017

Parallel Pumping, ASHRAE Granite State Chapter, 2017

Building Controls Automation and Software, ASHRAE Granite State Chapter, 2017

Data Centers HVAC Modeling, ASHRAE Granite State Chapter, 2017

Next Generation Refrigerants, ASHRAE Granite State Chapter, 2017

The Value of Energy Efficiency Investment, Jones Seminar Thayer School of Engineering, 2017

Appliance Venting, ASHRAE Granite State Chapter, 2017

VVR Compressor technology, ASHRAE Granite State Chapter, 2016

Ozone Generators, ASHRAE Granite State Chapter, 2016

Beyond Refrigerant 410a, ASHRAE Granite State Chapter, 2016

Making Net Zero Net Positive, ASHRAE Webcast, 2016

High Efficiency Medical Building Design, ASHRAE Granite State Chapter, 2016

Energy Efficient Water Based Systems, ASHRAE Granite State Chapter, 2016

Future Trends; Where is Healthcare Design Going, NEHES, 2016

2012 NFPA 101 and 99, NEHES, 2016

Advances in VRF Technologies, ASHRAE Granite State Chapter, 2016

2015 IBC and NFPA 101 Life Safety Code, NNECERAPPA, 2016

Best Practices for Lab Design, NNECERAPPA, 2016

Better than Before, HVAC System Improvements, NNECERAPPA, 2016

Concept to Completion, I2SL Tech Talk, 2015

Existing Building Commissioning, ASHRAE Webcast, 2015

Environmental Trends in Data Centers, ASHRAE Granite State Chapter, 2015

Designing Geothermal Heatpump Systems, NNECERAPPA, 2015

Reverse Flow Energy Recovery Systems, ASHRAE Granite State Chapter, 2015

Commissioning Optimization, ASHRAE Granite State Chapter, 2015

Specialized Education (Continued):

Air to Air Heat Recovery Technologies, ASHRAE Boston Chapter, 2015
Current VRF Technology, ASHRAE Granite State Chapter, 2015
When Bad Things Happens to Good Laboratories, 2014 Laboratory Design Conference, 2014
Efficient HVAC Design for Laboratories, 2014 Laboratory Design Conference, 2014
Life Cycle Design, 2014 Laboratory Design Conference, 2014
LEED v4.0, US Green Building Council NH Chapter, 2014
Off the Grid, US Green Building Council NH Chapter, 2014
Improving Energy and Comfort, NNECERAPPA 2014
How to Ensure Successful Project Delivery, NNECERAPPA 2014
Energy Modeling, ASHRAE Granite State Chapter, 2014
Achieving Energy Savings in HW and CHW Systems, NNECERAPPA 2013
Owner Based Commissioning, NEHES 2013
Fundamentals of Green Roofing, NEHES 2013
Operational Facility Grid System, NEHES 2013
Air Distribution in Surgical Suites, NEHES 2013
Updates from the Joint Commission, NEHES 2013
Noise and Vibration Control, ASHRAE NH Chapter, 2013
Assessing Building Performance, ASHRAE Webcast, 2013
Retro-commissioning Program Management, NNECERAPPA 2013
Facility Maintenance - Life Science Center, NNECERAPPA 2013
Introduction to New Life Science Center, NNECEAPPA 2013
Conducting a Meaningful Design Review, BCxA Northeast Chapter 2013
Commissioning Schools, BCxA Northeast Chapter 2013
Ventilation and Moisture Management of HVAC Systems, BCxA Northeast Chapter 2013
Whole Building Air Leakage Testing, BCxA Northeast Chapter 2013
Building Moisture Control, ASHRAE NH Chapter, 2013
Weather Normalization, ASHRAE NH Chapter, 2013
Energy Efficient Lab Design, Labs21, 2012
Integrated Design at Dartmouth College, ASHRAE NH Chapter, 2012
ASHRAE's beQ Labeling, ASHRAE NH Chapter, 2012
BIM Modeling, ASHRAE NH Chapter, 2012
Dedicated Outside Air Systems, ASHRAE Webinar, 2012
Case Studies to Achieve Net-Zero, ASHRAE Winter Conference, 2012

Specialized Education (Continued):

Data Center Cooling System Design, ASHRAE Winter Conference, 2012

Case Studies of Highly Energy Efficient Buildings, ASHRAE Winter Conference, 2012

Cutting Edge Japanese HVAC Technologies, ASHRAE Winter Conference, 2012

Integration Measures for Bridging the Gaps in Performance from Design to Operations, ASHRAE Winter Conference, 2012

Chicago's Energy Efficient Economic Model, ASHRAE Winter Conference, 2012

Sustainability in Commercial Buildings, ASHRAE Winter Conference, 2012

Case Studies to Achieve Net Zero, ASHRAE Winter Conference, 2012

Evaluate Performance of LEED Certified Buildings, ASHRAE Winter Conference, 2012

Multi-Zoning with Hydronics, ASHRAE NH Chapter, 2012

Introduction to Fire Protection Systems, PDH On Line, 2012

Water Reclaim Systems, ASHRAE NH Chapter, 2011

34 Years in Solar Power, Thayer School of Engineering, 2011

New Life Science Building, AIA NH Chapter, 2011

Energy Modeling, ASHRAE NH Chapter, 2011

NFPA 3, Recommended Practice for Testing. BCxA NE Chapter, 2011

Ventilation Codes, ASHRAE NH Chapter, 2011

Fundamentals of Steam, ASHRAE NH Chapter, 2010

Building Pressurization Control, ASHRAE NH Chapter, 2010

Integrating Energy Saving Strategies for New Academic Research Facilities, ASHRAE Boston Chapter, 2010

Small Distributed Energy Recovery Ventilation, HPAC Engineering Webinar

Recommended Practice of Commissioning and Testing of Fire and Life Safety Systems, BCxA Webinar, 2010

Electrical Commissioning, there is a Map for That, BCXA Webinar, 2010

Right From the Start, Commissioning of High Performance Buildings, ASHRAE Webcast, 2010

Land Fill Gas Plant, ASHRAE NH Chapter 2009

Building Science Corporation, Building Science Fundamentals, 2009

Price Air Distribution University. Air Distribution Training Course, 2008

Engineering Economics, ASHRAE NH Chapter 2008

Green HVAC Design, ASHRAE NH Chapter 2008

Wood Power Project, NHSPE 2007

Below Ambient Piping Insulation Systems, ASHRAE NH Chapter 2007

Sustainable Building Seminar, Price Technical University, 2007

Air Flow Measurement for Acceptable IAQ, Ebtron, 2007

Specialized Education (Continued):

Distributed Utility, Jones Technical Seminars at Thayer School of Engineering, 2007

Designing a State-of-the-Art Laboratory, Flow Safe, 2007

Enhancement of System Performance by Exergy Analysis, ASHRAE Winter Meeting 2007

Data Center Cooling, ASHRAE Winter Meeting 2007

Solar Utilization in Zero Energy Buildings, ASHRAE Winter Meeting 2007

Trends in Laboratory Design, ASHRAE Winter Meeting 2007

Multi Chiller Sequencing Strategies, ASHRAE Winter Meeting 2007

High Density Cooling Issues, ASHRAE Winter Meeting 2007

Big Opportunities for Energy Savings, ASHRAE Winter Meeting 2007

Combined Heat and Power Systems, ASHRAE Winter Meeting 2007

Commissioning of Kemeny Hall, ASHRAE NH Chapter 2007

Backup Power Technologies for Data Centers, APC 2006

Fusion Energy Promise and Prospects, Jones Technical Seminars at Thayer School of Engineering, 2006

Cooling Towers, Jones Technical Seminars at Thayer School of Engineering, 2005

Labs for the 21st Century, Laboratory Technologies 2005

Humidification Systems, ASHRAE NH Chapter 2005

Dehumidify Ventilation Air, ASHRAE NH Chapter 2005

Labs for the 21st Century, Laboratory Technologies 2004

International District Energy Conference, 2004

Pump Basics, ASHRAE NH Chapter 2004

Innovative Environmental Solutions, ASHRAE NH Chapter 2003

Chiller System Optimization, Massachusetts Industries of the Future, 2003

Supermarket Refrigeration, ASHRAE NH Chapter 2003

Energy Code, ASHRAE NH Chapter 2002

Variable Frequency Drives, ASHRAE NH Chapter 2002

New Hampshire Energy Code, ASHRAE NH Chapter 2002

Electrical System Design for Non-Electrical Engineers. University of Wisconsin, 2002

Seismic Restraint and Design, ASHRAE NH Chapter 2002

Is There a High-Performance Building in Your Future? Thayer School of Engineering, 2002

Education:

Master of Science, Mechanical Engineering. Lund University, Sweden.

Research Thesis: "Performance Optimization of Rocket Nozzles with High Aspect Area Ratios. A study of Friction and Divergence Losses."

Affiliations:

Member, American Society of Heating, Refrigeration, and Air Conditioning Engineers

Guest Lecturer:

Energy Efficient Building Design at Dartmouth College, Dartmouth Thayer School of Engineering
Guest Lecturer 2010-2018

Publications and Presentations:

Petersson Bo, "Commissioning a LEED Platinum Science Building." Construction Specifier, 2014

Petersson, Bo, "Making a Case for the Soft-Landing Concept." Lab Design News, 2014

Petersson Bo, Smith Robert "Historic Dartmouth Embraces Campus Cooling." International District Energy Association Magazine 1998

I2SL Webinar: Energy Retrofits of Existing Lab Building

Energy Efficient Lab Design, Labs 21

When Bad Things Happens to Good Laboratories, Laboratory Design Conference

Integrated Design at Dartmouth College, ASHRAE NH Chapter

Dartmouth Hitchcock Williamson Translational Research Building, ASHRAE NH Chapter

When Bad Things Happens to Good Buildings, NNECERAPPA

Dartmouth Central Chilled Water Plant Design and Operation, NNECERAPPA

Dartmouth Central Chilled Water Plant Design and Operation, ASHRAE Granite State Chapter

Converting Condenser Pumps to VFDs in an Absorption Chiller Plant, International District Energy Association

Presentation of Life Science Building at Dartmouth College, AIA NH Chapter