

# Scott Gordon NEBB CP, CEM, CMVP, CIAQP, CM, LEED AP O+M

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## RESUME

Over 40 years of HVAC&R industry experience with a focus on optimizing the built environment. Continuous education through real world experience coupled with specialized training and certifications in the areas of Commissioning, Retro Commissioning, TAB and Energy Assessments/Audits. Broad experience in performing Energy Assessments/Audits (ASHRAE Level 1, 2, 3) and targeted energy assessments of complex HVAC&R systems. Experienced in facilities ranging from military bases, prisons, office buildings, healthcare, k-12 schools, universities, pharmaceutical manufacturing facilities, industrial process plants and aviation. Contractor Clearance to work in military and federal facilities.

Unique ability to identify and resolve difficult technical and business problems by viewing situations through multiple lenses as a technician (service, controls, tab), contractor, engineer, IAQ expert, and energy engineer. Experience in maintaining the persistence of energy performance through trend analysis, corrective actions and ongoing commissioning.

Proven performance in the development, execution and management of complex projects; in addition to leading teams and training technical staff to achieve organizational goals.

### Professional Licenses/Certifications

- Miami Dade County (Florida) Licensed Air Conditioning Journeyman, 1979
- Class "A" Air Conditioning Contractor License (Florida), 1981
- EPA Refrigeration Transition and Recovery "Universal" Certification as require by OSHA 40 CFR Part 82, Subpart F. 1993
- Certificate Member (CM), Refrigeration Service Engineers Society (RSES), 1995
- Certified Test & Balance Professional (CTAB), Association of Energy Engineers, 2001
- Certified Indoor Air Quality Professional (CIAQP), Association of Energy Engineers, 2003
- National Environmental Balancing Bureau (NEBB), Certified Professional in HVAC Test and Balance, 2003
- National Environmental Balancing Bureau (NEBB), Certified Professional in HVAC Building Commissioning, 2004
- Certified Energy Manager (CEM), Association of Energy Engineers, 2007
- Certified Demand Side Manager (CDSM), Association of Energy Engineers, 2007
- National Environmental Balancing Bureau (NEBB), Certified Professional in Retro-Commissioning, 2007
- LEED AP O+M (Leadership in Energy and Environmental Design Accredited Professional), USGBC, 2009
- Certified Measurement & Verification Professional (CMVP), Association of Energy Engineers, 2011
- National Environmental Balancing Bureau (NEBB), Advanced Commissioning Certificates, 2014
  - Building Envelope
  - Plumbing Systems
  - Special Electrical Systems
  - Fire Protection Systems

National Environmental Balancing Bureau (NEBB), Certified Professional in Building Envelope Testing (BET), 2015

## Professional Experience

### EBCx Services – June 2016 to present:

Owner. Provides Existing Building Commissioning (EBCx), new building commissioning, energy audits, Testing/Adjusting/Balancing (TAB) of environmental systems, Indoor Air Quality (IAQ) investigations and technical consulting/training of HVAC systems.

### Atkins North America – January 2014 to June 2016:

Technical Manager, Building Performance Group (BPG). Provide technical leadership and project support in the execution of large scale RCx, Cx and energy assessment/audit projects across North America. Research, develop and coordinate the proper technical approach and solutions for BPG projects. Provide technical support to Atkins Business Units in the sale of large scale BPG projects across North America and Asia.

### Johnson Controls – July 2008 to January 2014 November:

2012 to January 2014: Technical Support Manager, Major Projects Team. Provided technical field support in the development and execution of major retrofit/energy projects, RCx and energy assessments/audits across the NA Service Organization. Developed tools and processes to aid in the efficient sale and implementation of RCx and energy analysis. Developed playbooks and associated training material; presented both web- based and classroom training to sales people and engineers. Supported sales teams in the development of RCx and energy projects.

October 2010 to October 2012: Technical Support Manager, Energy & Sustainability, NA Sales & Marketing Team. Provided technical and subject matter expertise for product/service offerings in a consistent manner across the NA Service Organization. Performed technical site investigations, including trend data analysis to identify control system issues, and supporting energy calculations for pilot projects. Developed tools and internal playbooks to support new offerings.

October 2009 to Sept. 2010: Project Development Engineer, Major Projects, NA. Member of national team providing RCx and project development support to service branches across NA.

July 2008 to Sept. 2009: Senior Service Sales Account Executive. Developed and sold energy projects within NE TN, SW VA and Western NC to commercial, industrial and institutional customers.

### HVAC Inc. – October 2006 to June 2008:

General Manager, Building Services. Managed the mechanical services division, including retrofit sales and execution of work in existing buildings. Developed and presented training programs for service technicians and provided cross training of service techs in the specialized area of test & balance. Provided project development support in securing large scale energy projects as a subcontractor for area ESCOs.

#### Energy Systems Group (ESG) – January 2005 to September 2006:

Performance Contract Engineer. Developed detailed energy assessments/audits, cost estimates and calculated energy savings to build a compelling business case on Super ESPC Projects. Supported the sales team in securing ESPC and UESC opportunities. Provided on-site field testing of chiller performance to determine actual operating efficiency. Worked with project managers to resolve start up issues of large central chiller plants.

#### Tropic Air Conditioning – June 1973 to November 2004:

December 1993 to November 2004: President and Owner (company was sold in Nov. 2004).

Responsible for overall business operations, strategy, accounting, bonding, marketing, sales, insurance, recruitment and retention of key personnel. Developed and managed federal performance contract projects for FPL Services as a mechanical subcontractor. Performed and supervised the commissioning and TAB of large projects, IAQ investigations and training of service and TAB technicians. Managed sales team and project managers in the development and execution of over \$25M in energy and retrofit Design/Build projects.

December 1973 to November 1993: Held various positions within the company from Apprentice, Journeyman, Service Manager, Qualifying Contractor and Vice President. Worked in all areas within the company to gain experience in the various aspects of the mechanical contracting industry.

Comprehensive experience includes mechanical system design, construction, service, control system design & installation, troubleshooting, TAB, energy audits, personnel management, regulatory oversight for permits and inspections, expense management, project management and estimating complex mechanical systems.

#### Education

- Miami Dade College, Air Conditioning Engineering Technology and General Business (1978-81)
- Air Conditioning Engineers Academy, 1981 (preparation- state of FL Contractors Exam)

#### Additional Training

- OSHA 30 Construction Safety Training
- NFPA 70E Arc Flash Safety Training
- Pacific NW National Lab, Control System Retuning Workshop
- Johnson Controls Central Plant Optimization Workshop
- Bell & Gossett Large Chilled Water System Design Seminar
- Multiple Johnson Controls, Metasys Training Seminars
- Multiple Trane Engineering Clinic Training Seminars
- Multiple Manufacturer training on chillers, boilers, pumps and VFDs
- Multiple RSES professional training seminars (controls, refrigeration, chillers, IAQ)
- Multiple AEE professional training seminars for CEM, CIAQP and CMVP certifications
- Multiple NEBB professional training seminars on Technical Cx, RCx and Building Envelope Testing
- Multiple ASHRAE professional development training seminars
- Train-the-Trainer 3-day Workshop, American Management Association (AMA)
- Dale Carnegie, Public Speaking
- Social Styles & Situational Leadership-Ken Blanchard
- 4 Ds of Execution

## Professional Affiliations

ASHRAE, NEBB, RSES, AEE

- Member of the National Environmental Balancing Bureau's (NEBB) Building Systems Commissioning Technical Committee as both a Voting Member and Committee Secretary.
- Lead author for the NEBB Energy Calculation Handbook (published in 2015). The handbook describes the procedures to estimate energy savings, and includes a CD with an Excel based spreadsheet tool to perform energy calculations.
- Instructor for NEBB, teaching Retro Commissioning and procedures to perform energy audits for commercial and industrial facilities.
- Voting committee member and past Secretary of the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Guideline 0.2 (published 10/15), The Process to Commissioning Existing Buildings and Assemblies.
- ASHRAE committee member (voting) for GPC 0.2, The Commissioning Process for Existing Buildings and Assemblies, and GPC 1.2, The Technical Requirements to Commission Existing HVAC&R Systems.
- RSES Greater Miami Chapter Past President (1996-98)
- AEE Member

## Partial list of past project experience

### Energy Assessments/Audits

- Norfolk Naval Base (15 buildings) / 2,800,000 Sq. Ft.
- Radford Ammunition Plant, Radford VA, facility wide steam distribution energy assessment
- Radford Ammunition Plant, Radford VA, Administration Building 220 / 95,600 Sq. Ft.
- Social Security Office Building (GSA), Birmingham AL / 507,200 Sq. Ft.
- TRI Cities Regional Airport Main Terminal, Tri-Cities TN / 77,000 Sq. Ft.
- Cannon Memorial Hospital, Linville, NC / 74,700 Sq. Ft.
- Bradley Square Mall, Cleveland TN / 511,700 Sq. Ft.
- Eastman Chemical Corporate Office Building, Kingsport, TN / 263,373 Sq. Ft.
- Carter County Courthouse, Carter County TN / 34,800 Sq. Ft.
- Harlan Regional Hospital, Harlan KY / 165,600 Sq. Ft.
- ASHE Memorial Hospital, Jefferson NC, (3) buildings / 155,000 Sq. Ft.
- Saint Mary's Memorial Hospital, Jefferson City TN / 95,500 Sq. Ft.
- Unicoi County Memorial Hospital, Erwin, TN / 84,000 Sq. Ft.
- Tempur Pedic Manufacturing Plant, Duffield VA / 575,000 Sq. Ft.
- Ripley's Aquarium of the Smokies, Gatlinburg, TN / 115,000 Sq. Ft.
- Agnes Scott College Science Building, Decatur, GA / 78,400 Sq. Ft.
- 401 Office Building, Chattanooga, TN / 150,000 Sq. Ft.
- Trinity Hand Specialists, Johnson City, TN / 4,000 Sq. Ft.
- Health South Hospital, Kingsport, TN / 60,000 Sq. Ft.
- HCPI Office Building, Seattle, WA / 239,200 Sq. Ft.
- Hilton Orlando Bonnet Creek Convention Center, Orlando, FL / 355,000 Sq. Ft.

**Retro Commissioning (includes ASHRAE Level 1 or 2 Energy Assessments):**

- Moody AFB, (8) buildings / 202,630 Sq. Ft.
- Davis Monthan AFB, (8) buildings / 265,340 Sq. Ft.
- Holloman AFB, (12) buildings / 523,700 Sq. Ft.
- Tyndall AFB, (9) buildings / 269,280 Sq. Ft.
- Shaw AFB, (9) buildings / 498,910 Sq. Ft.
- Rock Island Arsenal (1) building / 202,000 Sq. Ft.
- HP Manufacturing and Offices, Boise Idaho / 900,000 Sq. Ft.
- US Cellular Offices, Knoxville, TN / 90,000 Sq. Ft.
- Le Conte Medical, Sevierville, TN / 117,500 Sq. Ft.
- Wellmont Hospital Outpatient Center, Kingsport TN
- Brickell Biscayne Condominium, Miami FL
- Carriage Club Condominium, Miami Beach FL

**Commissioning:**

- Swiss Caps Pharmaceutical, Miami FL (includes TAB)
- Technicaps Manufacturing, Miami FL (includes TAB)
- USCG Opa Locka Airbase, Miami, FL (includes TAB)
- NOAA Ice Storage Plant, Miami, FL (includes TAB)
- Holston Valley Medical Center D-Tower Expansion, Kingsport, TN
- Clark County Detention Center, Las Vegas, NV (includes TAB Verification)
- Science Hill High School HVAC Renovation, Johnson City, TN

**Mechanical and Control System Retrofits (includes TAB for each project):**

- Atrium Office Park, Miami, FL / replace (27) rooftop package units
- Brickell Townhouse Condominium, Miami, FL / replace 500-ton chiller and cooling tower
- Brickell Bay Condominium, Miami, FL / replace 600-ton cooling tower
- South Point Tower Condominium, Miami Beach, FL / convert condenser water system from constant flow to variable flow
- South Point Tower Condominium, Miami Beach, FL / install TMS DDC system
- Yacht Harbor Condominium, Coconut Grove, FL / replace 500-ton cooling tower
- Yacht Harbor Condominium, Coconut Grove, FL / convert condenser water system from constant flow to variable flow
- Brickell Biscayne Condominium, Miami, FL / replace 150-ton chiller and MUA unit, pumps and replace chilled water piping in equipment room
- Brickell Biscayne Condominium, Miami, FL / install new JCI DDC system
- Biscayne Cove Towers, Adventure, FL / replace (4) 400-ton cooling towers on two 30 story high-rise condominiums
- Catamal Realty Office Building, Coral Gables, FL / replace (4) 50-ton water cooled package units and cooling tower / pumps
- Catamal Realty Office Building, Coral Gables, FL / install new JCI DDC system
- Cocowalk Shopping Center, Coconut Grove, FL / replace 400-ton cooling tower
- Cocowalk Shopping Center, Coconut Grove, FL / replace condenser water piping
- Liberty Market, Miami, FL / replace 300-ton chiller and rebuild existing cooling tower

- Marian Towers Condominium, Miami, FL / replace 400-ton cooling tower
- Marian Towers Condominium, Miami, FL / replace 175-ton water cooled MUA unit
- Miami Springs Baptist Church, Miami Springs, FL / replace 150-ton chiller and cooling tower
- National Oceanic and Atmospheric Administration (NOAA), Key Biscayne FL / install 1,500-ton hour Thermal Energy Storage System
- National Oceanic and Atmospheric Administration (NOAA), Key Biscayne FL / install JCI DDC system for entire HVAC system, including Demand Controlled Ventilation (DCV) on AHUs
- Park Towers Apartments, Miami, FL / replace 300-ton cooling tower
- Park Towers Apartments, Miami, FL / replace condenser water risers in existing building
- Commodore Club East and West Towers, Key Biscayne FL / replace condenser water risers in existing condominium
- Sunset Professional Building, South Miami, FL / replace 150-ton chiller
- University of Miami, Wellness Center, Coral Gables, FL / install chilled water MUA unit and exhaust system for natatorium (TAB by others)
- University of Miami Parkinson Building, Miami, FL / replace 200-ton chiller, install constant volume boxes for laboratory area (TAB by others)
- US Coast Guard Air Base, Miami, FL / replace 200-ton chiller and cooling tower, pumps and re-pipe equipment room
- Swiss Caps USA Pharmaceutical Manufacturing Plant, Miami, FL / install (3) 150-ton water cooled screw chillers, cooling towers, pumps, air handlers, energy recovery system for clean rooms and JCI DDC system
- Swiss Caps USA Pharmaceutical Manufacturing Plant, Miami, FL / install stainless steel process piping for glycerin, sorbitol and diaphragm pumps
- Technicaps Manufacturing Plant, Miami, FL / install 150-ton chiller, heat recovery and AHUs for process and comfort cooling
- Technicaps Manufacturing Plant, Miami, FL / install JCI DDC system
- 12000 Office Building, Miami, FL / replace (2) 200-ton cooling towers
- Northside Shopping Center, Miami, FL / replace 600-ton cooling tower and condenser water pumps
- Tri Summit Bank, Bristol VA / replace 120-ton chiller, cooling tower, boiler and pumps. Install Honeywell DDC system (Manager for HVAC-Inc., performed TAB)
- Holston Valley Medical Center, Kingsport TN / install 1,500-ton chiller and York controls (Manager for ESG, performed TAB)

#### **TAB only projects**

- United States Coast Guard Radio Control Building, Miami Beach, FL
- Kendall Ice Arena, hydronic testing of ice rink, Miami FL
- Gables International Plaza renovations, Coral Gables, FL
- Brickell Bay Office Tower tenant airside, Miami, FL
- 848 Brickell renovations, Miami, FL
- Bayside Marketplace chiller testing of common area, Miami, FL
- East Ridge Retirement renovations, Miami, FL
- Galloway 64 Office Plaza, Miami, FL
- Miami Hand Center retrofit, Miami, FL

- 9795 Office Building retrofit, Miami, FL
- Sunset Professional Building retrofit, South Miami, FL
- Larkin Community Hospital chiller testing, South Miami, FL
- Holiday Inn Lejeune RD chiller testing, Coral Gables, FL
- Holiday Inn South Dixie Hwy chiller testing, Coral Gables, FL
- South West Virginia Mental Health Admin Building Retrofit, Marion, VA
- Century Link Computer Room, Kingsport, TN
- Laughlin Hospital chilled water flow testing, Greenville, TN
- Karlan Mansion, Ewing, VA
- USDA George Washington Carver Building central plant and airside testing, Beltsville MD
- Mountain Home V.A. Nuclear Medicine, Johnson City TN
- Mountain Home V.A. Linear Accelerator Room, Johnson City, TN
- Bethesda Elementary Gymnasium, Williamson County, TN
- Robertson County Detention Center RTU testing, Robertson County, TN
- Knox County Old Courthouse central plant testing, Knoxville, TN
- Knox Central, Knoxville, TN
- Knox County Health Department, Knoxville, TN

#### Presentations

- NEBB “Commissioning Technician Training Seminar”, Dallas Tx/ April 27-19, 2017
- NEBB “Retro Commissioning Training Seminar”. Portland/June 2013, Atlanta/April 2014, DC/June 2014, Honolulu/April 2015, Gaithersburg/September 2016
- ICMA Conference, Case Study of Energy Audit at Tri Cities Regional Airport, October 2015 in Seattle
- Society of Military Engineers Mid-Atlantic Regional Joint Engineer Training Symposium, “Retro Commissioning” Chantilly, VA, November 2014
- Johnson Controls “Developing Energy Projects-Asia Rotation Program” Milwaukee / March 2013
- Johnson Controls Service Sales University (SSU), “Energy” / six presentations over 2011-2013
- GreenBiz Webcast “Ongoing Commissioning”, November 2013 (co-presented)
- Johnson Controls, Energy Bootcamp for Service Sales, Los Angeles / April 2010
- Association of Energy Engineers (AEE) “Effective Energy Management Controls”, Knoxville / June 2013
- Refrigeration Service Engineers Society (RSES) “Energy Conservation for HVAC System Optimization”, Boston/June 2009, Chicago/March 2010
- South Florida Contractors, “Energy Conservation for HVAC Professionals”, Miami / September 2010
- South Florida Building Engineers, “Air Conditioning for the Maintenance Professional”, Miami / April 2007
- National Association of Power Engineers (NAPE), “Energy Conservation for HVAC System Operation, Maintenance and Optimization”, Fort Lauderdale / May 2006
- National Association of Power Engineers (NAPE), “Indoor Air Quality and HVAC System Interaction”, Fort Lauderdale / September 2005

## Publications

- ASHRAE Guideline 0.2 “The Process to Commissioning Existing Buildings and Assemblies”, (co-authored as a voting member of the committee). Published October 2015.
- ASHRAE Guideline 1.2 “The Process to Commission Existing HVAC&R Systems”, (co-authored as a voting member of the committee). Expected publish date is late 2017.
- NEBB/ANSI S120 Technical Retro-Commissioning (RCx) of Existing Buildings Procedural Standard, (co-authored as a voting member of the committee). This Standard was developed as an ANSI document, and approved by ANSI in December 2016. Expected publish date is first quarter of 2017.
- NEBB/ANSI S110 Whole Building Technical Commissioning of New Construction Procedural Standard, (co-authored). This standard was developed as an ANSI document, and is expected to be published late 2017 to early 2018.
- NEBB Handbook for Energy & Water Calculations, (co-authored as a special project of the Building Systems Commissioning Technical Committee). Published October 2015.
- ASHRAE Journal, “Technical vs. Process Commissioning, Ongoing Commissioning”, November 2014, pgs. 26-35, (co-authored).
- ASHRAE Journal, “Technical vs. Process Commissioning, Measurement and Verification”, August 2014, pgs. 32-37, (co-authored).
- Canadian Journal of Green Building & Design, “Retro Commissioning Optimizes Building Systems to Meet Operational Requirements” September-October 2011, pgs. 48-50.
- HPAC Magazine, “Targeting Energy Savings with RCx”, February 2012.
- RSES Journal, “Technical Retro Commissioning”, April 2017
- RSES Journal, “TAB for the HVAC Service Professional”, September 2017
- RSES Journal, “IAQ, Retuning Commercial Buildings”, February 2012.
- RSES Journal, “Commissioning Existing HVAC Systems”, January 2008.
- HVACR Business, “Improve Building Performance through Retro Commissioning”, February 2007.
- Condo Management Magazine, “Energy Conservation for HVAC Systems” May 1998.

## Awards

- Contracting Business Magazine, 2001 Design Build Award for New Construction, Swiss Caps Pharmaceutical Plant, Miami, FL
- Contracting Business Magazine, 2003 Design Build Award for Retrofit, Second Place, NOAA Ice Storage Plant, Miami, FL
- Johnson Controls, Outstanding Achievement Team Member Award, for obtaining LEED Existing Building Operations & Maintenance Certification at Miller Park in Milwaukee, WI (2013). First stadium to achieve LEED Certification with a retractable roof.