<table>
<thead>
<tr>
<th>DUTIES</th>
<th>TASKS</th>
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| **A. Analyze Building Operations** | A.1 Review building documentation (e.g., SOPs, BMS, MEP)  
A.2 Perform Level I site assessment  
A.3 Interview facility operators  
A.4 Determine equipment performance (e.g., temperature, pressure, schedules)  
A.5 Benchmark building performance  
A.6 Develop building performance goals (e.g., energy, IEQ, water)  
A.7 Identify environmental requirements (e.g., temperature, lighting, ventilation)  
A.8 Trend service calls  
A.9 Trend utility usage and cost |
| **B. Maintain Building Operating Efficiency** | B.1 Identify BAS discrepancies  
B.2 Check for equipment override conditions  
B.3 Calibrate equipment controls  
B.4 Coordinate repair of deficient equipment  
B.5 Calibrate air distribution systems (e.g., economizers, VAV, air handlers)  
B.6 Calibrate central cooling systems (e.g., temperature resets, flow, pressure)  
B.7 Calibrate central heating systems (e.g., temperature resets, flow, pressure)  
B.8 Calibrate evaporative cooling systems (e.g., cooling towers, filtration, free cooling)  
B.9 Optimize pump performance  
B.10 Review VFD settings  
B.11 Manage preventive maintenance plan  
B.12 Manage predictive maintenance plan  
B.13 Optimize equipment operating schedules  
B.14 Optimize operating set points  
B.15 Develop key performance indicators (e.g., reset schedule, KW/sq. ft., peak load)  
B.16 Conduct regular building performance meetings |
| **C. Audit Building Operational Performance** | C.1 Review maintenance and repair log  
C.2 Perform utility bill audit (e.g., electric, gas, water)  
C.3 Perform disaggregation of utilities (e.g., electric, gas, water)  
C.4 Perform facility condition assessment  
C.5 Perform Energy Star® review  
C.6 Perform green building certification review  
C.7 Review building occupancy plan  
C.8 Quantify greenhouse gas emissions  
C.9 Perform waste audit (e.g., hazardous, landfill, recycling)  
C.10 Perform lighting audit  
C.11 Perform indoor air quality audit  
C.12 Audit equipment sequence of operations  
C.13 Audit building equipment operating procedures  
C.14 Review building occupant survey results  
C.15 Review system alarm history  
C.16 Test combustion equipment efficiencies  
C.17 Perform water treatment audit  
C.18 Determine need for energy consultant |
| **D. Create High Performance Building Plans** | D.1 Obtain payback analysis  
D.2 Modify capital improvement plan  
D.3 Prioritize audit recommendations  
D.4 Develop formal energy policy  
D.5 Develop energy plan  
D.6 Determine load shedding opportunities  
D.7 Develop zero waste plan  
D.8 Optimize SOPs  
D.9 Update maintenance & repair plan  
D.10 Optimize equipment sequence of operations  
D.11 Develop operational & performance metrics  
D.12 Identify utility rebates  
D.13 Develop commissioning plan  
D.14 Develop building occupancy policy  
D.15 Identify alternative energy opportunities  
D.16 Develop zero net energy plan  
D.17 Develop control system plan (e.g., enhanced data points, trends, data analysis)  
D.18 Develop system integration plan |

* Audit reports include recommendations for improvement.
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<td>E. Implement Continuous Improvement</td>
<td>E.1 Present facility improvement plan to management</td>
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<td>E.2 Manage vendor contracts (e.g., RFP, proposals, awards)</td>
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<td>E.3 Review engineering budget (e.g., operating, capital)</td>
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<td>E.4 Perform routine inspections (e.g., equipment, systems, controls)</td>
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<td>E.5 Implement high performance energy plan</td>
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<td>E.6 Implement load shedding measures</td>
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<td>E.7 Implement zero waste plan</td>
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<td>E.8 Implement commissioning plan</td>
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<td>E.9 Adjust equipment settings per occupancy plan</td>
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<td>E.10 Implement zero net energy plan</td>
<td>E.11 Implement system integration plan</td>
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<td>E.12 Optimize control system (e.g., enhance data points, trends, data analysis)</td>
<td>E.13 Implement predictive maintenance plan</td>
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<td>E.14 Review measurement &amp; verification plan</td>
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<td>F. Manage Building Systems</td>
<td>F.1 Track utility costs &amp; consumption</td>
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<td>F.2 Evaluate energy savings</td>
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<td>F.3 Track equipment performance</td>
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<td>F.4 Track service calls</td>
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<td>F.5 Determine need for systems balance</td>
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<td>F.6 Track maintenance and repairs</td>
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<td>F.7 Track predictive maintenance</td>
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<td>F.8 Review measurement &amp; verification reports</td>
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<td>F.9 Monitor staff performance (e.g., service calls, preventive maintenance, rounds)</td>
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<td>G. Perform Administrative Tasks</td>
<td>G.1 Review test equipment and tools</td>
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<tr>
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<td>G.2 Manage operating budget</td>
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<td>G.3 Prepare monthly reports for management (e.g., energy, labor, activity)</td>
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<td>G.4 Manage building energy efficiency standards</td>
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<td>G.5 Research new technology</td>
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<td>G.6 Establish staff performance goals</td>
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<td>G.7 Develop green procurement policy</td>
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<td>G.8 Facilitate energy efficiency meetings (e.g., staff, management, vendors)</td>
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<td>G.9 Develop staff training program</td>
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<td>G.10 Assess vendor’s high performance qualifications</td>
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<td>H. Participate in Professional Development Activities</td>
<td>H.1 Develop staff succession plan</td>
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<td>H.2 Conduct staff evaluations</td>
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<td>H.3 Conduct high performance job training</td>
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<td>H.4 Facilitate problem solving meetings</td>
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<td>H.5 Identify staff professional development activities</td>
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<td>H.6 Develop vendor shadowing program</td>
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<td>H.7 Develop staff training on new equipment technologies</td>
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<td>H.8 Create employee engagement programs</td>
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<td>H.9 Participate in professional organizations</td>
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<td>H.10 Participate in conferences and trade shows</td>
<td>H.11 Participate in code update training (e.g., energy efficiency, building codes, local ordinances)</td>
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<td>H.12 Share best practices (e.g., peer-to-peer, online, conferences</td>
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<td>H.13 Obtain professional certifications (e.g., CxA, LEED, BOC)</td>
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<td>H.14 Participate in continuing education classes</td>
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General Knowledge and Skills

Knowledge:
- Root cause analysis
- Basic algebra
- Basic geometry
- Fluid dynamics
- Thermodynamics
- Mechanical systems
- Lighting systems
- Building construction
- Systems thinking
- HVAC cycle
- DDC controls
- Basic finance
- Real estate finance
- Insurance & liability
- Codes and standards
- Air & water balance
- Psychrometrics
- Plumbing systems
- Electrical systems
- Design intent
- Building loads
- Building science
- Engineering ethics
- Sustainability principles
- Environmental impact
- Available certifications

Skills:
- Communication
- Tool operation
- Report writing
- Blueprint reading
- System diagrams
- Single line diagrams
- Flow charting
- Troubleshooting
- Analytical
- Leadership
- Negotiation
- Prioritizing
- Selling
- Presentation
- Conflict resolution
- Mentoring
- Managerial
- Problem solving

Acronyms
- VFD: Variable Frequency Drive
- PPE: Personal Protective Equipment
- LED: Light Emitting Diode
- RFP: Request for Proposal
- SOP: Standard Operating Procedure
- BMS: Building Management System
- PM: Preventive Maintenance
- MEP: Mechanical Electrical Plumbing
- IEC: Indoor Environmental Quality
- BAS: Building Automation System
- DDC: Direct Digital Controls
- CXA: Certified Commissioning Authority
- LEED: Leadership in Energy & Environmental Design
- BOC: Building Operator Certification

Behaviors
- Team player
- Accountable
- Confident
- Multitasker
- Analytical
- Persistent
- Punctual
- Trainable
- Passionate
- Open minded
- Physically fit
- Innovative
- Knowledgeable
- Able to follow directions
- Inquisitive
- Precise
- Safety oriented
- Mechanically inclined
- Self starter
- Forward thinking
- Solution driven

Tools, Equipment, Supplies and Materials
- Light meter
- pH meter
- Tachometer
- Computer
- Calculator
- Basic hand tools
- Digital camera
- Infrared camera
- PPE
- Ladders
- Basic office supplies
- Megger
- Multimeter
- Cell phone
- Internet/intranet
- Flash drives
- Flashlights
- Carbon dioxide meter
- Anemometer
- Manometer
- Power meter
- Temperature meter
- Flow hood
- Oxygen sensor
- Data logger
- Combustion analyzer
- Building automation system
- Lockout/tagout tags
- Man lifts
- Particulate counter
- Water quality testing equipment
- Software:
  - * HOBO
  - * Universal Translator
  - * Microsoft Office
  - * Microsoft Project
  - * DOE programs
  - * Visio
  - * Energy Plus
- Network access to:
  - * BAS
  - * Tenant interface
  - * PM program
  - * Work order program
  - * Energy dashboard
  - * Google Docs
  - * File sharing
- Vibration analysis
- Ultrasonic microphone
- Ultrasonic meter

Future Trends and Concerns
- Trend toward:
  - * zero net energy
  - * zero waste
  - * on site energy generation
  - * use of direct digital controls
  - * carbon footprint reduction
  - * lighting controls
  - * big data/Internet of things
  - * building certifications
  - * variable refrigerant flow
  - * water conservation
  - * increased occupancy density
  - * consolidating data centers
  - * sub metering
  - * electric vehicle charging stations
  - * onsite energy shortage
  - * micro grids
  - * utility demand response
  - * smart meters
  - * wireless systems
  - * carbon dioxide monitoring
  - * electronic data gathering
  - * integration of systems
- Proliferation of data centers
- Cloud data storage
- Workforce shortages
- LED lighting