ELECTRONICS TECHNOLOGY

Broad Occupational Category - 08

DUTIES AND RESPONSIBILITIES

- *Perform routine and preventative maintenance on electronic systems.*
- *Install electronic equipment and system components (fixed and mobile).*
- *Perform emergency installations and field repairs.*
- *Diagnose electronic malfunctions using schematics and test equipment.*
- *Troubleshoot complex and previously unresolved equipment failures.*
- *Test repaired equipment for compliance and operational integrity.*
- *Connect electronic equipment to power, data, and communication networks.*
- *Verify operational readiness of newly installed equipment.*
- *Inspect equipment for safety and operational hazards.*
- *Configure electronic devices to meet system and user requirements.*
- *Install equipment to meet FAA, FCC, FEMA, DOT, and state specifications.*
- *Ensure compliance with federal, state, and industry regulations.*
- *Record maintenance, calibration, and repair activities.*
- *Train technicians and end users on equipment operation.*
- *Review work quality, productivity, and compliance.*

COMPETENCIES

- **Functional/Technical Skills:** Has the functional and technical knowledge and skills to do the job at a high level of accomplishment.
- **Problem Solving:** Uses rigorous logic and methods to solve difficult problems with effective solutions; probes all fruitful sources for answers; can see hidden problems; is excellent at honest analysis; looks beyond the obvious and doesn't stop at the first answers.
- **Time Management:** Uses his/her time effectively and efficiently; values time; concentrates his/her efforts on the more important priorities; gets more done in less time than others; can attend to a broader range of activities.
- **Customer Focus:** Is dedicated to meeting the expectations and requirements of internal and external customers; gets first-hand customer information and uses it for improvements in products and services; acts with customers in mind; establishes and maintains effective relationships with customers and gains their trust and respect.
- **Integrity and Trust:** Is widely trusted; is seen as a direct, truthful individual; can present the unvarnished truth in an appropriate and helpful manner; keeps confidences; admits mistakes; doesn’t misrepresent him/herself for personal gain.
- **Self-Development:** Is personally committed to and actively works to continuously improve him/herself; understands that different situations and levels may call for different skills and approaches; works to deploy strengths; works on compensating for weakness and limits.
- **Dealing With Ambiguity:** Can effectively cope with change; can shift gears comfortably; can decide and act without having the total picture; isn’t upset when things are up in the air; doesn’t have to finish things before moving on; can comfortably handle risk and uncertainty.
- **Learning on the Fly:** Learns quickly when facing new problems; a relentless and versatile learner; open to change; analyzes both successes and failures for clues to improvement; experiments and will try anything to find solutions; enjoys the challenge of unfamiliar tasks; quickly grasps the essence and the underlying structure of anything.

- **Listening:** Practices attentive and active listening; has the patience to hear people out; can accurately restate the opinions of others even when he/she disagrees.
- **Peer Relationships:** Can quickly find common ground and solve problems for the good of all; can represent his/her own interests and yet be fair to other groups; can solve problems with peers with a minimum of noise; is seen as a team player and is cooperative; easily gains trust and support of peers; encourages collaboration; can be candid with peers.
- **Priority Setting:** Spends his/her time and the time of others on what's important; quickly zeros in on the critical few and puts the trivial many aside; can quickly sense what will help or hinder accomplishing a goal; eliminates roadblocks; creates focus.
- **Self-Knowledge:** Knows personal strengths, weaknesses, opportunities, and limits; seeks feedback; gains insights from mistakes; is open to criticism; isn't defensive; is receptive to talking about shortcomings; looks forward to balanced (+'s and -'s) performance reviews and career decisions.
- **Written Communications:** Is able to write clearly and succinctly in a variety of communication settings and styles; can get messages across that have the desired effect.
- **Composure:** Is cool under pressure; does not become defensive or irritated when times are tough; is considered mature; can be counted on to hold things together during tough times; can handle stress; is not knocked off balance by the unexpected; doesn't show frustration when resisted or blocked; is a settling influence in a crisis.
- **Decision Quality:** Makes good decisions (without considering how much time it takes) based upon a mixture of analysis, wisdom, experience, and judgment; most of his/her solutions and suggestions turn out to be correct and accurate when judged over time; sought out by others for advice and solutions.

SMART Goal Prompting Questions

Perform routine and preventative maintenance on electronic systems

- What actions could you take to improve the consistency, thoroughness, and efficiency of routine and preventative maintenance activities?
- How will you measure success, such as reducing equipment failures, minimizing downtime, increasing maintenance completion rates, or extending equipment life?
- What maintenance schedules, checklists, diagnostic tools, or tracking systems could strengthen preventative maintenance practices?
- How does effective preventative maintenance support system reliability, safety, and continuity of operations?
- By what date or maintenance cycle will you aim to improve preventative maintenance practices?

Install electronic equipment and system components (fixed and mobile)

- What strategies could you use to improve the accuracy, efficiency, and quality of electronic equipment installations?
- How will you measure success, such as reducing installation errors, minimizing rework, improving installation times, or increasing first-time operational success?
- What installation procedures, documentation, tools, or quality-control checks could strengthen installation activities?
- How does accurate installation support system reliability, safety, and user needs?
- By what date or installation cycle will you aim to improve installation practices?

Perform emergency installations and field repairs

- What actions could you take to improve your readiness and response when emergency installations or field repairs are required?
- How will you measure success, such as reducing response times, minimizing equipment downtime, or increasing successful repairs completed on the first visit?
- What emergency repair kits, procedures, inventories, communication methods, or response protocols could strengthen field support?
- How does effective emergency repair support continuity of critical services and operations?
- By what date or emergency response cycle will you aim to improve field repair capabilities?

Diagnose electronic malfunctions using schematics and test equipment

- What steps could you take to improve the speed and accuracy of diagnosing electronic malfunctions?
- How will you measure success, such as reducing diagnostic time, improving first-time repair rates, or reducing unnecessary component replacement?
- What diagnostic equipment, reference materials, technical training, or troubleshooting procedures could strengthen your diagnostic skills?
- How does accurate diagnosis reduce downtime and support reliable operation of electronic systems?
- By what date or development cycle will you aim to improve diagnostic capabilities?

Troubleshoot complex and previously unresolved equipment failures

- What strategies could you use to improve your ability to identify root causes of complex or recurring equipment failures?
- How will you measure success, such as reducing repeat failures, decreasing downtime, resolving long-standing issues, or improving equipment reliability?
- What root-cause analysis methods, technical resources, manufacturer support, testing procedures, or documentation could strengthen troubleshooting?
- How does effective troubleshooting support system reliability and reduce long-term maintenance costs?
- By what date or troubleshooting cycle will you aim to resolve or improve a specific recurring or complex equipment issue?

Test repaired equipment for compliance and operational integrity

- What actions could you take to improve the thoroughness, consistency, and accuracy of post-repair testing?
- How will you measure success, such as reducing repeat repairs, increasing first-time pass rates, or identifying problems before equipment is returned to service?
- What testing procedures, calibration standards, checklists, or test equipment could strengthen quality assurance?
- How does thorough post-repair testing support safe, reliable, and compliant equipment operation?
- By what date or repair cycle will you aim to improve testing practices?

Connect electronic equipment to power, data, and communication networks

- What steps could you take to improve the accuracy, safety, and efficiency of connecting electronic equipment to power, data, and communication systems?

- How will you measure success, such as reducing connection errors, improving system reliability, or minimizing installation and troubleshooting time?
- What wiring standards, diagrams, testing procedures, tools, or documentation could strengthen network connections?
- How do accurate connections support reliable communication and proper operation of electronic systems?
- By what date or installation cycle will you aim to improve connection practices?

Verify operational readiness of newly installed equipment

- What strategies could you use to improve the process for verifying that newly installed equipment is fully functional and ready for use?
- How will you measure success, such as increasing first-time acceptance rates, reducing post-installation problems, or shortening time to operational readiness?
- What commissioning checklists, testing procedures, acceptance criteria, or user feedback could strengthen readiness verification?
- How does thorough readiness testing reduce operational disruptions and ensure equipment meets intended requirements?
- By what date or installation project will you aim to improve operational readiness verification?

Inspect equipment for safety and operational hazards

- What actions could you take to improve the identification, documentation, and correction of safety and operational hazards?
- How will you measure success, such as identifying hazards earlier, reducing repeat findings, or completing corrective actions more quickly?
- What inspection checklists, safety standards, training, or hazard-reporting tools could strengthen inspections?
- How does proactive hazard identification support employee safety, equipment reliability, and regulatory compliance?
- By what date or inspection cycle will you aim to improve equipment safety inspections?

Configure electronic devices to meet system and user requirements

- What steps could you take to improve the accuracy and efficiency of configuring electronic devices to meet system and user requirements?
- How will you measure success, such as reducing configuration errors, minimizing rework, or improving user satisfaction and system performance?
- What configuration standards, documentation, testing procedures, or user requirements could strengthen the process?

- How does accurate configuration ensure equipment performs as intended and meets operational needs?
- By what date or deployment cycle will you aim to improve device configuration practices?

Install equipment to meet FAA, FCC, FEMA, DOT, and state specifications

- What strategies could you use to ensure equipment installations consistently meet applicable FAA, FCC, FEMA, DOT, and state specifications?
- How will you measure success, such as reducing compliance deficiencies, avoiding installation rework, or achieving successful inspections?
- What regulatory references, installation checklists, training, or quality-control reviews could strengthen compliance?
- How does regulatory-compliant installation support safety, system reliability, and agency accountability?
- By what date or installation cycle will you aim to improve compliance with applicable specifications?

Ensure compliance with federal, state, and industry regulations

- What actions could you take to strengthen compliance with applicable electronic technology regulations, standards, and requirements?
- How will you measure success, such as successful inspections, fewer compliance findings, improved documentation, or timely completion of required reviews?
- What regulatory tracking tools, training, reference materials, or compliance checklists could strengthen your work?
- How does regulatory compliance support safety, reliability, and responsible operation of electronic systems?
- By what date or compliance cycle will you aim to improve regulatory compliance practices?

Record maintenance, calibration, and repair activities

- What steps could you take to improve the accuracy, completeness, and timeliness of maintenance, calibration, and repair records?
- How will you measure success, such as reducing documentation errors, increasing on-time record completion, or improving equipment history information?
- What electronic tracking systems, standardized forms, documentation procedures, or quality checks could strengthen recordkeeping?
- How do accurate maintenance records support equipment reliability, accountability, planning, and compliance?

- By what date or documentation cycle will you aim to improve maintenance and repair recordkeeping?

Train technicians and end users on equipment operation

- What strategies could you use to improve the effectiveness and consistency of training technicians and end users on electronic equipment?
- How will you measure success, such as improved user competency, fewer operator errors, fewer support requests, or increased equipment utilization?
- What training materials, demonstrations, job aids, hands-on practice, or competency assessments could strengthen equipment training?
- How does effective training support safe equipment operation, reliability, and user confidence?
- By what date or training cycle will you aim to improve equipment training practices?

Review work quality, productivity, and compliance

- What actions could you take to improve the quality, productivity, and compliance of electronics technology work?
- How will you measure success, such as reducing rework, improving completion times, decreasing errors, or increasing compliance with established standards?
- What performance measures, quality-control processes, work reviews, or productivity tracking tools could strengthen oversight?
- How does regular review of work quality and productivity support reliable service delivery and continuous improvement?
- By what date or review cycle will you aim to improve work quality, productivity, or compliance?