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Headquarters US Air Force
Washington DC 20330-5000

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ELECTRICAL POWER PRODUCTION
POWERED SUPPORT SYSTEMS MECHANIC
Wage Grade Series
5378

CAREER FIELD EDUCATION AND TRAINING PLAN

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Attachments

OPR: AFCEC/COF
Certified by: Mr. Charles Meshako, Civil Engineer Career Field Manager
Supersedes CFETP3E0X2WG Dated 1 Aug 2018

PART I

Preface

This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements and training support resources for the Electrical Power Production/Powered Support Systems Mechanic Wage Grade series. The CFETP will provide wage grade personnel with a clear career path to success and instill rigor in all aspects of our Job Series training.

The CFETP consists of two parts used by the supervisor to plan, manage, and control training within the job series.
Part I includes the following:
• **Section A** provides general information about how the CFETP will be used.
• **Section B** identifies job series progression information, duties and responsibilities, training strategies, and the job series path.

Part II includes the following:
• **Section A** identifies the Group Series Training Standard (GSTS) to include duties, tasks, and technical references to support Wage Grade training programs.
• **Section B** identifies available support materials.
• **Section C** identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses, and exportable courseware.

Using guidance provided in the CFETP will ensure individuals in Electrical Power Production/Powered Support Systems Mechanic Wage Grade series receive effective and efficient training at the appropriate point in their careers. This plan will enable us to train today's work force for tomorrow's jobs. At the unit level, supervisors and trainers must use Part II to identify, plan, and conduct training commensurate with the overall goals of this guide and the local mission.

ABBREVIATIONS EXPLAINED

Air Force Civilian Career Field Manager (AFCCFM). An individual on the Air Staff charged with the responsibility for overseeing all training and career field management aspects of multiple Air Force job series in a functional area.

Air Force Civil Engineer Center (AFCEC). The focal point for all Civil Engineer training development. All Civil Engineer Force Development Managers (FDMs) are located at AFCEC.

Air Force Institute of Technology (AFIT). Provides vital, relevant, and connected education that enables Airmen to be ready engineers and great leaders who know how to build sustainable installations to last while leading the change for the Civil Engineer career field. Course list can be accessed at: https://www.afit.edu/ce/

Air Force Qualification Training Package (AFQTP). An instructional package designed for use as a training resource to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. AFQTPs identify the Air Force's standardized method for performing the task. The AFQTP may be printed (paper-based), computer-based, in other audiovisual media formats, or all three.

Air Force Wage Grade Series Qualification Standard (AFWGSQS). A comprehensive task list that describes a particular series or duty position. Used by supervisors to document task qualifications. The tasks on the AFJQS are common to all persons serving in the described duty position. Qualifications can be found at: https://www.opm.gov/policy-data-oversight/classification-qualifications/federal-wage-system-qualifications/#url=List-of-Approved-Job-Elements

Career Development Course (CDC). Self-paced, correspondence course published to provide the information necessary to satisfy the career knowledge component of on-the-job training (OJT). These courses are developed from references identified in the CFETP. CDCs will contain information on basic principles, techniques, and procedures common to a military AFSC or civilian job series. They do not contain information on specific equipment or tasks unless best illustrating a procedure or technique having utility to the entire career field.

Career Field Education and Training Plan (CFETP). A comprehensive, multipurpose document encapsulating the entire spectrum of education and training for various wage grade series. It outlines a logical growth plan that includes training resources and is designed to make job series training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

CE Career Field SharePoint. Contains information on leadership courses and civilian tuition assistance for degree programs. Can be found at: Civil Engineer Career Field Team - Federal Wage System - All Documents (dps.mil)

Civilian Force Development Homepage. Contains descriptions and requirements for several civilian training opportunities such as degree programs and civilian leadership courses. This page can be found at: Knowledge Detail (af.mil)

Classification Standard. Job grading standards provide information used in determining the occupational series and title of jobs performing trades, craft, and labor work in the Federal Government. They also provide grading criteria for positions classified under the Federal Wage System (FWS). Classification Standards can be found at: https://www.opm.gov/policy-data-oversight/classification-qualifications/classifying-federal-wage-system-positions/#url=5300

Commercial Off the Shelf (COTS). Commercially procured training products or in resident vendor training.

Computer-Based Training (CBT). A self-paced stand-alone computer product used to deliver interactive subject and task knowledge.

Core Tasks. Mandatory tasks which the AFCCFM has identified as a minimum qualification requirement within a job series or duty position. These tasks are derived from the Standard Core Personnel Document (SCPD) for each Job Series.

Distance Learning (DL). Includes Video Tele-seminar (VTS), Video Tele-training (VTT), and CBT. Formal courses that a training wing or a contractor develops for export to a field location (in place of resident training) for trainees to complete without the on-site support of the formal school instructor. For instance, courses are offered by Air Force Institute of Technology, Air University, and Training Detachments.

DoD Civilian COOL: On-line source for civilian credentialing opportunities located at: http://dod-civ-cool-review.s3.amazonaws.com/index.htm

Duty Position Tasks. Tasks identified by the work center supervisor as critical and common training tasks needed for the duty position and mission accomplishment.

Education & Training Course Announcements (ETCA). Web platform, which contains descriptions, requirements, and reporting procedures for in resident Air Force courses. This is located at: ETCA (dps.mil)

Enlisted Professional Military Education (EPME). EPME provides a continuum of learning through progressive courses concentrated on developing Military and Civilian Airmen. EPME plays a vital role in preparing Civilian Airmen for increased supervision, leadership, and management challenges. The three levels of Air Force EPME are Airman Leadership School, Noncommissioned Officer Academy and Air Force Senior Noncommissioned Officer Academy. All levels of EPME are available to Wage Grade civilians. Information about enlisted PME can be found at: https://www.airuniversity.af.edu/

Functional Advisory Council (FAC)/Wage Grade Panel. The Wage Grade Panel is one of the four panels that make up the Civil Engineer FAC. The Wage Grade Panel charter is to work issues, develop policy, and provide recommendations to the FAC on matters related to civilian Wage Grade requirements. The Wage Grade Panel works through the FAC, in service to the CE Total Force community.

Group Series Training Standard (GSTS). Describes skills and knowledge that FWS Employees in a particular job series need on the job and for future career development opportunities. It further serves as the overall training requirements for a Wage Series taught in the resident and nonresident courses as well as an on-the-job training program

myLearning. Anytime, anyplace learning within DoD consisting of instructional modules comprised of sharable content objectives in an Internet/Intranet environment. This can be found at: Air Force myLearning (af.mil)

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in job qualification (duty position certification) training.

Proficiency Training. Additional training, either in-residence, advanced/supplemental training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum.

Red Vector. Commercial web-based training available free of charge to CE employees. Courses are effective for certification renewal and earn Continuing Educations Units (CEUs). Site can be found at: Air Force eLearning Portal: Course Search | CE, PDH, Continuing Education for Engineers, Contractors, Architects (redvector.com)

Regional Training Site (RTS). Total Force training centers managed by the Air National Guard. These sites offer training on specialized military equipment and are available to civilians who require training for local mission needs. Training can be coordinated through the FWS Force Development Team at AFCEC/COF.

Resource Constraints. Resource deficiencies, such as money, facilities, time, manpower, or equipment that precludes desired training from being delivered.

Specialty Tra8ining Standard (STS). Describes the military version of the GSTS. This term may be used on training products that overlap military and civilian training programs.

Total Force. All collective Air Force components (Active Duty, Reserve, Guard, and Civilian elements) of the United States Air Force.

Vendor Training. Training provided to the Air Force by a third party. Typically, a private vendor in the private sector not affiliated with the Department of Defense. Vendor training can be in the form of Web-Based Training, Computer-Based Training, or in resident training at a temporary duty location or even hosted on an Air Force installation.

Wage Grade Series Training. A mix of formal training (technical school) and informal training (on-the-job) to develop, maintain and enhance wage grade series specific technical skills.

Web-Based Training. A form of Distance Learning. The term Web-Based just means the training is online and requires access to the internet in addition to the actual course content.

Section A – GENERAL INFORMATION

A1. Purpose. The CFETP is designed to be a tool for supervisors to use in assessing the skill level of current and new employees. The CFETP may be used to document training and proficiency of the employee on associated task/s by the supervisor or certified trainer.

A1.1. Column 1 (*Tasks, Knowledge, and Technical References*). Lists the most common tasks, knowledge, and supporting technical references (TR) necessary for Civilian Airmen to perform duties in the Apprentice, Journeyman, Craftsman, and Supervisor level.

A1.2. Column 2 (*Tasks*). Identifies tasks that have a Core and/or Certification, Civilian Deployment, or Special Experience Identifier (SEI) requirement.

A1.3. Column 3 (*Certification of Training*). Used to record completion of tasks and knowledge training requirements. Task certification requires the task to be trained by a trainer designated by the supervisor. The trainer can be either civilian or military. Use the automated training record application to document individual qualifications. The training start and completion date are documented, the task is signed by the trainee and either the work center supervisor, a Master Sergeant (or above) or the unit training manager. This action will complete the task certification.

Note: The "trainer" signing the record MUST be the work center supervisor, work leader, a Master Sergeant (or above) or the Unit Training Manager. This person does not necessarily train the task but will ensure the training is conducted by a qualified trainer prior to completing task certification.

Note: If a work center supervisor, Work Leader, a Master Sergeant (or above) or the unit training manager are not available in a shop or unit to certify a task, the Operations Flight deputy commander will designate a certifier within the flight.

A1.4. Column 4 (*Tasks and Proficiency Codes*). Identifies duty position tasks (series training requirements) with a proficiency code and indicates training requirements. It shows the proficiency to be demonstrated on the job by the employee as a result of hands-on training on the task, knowledge and the career knowledge provided by formal courses, CDC, distance learning (DL) web-based training (WBT) and AFQTPs. CDC listing maintained by the unit education and training manager for current CDC listings.

A1.5. Qualitative Requirements. Contains the proficiency code key used to indicate the level of training and knowledge provided by CBT, WBT, COTS, in-resident training, and career development courses.

A1.6. Job Qualification Standard (JQS). The Group Series Training Standard (GSTS) becomes the JQS for OJT when entries are made in the GSTS. For OJT, the tasks in Column 1 are trained and qualified to the go/no go level. "Go" means the individual can perform the task without assistance and meets local requirements for accuracy, timeliness, and correct use.

A2. Uses. Managers and supervisors may use the plan at all levels to ensure comprehensive and

cohesive training programs are available for each individual in the wage grade series.

A2.1. Wage Grade Panel of the Functional Advisory Council will develop/revise formal resident, non-resident, field, and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the Air Force Civil Engineer Center Force Development Division (AFCEC/COF) to develop acquisition strategies for obtaining resources needed to provide the identified training.

A2.2. The Wage Grade Panel along with the Force Development Managers, will ensure their training programs complement the CFETP training requirements and identify requirements that can be satisfied by OJT, resident training, contract training, or exportable courses.

A2.3. Supervisors will guide each individual through completion of training specified in this plan.

A2.4. Each individual completes training requirements specified in this plan. The list of courses in Part II of this CFETP will be used as a reference to support training.

A3. Coordination and Approval. The Career Field Manager is the approval authority for the CFETP. The Wage Grade Panel along with the Force Development Managers will identify and coordinate on wage grade series training requirements. Using the list of courses in Part II, they will eliminate duplicate training.

A4. HQ USAF/A4C will review this CFETP annually and make updates and changes as deemed appropriate. Please send recommended changes to the AFCEC/COF Training Support Section at DSN 523-6879 or comm. 850-283-6879 or email afcec.ce.training@us.af.mil.

Section B – WAGE GRADE PROGRESSION AND INFORMATION

B1. Series Descriptions. See each individual's Standard Core Personnel Document for the description.

B1.1. Wage Grade Series Summary: To install, operate, inspect, maintain, and repair electrical power production equipment and associated components, electrical distribution equipment, diesel, gasoline, and/or multi-fuel engines, and aircraft arresting barriers.

B2. Skill and Career Progression. Adequate training for progression from the apprentice to the mechanic level, and possibly into a supervisory position play an important role in the Air Force's ability to accomplish its mission. It is essential everyone involved in training do their part to participate in, plan, manage, and conduct effective training. The guidance provided in this part of the CFETP will identify viable training at appropriate points in an individual's career.

B2.1. Apprentice/Helper (A/H).

B2.1.1. Upon completion of initial skills training, an employee may work with a trainer to enhance their knowledge and skills to perform at the highest attainable level within their series.

B2.1.2. Utilize the Career Development Course (CDC) and other exportable courses for subject and task fundamentals in the series.

B2.1.3. Encourage apprentice/helpers to continue academic education and begin EPME by enrolling in Airman Leadership School either in-residence or by correspondence course.

B2.2. Journeyman (J).

B2.2.1. Journeymen may continue to advance their skills by completing additional training. Upon completing training, they may be assigned job positions such as team leader, trainer, or task certifier. Journeymen can pursue leadership training and skills in order to qualify for potential advancement to Work Leader or Work Supervisor positions.

B2.2.1. Encourage journeyman to enroll in the Noncommissioned Officer Academy (NCOA) either in-residence or by correspondence course.

B2.3. Craftsman (C).

B2.3.1. Craftsmen may continue to advance their skills by completing additional training. They may be assigned job positions such as team leader, trainer, or task certifier Craftsmen are encouraged to pursue leadership training and skills in order to qualify for potential advancement to Work Leader or Work Supervisor positions.

B2.3.2. Encourage craftsmen to continue academic education and complete Noncommissioned Officer Academy (NCOA) either in-residence or by correspondence course, civilian leadership courses and degree programs.

B2.3.3. Master Craftsman are typically graded higher than WG-10 where skills, knowledge and abilities require higher technical abilities than standard craftsmen. They are duty/location specific and not for all job series.

B2.4. Work Leader (WL).

B2.4.1. Work Leaders are expected to perform limited functions of a First Line Supervisor or act as a Team Lead.

B2.4.2. Completion of AFIT Civilian Supervisors Course (WMGT 571) is highly encouraged.

B2.4.3. Should pursue increased knowledge of budget, manpower, resources, and personnel management.

B2.4.4. Recommend pursuit of additional higher education and completion of courses outside of their job series for career broadening opportunities.

B2.4.5. Encourage Work Leaders to continue academic education and complete Noncommissioned Officer Academy (NCOA) either in-residence or by correspondence course, civilian leadership courses and degree programs.

B2.5. First Line Supervisor.

B2.5.1. A supervisor can be expected to fill positions such as the Element Chief or Special Projects Supervisor.

B2.5.2. Must enroll and complete required mandatory supervisor or manager training courses within 1 year of appointment to a supervisory or managerial position and complete experience training every 3 years, thereafter.

B2.5.3. Completion of AFIT Civilian Supervisors Course (WMGT 571) is highly encouraged.

B2.5.4. Should pursue increased knowledge of budget, manpower, resources, and personnel management.

B2.5.5. Recommend pursuit of additional higher education and completion of courses outside of their job series for career broadening opportunities.

B2.5.6. Encourage supervisors to continue academic education and complete Senior Noncommissioned Officer Academy (SNCOA) by correspondence, civilian leadership courses and degree programs.

B3. Correspondence Course Directions. Nonresident attendance for professional military education courses is accomplished through the Air Force Portal.

B3.1. Login to the AF Portal https://www.my.af.mil/.

B3.2. Copy and paste the URL https://www.airuniversity.af.edu/GCPME/ into your browser.

B3.4. "Distance Learning" tabs are on the right-side menu.

B3.5. Select the appropriate course.

B4. Resident Enlisted Professional Military Education (EPME). Scheduling enlisted professional military education for civilian personnel is a responsibility of AFPC/DP3DW unless otherwise noted. See DAFI 36-2670 Total Force Development, for more detailed information.

B4.1. Airman Leadership School (ALS). Airman Leadership School resident attendance is scheduled by the local Airman Leadership School commandant. Commandants build an annual schedule shortly after the staff sergeant (E-5) promotion release. Eligible Air Force and Department of Defense civilians are considered priority 3 for ALS. DAFI 36-2670 encourages ALS leadership to the extent possible, distribute Priority 2 and 3 students throughout the year to maximize diversity in the classroom.

B4.2. Noncommissioned Officer Academy (NCOA). Selection and scheduling are accomplished by AFPC/DP3DW. Eligible Air Force and Department of Defense civilians are considered priority 3 for NCOA and are considered on a space available basis.

B4.3. Senior Noncommissioned Officer Academy (SNCOA). Selection and scheduling are accomplished by AFPC/DP3DW and is driven by the senior master sergeant (E-8) promotion release. Eligible Air Force and Department of Defense civilians are considered priority 4 for SNCOA and are considered on a space available basis.

B5. Wage Grade Career Building Blocks (CBBs) and Continuous Development Framework Model.

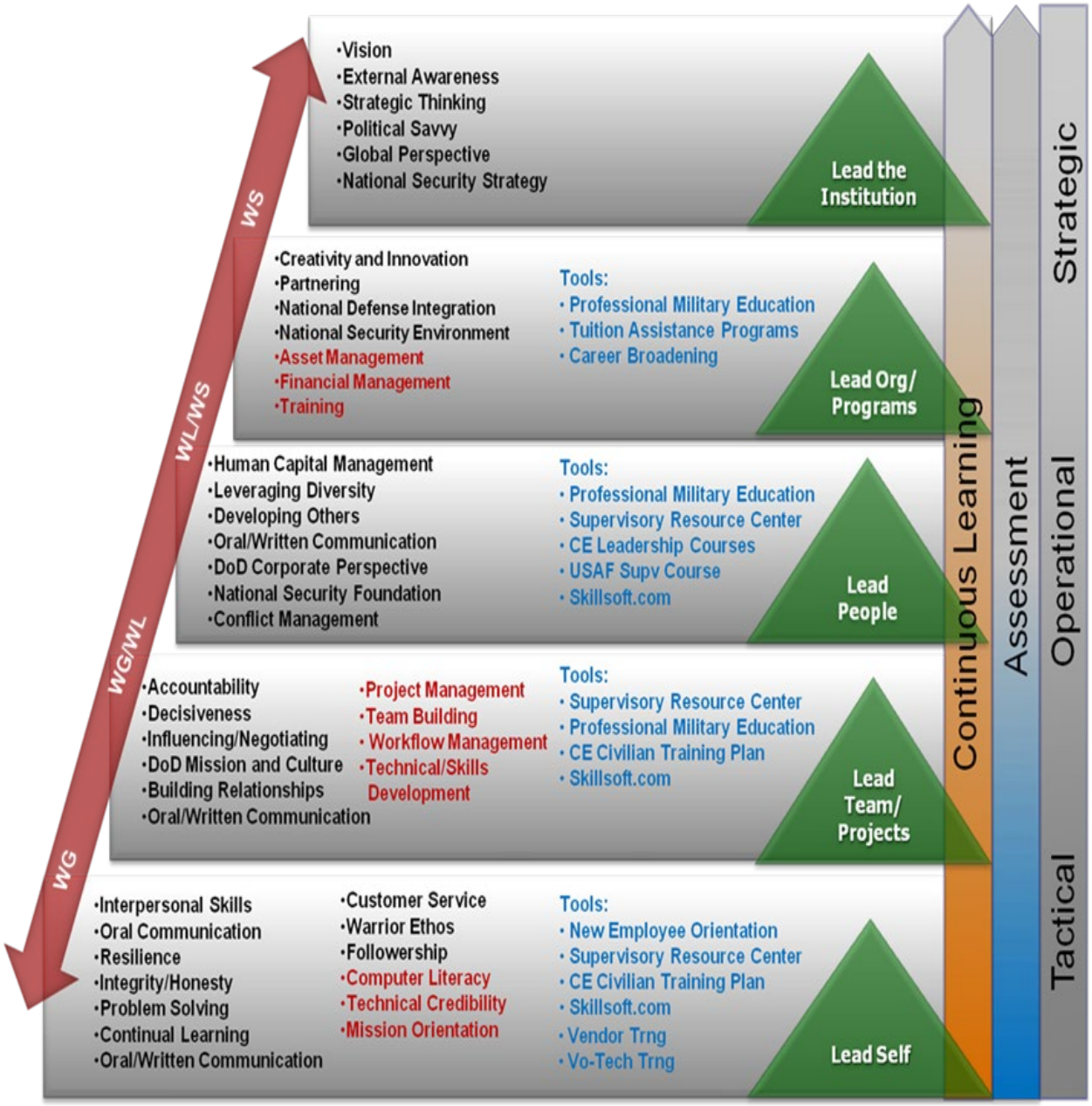
B5.1. The Career Building Blocks illustrate the dispersion of grades and relative experience levels (apprentice, journeyman, craftsman). As you progress through the grades, so should your breadth of experience. This not only includes technical experience, but leadership, supervisory and management experience as well. Using various on-the-job training, military, and civilian vocational schools, and PME, forms the foundation of the CBBs and the "Develop Exceptional Leaders" portion of the strategic vision in the CE Human Capital Road Map.

B5.1.1. The Wage Grade Career Building Blocks (CBBs) are an illustration or an example of your individual development plan or career path. Your individual roadmap may be different than others based on your occupational series and/or career path. The CBBs provide a few examples of development opportunities at the tactical, operational, and strategic levels of performance. Follow this link to see the CBBs for your job series.

https://usaf.dps.mil/sites/10016/Career%20Building%20Blocks/Forms/AllItems.aspx

B5.1.2. Once you have established your career goals, identify a mentor to help you align your steps in this learning and development continuum. A mentor can help you identify different kinds of experience and training you will need as well as the tools to attain them. Mentors also serve as a sounding board and can help you reassess or adjust your career goals when events in your life or career necessitate changes. As you complete these steps and move toward your career goals, it is important to reassess your goals. Once this is accomplished, you and your mentor will be able to further your progression and advancement through the continuous development framework model. See Figure 1 below for the Continuous Development Framework Model.

Figure 1.


WS
WL/WS
WG/WL
WG
•Vision
•External Awareness
•Strategic Thinking
•Political Savvy
•Global Perspective
•National Security Strategy
Lead the Institution
•Creativity and Innovation
•Partnering
•National Defense Integration
•National Security Environment
•Asset Management
•Financial Management
•Training
Tools:
• Professional Military Education
• Tuition Assistance Programs
• Career Broadening
Lead Org/ Programs
•Human Capital Management
•Leveraging Diversity
•Developing Others
•Oral/Written Communication
•DoD Corporate Perspective
•National Security Foundation
•Conflict Management
Tools:
• Professional Military Education
• Supervisory Resource Center
• CE Leadership Courses
• USAF Supv Course
• Skillsoft.com
Lead People
•Accountability
•Decisiveness
•Influencing/Negotiating
•DoD Mission and Culture
•Building Relationships
•Oral/Written Communication
•Project Management
•Team Building
• Workflow Management
•Technical/Skills Development
Tools:
• Supervisory Resource Center
• Professional Military Education
• CE Civilian Training Plan
• Skillsoft.com
Lead Team/ Projects
•Interpersonal Skills
•Oral Communication
•Resilience
•Integrity/Honesty
•Problem Solving
•Continual Learning
•Oral/Written Communication
•Customer Service
•Warrior Ethos
•Followership
•Computer Literacy
•Technical Credibility
•Mission Orientation
Tools:
• New Employee Orientation
• Supervisory Resource Center
• CE Civilian Training Plan
• Skillsoft.com
• Vendor Trng
• Vo-Tech Trng
Lead Self
Continuous Learning
Assessment
Strategic
Operational
Tactical

PART II

Section A – GROUP SERIES TRAINING STANDARD

A1. Implementation. This GSTS is used for technical training provided by AETC, OJT and COTs training documentation.

A2. **Purpose.** As prescribed in DAFI 36-2670, *Total Force Development,* DAFMAN 32-1001, *Civil Engineer Federal Wage System Force Development* and in collaboration with the AFCCFM, this GSTS is mandatory for all FWS job series 5378 working under the Air Force Specialty Code 3E0X2, regardless of duty assignment. Each employee must use an automated training record.

A2.1. Column 1 (*Tasks, Knowledge, and Technical References*). Lists the most common performance and knowledge requirements necessary for an employee to perform successfully in their job series. The required behaviors will be used as the context for which learning will be assessed.

A2.2. Column 2 (*Core Tasks*). Tasks identified by the AFCCFM or shop foreman as mandatory for each duty position in a job series at their location.

A2.2.1 Column 2 (*Deployment/SEI).* Tasks identified as mandatory for employees who perform roles in Mission Critical, Mission Essential or have been identified for a civilian deployment tasking.

A2.3. Column 3 (*Provides Certification for OJT)*. Used to record completion of each training requirement. Use the automated training system to document qualifications.

A2.3.1. Task certification of core and critical tasks. Require a training completion date and initials of the trainee, trainer, and a certifier. All non-core tasks require training completion date and initials of the trainee and trainer only.

A2.3.2. Performance Standard. All training requirements are trained and qualified to the "Go" level. "Go" means the individual can perform the task without assistance and meets local demands for accuracy, timeliness and, if applicable, correct use of procedures and Technical Orders.

A2.4. Column 4 (*Codes Used to Indicate level of Training*). Indicates whether the task is a Knowledge (K), Performance (P) or Performance and Knowledge (PK). Codes are provided in columns labeled for each level experience. These are labeled A/H for Apprentice/Helper, J for Journeyman, C/WL for Craftsman or Work Leader and S for Supervisor.

A2.5. Job Qualification Standard (JQS). The GSTS becomes a JQS for OJT when placed in an automated training application and used according to DAFI 36-2670, *Total Force Development* and DAFMAN 32-1001 *Civil Engineer Federal Wage System Force Development*. QTPs are available on myLearning to ensure that all supervisors use standardized procedures for training. When used as a JQS, the following requirements listed below apply.

A2.5.1. Documentation. Document and certify completion of training.

A2.5.1.1. Duty position. Requirements for each duty position (task group) will be developed and identified by the work center supervisor and loaded into the automated training management application. Completion of the identified tasks are mandatory for all duty positions. Ensure the correct duty position title is listed in the Profile section of the trainee's automated training record.

A2.5.1.2. AFQTP Training and Documentation. AFQTPs have been created for several task groups to fulfill performance (P) and knowledge (K) requirements for upgrade/qualification training. Each AFQTP provides the step–by–step procedures for the trainee, trainer, and certifier in completing each.

A2.5.1.2.2. Hands-On Training. For performance (P) training requirements, *DO NOT* sign off the tasks in the JQS until the trainee has completed hands-on/certification training.

A2.5.2. Transcribing from previous versions to new CFETP. The UETM and supervisor must conduct a review of the new GSTS to identify any new tasks and add those tasks to their unit specific duty positions.

A2.5.2.1. Previous training certification not listed. If previous training certifications are not listed in the individual training record, select the task to be transcribed, and click on the transcribe button. Enter the date of the original certification and sign off the task(s). The trainee will then sign off the task(s) to finalize the transcription of previous training certification. The automated application will place an entry into the trainee 623a and must be acknowledged by the transcriber and trainee.

A2.5.2.2. Transcribing external training certification. If a trainee attended a formal training course and received appropriate accreditation, select the formal training section of the users automated training record and locate the course title in the master task list, then enter the completion date. If the course is not listed, contact the UETM to have it loaded from the master catalog. If it is not listed in the master catalog, contact the FDM at AFCEC to have it loaded in the master catalog.

Section B – COURSE OJECTIVE LIST

B1. Measurement. Measurement of each learning objective is indicated as follows:

B1.1. Use of Progress Checks (PCs) & Rubrics. Indicates formal measurement of knowledge (K) and/or performance (P) elements.

B2. Standard. Standards for measurement are indicated in the course objectives and delineated on the individual progress checklist and rubrics. The minimum standard is 70% on knowledge progress checks. Trainer assistance is used as the standard for performance progress checks and is provided, as warranted during the progress check. Trainee may be required to repeat all or parts of the learning outcome until satisfactory performance is attained.

B3. Proficiency Level. Student must demonstrate mastery on each learning outcome/objective before progressing to the next learning requirement.

B4. Course Objective List. These objectives are listed in the sequence taught by Blocks of Instruction. Per AETCI 36 - 2651, *Basic Military and Technical Training*, a detailed listing of the initial skills course learning objectives in the Basic Course are listed in the 3E0X2 AFSC STS.

Section C – SUPPORT MATERIAL

C1. Air Force Qualification Training Packages

C1.1. The AFQTPs for each task group are identified on the AFQTP Documentation Record located in Attachment 3.

C1.2.1. For a complete list of up-to-date AFQTPs applicable to the 3E0X2 AFSC, go to myLearning.

C1.2.2. In addition to the AFQTPs there are web-based courses or assessments developed for certain tasks that are available on myLearning under AFCEC in the specialty topic area.

C2. Career Development Course (CDC) Assessment for Civil Engineer CDC/DL course

C2.1. FDMs have developed CDC assessments for each Air Force CE career field, and they are located on the myLearning under AFCEC in the topic header Civil Engineer Career Development Courses (CDCs) Assessments.

C2.2. CDC assessments are for the sole purpose of providing the trainer and the supervisor a predictive indicator of whether the trainee has a solid grasp on the knowledge portions of the GSTS.

Section D – EDUCATION AND TRAINING COURSE INDEX

D1. Purpose. This section of the CFETP identifies training courses available for the Electrical Power Production Powered Support Systems specialty. Refer to Education and Training Course Announcements ETCA (dps.mil) web site for information on the Air Force in-residence courses.

D2. Air Force In-Residence Courses/Mobile Training Team (MTT) Courses.

Course Number	Title	Developer
J3ABR3E032 00AD	Electrical Power Production Apprentice	366 TRS
J3AZR3E052 00CC	Contingency Power Generation	366 TRS
J3AZR3E052 00TC	Troubleshooting Electrical Power Generation Equipment	366 TRS

D3. Air Force Career Development Academy (AFCDA).

Course Number	Title	Edit Code (EC)
CDC Z3E052	Electrical Power Production Journeyman	01

D3.1 Courses/CDCs under Development/Revision

Course Number	Title	Date Due
J6ANW3E072 00AA	Electrical Power Production Craftsman Course	FY24
3E052 CDC	Electrical Power Production Web-based CDC	ECD

D4. Exportable/Web-based Courses/Information.

Course Number	Title	Developer
Web based	Arc Flash Safety Awareness QTP	AFCEC/COF
Web based	Automatic Transfer Panels (ATP) QTP	AFCEC/COF
Web based	3E0X2 Specific Publications	AFCEC/COF
Web based	BEAR Power Unit (BPU) QTP	AFCEC/COF
Web based	Generator Operations QTP	AFCEC/COF
Web based	Civil Engineer 5-Level Core Concepts Course	AFCEC/COF
Web based	Civil Engineer 7-Level Core Concepts Course	AFCEC/COF
Web based	Confined Space Course	AFCEC/COF
Web based	Electrical Safety Standards QTP	AFCEC/COF
Web based	Electrical/Electronic Fundamentals QTP	AFCEC/COF
Web based	Electrical Test Equipment QTP	AFCEC/COF
Web based	Electrical Safety Standards QTP	AFCEC/COF
Web based	Electrical Test Equipment Troubleshooting QTP	AFCEC/COF
Web based	Mobile Aircraft Arresting System (MAAS) QTP	AFCEC/COF
Web based	Diesel Generator Engine Sub-Systems QTP	AFCEC/COF

Web based	Fall Protection Awareness	AFCEC/COF
Web based	Grounding Fundamental QTP	AFCEC/COF
Web based	Healthcare Provider – CPR Course	AFCEC/COF
Web based	Locating and Testing Underground Circuits	AFCEC/COF
Web based	Remote Area Lighting System Course	AFCEC/COF
Web based	Transformers, Switches, Reclosers and Terminations	AFCEC/COF
Web based	TF-2 Flood Light Course	AFCEC/COF
Web based	Confined Space	AFCEC/COF
WENG 170	Cybersecurity for Control Systems	AFIT
WENG 270	Advanced Control Systems Cybersecurity	AFIT
WENG 370	Control Systems Cybersecurity for CE Leaders	AFIT
WMGT 301	Introduction to Asset Management Course	AFIT
WMGT 322	Introduction to Project Management	AFIT
WMGT 131	SMS Builder Level 1	AFIT

D5. Leadership Training and Academic Fellowships through the Eaker Center

Title
Squadron Officers School (SOS)
Developing Supervisor Course
Defense Emerging Leader Program
Civilian Associate's Degree Program
Civilian bachelor's degree Program
Civilian master's degree Program
Located at: Knowledge Detail (af.mil)

3 Attachments
1. Qualitative Training Requirements (Proficiency Code Key)
2. 3E0X2WG Group Series Training Standards (GSTS)
3. AFQTP Tracker

Attachment 1
3E0X2WG Group Series Training Standard (GSTS)

A1. Qualitative Training Requirements

This Block is for Identification Purposes Only.		
Name Of Trainee		
Printed Name (*Last, First, Middle Initial*)	**Initials (Written*)***	**SSAN (Last four)**
Printed Name of Trainer, Certifying Official and Written Initials		
N/I	*N/I*	

Behavioral Statement GSTS Coding System	
Code	Definition
K	Subject Knowledge Training - The verb selection identifies the individual's ability to identify facts, state principles, analyze, or evaluate the subject.
P	Performance Training - Identifies that the individual has performed the task to the satisfaction of the trainer/certifier; however, the individual may not be capable of meeting the field requirements for speed and accuracy.
PK	Performance Knowledge Training - The verb selection identifies the individual's ability to relate advanced facts, procedures, operating principles, and operational theory for the task.
X	Formal Course
*	Core Task. These are mandatory tasks identified by the Career Field Manager

A2. Group Series Training Standard.

A2.1. Identification. In the training record User Profile section, the UETM will assign individuals to the correct work center, upon in-processing into the unit.

A2.2. Electrical Power Production/Powered Support Systems Mechanic Specialty Tasks. The following are tasks the work center supervisor will use to track each duty position created for their work center.

Attachment 2

1. Tasks, Knowledge and Technical References	2. Task	3. Certification For OJT					4. Proficiency Codes Used to Indicate Training / Information			
	Core/Cert ^	A	B	C	D	E	A	B	C	D
		Tng Start	Tng Complete	Trainee Initials	Trainer Initials	Certifier Initials	A/H	J	C WL	S
1. CIVIL ENGINEER (CE) CORE CONCEPTS COURSES TR: myLearning										
1.1. Accomplish CE 3-level Core Concepts Course							K			
1.1.2. Accomplish CE 7-level Core Concepts Course								K		
1.1.3. CE Core Concepts							K			
1.1.4. Cybersecurity Concepts							K			
1.2 IN-RESIDENT AND DL CORE DUTY COURSES										
1.2.1. Complete WMGT 131 SMS BUILDER Level 1								X	X	X
1.2.2 Complete AFIT WENG 170 Cybersecurity for Control Systems							X			
1.2.3. Complete WMGT 231: SMS BUILDER Level 2									X	X
1.2.4. Complete AFIT WMGT 301 Intro to Asset Management	*								X	X
1.2.5. Complete AFIT WENG 270 Advanced Control Systems Cybersecurity Course	*								X	X
1.2.6. Complete AFIT WMGT 322 Project Management									X	X
1.2.7. Complete AFIT WENG 370 Control Systems Cybersecurity for CE Leaders	*								X	X

1.3. CIVILIAN SUPERVISION REQUIREMENTS:										
1.3.1. Civilian Supervisor Course									**X**	**X**
1.3.2. WMGT 571 Course									**X**	**X**
2.0. AFS SPECIFIC SAFETY STANDARD TR: AFIs 32-1065, 91-203; American Red Cross Adult CPR Handbook, American Heart Association; UFC 3-560-01; NFPA 70E										
2.1. Electrical safety standards for AFS							**K**	**K**	**K**	**K**
2.2. Remove victim from energized circuit							**PK**	**PK**	**PK**	**PK**
2.3. First aid for electrical shock										
2.3.1. Principles							**K**	**K**	**K**	**K**
2.3.2. Procedures							**K**	**K**	**K**	**K**
2.4. Arc Flash Safety							**K**	**K**	**K**	**K**
2.5. Perform cardiopulmonary resuscitation (CPR)							**PK**	**PK**	**PK**	**PK**
2.6. Determine AFS Specific Hazards							**PK**	**PK**	**PK**	**PK**
2.7. Lockout/Tagout										
2.7.1. Perform Lockout and Tagout Procedures TR: 29CFR 1910.147; DAFMAN 91-203							**PK**	**PK**	**PK**	**PK**
2.7.2. Implement Program							**PK**	**PK**	**PK**	**PK**
3.0. AFSC SPECIFIC PUBLICATIONS TR: TO 00-5-1										
3.1. Technical Order system							**PK**	**PK**	**PK**	**PK**
3.2. Use technical orders							**PK**	**PK**	**PK**	**PK**
3.3. Technical order improvement reporting							**K**	**K**	**PK**	**PK**
3.4. Acquire technical orders							**K**	**K**	**PK**	**PK**
3.5. Job Series Technical Publications							**K**	**K**	**K**	**K**

4.0. ELECTRICAL POWER PRODUCTION TOOLS AND TEST EQUIPMENT TR: TOs 32, 33, 34, 35, 38 Series										
4.1. Demonstrate proper use of hand tools							**PK**	**PK**	**PK**	**PK**
4.2. Specialized tools							**K**	**K**	**K**	**K**
4.3. Electrical Diagnostic Tools							**K**	**K**	**K**	**K**
4.4. Demonstrate proper use of Handheld Tachometer							**PK**	**PK**	**PK**	**PK**
4.5. Use electrical test equipment:										
4.5.1. Measure electrical values using a multimeter							**K**	**PK**	**PK**	**PK**
4.5.2. Earth Resistance tester							**K**	**PK**	**PK**	**PK**
4.5.3. Measure current using a clamp-on ammeter							**K**	**PK**	**PK**	**PK**
4.5.4. Megohmmeter							**K**	**PK**	**PK**	**PK**
4.5.5. Battery load tester							**K**	**PK**	**PK**	**PK**
4.5.6. Phase rotation meter							**K**	**PK**	**PK**	**PK**
4.5.7. Power Analyzer							**K**	**PK**	**PK**	**PK**
5.0. GENERAL POWER PRODUCTION TASKS TR: AFI 32-1062; TOs 32, 33, 34, 35, 38 Series; applicable manufacturer's manuals										
5.1. Principles of corrosion control							**K**	**K**	**K**	**K**
5.2. Types of engine pre-heating devices							**K**	**K**	**K**	**K**
5.3. Load Banks										
5.3.1. Components and theory of operation							**K**			
5.3.2. Operate							**PK**	**PK**	**PK**	**PK**
5.4. Battery Chargers										
5.4.1. Components and theory of operation							**K**	**K**	**K**	**K**
5.4.2. Inspect							**K**	**PK**	**PK**	**PK**
5.4.3. Adjust							**K**	**PK**	**PK**	**PK**
5.4.4. Troubleshoot							**K**	**PK**	**PK**	**PK**
5.4.5. Replace components							**K**	**PK**	**PK**	**PK**
5.5. Perform soldering								**PK**	**PK**	**PK**

6.0. ELECTRICAL FUNDAMENTALS TR: TO 31-1-141 Series; applicable manufacturer's manuals										
6.1. Basic electrical concepts and terms							**K**	**K**	**K**	**K**
6.2. Fundamentals of DC							**K**	**K**	**K**	**K**
6.3. Fundamentals of AC							**K**	**K**	**K**	**K**
6.4. Wiring Diagrams										
6.4.1. Types							**K**	**K**	**K**	**K**
6.4.2. Electrical components and symbols							**K**	**K**	**K**	**K**
6.4.3. Demonstrate proper use of wiring diagrams								**PK**	**PK**	**PK**
6.5. Principles of operation of components:										
6.5.1. Diodes							**K**	**K**	**K**	**K**
6.5.2. Inductors							**K**	**K**	**K**	**K**
6.5.3. Capacitors							**K**	**K**	**K**	**K**
6.5.4. Resistors							**K**	**K**	**K**	**K**
6.6. Test electrical components:										
6.6.1. Inductors							**K**	**PK**	**PK**	**PK**
6.6.2. Capacitors							**K**	**PK**	**PK**	**PK**
6.6.3. Resistors							**K**	**PK**	**PK**	**PK**
6.6.4. Diodes							**K**	**PK**	**PK**	**PK**
7.0. GENERATOR SET GROUNDING FUNDAMENTALS TR: AFMAN 32-1065; NFPA 70, 77; UFC 3-560-01; IEEE Standard 142 - Recommended Practice for Grounding of Industrial and Commercial Power; EGSA Guide to On-Site Power Generation										
7.1. Types of Grounds							**K**	**K**	**K**	**K**
7.2. Principles of Grounding							**K**	**K**	**K**	**K**
7.3. Install Equipment Ground							**PK**	**PK**	**PK**	**PK**
7.4. Test Grounds								**PK**	**PK**	**PK**
7.5. Troubleshoot grounds								**PK**	**PK**	**PK**
7.6. Bonding							**K**	**PK**	**PK**	**PK**
7.7. Determine Bonding Requirements								**PK**	**PK**	**PK**

8.0. ENGINE FUNDAMENTALS TR: UFC 3-540-07; EGSA Guide to On-Site Power Generation										
8.1. Gasoline engines										
8.1.1. Components and theory of operation							**K**	**K**	**K**	**K**
8.1.2. Engine malfunctions							**K**	**PK**	**PK**	**PK**
8.1.3. Perform engine tune-up							**K**	**PK**	**PK**	**PK**
8.2. Diesel engines										
8.2.1. Components and theory of operation:										
8.2.1.1. Two cycle							**K**	**K**	**K**	**K**
8.2.1.2. Four cycle							**K**	**K**	**K**	**K**
8.2.2. Engine malfunctions							**K**	**K**	**K**	**K**
8.2.3. Inspect:										
8.2.3.1. Vibration damper							**K**	**K**	**PK**	**PK**
8.2.3.2. Timing gears							**K**	**K**	**PK**	**PK**
8.2.3.3. Cylinder head							**K**	**K**	**PK**	**PK**
8.2.3.4. Intake and exhaust valves							**K**	**K**	**PK**	**PK**
8.2.3.5. Engine block							**K**	**K**	**PK**	**PK**
8.2.4. Replace:										
8.2.4.1. Vibration damper								**K**	**PK**	**PK**
8.2.4.2. Timing gears								**K**	**PK**	**PK**
8.2.4.3. Cylinder head								**K**	**PK**	**PK**
8.2.4.4. Intake and exhaust valves								**K**	**PK**	**PK**
8.2.4.5. Valve spring assemblies								**K**	**PK**	**PK**
8.2.4.6. Engine gaskets and seals								**K**	**PK**	**PK**
8.2.5. Adjust:										
8.2.5.1. Intake and exhaust valves								**K**	**PK**	**PK**
9.0. ENGINE DC ELECTRICAL SYSTEM TR: UFC 3-540-07; EGSA Guide to On-Site Power Generation; applicable manufacturer's manuals										
9.1. Components and theory of operation							**K**	**K**	**K**	**K**
9.2. Inspect System							**K**	**PK**	**PK**	**PK**
9.3. Troubleshoot								**PK**	**PK**	**PK**

9.4. Replace:										
9.4.1. Battery charging alternator							**K**	**PK**	**PK**	**PK**
9.4.2. Starter motor							**K**	**PK**	**PK**	**PK**
9.4.3. Starter solenoid							**K**	**PK**	**PK**	**PK**
9.5. Batteries:										
9.5.1. Types							**K**	**K**	**K**	**K**
9.5.2. Maintain							**K**	**PK**	**PK**	**PK**
9.5.3. Replace							**K**	**PK**	**PK**	**PK**
10.0. ENGINE LUBRICATION SYSTEM TR: AFI 32-1062; TOs 32, 33, 34, 35, 38 Series										
10.1. Components and theory of operation							**K**	**K**	**K**	**K**
10.2. Service lubrication System								**PK**	**PK**	**PK**
10.3. Test lube oil								**PK**	**PK**	**PK**
10.4. Troubleshoot								**PK**	**PK**	**PK**
10.5. Replace components										
10.5.1. Oil Pump							**K**	**PK**	**PK**	**PK**
10.5.2. Oil cooler							**K**	**PK**	**PK**	**PK**
10.5.3. Sending units							**K**	**PK**	**PK**	**PK**
10.5.4. Protective devices							**K**	**PK**	**PK**	**PK**
11.0. FUEL SYSTEMS TR: NFPA 30, 70; 32-204; UFC 3-540-07; EGSA Guide to On-Site Power Generation										
11.1. Gaseous Fuels										
11.1.1. Components and theory of operation							**K**	**K**	**K**	**K**
11.1.2. Inspect							**K**	**PK**	**PK**	**PK**
11.1.3. Troubleshoot							**K**	**PK**	**PK**	**PK**
11.1.4. Adjust carburetor							**K**	**PK**	**PK**	**PK**
11.1.5. Replace										
11.1.5.1. Fuel Pump							**K**	**PK**	**PK**	**PK**
11.1.5.2. Filters/strainers							**K**	**PK**	**PK**	**PK**
11.1.5.3. Carburetors							**K**	**PK**	**PK**	**PK**

11.2. Diesel										
11.2.1. Types, components, and theory of operation							**K**	**K**	**K**	**K**
11.2.2. Inspect							**K**	**PK**	**PK**	**PK**
11.2.3. Prime and bleed							**K**	**PK**	**PK**	**PK**
11.2.4. Time fuel injection pumps							**K**	**PK**	**PK**	**PK**
11.2.5. Test fuel for water content							**K**	**PK**	**PK**	**PK**
11.2.6. Troubleshoot								**PK**	**PK**	**PK**
11.2.7. Replace:										
11.2.7.1. Filters/strainers							**K**	**PK**	**PK**	**PK**
11.2.7.2. Injectors							**K**	**PK**	**PK**	**PK**
11.2.7.3. Sending units							**K**	**PK**	**PK**	**PK**
11.2.7.4. Protective devices							**K**	**PK**	**PK**	**PK**
12.0. ENGINE COOLING SYSTEM TR: UFC 3-540-07; EGSA Guide to On-Site Power Generation										
12.1. Components and theory of operation							**K**	**K**	**K**	**K**
12.2. Inspect System							**K**	**PK**	**PK**	**PK**
12.3. Troubleshoot								**PK**	**PK**	**PK**
12.4. Replace:										
12.4.1. Drive belts							**K**	**PK**	**PK**	**PK**
12.4.2. Heater							**K**	**PK**	**PK**	**PK**
12.4.3. Sending units							**K**	**PK**	**PK**	**PK**
12.4.4. Protective devices							**K**	**PK**	**PK**	**PK**
12.4.5. Filters							**K**	**PK**	**PK**	**PK**
12.5. Maintain							**K**	**PK**	**PK**	**PK**
12.6. Test antifreeze							**K**	**PK**	**PK**	**PK**
12.7. Coolant additives							**K**	**PK**	**PK**	**PK**
13.0. ENGINE GOVERNOR SYSTEMS TR: UFC 3-540-07; EGSA Guide to On-site Power Generation										
13.1. Electronic Governors										
13.1.1. Components and theory of operation							**K**	**K**	**K**	**K**
13.1.2. Inspect system							**PK**	**PK**	**PK**	**PK**
13.1.3. Adjust set points							**K**	**PK**	**PK**	**PK**
13.1.4. Troubleshoot							**K**	**PK**	**PK**	**PK**

13.1.5. Replace Components										
13.1.5.1. Control module							**K**	**PK**	**PK**	**PK**
13.1.5.2. Actuator							**K**	**PK**	**PK**	**PK**
13.1.5.3. Magnetic pickup							**K**	**PK**	**PK**	**PK**
14.0. INTAKE AND EXHAUST SYSTEMS **TR: UFC 3-540-07; EGSA Guide to On-Site Power Generation; applicable manufacturer's manuals**										
14.1. Components and theory of operation							**K**	**K**	**K**	**K**
14.2. Inspect systems							**PK**	**PK**	**PK**	**PK**
14.3. Replace:										
14.3.1. Air cleaner/filter							**PK**	**PK**	**PK**	**PK**
14.3.2. Turbocharger							**K**	**PK**	**PK**	**PK**
14.3.3. Aftercooler							**K**	**PK**	**PK**	**PK**
14.3.4. Intake manifold							**K**	**PK**	**PK**	**PK**
14.3.5. Exhaust manifold							**K**	**PK**	**PK**	**PK**
14.3.6. Expansion joint							**K**	**PK**	**PK**	**PK**
14.3.7. Muffler							**K**	**PK**	**PK**	**PK**
15.0. AC GENERATING SYSTEM **TR: UFC 3-550-07; EGSA Guide to On-Site Power Generation; applicable manufacturer's manuals**										
15.1. Alternator										
15.1.1. Components and theory of operation							**K**	**K**	**K**	**K**
15.1.2. Inspect							**K**	**PK**	**PK**	**PK**
15.1.3. Test							**K**	**PK**	**PK**	**PK**
15.1.4. Replace							**K**	**PK**	**PK**	**PK**
15.2. Rectifier assembly										
15.2.1. Inspect							**K**	**PK**	**PK**	**PK**
15.2.2. Test							**K**	**PK**	**PK**	**PK**
15.2.3. Replace							**K**	**PK**	**PK**	**PK**
15.3. Controls										
15.3.1. Components and theory of operation							**K**	**K**	**K**	**K**
15.3.2. Inspect components							**K**	**PK**	**PK**	**PK**
15.3.3. Troubleshoot							**K**	**PK**	**PK**	**PK**

15.3.4. Replace:										
15.3.4.1. Voltage regulator								**PK**	**PK**	**PK**
15.3.4.2. Exciter								**PK**	**PK**	**PK**
15.3.4.3. Transformers								**PK**	**PK**	**PK**
15.3.4.4. Control panel components								**PK**	**PK**	**PK**
15.4. Protective devices										
15.4.1. Components and theory of operation							**K**	**K**	**K**	**K**
15.4.2. Inspect							**K**	**PK**	**PK**	**PK**
15.4.3. Test:										
15.4.3.1. Circuit breakers							**K**	**PK**	**PK**	**PK**
15.4.3.2. Relays							**K**	**PK**	**PK**	**PK**
15.4.3.3. Fuses							**K**	**PK**	**PK**	**PK**
15.4.4. Replace:										
15.4.4.1. Circuit breakers							**K**	**PK**	**PK**	**PK**
15.4.4.2. Relays							**K**	**PK**	**PK**	**PK**
15.4.4.3. Fuses							**K**	**PK**	**PK**	**PK**
16.0. Real Property Installed Equipment (RPIE) Generators TR: NFPA 70; NFPA 110; AFMAN 32-1062; UFC 3-540-07; UFC 3-540-01; applicable manufacturer's manuals; AFPMTLs										
16.1. Periodic Inspection and Preventative Maintenance										
16.1.1. Inspection and maintenance requirements							**K**			
16.1.2. Perform Semi-monthly							**K**	**PK**	**PK**	**PK**
16.1.3. Perform Monthly							**K**	**PK**	**PK**	**PK**
16.1.4. Perform Semi-annual							**K**	**PK**	**PK**	**PK**
16.2. Perform emergency shutdown							**K**	**PK**	**PK**	**PK**
16.3. Reconfigure alternator voltage output								**PK**	**PK**	**PK**
16.4. Calculate:										
16.4.1. kW/kVA load							**PK**	**PK**	**PK**	**PK**
16.4.2. Amperage load							**PK**	**PK**	**PK**	**PK**
16.4.3. Fuel requirements							**PK**	**PK**	**PK**	**PK**
16.4.4. Power requirements								**PK**	**PK**	**PK**

17.0. AUTOMATIC TRANSFER SWITCHES TR: UFC 3-520-01, 3-540-01; NFPA 110, 111; AFMAN 32-1062; EGSA Guide to On-Site Power Generation; applicable manufacturer's manuals										
17.1. Components and theory of operation							**K**	**K**	**K**	**K**
17.2. Inspect							**K**	**PK**	**PK**	**PK**
17.3. Test							**K**	**PK**	**PK**	**PK**
17.4. Adjust								**PK**	**PK**	**PK**
17.5. Troubleshoot								**PK**	**PK**	**PK**
17.6. Replace components								**PK**	**PK**	**PK**
17.7. Configure with computer software								**PK**	**PK**	**PK**
17.8. Compatibility between transfer switch, generator, and electrical service								**PK**	**PK**	**PK**
17.9. Install								**PK**	**PK**	**PK**
17.10. Programmable Logic Controllers: Components and theory of operation								**PK**	**PK**	**PK**
17.11. Commercial configuration software								**PK**	**PK**	**PK**
18.0. AIRCRAFT ARRESTING SYSTEMS TR: TO 35E8-2 Series; AFI 32-1043; FC 3-260-18F										
18.1. E5 Barrier										
18.1.1. Components and theory of operation							**K**	**K**	**K**	**K**
18.1.2. Configuration							**K**	**K**	**K**	**K**
18.2. Modular BAK-14 Cable Support System										
18.2.1. Components, theory of operation and configuration							**K**	**K**	**K**	**K**
18.2.2. Maintenance and inspection requirements							**K**	**K**	**K**	**K**
18.2.3. Perform monthly inspection							**K**	**PK**	**PK**	**PK**
18.3. BAK-15 Aircraft Arresting System										
18.3.1. Components and theory of operation							**K**	**K**	**K**	**K**
18.3.2. Configurations							**K**	**K**	**K**	**K**
18.3.3. Maintenance and inspection requirements							**K**	**K**	**K**	**K**
18.3.4. Perform Monthly Inspection							**K**	**PK**	**PK**	**PK**

18.4. Textile Brake Aircraft Arresting System										
18.4.1. Components and theory of operation							**K**	**K**	**K**	**K**
18.4.2. Configurations							**K**	**K**	**K**	**K**
18.4.3. Maintenance and inspection requirements							**K**	**K**	**K**	**K**
18.4.4. Perform Monthly Inspection							**K**	**PK**	**PK**	**PK**
18.5. Type H Support Systems										
18.5.1. Components and theory of operation							**K**	**K**	**K**	**K**
18.5.2. Configuration							**K**	**K**	**K**	**K**
18.5.3. Maintenance and inspection requirements							**K**	**K**	**K**	**K**
18.5.4. Perform Monthly Inspection							**K**	**PK**	**PK**	**PK**
18.6. BAK-12 Aircraft Arresting System										
18.6.1. Components and theory of operation							**K**	**K**	**K**	**K**
18.6.2. Configuration							**K**	**K**	**K**	**K**
18.6.3. Maintenance and inspection requirements							**K**	**K**	**K**	**K**
18.6.4. Determine tape replacement using Regime Chart							**K**	**PK**	**PK**	**PK**
18.6.5. Perform periodic inspections and preventative maintenance										
18.6.5.1. Daily							**PK**	**PK**	**PK**	**PK**
18.6.5.2. Weekly							**PK**	**PK**	**PK**	**PK**
18.6.5.3. Monthly							**PK**	**PK**	**PK**	**PK**
18.6.5.4. Quarterly							**PK**	**PK**	**PK**	**PK**
18.6.5.5. Semi-annual							**PK**	**PK**	**PK**	**PK**
18.6.5.6. After arrestment							**K**	**PK**	**PK**	**PK**
18.6.6. Troubleshoot										
18.6.6.1. Brake assembly							**K**	**PK**	**PK**	**PK**
18.6.6.2. Rewind system							**K**	**PK**	**PK**	**PK**
18.6.6.3. Hydraulic system							**K**	**PK**	**PK**	**PK**
18.6.7. Replace Components										
18.6.7.1. Rewind System							**K**	**PK**	**PK**	**PK**
18.6.7.2. Hydraulic System							**K**	**PK**	**PK**	**PK**

19.0. AFSC-SPECIFIC CONTINGENCY RESPONSIBILITIES TR: AFIs 10-209, 10-210; NEC; Army TMs 10-8340-207-14, 10- 450-200-12; WMP CE Supplement; AFPAM 10-219 Vol 2, 3, 4										
19.1. Generators										
19.1.1. 200 kW or less										
19.1.1.1. Construction features and components							**K**	**PK**	**PK**	**PK**
19.1.1.2. Set up generator for connection to load							**K**	**PK**	**PK**	**PK**
19.1.1.3. Cables										
19.1.1.3.1. Selection							**K**	**PK**	**PK**	**PK**
19.1.1.3.2. Phase identification							**K**	**PK**	**PK**	**PK**
19.1.1.3.3. Connect							**K**	**PK**	**PK**	**PK**
19.1.1.3.4. Check phase rotation							**K**	**PK**	**PK**	**PK**
19.1.1.4. Perform single unit operations							**K**	**PK**	**PK**	**PK**
19.1.1.5. Perform parallel unit operation							**K**	**PK**	**PK**	**PK**
19.1.1.6. Troubleshoot:										
19.1.1.6.1. Engine system								**PK**	**PK**	**PK**
19.1.1.6.2. Electrical system								**PK**	**PK**	**PK**
19.1.2. BEAR Power Unit (BPU) Generator: TR: TO 35C2-3-474-11; AFTTP 3-32.34v5										
19.1.2.1. Construction features							**K**	**K**	**K**	**K**
19.1.2.2. Component identification							**K**	**K**	**K**	**K**
19.1.2.3. Medium-voltage safety							**K**	**K**	**K**	**K**
19.1.2.4. Digital Control System							**K**	**K**	**K**	**K**
19.1.2.5. Functions of InPower BPU							**K**	**K**	**K**	**K**
19.1.2.6. Installation requirements								**K**	**K**	**K**
19.1.2.7. Perform Operations										
19.1.2.7.1. Single unit							**K**	**PK**	**PK**	**PK**
19.1.2.7.2. Parallel							**K**	**PK**	**PK**	**PK**
19.1.2.8. Other-than-normal generator operations							**K**	**PK**	**PK**	**PK**

19.1.2.9. Periodic Inspection requirements										
19.1.2.9.1. Mechanical							**K**	**PK**	**PK**	**PK**
19.1.2.9.2. Electrical							**K**	**PK**	**PK**	**PK**
19.1.2.10. Fault codes										
19.1.2.10.1. Engine systems							**K**	**PK**	**PK**	**PK**
19.1.2.10.2. Electrical							**K**	**PK**	**PK**	**PK**
19.1.2.10.3. Use InPower BPU							**K**	**PK**	**PK**	**PK**
19.1.2.10.4. Troubleshoot							**K**	**PK**	**PK**	**PK**
19.1.2.11. External Fuel System										
19.1.2.11.1. Set up fuel storage area							**K**	**PK**	**PK**	**PK**
19.1.2.11.2. Connect fuel supply							**K**	**PK**	**PK**	**PK**
19.2. Mobile Aircraft Arresting System (MAAS) TR: TOs 35E8-2, 38G1; AFPAM 10-219, Vol 3, 4 & 5; AFMAN 32-1043; FC 3-260-18F9										
19.2.1. Components, theory of operation and configuration							**K**	**PK**	**PK**	**PK**
19.2.2. Installation planning							**K**	**PK**	**PK**	**PK**
19.2.3. Unidirectional installation							**K**	**PK**	**PK**	**PK**
19.2.4. Perform unidirectional installation										
19.2.4.1. Soil							**K**	**PK**	**PK**	**PK**
19.2.4.2. Concrete							**K**	**PK**	**PK**	**PK**
19.2.4.3. Asphalt over soil							**K**	**PK**	**PK**	**PK**
19.2.4.4. Asphalt over concrete							**K**	**PK**	**PK**	**PK**
19.2.5. Bi-directional installation							**K**	**PK**	**PK**	**PK**
19.2.6. Perform bidirectional installation										
19.2.6.1. Soil							**K**	**PK**	**PK**	**PK**
19.2.6.2. Concrete							**K**	**PK**	**PK**	**PK**
19.2.7. Attach hook cable							**K**	**PK**	**PK**	**PK**
19.2.8. Tension hook cable							**K**	**PK**	**PK**	**PK**
19.2.9. Proof load installation							**K**	**PK**	**PK**	**PK**
19.2.10. Reconstitute MAAS							**K**	**PK**	**PK**	**PK**
19.2.11. MAAS periodic inspections and preventive maintenance requirements							**K**	**PK**	**PK**	**PK**

19.2.12. Perform MAAS periodic inspections and preventive maintenance										
19.2.12.1. Daily							**K**	**PK**	**PK**	**PK**
19.2.12.2. Weekly							**K**	**PK**	**PK**	**PK**
19.2.12.3. Monthly							**K**	**PK**	**PK**	**PK**
19.2.12.4. Quarterly							**K**	**PK**	**PK**	**PK**
19.2.12.5. Semi-annual							**K**	**PK**	**PK**	**PK**
19.2.12.6. After arrestment							**K**	**PK**	**PK**	**PK**
19.2.13. Troubleshoot:										
19.2.13.1. Brake assembly							**K**	**PK**	**PK**	**PK**
19.2.13.2. Hydraulic system							**K**	**PK**	**PK**	**PK**
19.2.13.3. Trailer hydraulic system							**K**	**PK**	**PK**	**PK**
19.2.14. Replace components:										
19.2.14.1. Hydraulic system							**K**	**PK**	**PK**	**PK**
19.2.14.2. Trailer hydraulic system							**K**	**PK**	**PK**	**PK**
19.3. Lightweight Fairlead Beam (LWFB) TR: TO 35E8-2-11-2; AFTTP 3-32.15										
19.3.1. Installation requirements							**K**	**PK**	**PK**	**PK**
19.3.2. Perform installation										
19.3.2.1. Concrete							**K**	**PK**	**PK**	**PK**
19.3.2.2. Soil							**K**	**PK**	**PK**	**PK**
19.3.3. Perform LWFB periodic inspections:										
19.3.3.1. Daily							**K**	**PK**	**PK**	**PK**
19.3.3.2. Monthly							**K**	**PK**	**PK**	**PK**
19.4. Mobile Runway Edge Sheaves (MRES) TR: TO 35E8-2-3-1; AFTTP 3-32.15										
19.4.1. Installation requirements							**K**	**K**	**K**	**K**
19.4.2. Perform concrete installation							**K**	**PK**	**PK**	**PK**
19.4.3. Perform soil installation							**K**	**PK**	**PK**	**PK**
19.4.4. Periodic inspection requirements							**K**	**PK**	**PK**	**PK**
19.4.5. Perform Inspections							**K**	**PK**	**PK**	**PK**
19.4.5.1. Daily							**K**	**PK**	**PK**	**PK**
19.4.5.2. Monthly							**K**	**PK**	**PK**	**PK**

19.5. Contingency Planning Factors TR: AFPAM 10-219, Vol 5; AFH 10-222, Vol 1, 2 & 5										
19.5.1. Basic Expeditionary Airfield Resources							**K**	**K**	**K**	**K**
19.5.2. Contingency electrical planning							**K**	**PK**	**PK**	**PK**
19.6. Telescopic floodlight set TR: TO 35F5-5-21-1; AFPAM 10-219, Vol 5, L-6 light set reference										
19.6.1. Install							**K**	**PK**	**PK**	**PK**
19.6.2. Inspect							**K**	**PK**	**PK**	**PK**
19.6.3. Operate							**K**	**PK**	**PK**	**PK**
19.6.4. Troubleshoot								**PK**	**PK**	**PK**
19.6.5. Maintain								**PK**	**PK**	**PK**
19.7. Electrical distribution systems TR: TOs 35F14-1-1, 35CA6-1-101,35CA2-2-17-1; AFMAN 32-1065; AFTTP 3-32.34v5										
19.7.1. Primary distribution system								**K**	**K**	**K**
19.7.2. Secondary distribution system								**K**	**K**	**K**
19.7.3. Connect generator to Secondary Distribution Center (SDC)								**PK**	**PK**	**PK**

A3. AFQTP Documentation Record.

A3.1. To ensure each Electrical Power Production Powered Support Systems Specialist is trained to the correct standard an AF Qualification Training Package (AFQTP) has been developed for each task group identified in their GSTS. These AFQTPs are to be used by the trainee, trainer, and certifier in their on-the-job-training program for qualification training and developmental training.

A3.2. These AFQTPs ensure all aspects of the task are covered sufficiently and provide additional task knowledge, in preparation for hands-on training. AFQTPs summarize procedures on a task performance checklist for use by trainers, certifiers, and trainees.

A3.2.1. The UTM or supervisor can download paper based AFQTP's. Paper-based AFQTP's are found on CE DASH under documents in the AFQTP folder.

A3.2.2. In addition to the paper-based AFQTPs there are web-based courses or assessments developed for certain tasks that are available on myLearning under AFCEC in the Home Station topic area.

A3.3. **Documentation.** Before a core or diamond task can be signed off in the JQS section of the individual automated training record, the task must be signed off in the QTP section first.

Attachment 3
3E0X2WG AFQTP Tracker

A3.4. 3E0X2WG AFQTP Tracker.

Task Number	Tasks, Knowledge, and Technical References	Task Level		Certification of AFQTPs			
		A/H	J/C	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
1.0.	**CIVIL ENGINEER (CE) COMMON CORE CONCEPTS COURSES**						
1.1.	Complete 5-Level Core Concepts Course	*					
1.2.	Complete CE 7-Level Core Concepts Course		*				
1.5.	Complete WMGT 131 SMS BUILDER Level 1	*					
1.6.	Complete AFIT WENG 170 Cybersecurity for Control Systems	*					
1.7.	Complete WMGT 231 SMS BUILDER Level 2		*				
1.8.	Complete AFIT WMGT 301 Intro to Asset Management	*					
1.9.	Complete AFIT WMGT 322 Project Management		*				
1.10.	Complete AFIT WENG 370 Control Systems Cybersecurity for CE Leaders		*				
2.0.	**AFSC-SPECIFIC SAFETY STANDARDS**						
2.6.	Determine AFS Specific Hazards	*					
2.7.	**Lockout/Tagout**						
2.7.1.	**2.7.1.** Perform Lockout and Tagout Procedures	*					
2.7.2.	**2.7.2.** Implement Program		*				
3.0.	**AFSC SPECIFIC PUBLICATIONS**						
3.2.	Demonstrate proper use of technical orders	*					
4.0.	**ELECTRICAL POWER PRODUCTION TOOLS AND TEST EQUIPMENT**						
4.5.	**Use electrical test equipment:**						
4.5.1.	Measure electrical values using a multimeter	*					
4.5.3.	Measure current using a clamp-on ammeter	*					
4.5.5.	Battery load tester	*					
4.5.6.	Phase rotation meter	*					
5.0.	**GENERAL POWER PRODUCTION TASKS**						
5.3.	**Load Banks**						
5.3.2	Operate	*					
6.0.	**ELECTRICAL FUNDAMENTALS**						
6.4.	**Wiring Diagrams**						
6.4.3.	Demonstrate proper use of wiring diagrams	*					
7.0.	**GENERATOR SET GROUNDING**						
7.3.	Install equipment ground	*					
7.7	Determine Bonding Requirements		*				
8.0.	**ENGINE FUNDAMENTALS**						
8.1.	**Gasoline engines**						

Task Number	Tasks, Knowledge, and Technical References	Task Level		Certification of AFQTPs			
		A/H	J/C	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
8.1.3.	Perform engine tune-up	*					
9.0.	**ENGINE DC ELECTRICAL SYSTEM**						
9.3.	Troubleshoot	*					
9.5.	**Batteries:**						
9.5.3.	Replace	*					
10.0.	**ENGINE LUBRICATION SYSTEM**						
10.2.	Service engine lubrication system	*					
11.0.	**FUEL SYSTEM**						
11.1	**Gaseous Fuels**						
11.1.4.	Adjust carburetor	*					
11.2.	**Diesel**						
11.2.2.	Inspect	*					
11.2.3	Prime and bleed	*					
11.2.6.	Troubleshoot	*					
12.0.	**ENGINE COOLING SYSTEM**						
12.3.	Troubleshoot	*					
12.4.	Replace:						
12.4.1.	Drive belts	*					
12.5	Maintain	*					
13.0.	**13. ENGINE GOVERNOR SYSTEMS**						
13.1.	Electronic Governors						
13.1.3.	Adjust set points	*					
13.1.4.	Troubleshoot	*					
15.0.	**AC GENERATING SYSTEM**						
15.2.	Rectifier Assemble						
15.2.2.	Test	*					
15.2.3.	Replace	*					
15.3.	**Controls**						
15.3.3.	Troubleshoot	*					
15.4.3.	**Test**						
15.4.3.2.	Relays	*					
16.0.	**Real Property Installed Equipment (RPIE) Generators**						
16.3.	Reconfigure Alternator Voltage Output		*				
16.4.	**Calculations**						
16.4.1.	kW/kVA load	*					
16.4.2.	Amperage load	*					
16.4.4.	Power requirements		*				
17.0.	**AUTOMATIC TRANSFER SWITCHES**						
17.2.	Inspect	*					
17.3.	Test	*					
17.5.	Troubleshoot		*				
19.0.	**AFSC SPECIFIC CONTINGENCY RESPONSIBILITIES**						
19.1.	**Generators**						
19.1.1.	**200 kW or less**						
19.1.1.2.	Set up generator for connection to load	*					
19.1.1.3.	**Cables**						
19.1.1.3.3.	Connect	*					
19.1.1.3.4.	Check phase rotation	*					
19.1.1.4.	Perform single unit operations	*					