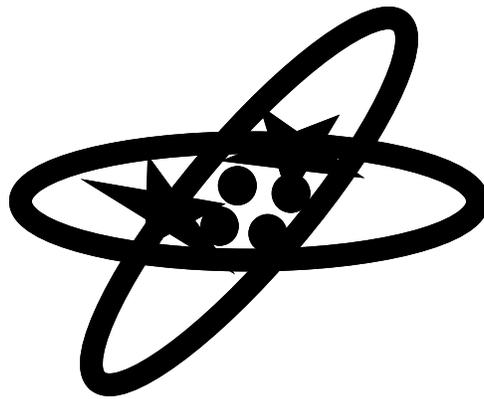


U.S. Department of
Homeland Security

United States
Coast Guard



ELECTRONICS TECHNICIAN SECOND CLASS



Performance Qualification Guide Certification Pamphlet

U. S. Coast Guard
Pamphlet No. P22201
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ELECTRONICS TECHNICIAN 2ND CLASS PERFORMANCE QUALIFICATION GUIDE

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U.S. Coast Guard
Training Center
Petaluma, Ca 94952
707-765-7129

QUESTIONS ABOUT THIS TEXT SHOULD BE
ADDRESSED TO THE SUBJECT MATTER SPECIALIST
FOR THE ET RATING

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HOW TO USE THE PERFORMANCE QUALIFICATION GUIDE

Overview

Introduction

The Performance Qualification Guide (PQG) is a performance-based, systematic approach to completing the enlisted performance qualifications (EPQs) for advancement. This PQG is a new training aid that is included as part of your Electronics Technician Second Class nonresident correspondence course. Under the direction of your assigned professional development supervisor (PDS), you will complete all tasks identified in this PQG.

PQG Job Aid

This job aid will guide you and your chain of command through the overall process leading up to your being able to compete in the E-5 servicewide exam (SWE).

Step	Action	Responsibility
1	Order Electronics Technician 2 nd Class nonresident course. (The PQG will be a separate pamphlet enclosed with your course material.)	Member and ESO
2	Assign member (student) to nonresident program and assign a professional development supervisor (PDS) to coach/train student. (See examples of assignment memorandums on pages 6 and 9.)	CO and/or ESO
3	Review PQG and establish training time line to complete all tasks.	Member and PDS
4	Prepare the PQG Monthly Tracking Sheet (MTS).	PDS
5	Read course material; complete all practical exercises, job aids, and quizzes; and demonstrate proficiency on all tasks, TPOs, and EPQs to PDS.	Member
6	Provide feedback to member on performance. Initial/sign off on successfully completed job aids, tasks, TPOs, and EPQs.	PDS
7	Track member's progress on MTS and ensure all actions have been initialed or signed off as completed.	Member and PDS
8	Submit MTS to department head for periodic review and approval.	Member, PDS, and department head
9	Sign MTS* to acknowledge member has successfully completed all requirements of PQG nonresident program. (*Retain MTS in member's Training Record.)	CO or XO
10	Ensure end-of-course test (EOCT) is ordered for member and arrange test time.	ESO
11	Take and pass EOCT.	Member
12	Recommend member for advancement.	CO

Overview, Continued

Assignment Letters

Letters assigning the student to the nonresident program and designating the PDS are recommended. Examples of these letters are provided on pages 6 and 9.

Monthly Tracking Sheet

The PDS and the student will complete a Monthly Tracking Sheet (MTS). Periodically this sheet will be evaluated and signed by the student's department head. After the student has successfully completed all PQG sheets and passed the end-of-course test (EOCT), the CO/XO will sign the final completion block on the MTS and the tracking sheet will become a permanent part of the student's Training Record.

Completion of Non-Resident Program

The student will remain in the nonresident program until every EPQ has been successfully completed and signed off by the PDS. Normal time frame for completion of training is 6 to 12 months.

Guidelines for PQG

Purpose

The purpose of this PQG is to provide a comprehensive, systematic approach to performance-based training. By successfully performing the tasks identified in this PQG, you will be able to complete your enlisted performance qualifications (EPQs), which are part of the preparation for eligibility to compete in the servicewide exam (SWE).

You and Your Supervisor

It is YOUR responsibility to make sure that the person designated as your professional development supervisor (PDS) reads the “Professional Development Supervisor (PDS) Instructions” in this course.

Your PDS will use this PQG as a tool to document your successful completion of the EPQs as a part of your advancement process. All EPQs for E-5 are covered in this PQG.

Performance Objectives

This PQG contains terminal performance objectives (TPOs) and enabling objectives (EOs), which are explained in the table below.

Type of Objective	Outcomes
Terminal Performance Objective	These objectives reflect the EPQs you are striving to complete.
Enabling Objectives (Tasks)	These objectives are the performances you will complete that will lead you to successful completion of the TPOs.

PQG Sheets

The PQG sheets identify the TPOs and tasks you need to master to be proficient in completing your enlisted performance qualifications (EPQs). The number appearing on the right top corner of the PQG sheet corresponds to the qual number on the Record of Performance Qualifications (CG-3303C-1) for the Electronics Technician rating.

As you complete each task listed on the PQG sheets, your professional development supervisor will sign next to each task, indicating you have satisfactorily completed that task. After you have completed all tasks under the TPO, you will be ready to accomplish the TPO that directly relates to the EPQ you are working on.

Guidelines for PQG, Continued

PQG Sheets (Continued)

Once you demonstrate proficiency in the performance of the TPO(s), your PDS will initial and date the appropriate column on the Record of Performance Qualifications (CG 3303C-1), indicating your completion of that EPQ.

PQG Completion Steps

Follow these steps to guide you toward final completion of your PQG.

Step	Action
1	Read the PQG sheet and lesson material.
2	Practice the lesson objectives; complete the practical exercises/job aids/lesson self-quizzes. Ask for help if you do not understand the material.
3	Take the job aid(s) to your PDS.
4	Perform the steps/actions in the job aid(s) for your PDS.
5	Receive feedback from your PDS. Perform steps/actions again, if necessary.
6	Have PDS initial the box next to each job aid when successfully performed. (OPTIONAL step – This initial box may not be in every rating PQG.)
7	Take the PQG sheet and the job aid(s) to your PDS.
8	Using the job aid(s), perform all TPO tasks listed on the PQG sheet for your PDS.
9	Have PDS sign and date each task on the PQG sheet to verify that you have successfully performed each task.
10	Have PDS initial and date the appropriate EPQ on your Record of Performance Qualification (CG-3303C-1).
11	Repeat steps 1-10 for each PQG sheet.
12	Take the completed PQG, Monthly Tracking Sheet, and the CG-3303C-1 to your unit XO, training officer, ESO or other designated recipient for appropriate action.

Guidelines for PQG, Continued

End-of-Course Test (EOCT)

The EOCT measures your knowledge that supports each performance objective contained in your nonresident course. Be sure to complete the self-quiz for each lesson along with the pamphlet review quiz (PRQ). Remember, these pamphlet review questions are examples of the types of questions you will find on the EOCT.

Passing your EOCT is part of the advancement process. Take the exam seriously and study all of the course pamphlets. Ask others for help, prior to taking the exam, if you do not understand the material.

Example of Nonresident Assignment Memorandum

U.S. Department of
Homeland Security



United States
Coast Guard

Commanding Officer
U.S. Coast Guard
Cutter Steadfast

St. Petersburg, FL 33703-5001
Staff Symbol: XO
Phone: (727) 335-6192
Fax: (727) 335-6192
Email:

1500
25 Oct 2003

MEMORANDUM

From: B. A. MOORE, CAPT, USCG
USCGC STEADFAST

Reply to XO
Attn of: (757) 856-2131

To: Electronics Technician 3rd Class, Jeff Robertson, 0372, USCG

Subj: ASSIGNMENT TO THE NONRESIDENT E-5 PROGRAM

(b) Station Instruction 1500.2B

1. You are hereby assigned to the Nonresident E-5 Program.
2. This assignment is based on your desires to become a Second Class Petty Officer. It will be your responsibility to acquire the skills, knowledge, and abilities in the Electronics Technician rating, as well as the completion of the Enlisted Performance Qualifications (EPQs) to be eligible for advancement to E-5.
3. The following guidelines have been established to ensure the standardization of the training process for the Nonresident E-5 Program.
 - The Performance Qualification Guide (PQG) will be your tool to track your progress towards completion of the EPQs.
 - You should be able to demonstrate proficiency in each of the performance objectives listed in the PQG. There is an initial block next to each task where your professional development supervisor (PDS) must indicate that he/she has observed your successful completion of that task in accordance with the steps and criteria contained in the lesson job aid.
 - Normal time frame for completion of the Nonresident Program is 6 to 12 months. You will be evaluated each month by your PDS on your progression. You will be given feedback on your performance, and the evaluation will be sent to your immediate supervisor.
4. Once you have completed all of the performance objectives in the PQG, you will be ready to demonstrate your proficiency of the E-5 quals to your PDS, who will initial and date the appropriate column in the Record of Performance Qualifications (CG 3303C-1). All EPQs at this level must be successfully completed for advancement.
5. I commend you on this assignment, and look forward to your successful completion.

#

Professional Development Supervisor (PDS) Instructions

Purpose The purpose of this PQG is to provide a comprehensive, systematic approach to performance-based training. The student, along with your assistance and mentorship, will be striving towards completion of the EPQs in order to be eligible for advancement to Electronics Technician 2nd Class.

Your Role as PDS You have been selected as a PDS based on your paygrade and professional competence. It will be your responsibility to assist, guide, and mentor the student in his/her efforts towards professional development and advancement in the Electronics Technician rating.

Note: An example of a PDS designation memorandum is provided on page 9.

PDS Competencies

The following guidelines have been established to ensure the standardization of the training process.

- The PQG will be your tool to track the student's progress towards completion of the EPQs.
 - Within the lesson material are job aids that the student will demonstrate to you. (Some ratings have included an initial box next to each job aid in the course material.)
 - The student should be able to demonstrate proficiency in all terminal performance objectives listed on the PQG sheets. There is a signature block next to each task in a table below the TPO where you must indicate the student's completion of that task.
 - Once all tasks have been completed, the student will demonstrate each TPO to you. It will be your job to assess the student's ability to satisfy the accomplishment of that TPO and its EPQ. Basically, the EPQs are the PQG's TPOs.
 - Use your good judgment in determining your student's performance. The Coast Guard is putting its trust in you to help your fellow shipmate become a competent Electronics Technician Second Class.
-

Professional Development Supervisor (PDS) Instructions

Monthly Tracking Sheets Included at the end of this handbook is a Monthly Tracking Sheet (MTS). You and the student must develop a reasonable time line for completion of this PQG handbook. Periodically, this tracking sheet should be evaluated and signed by your department head. If used correctly, the MTS will motivate the student and you to systematically develop his/her skills to perform all the tasks required for performance of Electronics Technician 2nd Class enlisted performance qualifications.

EPQ Sign-Off When the student has demonstrated proficiency in the performance of the EPQ, you will initial and date the appropriate column in the Record of Performance Qualifications (CG 3303C-1). This official record, along with the completed PQG, will document the student's eligibility for advancement to Electronics Technician 2nd Class.

For More Information For more detailed information regarding the completion of the Record of Performance Qualifications, refer to the Coast Guard Enlisted Qualifications Manual, COMDTINST M1414.8 (series).

Example of PDS Assignment Memorandum

U.S. Department of
Homeland Security



United States
Coast Guard

Commanding Officer
U.S. Coast Guard
Cutter Steadfast

St. Petersburg, FL 33703-5001
Staff Symbol: XO
Phone: (727) 335-6192
Fax: (727) 335-6192
Email:

1500
25 October 2003

MEMORANDUM

From: B. A. MOORE, CAPT, USCG
USCGC STEADFAST

Reply to XO
Attn of: (757) 856-2131

To: ET2 Horace Greely, 1492, USCG

Subj: ASSIGNMENT AS PROFESSIONAL DEVELOPMENT SUPERVISOR (PDS)

Ref: (a) Station Instruction 1500.2B

1. You are hereby designated as a professional development supervisor (PDS) for (enter member's name and rate).
2. This assignment is based on your paygrade and professional competence. It will be your responsibility to assist, guide, and mentor the member in his/her efforts to improve his/her skills, knowledge, and abilities in the Electronics Technician rating.
3. The following guidelines have been established to ensure the standardization of this performance-based training process:
 - The Performance Qualification Guide (PQG) will be your tool to track the member's progress towards completion of the EPQs.
 - The member should be able to demonstrate proficiency in each of the terminal performance objectives listed in the PQG. There is signature block next to each task where you must indicate that you have observed the member's successful completion of that task in accordance with the steps and criteria contained in the lesson/job aid.
4. Once the member has completed all of the terminal performance objectives, it will be your responsibility to determine if he/she has successfully demonstrated proficiency in all currently published E-5 enlisted performance qualifications in the Electronics Technician rating. Use your good judgment in determining successful performance. I am placing my trust in your ability to assist your fellow shipmate in becoming a highly competent, professional member of the U.S. Coast Guard.

#

Performance Qualification Guide Sheets

PQG Sheets

The following pages provide you and your Professional Development Supervisor (PDS) with an organized form that identifies the Enabling Objectives (steps) of the Terminal Performance Objective (task) you must complete. The number appearing on the right top corner of the PQG Sheet corresponds to the EPQ number on the Record of Performance Qualification (CG-3303C-1) for the Electronics Technician rating.

Once you complete each step of a task, submit the corresponding sheet to your PDS for their review and signature. Once you have completed all of the steps for a task, you will be ready to accomplish the Terminal Performance Objective that directly relates to the EPQ you are working on.

Administration PQG

5.A.01

Terminal Performance Objective

Given a request for spare parts, modules and maintenance supplies, using federal and commercial sources, PROCURE spare parts, modules and maintenance supplies with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.01)

Item	Task	Job Aid Location	PDS Signature and Date
1.1.1	VALIDATE nomenclature of items to be ordered.	How to Procure spare parts, modules, and maintenance supplies.	
1.1.2	DETERMINE sources of supply.	How to Procure spare parts, modules, and maintenance supplies.	
1.1.3	ORDER part IAW unit's SOP.	How to Procure spare parts, modules, and maintenance supplies.	

Professional Development Supervisor's Comments and Notes

Administration PQG

5.A.02

Terminal Performance Objective

Given the test equipment requiring calibration, **VALIDATE** the unit test equipment program with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.02)

Item	Task	Job Aid Location	PDS Signature and Date
1.2.1	DETERMINE items due for calibration.	How to Validate the unit's test equipment calibration program.	
1.2.2	DETERMINE nearest calibration facility	How to Validate the unit's test equipment calibration program.	
1.2.3	OBTAIN approval for test equipment calibration due to budgetary constraints.	How to Validate the unit's test equipment calibration program.	

Professional Development Supervisor's Comments and Notes

Administration PQG

5.A.03

Terminal Performance Objective

Given the required casualty data and access to the Coast Guard Message System, and using the CASREP job aid, **GENERATE** a casualty report with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.03)

Item	Task	Job Aid Location	PDS Signature and Date
1.3.1	DETERMINE if equipment cannot be repaired with parts on hand.	How to Generate a Casrep.	
1.3.2	OBTAIN equipment nomenclature.	How to Generate a Casrep.	
1.3.3	OBTAIN approval for test equipment calibration due to budgetary constraints.	How to Generate a Casrep.	

Professional Development Supervisor’s Comments and Notes

Administration PQG

5.A.04

Terminal Performance Objective

Upon completion of an electronic equipment configuration change, and using a job aid, **SUBMIT** form 4790 C/K with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.04)

Item	Task	Job Aid Location	PDS Signature and Date
1.4.1	VALIDATE equipment configuration change.	How to Submit an OPNAV 4790 C/K.	
1.4.2	COMPLETE all required fields of an OPNAV 4790 C/K.	How to Submit an OPNAV 4790 C/K.	
1.4.3	SUBMIT OPNAV 4790 C/K to appropriate MLC.	How to Submit an OPNAV 4790 C/K.	

Professional Development Supervisor’s Comments and Notes

Administration PQG

5.A.05

Terminal Performance Objective

Given requirements and instructions for routinely maintaining the Coast Guard Planned Maintenance System (CGPMS), and using a job aid, **VERIFY** the unit’s CGPMS for 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.05)

Item	Task	Job Aid Location	PDS Signature and Date
1.5.1	OBTAIN the unit’s CGPMS Guide.	How to Verify accuracy of the unit’s CGPMS.	
1.5.2	VERIFY electronics equipment maintenance cards are available and current.	How to Verify accuracy of the unit’s CGPMS.	
1.5.3	UPDATE electronics equipment maintenance cards.	How to Verify accuracy of the unit’s CGPMS.	
1.5.4	RETURN CGPMS electronics equipment maintenance cards to their proper location.	How to Verify accuracy of the unit’s CGPMS.	

Professional Development Supervisor’s Comments and Notes

Administration PQG

5.A.06

Terminal Performance Objective Given expired equipment or materials, and using a job aid, **DOCUMENT** local destruction IAW the Supply Policies and Procedures Manual with 100% accuracy.

Notes to PDS The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.06)

Item	Task	Job Aid Location	PDS Signature and Date
1.6.1	ENSURE proper PPE and safety procedures are being followed.	How to Document local destruction of electronic equipment.	
1.6.2	TAKE pictures before destruction and after.	How to Document local destruction of electronic equipment.	
1.6.3	DOCUMENT destruction.	How to Document local destruction of electronic equipment.	
1.6.4	FILE documentation.	How to Document local destruction of electronic equipment.	

Professional Development Supervisor’s Comments and Notes

Administration PQG

5.A.07

Terminal Performance Objective Given expired equipment or materials, and using a job aid, **DOCUMENT** local destruction IAW the Supply Policies and Procedures Manual with 100% accuracy.

Notes to PDS The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.A.07)

Item	Task	Job Aid Location	PDS Signature and Date
1.7.1	OBTAIN equipment to be turned in.	How to Process Mandatory Turn in Repairables.	
1.7.2	DETERMINE proper turn in facility.	How to Process Mandatory Turn in Repairables.	
1.7.3	SHIP part to appropriate destination.	How to Process Mandatory Turn in Repairables.	
1.7.4	UPDATE records to reflect any changes.	How to Process Mandatory Turn in Repairables.	

Professional Development Supervisor’s Comments and Notes

Performance and Training PQG

5.B.01

Terminal Performance Objective

Given informational material pertaining to a lesson, **CONDUCT** a safety brief on the following items IAW the Electronics Manual with 100% accuracy:

- Personnel working in and around installed electronics equipment
- Personnel in RF Hazards of Electro-Magnetic Radiation to Fuel (HERF)
- Personnel in RF Hazards of Electro-Magnetic Radiation to Ordnance (HERO)
- Personnel in RF Hazards of Electro-Magnetic Radiation to Personnel (HERP)

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.B.01)

Item	Task	Job Aid Location	PDS Signature and Date
2.1.1	OBTAIN applicable safety procedure information.	How to Conduct a safety brief.	
2.1.2	DEVELOP the lesson plan to be taught.	How to Conduct a safety brief.	
2.1.3	DELIVER the lesson.	How to Conduct a safety brief.	
2.1.4	PROVIDE opportunity for practice and allow feedback.	How to Conduct a safety brief.	
2.1.5	RECORD completion.	How to Conduct a safety brief.	

Professional Development Supervisor’s Comments and Notes

Performance and Training PQG**5.B.02****Terminal
Performance
Objective**

Given the proper equipment, **IDENTIFY** a cable fault using a Time Domain Reflectometer (TDR) IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.B.02)

Item	Task	Job Aid Location	PDS Signature and Date
2.2.1	LOCATE cable to be tested.	How to Identify a cable fault using a TDR.	
2.2.2	OBTAIN proper procedures for operation of TDR.	How to Identify a cable fault using a TDR.	
2.2.3	ENSURE proper PPE and safety procedures are being followed.	How to Identify a cable fault using a TDR.	
2.2.4	DEENERGIZE associated electronic equipment.	How to Identify a cable fault using a TDR..	
2.2.5	USING proper tag out procedures, tag out associated electronic equipment.	How to Identify a cable fault using a TDR.	
2.2.6	PERFORM test.	How to Identify a cable fault using a TDR.	

Professional Development Supervisor's Comments and Notes

Performance and Training PQG

5.B.03

Terminal Performance Objective

Given the proper authority, **MEASURE** dielectric impedance of a coaxial cable or an HF antenna using a megger IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.B.03)

Item	Task	Job Aid Location	PDS Signature and Date
2.3.1	DETERMINE cable to be tested.	How to Measure impedance of a cable.	
2.3.2	OBTAIN proper procedures for operation of megger.	How to Measure impedance of a cable.	
2.3.3	ENSURE proper PPE and safety procedures are being followed.	How to Measure impedance of a cable..	
2.3.4	DEENERGIZE associated electronic equipment.	How to Measure impedance of a cable.	
2.3.5	USING proper tag out procedures, tag out associated electronic equipment.	How to Measure impedance of a cable.	
2.3.6	PERFORM test.	How to Measure impedance of a cable.	

Professional Development Supervisor’s Comments and Notes

Performance and Training PQG

5.B.04

Terminal Performance Objective

Given the proper materials, **TRAIN** electronics personnel in the construction of multi-pin and RF connectors IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.B.04)

Item	Task	Job Aid Location	PDS Signature and Date
2.4.1	OBTAIN proper procedures for construction of selected connector.	How to Train personnel in the construction of connectors.	
2.4.2	DEVELOP the lesson plan to be taught.	How to Train personnel in the construction of connectors.	
2.4.3	DELIVER the lesson.	How to Train personnel in the construction of connectors.	
2.4.4	PROVIDE opportunity for practice and allow feedback.	How to Train personnel in the construction of connectors.	
2.4.5	RECORD completion of training in members training record.	How to Train personnel in the construction of connectors.	

Professional Development Supervisor’s Comments and Notes

Special and Emergency Procedures PQG

5.C.01

Terminal Performance Objective

Given a job aid, **INSPECT** electronic equipment spaces to ensure required warning signs are posted IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.C.01)

Item	Task	Job Aid Location	PDS Signature and Date
3.1.1	DETERMINE type of hazard.	How to Inspect electronics spaces to ensure proper warning signs are posted.	
3.1.2	OBTAIN proper procedures for working with the associated hazard.	How to Inspect electronics spaces to ensure proper warning signs are posted.	
3.1.3	POST applicable hazard warning sign.	How to Inspect electronics spaces to ensure proper warning signs are posted.	

Professional Development Supervisor’s Comments and Notes

Special and Emergency Procedures PQG**5.C.02****Terminal Performance Objective**

Given a job aid, **DEMONSTRATE** safety precautions required to eliminate/limit exposure to Radio Frequency (RF) radiation IAW the Electronics Manual with 100% accuracy and within a timely manner.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.C.02)

Item	Task	Job Aid Location	PDS Signature and Date
3.2.1	DETERMINE a system to conduct demonstration on.	How to Demonstrate safety precautions required to eliminate/limit exposure to RF radiation.	
3.2.2	OBTAIN safety precautions for the appropriate system.	How to Demonstrate safety precautions required to eliminate/limit exposure to RF radiation.	
3.2.3	DEMONSTRATE safety precautions to an audience.	How to Demonstrate safety precautions required to eliminate/limit exposure to RF radiation.	
3.2.4	PROVIDE opportunity for feedback.	How to Demonstrate safety precautions required to eliminate/limit exposure to RF radiation.	

Professional Development Supervisor's Comments and Notes

Electronic Installation Standards PQG

5.D.01

Terminal Performance Objective

Given a request to verify and update unit drawings, and using a job aid, cable tags, unit drawings or ship’s COEDs, **TRACE** a point to point connection through multiple compartments with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.D.01)

Item	Task	Job Aid Location	PDS Signature and Date
4.1.1	LOCATE the physical cable/wire connections to be traced.	Trace point to point connections through multiple compartments.	
4.1.2	START at beginning point of cable/wire connections using visual and continuity checks.	Trace point to point connections through multiple compartments.	
4.1.3	COMPLETE tracing to end point using visual and continuity checks.	Trace point to point connections through multiple compartments.	
4.1.4	VERIFY physical cable/wire connections matches with COEDS.	Trace point to point connections through multiple compartments.	
4.1.5	UPDATE applicable drawings.	Trace point to point connections through multiple compartments.	

Professional Development Supervisor’s Comments and Notes

Electronic Installation Standards PQG

5.D.02

Terminal Performance Objective

Given applicable documentation and tools, and using a job aid, **MAINTAIN** the following protection subsystems with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.D.02)

Item	Task	Job Aid Location	PDS Signature and Date
4.2.1	INSPECT for deficiencies.	Maintain fault, lightning, and signal reference ground systems.	
4.2.2	TEST for proper resistance measurements.	Maintain fault, lightning, and signal reference ground systems.	
4.2.3	CORRECT deficiencies as necessary.	Maintain fault, lightning, and signal reference ground systems.	
4.2.4	VERIFY proper operation of equipment.	Maintain fault, lightning, and signal reference ground systems.	
4.2.5	UPDATE unit drawings.	Maintain fault, lightning, and signal reference ground systems.	

Professional Development Supervisor’s Comments and Notes

Electronic Installation Standards PQG

5.D.03

Terminal Performance Objective

Given a request to install cable through multiple compartments and/or spaces, and using a job aid, **INSTALL** cable through multi-cable transits IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.D.03)

Item	Task	Job Aid Location	PDS Signature and Date
4.3.1	OBTAIN terminations and route of cable run.	Install cables through multi-cable transits.	
4.3.2	DETERMINE length of cable run.	Install cables through multi-cable transits.	
4.3.3	NOTIFY affected personnel.	Install cables through multi-cable transits.	
4.3.4	UNCOIL cable to appropriate length.	Install cables through multi-cable transits.	
4.3.5	ROUTE cable through multiple compartments.	Install cables through multi-cable transits.	
4.3.6	TEST cable and attached equipment for proper operation.	Install cables through multi-cable transits.	
4.3.7	UPDATE unit drawings.	Install cables through multi-cable transits.	

Professional Development Supervisor’s Comments and Notes

Electronic Installation Standards PQG

5.D.04

Terminal Performance Objective

Given Heliac cables and connectors, and using a job aid, **INSTALL** Heliac cable connectors IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.D.04)

Item	Task	Job Aid Location	PDS Signature and Date
4.4.1	OBTAIN recommended heliac connectors.	Install Heliac connectors.	
4.4.2	FOLLOW manufacturer’s instructions and install a Heliac connector.	Install Heliac connectors.	
4.4.3	VERIFY installation of heliac connectors.	Install Heliac connectors.	

Professional Development Supervisor’s Comments and Notes

Electronic Installation Standards PQG

5.D.05

Terminal Performance Objective

Given a request to inspect, and using a job aid, **EVALUATE** Heliac cables IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.D.05)

Item	Task	Job Aid Location	PDS Signature and Date
4.5.1	LOCATE the physical cable to be inspected.	Evaluate Heliac cable.	
4.5.2	VERIFY cable using a visual inspection and continuity check.	Evaluate Heliac cable.	
4.5.3	VALIDATE cable locations and connections against unit drawings.	Evaluate Heliac cable.	

Professional Development Supervisor’s Comments and Notes

Electronic Installation Standards PQG

5.D.06

Terminal Performance Objective

Given the installation or repair of an electronic system, **INSTALL** stuffing tubes IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.D.06)

Item	Task	Job Aid Location	PDS Signature and Date
4.6.1	OBTAIN proper procedures for installing stuffing tubes.	Install stuffing tubes.	
4.6.2	LOCATE the area where stuffing tube will be installed.	Install stuffing tubes.	
4.6.3	PLACE stuffing tube in appropriate hole.	Install stuffing tubes.	
4.6.4	OBTAIN proper personnel for welding stuffing tube.	Install stuffing tubes.	
4.6.5	VERIFY stuffing tube is fully functional.	Install stuffing tubes.	

Professional Development Supervisor’s Comments and Notes

Electronic Systems Planned Maintenance

5.E.01

Terminal Performance Objective

Given installed applicable UHF system, and using a job aid, **PERFORM** planned maintenance on a UHF transceiver system IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.E.01)

Item	Task	Job Aid Location	PDS Signature and Date
5.1.1	OBTAIN proper procedures on planned maintenance.	Perform maintenance on a UHF transceiver.	
5.1.2	LOCATE applicable UHF system.	Perform maintenance on a UHF transceiver.	
5.1.3	DEENERGIZE all associated equipment.	Perform maintenance on a UHF transceiver.	
5.1.4	USING proper tag out procedures, tag out all associated equipment.	Perform maintenance on a UHF transceiver.	
5.1.5	FOLLOW procedures on the PMS card or in the technical manual.	Perform maintenance on a UHF transceiver.	
5.1.6	REMOVE tags and energize equipment.	Perform maintenance on a UHF transceiver.	
5.1.7	PERFORM a full functional test on equipment.	Perform maintenance on a UHF transceiver.	

Professional Development Supervisor's Comments and Notes

Electronic Systems Planned Maintenance

5.E.02

Terminal Performance Objective

Given installed applicable Electronic Charting System (ECS), and using a job aid, **PERFORM** planned maintenance on an ECS IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.E.02)

Item	Task	Job Aid Location	PDS Signature and Date
5.2.1	OBTAIN proper procedures on planned maintenance.	Perform maintenance on ECS.	
5.2.2	LOCATE applicable charting system.	Perform maintenance on ECS.	
5.2.3	DEENERGIZE all associated equipment.	Perform maintenance on ECS.	
5.2.4	USING proper tag out procedures, tag out all associated equipment.	Perform maintenance on ECS.	
5.2.5	FOLLOW procedures on the PMS card or in the technical manual.	Perform maintenance on ECS.	
5.2.6	REMOVE tags and energize equipment.	Perform maintenance on ECS.	
5.2.7	PERFORM a full functional test on equipment.	Perform maintenance on ECS.	

Professional Development Supervisor’s Comments and Notes

Electronic Systems Planned Maintenance

5.E.03

Terminal Performance Objective

Given installed applicable radar system, and using a job aid, **PERFORM** planned maintenance on a Surface Search Radar (SSR) IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.E.03)

Item	Task	Job Aid Location	PDS Signature and Date
5.3.1	OBTAIN proper procedures on planned maintenance.	Perform maintenance on Surface Search Radar.	
5.3.2	LOCATE applicable radar system.	Perform maintenance on Surface Search Radar.	
5.3.3	DEENERGIZE all associated equipment.	Perform maintenance on Surface Search Radar.	
5.3.4	USING proper tag out procedures, tag out all associated equipment.	Perform maintenance on Surface Search Radar.	
5.3.5	FOLLOW procedures on the PMS card or in the technical manual.	Perform maintenance on Surface Search Radar.	
5.3.6	REMOVE tags and energize equipment.	Perform maintenance on Surface Search Radar.	
5.3.7	PERFORM a full functional test on equipment.	Perform maintenance on Surface Search Radar.	

Professional Development Supervisor's Comments and Notes

Electronic Systems Corrective Maintenance

5.F.01

Terminal Performance Objective

Given installed applicable UHF system, and using a job aid, **PERFORM** corrective maintenance on a UHF transceiver system IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.F.01)

Item	Task	Job Aid Location	PDS Signature and Date
6.1.1	OBTAIN proper procedures on corrective maintenance.	Corrective maintenance on a UHF transceiver.	
6.1.2	LOCATE applicable UHF system.	Corrective maintenance on a UHF transceiver.	
6.1.3	DEENERGIZE all associated equipment.	Corrective maintenance on a UHF transceiver.	
6.1.4	USING proper tag out procedures, tag out all associated equipment.	Corrective maintenance on a UHF transceiver.	
6.1.5	FOLLOW procedures on the PMS card or in the technical manual.	Corrective maintenance on a UHF transceiver.	
6.1.6	REMOVE tags and energize equipment.	Corrective maintenance on a UHF transceiver.	
6.1.7	PERFORM a full functional test on equipment.	Corrective maintenance on a UHF transceiver.	

Professional Development Supervisor’s Comments and Notes

Electronic Systems Corrective Maintenance

5.F.02

Terminal Performance Objective

Given installed applicable Electronic Charting System (ECS), and using a job aid, **PERFORM** corrective maintenance on an ECS IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.F.02)

Item	Task	Job Aid Location	PDS Signature and Date
6.2.1	OBTAIN proper procedures on corrective maintenance.	Perform corrective maintenance on ECS.	
6.2.2	LOCATE applicable charting system.	Perform corrective maintenance on ECS.	
6.2.3	DEENERGIZE all associated equipment.	Perform corrective maintenance on ECS.	
6.2.4	USING proper tag out procedures, tag out all associated equipment.	Perform corrective maintenance on ECS.	
6.2.5	FOLLOW procedures on the PMS card or in the technical manual.	Perform corrective maintenance on ECS.	
6.2.6	REMOVE tags and energize equipment.	Perform corrective maintenance on ECS.	
6.2.7	PERFORM a full functional test on equipment.	Perform corrective maintenance on ECS.	

Professional Development Supervisor's Comments and Notes

Electronic Systems Corrective Maintenance**5.F.03****Terminal Performance Objective**

Given installed applicable radar system, and using a job aid, **PERFORM** corrective maintenance on a Surface Search Radar (SSR) IAW the Electronics Manual with 100% accuracy.

Notes to PDS

The Performance Development Supervisor (PDS) will evaluate student competency for 100% completion during the PQG process. The End of Course Test (EOCT) will evaluate knowledge competency and an individual must achieve a minimum of 80% on the EOCT. (ET EPQ 5.F.03)

Item	Task	Job Aid Location	PDS Signature and Date
6.3.1	OBTAIN proper procedures on corrective maintenance.	Perform corrective maintenance on a SSR.	
6.3.2	LOCATE applicable radar system.	Perform corrective maintenance on a SSR.	
6.3.3	DEENERGIZE all associated equipment.	Perform corrective maintenance on a SSR.	
6.3.4	USING proper tag out procedures, tag out all associated equipment.	Perform corrective maintenance on a SSR.	
6.3.5	FOLLOW procedures on the PMS card or in the technical manual.	Perform corrective maintenance on a SSR.	
6.3.6	REMOVE tags and energize equipment.	Perform corrective maintenance on a SSR.	
6.3.7	PERFORM a full functional test on equipment.	Perform corrective maintenance on a SSR.	

Professional Development Supervisor's Comments and Notes

Monthly Tracking Sheet for Electronics Technician 2nd Class Performance Qualification Guide

Name: _____

Name of PDS	EPQ	Start Date	Due Date	Progress			Date Completed	PDS Signature
				25%	50%	75%		
Administration								
How to Procure spare parts	5.A.01							
How to Validate test equipment	5.A.02							
Generate a Casrep	5.A.03							
Submit Form 4790 C/K	5.A.04							
Verify unit's CGPMS	5.A.05							
Document local destruction	5.A.06							
Process Coast Guard MTR	5.A.07							
PDS comments and/or department head periodic review and signature/date:								

MONTHLY TRACKING SHEET FOR ET2 PERFORMANCE QUALIFICATION GUIDE

Name: _____

Name of PDS	EPQ	Start Date	Due Date	Progress			Date Completed	PDS Signature
				25%	50%	75%		
Performance and Training								
Conduct a safety brief	5.B.01							
Identify a cable fault using a TDR	5.B.02							
Measure dielectric using a megger	5.B.03							
Train in construction of connectors	5.B.04							
PDS comments and/or department head periodic review and signature/date:								
Special and Emergency Procedures								
Inspect electronic spaces for RF warning signs	5.C.01							
Demonstrate safety precautions on RF exposure	5.C.02							
PDS comments and/or department head periodic review and signature/date:								

MONTHLY TRACKING SHEET FOR ET2 PERFORMANCE QUALIFICATION GUIDE

Name: _____

Name of PDS	EPQ	Start Date	Due Date	Progress			Date Completed	PDS Signature
				25%	50%	75%		
Electronic Installation Standards								
Trace point to point connection	5.D.01							
Maintain fault, lightning and signal reference ground	5.D.02							
Install cabling through multi-cable transits	5.D.03							
Install Helix cable connector	5.D.04							
Evaluate Heliax cables	5.D.05							
Install stuffing tubes	5.D.06							
PDS comments and/or department head periodic review and signature/date:								

MONTHLY TRACKING SHEET FOR ET2 PERFORMANCE QUALIFICATION GUIDE

Name: _____

Name of PDS	EPQ	Start Date	Due Date	Progress			Date Completed	PDS Signature
				25%	50%	75%		
Electronic Systems Planned Maintenance								
Perform PMS on UHF transceiver	5.E.01							
Perform PMS on Electronic Charting System	5.E.02							
Perform PMS on Surface Search Radar	5.E.03							
PDS comments and/or department head periodic review and signature/date:								
Electronic Systems Corrective Maintenance								
Perform corrective maintenance on UHF transceiver	5.F.01							
Perform corrective maintenance on Electronic Charting System	5.F.02							
Perform corrective maintenance on Surface Search Radar	5.F.03							
PDS comments and/or department head periodic review and signature/date:								

Request for Feedback – ET2

Suggestions and Corrections Please note your suggestions, corrections, and comments below.

Page	Location on Page	What Correction is Needed

Your Comments If you were writing this pamphlet, what improvements would you make? What was good about it? What did you not like about it? Please be specific in your comments/suggestions.

To Contact You Please provide the following so that we can contact you if needed.

Name	Unit	Phone
		()

Mail, Fax, or Call Please mail, fax, or call your information to:

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 U.S. Coast Guard
 Training Center Petaluma

PHONE: 707-765-7129
 FAX: 707-765-7133

599 Tomales Rd. Petaluma, Ca 94952

ATTN: ET Subject Matter Specialist



LIST OF MATERIALS FURNISHED

COURSE TITLE: **ET2** COURSE CODE: **0222** EDITION: **3**

1. The materials for the course you requested are listed below. If any item listed is not enclosed in this package, report that fact to your Educational Service Officer (ESO).
2. If you enrolled in this course for credit, you have **36 months** to complete the course. If you requested course materials only, you will not receive an End-of-Course Test (EOCT) and will not receive credit for the course.

<u>COMPONENT</u>	<u>NUMBER</u>	<u>QTY</u>
PQG Certification Pamphlet	P22201	01
Administration	P22202	01
Performance and Training	P22203	01
Special and Emergency Procedures	P22204	01
Electronic Installation Standards	P22205	01
Electronic Systems Planned Maintenance	P22206	01
Electronic Systems Corrective Maintenance	P22207	01