

# CHAPTER 39



## GAS TURBINE SYSTEMS TECHNICIAN (ELECTRICAL) (GSE)

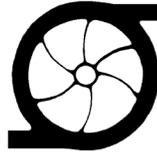
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NAVY ENLISTED OCCUPATIONAL STANDARDS  
FOR  
GAS TURBINE SYSTEMS TECHNICIAN (ELECTRICAL) (GSE)



SCOPE OF RATING

Gas Turbine Systems Technicians (GS) operate, repair, and perform organizational and intermediate maintenance on ship's propulsion Gas Turbine Engines (GTE), Ship's Service Gas Turbine Generators (SSGTG), main propulsion machinery (including gears, shafting, and Controllable Pitch Propellers (CPP)), assigned auxiliary equipment (including fuel and lube oil systems), machinery control systems (including consoles and Programmed Logic Controllers (PLC)), assigned electrical and electronic equipment up to the printed circuit boards, and alarm and warning circuitry.

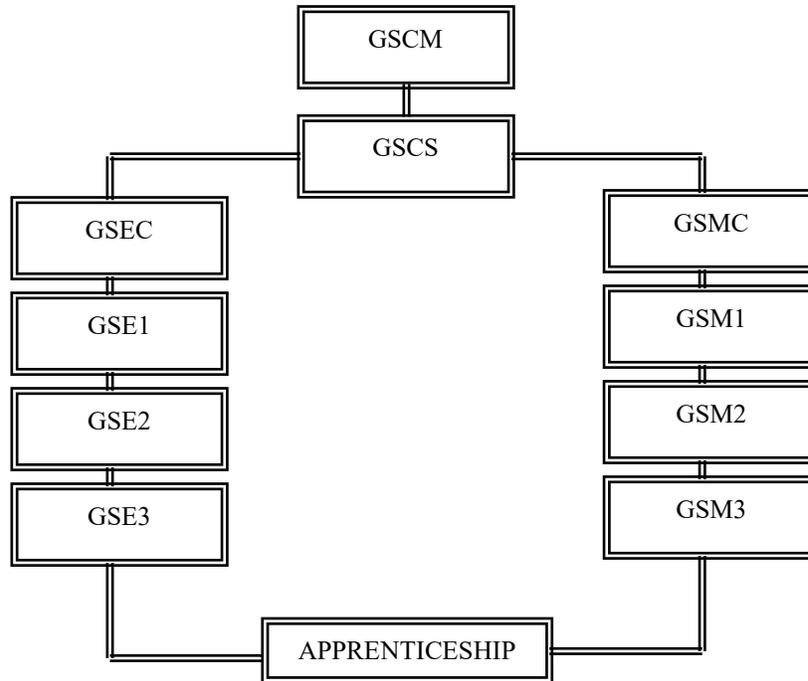
Gas Turbine Systems Technicians (Electrical) (GSE) operate, repair, troubleshoot, and perform organizational and intermediate maintenance on electrical components of ship's propulsion Gas Turbine Engines (GTE), Ship's Service Gas Turbine Generators (SSGTG), electrical distribution equipment, assigned auxiliary equipment (including Alternating Current (AC) motors, motor operated valves, solenoid operated valves, logic controllers, and automatic Bus Transfer Systems (BTS)), machinery control systems, assigned electrical and electronic equipment up to the printed circuit boards, and alarm and warning circuitry.

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These Occupational Standards are to be incorporated in Volume I, Part B, of the Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards (NAVPERS 18068H) as Chapter 39.

## GENERAL INFORMATION

### CAREER PATTERN



Normal path of advancement to Chief Warrant Officer and Limited Duty Officer categories can be found in OPNAVINST 1420.1.

For rating entry requirements, refer to MILPERSMAN 1306-618.

### SAFETY

**The observance of Operational Risk Management (ORM) and proper safety precautions in all areas is an integral part of each billet and the responsibility of every Sailor; therefore, it is a universal requirement for all ratings.**

**Job Title****Gas Turbine Electrical Systems Manager****Job Code****002794****Job Family**  
Production**NOC**  
TBD**Short Title (30 Characters)**  
GAS TURBINE ELEC SYS MANAGER**Short Title (14 Characters)**  
GTE SYS MGR**Pay Plan**  
Enlisted**Career Field**  
GSE**Other Relationships and Rules**  
NEC UXXX and 7XXX series and other NECs as assigned**Job Description**

Gas Turbine Electrical Managers provide overall management by reviewing, approving, and managing engine operations and programs aboard Navy ships: manage personnel during the operation and maintenance of main propulsion Gas Turbine Engine (GTE) and reduction gears used for ship propulsion and auxiliary machinery, such as pumps and oil purifiers; provide guidance and technical knowledge in the maintenance of auxiliary machinery outside of the machinery spaces; manage personnel in the alignment process of piping systems for fuel, oil, water, and air; manage the operation of ship Gas Turbine Engines (GTE) used for ship propulsion and service systems and the operation of ship's service Gas Turbine Engine (GTE) generators used to produce electrical power; manage the construction of operating systems, and networking and Information Technology (IT) systems; manage personnel responsible for cleaning, adjusting, testing, and the performance of other preventative maintenance on ship's main propulsion Gas Turbine Engine (GTE), ship's service Gas Turbine Engine (GTE) generators, pumps and associated valves; provide guidance and technical knowledge in the repair and replacement of valves, pumps, heat exchangers, compressors, and hydraulic or pneumatic control devices; and manage and analyze machinery operating records and reports and machinery control systems; mentor/train Gas Turbine Electrical Systems Technicians and Gas Turbine Electrical Systems Maintainers.

**DoD Relationship****Group Title**  
Auxiliaries**DoD Code**  
165200**O\*NET Relationship****Occupation Title**  
First-Line Supervisors of Production  
and Operating Workers**SOC Code**  
51-1011.00**Job Family**  
Production**Skills**

*Systems Analysis*  
*Reading Comprehension*  
*Quality Control Analysis*  
*Complex Problem Solving*  
*Judgment and Decision Making*  
*Coordination*  
*Critical Thinking*  
*Management of Material Resources*  
*Writing*  
*Monitoring*

**Abilities**

*Written Comprehension*  
*Inductive Reasoning*  
*Written Expression*  
*Information Ordering*  
*Selective Attention*  
*Finger Dexterity*  
*Originality*  
*Category Flexibility*  
*Control Precision*  
*Deductive Reasoning*

**AUXILIARY EQUIPMENT**

<b>Paygrade</b>	<b>Task Type</b>	<b>Task Statements</b>
E7	CORE	Adjust alarm set points for Machinery Control Systems (MCS)
E6	CORE	Evaluate fluid samples
E5	CORE	Maintain Integrated Condition Assessment System (ICAS)
E7	CORE	Supervise high voltage switchboards components (i.e., >1000 volts) maintenance
E6	CORE	Supervise low voltage switchboards components (i.e., 450 volts) maintenance
E5	CORE	Supervise maintenance on Vent Fog Precipitators (VFP)

**GAS TURBINE**

<b>Paygrade</b>	<b>Task Type</b>	<b>Task Statements</b>
E7	CORE	Perform Gas Turbine Engine (GTE) intake and exhaust inspections and closeouts

**PROPULSION CONTROL SYSTEMS**

<b>Paygrade</b>	<b>Task Type</b>	<b>Task Statements</b>
E5	CORE	Configure operating systems
E5	CORE	Construct networking and Information Technology (IT) systems

## **PROPULSION CONTROL SYSTEMS (CONT'D)**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E5	CORE	Troubleshoot bell and data logger
E5	CORE	Troubleshoot Machinery Control Systems (MCS)

## **TECHNICAL ADMINISTRATION**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E7	CORE	Coordinate engineering assessment evolutions
E6	CORE	Disseminate Gas Turbine Bulletins (GTB) from weblog
E7	CORE	Evaluate engineering equipment data logs
E7	CORE	Evaluate engineering management programs
E7	NON-CORE	Maintain environmental pollution control programs
E7	CORE	Maintain Marine Gas Turbine Service Records (MGTSR)
E7	CORE	Manage engineering data logs
E6	CORE	Manage Engineering Operational Sequencing System (EOSS) program
E6	CORE	Manage engineering plant operations
E6	CORE	Manage Machinery Control Systems (MCS) administration
E6	CORE	Manage shipboard calibration program
E7	CORE	Manage weblog
E7	CORE	Prepare ship-wide full power and economy trials
E6	NON-CORE	Review engineering Quality Assurance (QA) packages
E5	CORE	Validate Engineering Operational Sequencing System (EOSS) manuals
E7	NON-CORE	Validate engineering Quality Assurance (QA) packages

**Job Title****Gas Turbine Electrical Systems Technician****Job Code****003654****Job Family**

Installation, Maintenance, and Repair

**NOC**

TBD

**Short Title (30 Characters)**

GAS TURBINE E SYSTEM TEC

**Short Title (14 Characters)**

GTE SYS TECH

**Pay Plan**

Enlisted

**Career Field**

GSE

**Other Relationships and Rules**

NEC UXXX and 7XXX series and other NECs as assigned

**Job Description**

Gas Turbine Electrical Systems Technicians operate the electric plant and main propulsion control equipment; locate circuit failures and replace parts; measure current, voltage and resistance; test for shorts, grounds and continuity; test protective circuitry; test, service, and replace batteries; perform preventative and corrective maintenance on digital data equipment and control and monitor circuits; measure insulation resistance; repair electrical/electronic cables, wiring, and connectors; maintain machinery control systems, and alarm, indicating and warning systems; construct operating systems, and networking and Information Technology (IT) systems; maintain and repair Gas Turbine Engines (GTE), Main Reduction Gear (MRG), and auxiliary equipment; work with blueprints, schematics, and charts; perform administrative procedures related to Gas Turbine (GT) propulsion system operations and maintenance; perform work area inspections; operate standard test equipment; stop engines and check for proper performance; replace and adjust operating tolerance of contacts, micro switches, relay switches, pressure switches, and temperature switches; work independently; and provide limited guidance, support, and instruction to Gas Turbine Electrical Systems Maintainers.

**DoD Relationship****Group Title**

Auxiliaries

**DoD Code**

165200

**O\*NET Relationship****Occupation Title**Electrical and Electronics Repairers,  
Powerhouse, Substation, and Relay**SOC Code**

49-2095.00

**Job Family**Installation, Maintenance, and  
Repair**Skills***Systems Analysis**Quality Control Analysis**Complex Problem Solving**Critical Thinking**Repairing**Equipment Maintenance**Operation and Control**Installation**Operation Monitoring**Reading Comprehension***Abilities***Written Comprehension**Manual Dexterity**Inductive Reasoning**Originality**Problem Sensitivity**Information Ordering**Finger Dexterity**Written Expression**Dynamic Flexibility**Deductive Reasoning***AUXILIARY EQUIPMENT****Paygrade****Task Type****Task Statements**

E4	CORE	Adjust alarm set points for non-Machinery Control Systems (MCS)
E4	CORE	Adjust electrically-operated valves
E5	CORE	Adjust potentiometers
E5	CORE	Adjust power supplies
E4	CORE	Align compressed air systems
E4	CORE	Align electrically-operated valves
E5	CORE	Align high voltage switchboards (i.e., >1000 volts)
E4	CORE	Align low voltage switchboards (i.e., 450 volts)
E4	CORE	Align pumps (e.g., seawater, main Lube Oil (LO), Fuel Oil (FO), etc.)
E4	CORE	Calibrate main Lube Oil (LO) service systems
E4	CORE	Calibrate switches (e.g., electrical, pressure, temperature, micro, etc.)
E4	CORE	Calibrate Tank Level Indicators (TLI)
E4	CORE	Draw fluid samples
E4	CORE	Inspect compressed air systems
E6	CORE	Inspect high voltage switchboards (i.e., >1000 volts)
E6	CORE	Inspect low voltage switchboards (i.e., 450 volts)

**AUXILIARY EQUIPMENT (CONT'D)**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E5	CORE	Maintain Integrated Condition Assessment System (ICAS)
E4	CORE	Perform preventative maintenance bus transfer switches
E4	NON-CORE	Perform preventative maintenance on converter and inverter components
E4	CORE	Perform preventative maintenance on electrical controllers
E4	CORE	Perform preventative maintenance on electrical motors
E4	CORE	Perform preventative maintenance on electrically-operated valves
E4	CORE	Perform preventative maintenance on heat stress sensors
E5	CORE	Perform preventative maintenance on high voltage switchboards (i.e., >1000 volts)
E5	CORE	Perform preventative maintenance on low voltage switchboards (i.e., 450 volts)
E4	CORE	Perform preventative maintenance on pumps (e.g., seawater, main Lube Oil (LO), Fuel Oil (FO), etc.)
E5	CORE	Repair bus transfer switches
E4	CORE	Repair compressed air systems electrical components
E4	CORE	Repair electrical components of solenoid valves
E4	CORE	Repair electrical controllers
E5	CORE	Repair electrical motors
E4	CORE	Repair electrically-operated valves
E5	NON-CORE	Repair fiber optic cables
E4	CORE	Repair heat stress sensors
E5	CORE	Repair high voltage switchboards components (i.e., >1000 volts)
E5	CORE	Repair low voltage switchboard components (i.e., 450 volts)
E5	CORE	Repair steering control consoles (i.e., aft and bridge)
E4	CORE	Repair Tank Level Indicators (TLI)
E4	CORE	Repair temperature regulating devices (i.e., heaters and thermostats)
E5	CORE	Repair waste oil systems electrical components
E5	NON-CORE	Replace converter and inverter components
E4	CORE	Replace electrical components of solenoid valves
E5	CORE	Replace electrically-operated valves
E4	CORE	Replace Gas Turbine (GT) module components
E4	CORE	Replace heat stress sensors
E5	CORE	Replace potentiometers
E4	CORE	Replace power supplies
E4	CORE	Replace pressure/temperature transducers
E5	CORE	Replace Programmable Logic Controller (PLC)
E4	CORE	Replace switches (e.g., electrical, pressure, temperature, micro, etc.)
E4	CORE	Test compressed air systems
E4	CORE	Test heat stress sensors
E5	CORE	Test potentiometers
E5	CORE	Troubleshoot bus transfer switches
E5	CORE	Troubleshoot compressed air systems electrical components

### AUXILIARY EQUIPMENT (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	NON-CORE	Troubleshoot converter and inverter components
E4	CORE	Troubleshoot electrical components of solenoid valves
E5	CORE	Troubleshoot electrical controllers
E5	CORE	Troubleshoot electrical motors
E5	NON-CORE	Troubleshoot fiber optic cables
E4	CORE	Troubleshoot heat stress sensors
E5	CORE	Troubleshoot power supplies
E4	CORE	Troubleshoot pressure/temperature transducers
E4	CORE	Troubleshoot switches (e.g., electrical, pressure, temperature, micro, etc.)
E4	CORE	Troubleshoot Tank Level Indicators (TLI)
E4	CORE	Troubleshoot temperature regulating devices (i.e., heaters and thermostats)

### GAS TURBINE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Adjust No-Brake Power Supply (NBPS)
E4	CORE	Align Full Authority Digital Controls (FADC)
E4	CORE	Align Gas Turbine (GT) support systems
E4	CORE	Align Gas Turbine (GT) water wash systems
E4	CORE	Calibrate blow-in doors
E4	CORE	Inspect Gas Turbine (GT) modules
E5	CORE	Repair blow-in door components
E5	CORE	Repair Full Authority Digital Controls (FADC)
E4	CORE	Repair Gas Turbine (GT) module components
E5	CORE	Repair Gas Turbine (GT) support systems
E4	CORE	Repair Gas Turbine (GT) water wash systems
E4	CORE	Repair No-Brake Power Supply (NBPS)
E5	CORE	Replace frequency regulator and components
E5	CORE	Replace Gas Turbine Engine (GTE) components
E5	CORE	Replace Redundant Independent Mechanical Start Systems (RIMSS) components
E5	CORE	Replace voltage regulators
E5	CORE	Test Gas Turbine Engine (GTE) components
E4	CORE	Test voltage regulators
E5	CORE	Troubleshoot frequency regulators
E5	CORE	Troubleshoot Full Authority Digital Controls (FADC)
E5	CORE	Troubleshoot Gas Turbine (GT) generators
E5	CORE	Troubleshoot Gas Turbine (GT) support systems
E6	CORE	Troubleshoot Gas Turbine Engine (GTE) components
E5	CORE	Troubleshoot No-Brake Power Supply (NBPS)
E5	CORE	Troubleshoot Redundant Independent Mechanical Start Systems (RIMSS)
E5	CORE	Troubleshoot voltage regulators

## MAIN PROPULSION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align Controllable Pitch Propeller (CPP) or Controllable Reversible Pitch (CRP) systems
E4	CORE	Align main Lube Oil (LO) service systems
E4	CORE	Align Vent Fog Precipitators (VFP)
E4	CORE	Perform preventative maintenance on main Lube Oil (LO) service systems
E4	CORE	Perform preventative maintenance on Vent Fog Precipitators (VFP)
E5	CORE	Repair Controllable Reversible Pitch (CRP) or Controllable Pitch Propeller (CPP) systems
E5	CORE	Repair Fuel Oil (FO) service, fill, and transfer systems
E5	NON-CORE	Repair hybrid electric drive/Support Equipment (SE)
E6	CORE	Repair Vent Fog Precipitators (VFP)
E5	CORE	Troubleshoot Controllable Reversible Pitch (CRP) or Controllable Pitch Propeller (CPP) systems
E5	CORE	Troubleshoot Fuel Oil (FO) service, fill, and transfer systems
E5	NON-CORE	Troubleshoot hybrid electric drive/Support Equipment (SE)
E5	CORE	Troubleshoot turning gears
E6	CORE	Troubleshoot Vent Fog Precipitators (VFP)

## PROPULSION CONTROL SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	NON-CORE	Adjust Fuel Systems Control Consoles (FSCC)
E4	CORE	Align Damage Control Consoles (DCC)
E4	CORE	Align Data Acquisition Unit (DAU)
E4	CORE	Align Data Interface Units (DIU)
E4	CORE	Align Electric Plant Control Consoles (EPCC)
E4	CORE	Align Engine Controllers (EC)
E4	CORE	Align Engineering Officer of the Watch (EOOW) logging units
E4	CORE	Align Fuel Control System (FCS)
E4	NON-CORE	Align Fuel Systems Control Consoles (FSCC)
E4	NON-CORE	Align operating stations (i.e., Reduced Size Operator Stations (RSOS) and Standard Operator Station Units (SOSU))
E4	CORE	Align Propulsion and Auxiliary Control Consoles (PACC)
E4	CORE	Align Repair Station Consoles (RSC)
E4	CORE	Align Shaft Control Units (SCU)
E4	CORE	Align Universal Control Consoles (UCC)
E4	CORE	Align Universal Engine Controls (UEC)
E5	CORE	Configure operating systems
E5	CORE	Construct networking and Information Technology (IT) systems
E4	CORE	Perform preventative maintenance Damage Control Consoles (DCC)
E4	CORE	Perform preventative maintenance on bell and data logger
E4	CORE	Perform preventative maintenance on Data Acquisition Units (DAU)

## **PROPULSION CONTROL SYSTEMS (CONT'D)**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Perform preventative maintenance on Data Interface Units (DIU)
E4	CORE	Perform preventative maintenance on Electric Plant Control Consoles (EPCC)
E4	CORE	Perform preventative maintenance on Engine Controllers (EC)
E4	CORE	Perform preventative maintenance on Engineering Officer of the Watch (EOOW) logging unit
E4	CORE	Perform preventative maintenance on Fuel Control System (FCS)
E4	NON-CORE	Perform preventative maintenance on Fuel Systems Control Consoles (FSCC)
E4	NON-CORE	Perform preventative maintenance on operating stations (i.e., Reduced Size Operator Stations (RSOS) and Standard Operator Station Units (SOSU))
E4	CORE	Perform preventative maintenance on Propulsion and Auxiliary Control Consoles (PACC)
E4	CORE	Perform preventative maintenance on Repair Station Consoles (RSC)
E4	CORE	Perform preventative maintenance on Shaft Control Units (SCU)
E4	CORE	Perform preventative maintenance on the Machinery Control Systems (MCS)
E4	CORE	Perform preventative maintenance on Uninterruptable Power Supply (UPS)
E4	CORE	Perform preventative maintenance on Universal Control Consoles (UCC)
E4	CORE	Perform preventative maintenance on Universal Engine Controls (UEC)
E5	CORE	Repair bell and data logger
E5	CORE	Repair Damage Control Consoles (DCC)
E5	CORE	Repair Data Acquisition Units (DAU)
E5	CORE	Repair Data Interface Unit (DIU)
E5	CORE	Repair Electric Plant Control Consoles (EPCC)
E5	CORE	Repair Electrical Plant Central Processing Units (EPCPU)
E5	CORE	Repair Engine Controllers (EC)
E5	CORE	Repair Fuel Control System (FCS)
E5	NON-CORE	Repair Fuel Systems Control Consoles (FSCC)
E5	CORE	Repair Machinery Control Systems (MCS)
E5	CORE	Repair meters and gauges for control consoles (e.g., switchboards, propulsion control consoles, auxiliary consoles, etc.)
E5	NON-CORE	Repair operating stations (i.e., Reduced Size Operator Stations (RSOS) and Standard Operator Station Units (SOSU))
E5	CORE	Repair Propulsion and Auxiliary Control Consoles (PACC)
E5	CORE	Repair Shaft Control Units (SCU)
E4	CORE	Repair Station Consoles (RSC)
E5	CORE	Repair Uninterruptable Power Supply (UPS)
E5	CORE	Repair Universal Control Consoles (UCC)
E5	CORE	Repair Universal Engine Controls (UEC)
E4	CORE	Replace Electrical Plant Central Processing Unit (EPCPU)
E5	CORE	Replace meters and gauges for control consoles (e.g., switchboards, propulsion control consoles, auxiliary consoles, etc.)
E4	CORE	Replace on Engineering Officer of the Watch (EOOW) logging unit components

## **PROPULSION CONTROL SYSTEMS (CONT'D)**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Replace Uninterruptable Power Supply (UPS)
E4	CORE	Test Uninterruptable Power Supply (UPS)
E5	CORE	Troubleshoot bell and data logger
E5	CORE	Troubleshoot Damage Control Consoles (DCC)
E5	CORE	Troubleshoot Data Acquisition Units (DAU)
E5	CORE	Troubleshoot Data Interface Unit (DIU)
E5	CORE	Troubleshoot Electric Plant Control Consoles (EPCC)
E5	CORE	Troubleshoot Engine Controllers (EC)
E5	CORE	Troubleshoot Engineering Officer of the Watch (EOOW) logging unit
E5	CORE	Troubleshoot Fuel Control System (FCS)
E5	NON-CORE	Troubleshoot Fuel Systems Control Consoles (FSCC)
E5	CORE	Troubleshoot Machinery Control Systems (MCS)
E5	CORE	Troubleshoot meters and gauges for control consoles (e.g., switchboards, propulsion control consoles, auxiliary consoles, etc.)
E5	NON-CORE	Troubleshoot operating stations (i.e. Reduced Size Operator Stations (RSOS) and Standard Operator Station Units (SOSU))
E5	CORE	Troubleshoot Propulsion and Auxiliary Control Consoles (PACC)
E5	CORE	Troubleshoot Repair Station Consoles (RSC)
E5	CORE	Troubleshoot Shaft Control Units (SCU)
E4	CORE	Troubleshoot Uninterruptable Power Supply (UPS)
E5	CORE	Troubleshoot Universal Control Consoles (UCC)
E5	CORE	Troubleshoot Universal Engine Controls (UEC)

## **TECHNICAL ADMINISTRATION**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Collect engineering data readings
E6	CORE	Disseminate Gas Turbine Bulletins (GTB) from weblog
E4	CORE	Log fuel tank levels
E4	CORE	Log meter readings
E5	CORE	Maintain shipboard calibration program
E6	CORE	Manage engineering plant operations
E6	CORE	Manage shipboard calibration program
E5	NON-CORE	Prepare engineering Quality Assurance (QA) forms
E5	NON-CORE	Prepare engineering Quality Assurance (QA) packages
E5	CORE	Validate Engineering Operational Sequencing System (EOSS) manuals

**Job Title****Gas Turbine Electrical Systems Maintainer****Job Code****003202****Job Family**

Production

**NOC**

TBD

**Short Title (30 Characters)**

GAS TURBINE E SYSTEM MAINT

**Short Title (14 Characters)**

GTE SYS MAINT

**Pay Plan**

Enlisted

**Career Field**

GSE

**Other Relationships and Rules**

NEC UXXX and 7XXX series and other NECs as assigned

**Job Description**

Gas Turbine Electrical Systems Maintainers operate the electric plant and main propulsion control equipment; locate circuit failures and replace parts; measure current, voltage, and resistance; test for shorts, grounds, and continuity; test protective circuitry; test, service, and replace batteries; perform preventative and corrective maintenance on digital data equipment; control and monitor circuits; measure insulation resistance; inspect electrical/electronic cables, wiring, and connectors; maintain alarm, indicating, and warning systems; maintain Gas Turbine Engines (GTE), Main Reduction Gear (MRG), and auxiliary equipment; work with blueprints, schematics, and charts; perform administrative procedures related to Gas Turbine (GT) propulsion system operations and maintenance; perform work area inspections; operate standard test equipment; stop engines and check for proper performance; replace and adjust operating tolerance of contacts, micro switches, relay switches, pressure switches, and temperature switches; and work under the supervision of Gas Turbine Electrical Systems Technicians while learning the trade or skill.

**DoD Relationship****O\*NET Relationship***Group Title*

Auxiliaries

*DoD Code*

165200

*Occupation Title*

Power Plant Operators

*SOC Code*

51-8013.00

*Job Family*

Production

**Skills***Systems Analysis**Equipment Maintenance**Quality Control Analysis**Operation and Control**Complex Problem Solving**Critical Thinking**Repairing**Operation Monitoring**Installation**Troubleshooting***Abilities***Written Comprehension**Problem Sensitivity**Inductive Reasoning**Manual Dexterity**Information Ordering**Originality**Dynamic Flexibility**Deductive Reasoning**Stamina**Time Sharing***AUXILIARY EQUIPMENT****Paygrade****Task Type****Task Statements**

E4

CORE

Adjust alarm set points for non-Machinery Control Systems (MCS)

E4

CORE

Adjust electrically-operated valves

E4

CORE

Align compressed air systems

E4

CORE

Align electrically-operated valves

E4

CORE

Align low voltage switchboards (i.e., 450 volts)

E4

CORE

Align pumps (e.g., seawater, main Lube Oil (LO), Fuel Oil (FO), etc.)

E4

CORE

Align steering control consoles (i.e., aft and bridge)

E4

CORE

Calibrate main Lube Oil (LO) service systems

E4

CORE

Calibrate switches (e.g., electrical, pressure, temperature, micro, etc.)

E4

CORE

Calibrate Tank Level Indicators (TLI)

E6

CORE

Configure settings on Programmable Logic Controller (PLC)

E4

CORE

Draw fluid samples

E4

CORE

Inspect compressed air systems

E4

CORE

Inspect electrically-operated valves

E4

CORE

Navigate Full Authority Digital Controls (FADC)

E4

CORE

Perform preventative maintenance bus transfer switches

E4

CORE

Perform preventative maintenance on compressed air systems electrical components

### AUXILIARY EQUIPMENT (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	NON-CORE	Perform preventative maintenance on converter and inverter components
E4	CORE	Perform preventative maintenance on electrical controllers
E4	CORE	Perform preventative maintenance on electrical motors
E4	CORE	Perform preventative maintenance on electrically-operated valves
E5	CORE	Perform preventative maintenance on Gas Turbine (GT) generators
E4	CORE	Perform preventative maintenance on Gas Turbine (GT) support systems
E4	CORE	Perform preventative maintenance on heat stress sensors
E4	CORE	Perform preventative maintenance on pumps (e.g., seawater, main Lube Oil (LO), Fuel Oil (FO), etc.)
E4	CORE	Perform preventative maintenance waste oil systems electrical components
E4	CORE	Repair compressed air systems electrical components
E4	CORE	Repair electrical components of solenoid valves
E4	CORE	Repair electrical controllers
E4	CORE	Repair electrically-operated valves
E5	NON-CORE	Repair Failure Detector Module (FDM)
E4	CORE	Repair heat stress sensors
E4	CORE	Repair Tank Level Indicators (TLI)
E4	CORE	Repair temperature regulating devices (i.e., heaters and thermostats)
E5	CORE	Replace blow-in door controller components
E4	CORE	Replace electrical components of solenoid valves
E5	CORE	Replace Failure Detector Module (FDM)
E4	CORE	Replace Gas Turbine (GT) module components
E4	CORE	Replace heat stress sensors
E4	CORE	Replace power supplies
E4	CORE	Replace pressure/temperature transducers
E4	CORE	Replace switches (e.g., electrical, pressure, temperature, micro, etc.)
E4	CORE	Test compressed air systems
E4	CORE	Test electrically-operated valves
E4	CORE	Test heat stress sensors
E4	CORE	Test steering control consoles (i.e., aft and bridge)
E4	CORE	Troubleshoot electrical components of solenoid valves
E4	CORE	Troubleshoot electrically-operated valves
E5	CORE	Troubleshoot Failure Detector Module (FDM)
E4	CORE	Troubleshoot heat stress sensors
E6	CORE	Troubleshoot high voltage switchboards components (i.e., >1000 volts)
E4	CORE	Troubleshoot Integrated Condition Assessment System (ICAS)
E5	CORE	Troubleshoot low voltage switchboards components (i.e., 450 volts)
E4	CORE	Troubleshoot pressure/temperature transducers
E5	CORE	Troubleshoot Programmable Logic Controller (PLC)
E5	CORE	Troubleshoot steering control consoles (i.e., aft and bridge)

### AUXILIARY EQUIPMENT (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Troubleshoot switches (e.g., electrical, pressure, temperature, micro, etc.)
E4	CORE	Troubleshoot Tank Level Indicators (TLI)
E4	CORE	Troubleshoot temperature regulating devices (i.e., heaters and thermostats)
E5	CORE	Troubleshoot waste oil systems electrical components

### GAS TURBINE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Adjust No-Brake Power Supply (NBPS)
E4	CORE	Align Full Authority Digital Controls (FADC)
E4	CORE	Align Gas Turbine (GT) support systems
E4	CORE	Align Gas Turbine (GT) water wash systems
E4	CORE	Align No-Brake Power Supply (NBPS)
E4	CORE	Calibrate blow-in doors
E4	CORE	Inspect Gas Turbine (GT) modules
E4	CORE	Perform preventative maintenance No-Brake Power Supply (NBPS)
E4	CORE	Perform preventative maintenance on Gas Turbine Engine (GTE) components
E4	CORE	Perform preventative maintenance on Redundant Independent Mechanical Start Systems (RIMSS)
E4	CORE	Repair Gas Turbine (GT) module components
E4	CORE	Repair Gas Turbine (GT) water wash systems
E4	CORE	Repair No-Brake Power Supply (NBPS)
E5	CORE	Test Gas Turbine (GT) generators
E4	CORE	Test voltage regulators
E4	CORE	Troubleshoot blow-in doors and components
E4	CORE	Troubleshoot Gas Turbine (GT) water wash systems

### MAIN PROPULSION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align Controllable Pitch Propeller (CPP) or Controllable Reversible Pitch (CRP) systems
E4	CORE	Align Fuel Oil (FO) service, fill, and transfer systems
E4	CORE	Align main Lube Oil (LO) service systems
E4	CORE	Align turning gears
E4	CORE	Align Vent Fog Precipitators (VFP)
E4	CORE	Perform preventative maintenance on Controllable Reversible Pitch (CRP) or Controllable Pitch Propeller (CPP) systems
E5	NON-CORE	Perform preventative maintenance on hybrid electric drive/Support Equipment (SE)
E4	CORE	Perform preventative maintenance on main Lube Oil (LO) service systems
E5	CORE	Perform preventative maintenance on Main Reduction Gear (MRG)
E4	CORE	Perform preventative maintenance on turning gears
E4	CORE	Perform preventative maintenance on Vent Fog Precipitators (VFP)
E5	CORE	Repair main Lube Oil (LO) service systems

### MAIN PROPULSION (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Troubleshoot main Lube Oil (LO) service systems
E5	CORE	Troubleshoot Main Reduction Gear (MRG)

### PROPULSION CONTROL SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align Damage Control Consoles (DCC)
E4	CORE	Align Data Acquisition Unit (DAU)
E4	CORE	Align Data Interface Units (DIU)
E4	CORE	Align Electric Plant Control Consoles (EPCC)
E4	CORE	Align Engine Controllers (EC)
E4	CORE	Align Engineering Officer of the Watch (EOOW) logging units
E4	CORE	Align Fuel Control System (FCS)
E4	NON-CORE	Align Fuel Systems Control Consoles (FSCC)
E4	NON-CORE	Align operating stations (i.e., Reduced Size Operator Stations (RSOS) and Standard Operator Station Units (SOSU))
E4	CORE	Align Propulsion and Auxiliary Control Consoles (PACC)
E4	CORE	Align Repair Station Consoles (RSC)
E4	CORE	Align Shaft Control Units (SCU)
E4	CORE	Align Universal Control Consoles (UCC)
E4	CORE	Align Universal Engine Controls (UEC)
E4	CORE	Perform preventative maintenance Damage Control Consoles (DCC)
E4	CORE	Perform preventative maintenance on bell and data logger
E4	CORE	Perform preventative maintenance on Data Acquisition Units (DAU)
E4	CORE	Perform preventative maintenance on Data Interface Units (DIU)
E4	CORE	Perform preventative maintenance on Electric Plant Control Consoles (EPCC)
E4	CORE	Perform preventative maintenance on Engine Controllers (EC)
E4	CORE	Perform preventative maintenance on Engineering Officer of the Watch (EOOW) logging unit
E4	CORE	Perform preventative maintenance on Fuel Control System (FCS)
E4	NON-CORE	Perform preventative maintenance on Fuel Systems Control Consoles (FSCC)
E4	NON-CORE	Perform preventative maintenance on operating stations (i.e., Reduced Size Operator Stations (RSOS) and Standard Operator Station Units (SOSU))
E4	CORE	Perform preventative maintenance on Propulsion and Auxiliary Control Consoles (PACC)
E4	CORE	Perform preventative maintenance on Repair Station Consoles (RSC)
E4	CORE	Perform preventative maintenance on Shaft Control Units (SCU)
E4	CORE	Perform preventative maintenance on the Machinery Control Systems (MCS)
E4	CORE	Perform preventative maintenance on Uninterruptable Power Supply (UPS)
E4	CORE	Perform preventative maintenance on Universal Control Consoles (UCC)
E4	CORE	Perform preventative maintenance on Universal Engine Controls (UEC)
E5	CORE	Repair meters and gauges for control consoles (e.g., switchboards, propulsion control consoles, auxiliary consoles, etc.)

### **PROPULSION CONTROL SYSTEMS (CONT'D)**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Repair Station Consoles (RSC)
E5	CORE	Repair Uninterruptable Power Supply (UPS)
E4	CORE	Replace Electrical Plant Central Processing Unit (EPCPU)
E4	CORE	Replace on Engineering Officer of the Watch (EOOW) logging unit components
E4	CORE	Replace Uninterruptable Power Supply (UPS)
E4	CORE	Test Uninterruptable Power Supply (UPS)
E5	CORE	Troubleshoot Electrical Plant Central Processing Unit (EPCPU)
E5	CORE	Troubleshoot meters and gauges for control consoles (e.g., switchboards, propulsion control consoles, auxiliary consoles, etc.)
E4	CORE	Troubleshoot Uninterruptable Power Supply (UPS)

### **TECHNICAL ADMINISTRATION**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Collect engineering data readings
E4	CORE	Log fuel tank levels
E4	CORE	Log meter readings