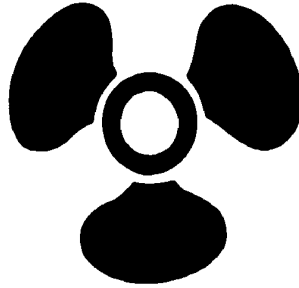


CHAPTER 51



MACHINIST'S MATE, NUCLEAR POWER (MMN)

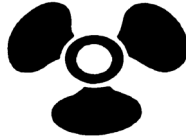
NAVPERS 18068F-51H
Change 107

Updated: July 2026

MACHINIST'S MATE, NUCLEAR POWER (MMN)
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NAVY ENLISTED OCCUPATIONAL STANDARD
FOR
MACHINIST'S MATE, NUCLEAR POWER (MMN)



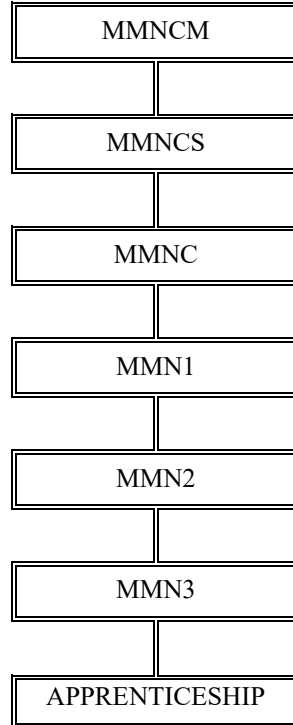
SCOPE OF RATING

Machinist's Mates, Nuclear Power (MMN) operate and maintain Naval nuclear propulsion plants and associated equipment; perform and supervise Naval nuclear propulsion plant operations; apply reactor, electrical, and mechanical theory involved in the operation of the nuclear reactor, steam plant, propulsion plant, and auxiliary equipment; operate and repair systems associated with reactor plants, propulsion plants, and auxiliary support; perform tests, transfers, and inventories of lubricating oils, fuels, and water; and maintain records and reports on both submarine and surface ships.

This Occupational Standard is to be incorporated in Volume I, Part B, of the Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards (NAVPERS 18068F) in Chapter 51.

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**Propulsion Plant Mechanical Operator****Job Code****003781****Job Family**

Production

NOC

TBD

Short Title (30 Characters)

PROPULSION PLANT MECH OP

Short Title (14 Characters)

PPM OPERATOR

Pay Plan

Enlisted

Career Field

MMN

Other Relationships and Rules

NEC NXXX, 7XXX series and other NECs as assigned

Job Description

Propulsion Plant Mechanical Operators maintain and operate nuclear propulsion plant mechanical systems, support systems, turbines, pumps, and valves; and perform work critical to the movement of Naval tactical and strategic forces.

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

Nuclear Power

DoD Code

166100

Occupation Title

Power Plant Operators

SOC Code

51-8013.00

Job Family

Production

Skills*Quality Control Analysis**Equipment Maintenance**Operation Monitoring**Operation and Control**Repairing**Judgment and Decision Making**Systems Analysis**Critical Thinking**Systems Evaluation**Coordination***Abilities***Written Comprehension**Manual Dexterity**Problem Sensitivity**Control Precision**Oral Expression**Flexibility of Closure**Information Ordering**Visual Color Discrimination**Visualization**Written Expression***LABORATORY MANAGEMENT****Paygrade****Task Type****Task Statements**

E4

NON-CORE

Disestablish radiological controls

E4

NON-CORE

Establish radiological controls

E4

CORE

Grant access to radiological controlled areas

E4

CORE

Survey radiological controlled areas

LABORATORY OPERATIONS**Paygrade****Task Type****Task Statements**

E4

CORE

Analyze water chemistry samples

E4

CORE

Control water chemistry

E5

NON-CORE

Perform non-routine preventive maintenance on chemistry analysis equipment (i.e., calibration, standardization)

E4

NON-CORE

Perform routine preventive maintenance on chemistry analysis equipment (e.g., clean, inspect, lubricate, etc.)

E4

NON-CORE

Repair chemistry analysis equipment

QUALITY MAINTENANCE**Paygrade****Task Type****Task Statements**

E4

CORE

Adjust pump packing

E4

CORE

Adjust valve packing

E4

NON-CORE

Calibrate mechanical gauges

E4

NON-CORE

Fabricate emergency repair materials (e.g., drill press, lathe, grinder, etc.)

MMN-5

QUALITY MAINTENANCE (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Perform non-routine preventive maintenance on air compressors (e.g., overhaul, refinish, refurbish, etc.)
E5	CORE	Perform non-routine preventive maintenance on air condition systems (e.g., overhaul, refinish, refurbish, etc.)
E5	CORE	Perform non-routine preventive maintenance on air systems (e.g., overhaul, adjust reducer set points, perform pressure drop test, etc.)
E5	CORE	Perform non-routine preventive maintenance on bilge and oily water systems (e.g., tank inspections, bearing inspections, suction valve leak checks, etc.)
E5	CORE	Perform non-routine preventive maintenance on condensate and feed systems (e.g., overhaul, refinish, refurbish, etc.)
E5	CORE	Perform non-routine preventive maintenance on demineralized water systems (e.g., resin changeout, strainer cleaning, flow totalizer check, etc.)
E5	CORE	Perform non-routine preventive maintenance on emergency fill systems (e.g., conduct test, install temporary piping, perform flow verification, etc.)
E5	CORE	Perform non-routine preventive maintenance on freshwater cooling systems (e.g., flow balance, packing replacement, cool down lineups, etc.)
E5	CORE	Perform non-routine preventive maintenance on freshwater production units (e.g., membrane replacement, rupture disc replacement, descaling, etc.)
E5	CORE	Perform non-routine preventive maintenance on fuel oil systems (i.e., fuel oil sample, fuel load)
E5	NON-CORE	Perform non-routine preventive maintenance on hydraulic systems
E5	CORE	Perform non-routine preventive maintenance on lube oil purification systems (e.g., lower bushing replacement, tank inspections, suction strainer replacement, etc.)
E5	CORE	Perform non-routine preventive maintenance on lube oil systems (e.g., sump inspections, Back Pressure Regulator (BPR) adjustments, pump alignment checks, etc.)
E5	CORE	Perform non-routine preventive maintenance on non-nuclear systems and components (e.g., freshwater distribution systems, propulsion plant systems, drain systems, etc.)
E5	CORE	Perform non-routine preventive maintenance on nuclear mechanical systems
E5	CORE	Perform non-routine preventive maintenance on potable water systems (e.g., tank inspections, Tank Level Indicator (TLI) calibration, priming pump float valve replacement, etc.)
E5	CORE	Perform non-routine preventive maintenance on seawater cooling systems (e.g., expansion joint inspections, pump performance tests, hull valve adjustment, etc.)
E5	CORE	Perform non-routine preventive maintenance on shaft line components
E5	CORE	Perform non-routine preventive maintenance on shielding systems (e.g., sampling, alarm check, fill, etc.)
E5	CORE	Perform non-routine preventive maintenance on steam generator systems (e.g., leak checks, internal inspections, relief valve testing, etc.)
E5	CORE	Perform non-routine preventive maintenance on steam systems (e.g., Drain Strainer Orifice (DSO) inspections, steam strainer inspections, steam side condenser inspections, etc.)
E5	CORE	Perform non-routine preventive maintenance on water sampling systems

QUALITY MAINTENANCE (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Perform routine preventive maintenance on air compressors (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on air condition systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on air systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on bilge and oily water systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on condensate and feed systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on demineralized water systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on emergency fill systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on freshwater cooling systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on freshwater production units (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on fuel oil systems (e.g., clean, inspect, lubricate, etc.)
E4	NON-CORE	Perform routine preventive maintenance on hydraulic systems
E4	CORE	Perform routine preventive maintenance on lube oil purification systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on lube oil systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on non-nuclear systems and components (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on nuclear systems and components (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on potable water systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on seawater cooling systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on shaft line components (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on shielding systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on steam generator systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on steam systems (e.g., clean, inspect, lubricate, etc.)
E4	CORE	Perform routine preventive maintenance on water sampling systems (e.g., clean, inspect, lubricate, etc.)
E5	CORE	Repair air compressors

QUALITY MAINTENANCE (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Repair air condition systems
E5	CORE	Repair air systems
E5	CORE	Repair bilge and oily water systems
E5	CORE	Repair condensate and feed systems
E5	CORE	Repair demineralized water systems
E5	CORE	Repair emergency fill systems
E5	CORE	Repair freshwater cooling systems
E5	CORE	Repair freshwater production units
E5	CORE	Repair fuel oil systems
E5	NON-CORE	Repair hydraulic systems
E5	CORE	Repair lube oil purification systems
E5	CORE	Repair lube oil systems
E5	NON-CORE	Repair machinery repair equipment (e.g., drill press, lathe, grinder, etc.)
E5	CORE	Repair non-nuclear systems and components (e.g., freshwater distribution systems, propulsion plant systems, drain systems, etc.)
E5	CORE	Repair nuclear systems and components
E5	CORE	Repair potable water systems
E5	CORE	Repair seawater cooling systems
E5	CORE	Repair shaft line components
E5	NON-CORE	Repair shielding systems
E5	CORE	Repair steam generation systems
E5	CORE	Repair steam systems
E4	CORE	Repair water sampling systems
E4	CORE	Replace mechanical gauges
E5	CORE	Replace pump packing
E5	CORE	Test non-nuclear systems and components (e.g., freshwater distribution systems, propulsion plant systems, drain systems, etc.)
E5	CORE	Test nuclear systems and components

SYSTEMS OPERATIONS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align air compressors (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align air condition systems (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align air systems
E4	CORE	Align bilge and oily water systems (e.g., pumping bilges, overboard discharge, and casualty operations, etc.)
E4	CORE	Align condensate and feed systems (e.g., startups, shutdowns, normal and casualty operations, etc.)

SYSTEMS OPERATIONS (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align demineralized water systems (e.g., startups, shutdowns, tank fills, casualty operations, etc.)
E4	NON-CORE	Align electric plant lineups
E4	CORE	Align emergency fill systems
E4	CORE	Align freshwater cooling systems (e.g., startups, shutdowns, cooling adjustments, normal and casualty operations, etc.)
E4	CORE	Align freshwater production units (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align fuel oil systems (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	NON-CORE	Align hydraulic systems for normal and casualty operations
E4	CORE	Align lube oil purification systems (e.g., purifier startups, purifier shutdowns, line ups to purify, etc.)
E4	CORE	Align lube oil systems (e.g., startups, shutdowns, normal, and casualty operations)
E4	CORE	Align non-nuclear systems and components (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align nuclear systems and components (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align potable water systems (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align seawater cooling systems (e.g., startups, shutdowns, cross-connects, normal and casualty operations)
E4	CORE	Align shaft line components (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align shielding systems (e.g., startups, shutdowns, normal and casualty operations, etc.)
E4	CORE	Align steam generation systems (e.g., startups, shutdowns, samplings, blowdowns, etc.)
E4	CORE	Align steam systems (e.g., startups, shutdowns, cross-connects, normal and casualty operations)
E4	CORE	Align water sampling systems (e.g., startups shutdowns, normal and casualty operations, etc.)
E4	CORE	Analyze plant system and component parameters
E4	CORE	Analyze shutdown reactor plant trends
E4	CORE	Draw lube oil sample
E4	CORE	Interpret electric plant lineups
E4	NON-CORE	Oversee radiological valve operations
E4	CORE	Perform main engine throttle operations
E4	CORE	Perform radiological valve operations

Job Title**Propulsion Plant Mechanical Supervisor****Job Code****003789****Job Family**

Life, Physical, and Social Science

NOC

TBD

Short Title (30 Characters)

PROPULSION PLANT MECH SUP

Short Title (14 Characters)

PPM SUPERVISOR

Pay Plan

Enlisted

Career Field

MMN

Other Relationships and Rules

NEC NXXX, 7XXX series and other NECs as assigned

Job Description

Propulsion Plant Mechanical Supervisors perform and supervise advanced mechanical systems operations and perform maintenance on nuclear propulsion plant mechanical systems, support systems, turbines, pumps, and valves; conduct advanced testing and training for personnel assigned to machinery divisions; draft correspondence; develop administrative programs; perform risk management; and perform work critical to the movement of Naval tactical and strategic forces.

DoD Relationship**Group Title**

Nuclear Power

DoD Code

166100

O*NET Relationship**Occupation Title**

Nuclear Technicians

SOC Code

19-4051.00

Job Family

Life, Physical, and Social Science

Skills*Complex Problem Solving**Troubleshooting**Coordination**Operation Monitoring**Equipment Maintenance**Management of Personnel Resources**Systems Analysis***Abilities***Deductive Reasoning**Inductive Reasoning**Oral Expression**Oral Comprehension**Control Precision**Manual Dexterity**Problem Sensitivity***ENGINEERING MANAGEMENT****Paygrade**

E6

Task Type

CORE

Task Statements

Supervise propulsion plant maintenance operations (e.g., electrical, mechanical, reactor control, etc.)

E6

CORE

Supervise propulsion plant watch section operations

LABORATORY OPERATIONS**Paygrade**

E5

Task Type

NON-CORE

Task Statements

Troubleshoot chemistry analysis equipment

QUALITY MAINTENANCE**Paygrade**

E6

Task Type

CORE

Task Statements

Adjust reducing valve set points

E6

CORE

Adjust relief valve set points

E5

CORE

Troubleshoot air compressors

E5

CORE

Troubleshoot air condition systems

E5

CORE

Troubleshoot air systems

E5

CORE

Troubleshoot bilge and oily water systems

E5

CORE

Troubleshoot condensate and feed systems

E5

CORE

Troubleshoot demineralized water systems

E6

CORE

Troubleshoot emergency fill systems

E5

CORE

Troubleshoot freshwater cooling systems

QUALITY MAINTENANCE (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Troubleshoot freshwater production units
E6	CORE	Troubleshoot fuel oil systems
E6	NON-CORE	Troubleshoot hydraulic systems
E5	CORE	Troubleshoot lube oil purification systems
E5	CORE	Troubleshoot lube oil systems
E6	NON-CORE	Troubleshoot machinery repair equipment (e.g., drill press, lathe, grinder, etc.)
E5	CORE	Troubleshoot non-nuclear systems and components (e.g., freshwater distribution systems, propulsion plant systems, drain systems, etc.)
E5	CORE	Troubleshoot nuclear systems and components
E5	CORE	Troubleshoot potable water systems
E5	CORE	Troubleshoot seawater cooling systems
E6	CORE	Troubleshoot shaft line components
E5	CORE	Troubleshoot shielding systems
E5	CORE	Troubleshoot steam generation systems
E5	CORE	Troubleshoot steam systems
E5	CORE	Troubleshoot water sampling systems

SYSTEMS OPERATIONS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Offload fuel oil systems
E5	CORE	Offload lube oil tanks
E5	CORE	Onload fuel oil systems
E5	CORE	Onload lube oil tanks

Job Title**Propulsion Plant Mechanical Manager****Job Code****003797****Job Family**
Production**NOC**
TBD**Short Title (30 Characters)**
PROPULSION PLANT MECH MGR**Short Title (14 Characters)**
PPM MANAGER**Pay Plan**
Enlisted**Career Field**
MMN**Other Relationships and Rules**
NEC NXXX, 7XXX series and other NECs as assigned**Job Description**

Propulsion Plant Mechanical Managers oversee operations, maintenance, and training for personnel assigned to machinery divisions and engineering and reactor departments; review divisional and departmental administrative correspondence; perform divisional/departmental program and training audits; perform risk management; repair and maintain equipment; and perform work critical to the movement of Naval tactical and strategic forces.

DoD Relationship**Group Title**
Nuclear Power**DoD Code**
166100**O*NET Relationship****Occupation Title**
First-Line Supervisors of
Production and Operating
Workers**SOC Code**
51-1011.00**Job Family**
Production**Skills**

Quality Control Analysis
Systems Evaluation
Complex Problem Solving
Coordination
Systems Analysis

Abilities

Problem Sensitivity
Deductive Reasoning
Perceptual Speed
Fluency of Ideas
Inductive Reasoning
Near Vision
Selective Attention

ENGINEERING MANAGEMENT**Paygrade****Task Type****Task Statements**

E7	NON-CORE	Administer continuous training exams
E7	CORE	Audit engineering and reactor department records
E6	CORE	Verify alignment of non-nuclear systems and components (e.g., freshwater distribution systems, propulsion plant systems, drain systems, etc.)
E7	CORE	Verify alignment of nuclear systems and components
E7	CORE	Verify plant system and component parameters

LABORATORY MANAGEMENT**Paygrade****Task Type****Task Statements**

E7	NON-CORE	Audit chemistry records
E7	CORE	Audit radiological controlled area records
E6	CORE	Verify radiological controlled areas

QUALITY MAINTENANCE**Paygrade****Task Type****Task Statements**

E7	CORE	Inspect shaft line components
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