

# Stationary Engineers and Boiler Operators

SOC: 51-8021 • Career Profile Report

## ■ Key Facts

**\$75,190**

Median Salary

**33,300**

Employment

**+2.0%**

Growth Rate

## ■ Requirements & Salary Range

**Education:** High school diploma

## ■ Automation Risk Assessment

**Medium Risk** - 38.0% probability of being automated in the next 10-20 years.

This job has some routine elements but still requires human judgment and interaction.

## ■■ Work-Life Balance

**7.1/10** - Good work-life balance

## ■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.4/10	Investigative	5.0/10
Artistic	3.8/10	Social	4.6/10
Enterprising	4.0/10	Conventional	8.0/10

## ■ Top Skills Required

Detail oriented, Dexterity, Mechanical skills, Problem-solving skills

### ✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

### ■ Challenges

- Burnout Risk
- Rapid Technological Change

## ■ What They Do

Stationary Engineers and Boiler Operators are skilled technical professionals who operate and maintain **boilers, turbines, generators, chillers, and other mechanical systems** that provide heat, power, and utilities to buildings and industrial facilities. Their work ensures that critical systems run safely, efficiently, and reliably, supporting hospitals, factories, data centers, schools, and large commercial buildings.

This career is well suited for individuals who enjoy hands-on mechanical work, monitoring complex systems, and maintaining essential infrastructure.

## What Do Stationary Engineers and Boiler Operators Do?

These professionals oversee mechanical systems that generate and distribute energy and utilities within facilities. Their responsibilities focus on safety, efficiency, and continuous operation.

Common responsibilities include:

- Operating and monitoring boilers, turbines, compressors, and chillers
- Controlling building systems for heat, steam, electricity, or cooling
- Inspecting equipment for leaks, wear, or safety hazards
- Adjusting controls to maintain proper temperatures and pressures
- Performing routine maintenance and minor repairs
- Responding to alarms, malfunctions, or emergency conditions
- Keeping detailed logs and maintenance records

## Types of Stationary Engineering Roles

This occupation includes several specialized roles based on system type or facility:

- Boiler Operators: Manage steam and hot water boilers.
- Stationary Engineers: Operate large-scale mechanical systems in buildings or plants.
- Power Plant Operators (related role): Manage turbines and generators for electricity.
- Facilities Engineers: Oversee building systems in hospitals or campuses.
- Chiller Plant Operators: Control cooling systems for large facilities.

## Skills and Abilities Needed

Stationary engineers and boiler operators combine mechanical knowledge with vigilance.

### **Core Professional Skills**

### **Personal Qualities That Matter**

## Education and Training Pathway

Becoming a stationary engineer or boiler operator requires technical training and certification:

- High School Diploma or Equivalent: Typical minimum requirement
- Vocational or Technical Training: Programs in boiler operation or facilities engineering
- Apprenticeships or On-the-Job Training: Hands-on learning with experienced operators
- Licensing or Certification: Required in many states or municipalities
- Continuing Education: Updates on equipment and safety standards

Licensing requirements vary by location and system capacity.

## Where Do Stationary Engineers and Boiler Operators Work?

These professionals work in facilities that rely on centralized mechanical systems:

- Hospitals and Healthcare Facilities

- Manufacturing and Industrial Plants
- Commercial Office Buildings
- Universities and School Campuses
- Power Plants and Utility Facilities
- Data Centers and Infrastructure Sites

Work schedules often include rotating shifts, nights, or on-call duty.

## How Much Do Stationary Engineers and Boiler Operators Earn?

Earnings vary based on experience, certification level, and facility size:

- Entry-Level Operators: Typically earn competitive hourly wages
- Licensed or Senior Operators: Often earn higher pay due to responsibility
- Supervisory or Chief Engineers: May earn more with leadership roles

Compensation often includes overtime and shift differentials.

## Is This Career Difficult?

This career is technically demanding and safety-critical. Operators must monitor complex systems continuously and respond quickly to issues that could affect safety or operations. The challenge lies in maintaining focus, technical accuracy, and calm decision-making during routine operations and emergencies.

## Who Should Consider This Career?

This career may be a strong fit if you:

- Enjoy working with mechanical and utility systems
- Are detail-oriented and safety-conscious
- Can work independently and follow procedures
- Prefer hands-on technical roles
- Want a stable skilled trade with long-term demand

## How to Prepare Early

- Study basic mechanics, physics, and electricity
- Learn to read gauges, diagrams, and technical manuals
- Practice mechanical troubleshooting skills
- Explore vocational training or apprenticeship programs
- Research local licensing requirements for boiler operators

**Stationary engineers and boiler operators keep essential buildings and industries running by safely managing the systems that generate heat, power, and utilities behind the scenes.**