

# GET INTO ENERGY CAREER PATHWAYS

## Nuclear Power Plant Technicians: Putting STEM<sup>TM</sup> to Work

START  
HERE

HIGH SCHOOL DIPLOMA  
OR GED<sup>1</sup>

### OPTIONAL CREDENTIALS AVAILABLE

- National Career Readiness Certificate
- Energy Employability Skills Certificate
- Industry Fundamentals Certificate

Apprenticeship  
(Union NMAP<sup>2</sup> and  
Non-Union)

2 Year College

Military  
Experience

LEARN MORE / EARN MORE

Pass Pre-Employment  
Tests — FFD<sup>3</sup> Test

### EDUCATIONAL OPPORTUNITIES FOR ADVANCEMENT

• Associate Degree  
(In a related technical field) 0-2 YEARS\*

TECHNICIAN  
(\$50,000)

• On the Job Experience 3-6 YEARS\*

Nuclear Mechanic / Electrician  
(\$77,000)

• Bachelor's Degree\*  
• On the Job Experience 6-8+ YEARS\*

SUPERVISOR  
(\$85,000)

STEM = Science, Technology, Engineering, and Math

<sup>1</sup> GED = General Education Development

<sup>2</sup> NMAP = Nuclear Mechanic Apprenticeship Program

<sup>3</sup> FFD = Fitness For Duty

\* Dependent on company requirements



## NUCLEAR POWER PLANT TECHNICIAN: What will you do?

**What competencies will you need?** (built on  
energy foundational competencies—incremental as career advances)

*Note: Most utilities use a pre-employment test—to pass you will need math, communications, problem solving, and mechanical reasoning skills.*

### Starting of as a Nuclear Technician and moving into a Maintenance Apprentice Position

- Learn and grow with on-the-job training and educational curriculum
- Assist to departments maintaining plant facilities
- Install and maintain equipment based on manufacturer's specifications
- Read instrumentation schematics to diagnose circuit trouble

- *Teamwork*
- *Able to lift heavy equipment*
- *Listen and follow directions*
- *Be comfortable with heights*
- *Be able to work in noisy conditions*
- *Math skills including algebra, trig, and geometry*
- *Come to work on time and prepared*
- *Physical ability to climb stairs and ladders, operate stiff valves manually, lift weights, and control pneumatic or hydraulic wrenches*
- *Apply knowledge obtained during training in the work environment*
- *Work with various types of test equipment, including multi-meters*
- *Work with various types of tools*
- *Perform soldering*

### Nuclear Mechanic or Electrician

- Inspect equipment, including motors and belts, fluid levels, and filters
- Take apart machines, then repair and replace parts using hand or power tools
- Use large equipment such as hoists and cranes
- Use repair manuals to determine problems and then fix them
- Do preventive maintenance checkups on machines, mechanical equipment, and on buildings

- *Use information to diagnose and solve problems*
- *Be able to manage multiple tasks at one time*
- *Ability to understand basic mechanical principles (e.g., gear trains, centrifugal force, heat flow)*
- *Ability to comprehend entire systems and how they function*
- *Ability to foresee system implications of malfunctions or of own actions*
- *Ability to anticipate required future conditions in numerous interacting systems*

### SUPERVISOR:

- Determine schedules and work activities of team members
- Review team member performance and provide feedback
- Inspect records and log book entries to determine plant efficiency
- Prepare and manage budgets
- Report to management
- Deal with potentially stressful situations

- *People management*
- *Communications skills*
- *Financial management*
- *Computer skills for report preparation*
- *Assign priority or sequence to the steps for completing a job*
- *Coordinate several, competing activities for efficient use of time and material*
- *Adapt work procedures or priorities in response to changing or unforeseen requirements or conditions*

