get into energy
WITH THE CENTER FOR ENERGY WORKFORCE DEVELOPMENT

Career Pathway Spotlight

Discover a Career as a Grid Operations Analyst

Discover your career in energy!

Grid Operations Analysts keep the lights on by monitoring real-time grid flow, dispatching crews when outages happen, and integrating new energy sources into a balanced, reliable system.

Control Rooms and Operations Centers

Most Grid Operations Analysts work inside 24/7 control rooms at utilities, balancing authorities, or Independent System Operators (ISOs). They watch banks of SCADA monitors, track voltage and frequency in real time, and coordinate by radio and phone with field crews and power plant operators to keep the system stable.

Outage Coordination and Storm Response

When equipment fails or severe weather rolls in, analysts move into Outage Management System (OMS) work — logging events, writing switching orders, and dispatching crews so power is restored quickly and safely.

Renewable Integration and Market Support

A growing share of the role involves balancing wind, solar, and battery resources against demand. Analysts partner with forecasters, traders, and reliability engineers to schedule generation, support market dispatch, and run contingency studies that keep the grid reliable.

CAREER PATH

Start with:

» A high school diploma or GED

Get Educated:

» A community college or technical program
- Associate degree in electrical / electronics technology, power systems technology, or energy management
- Vocational certificates in SCADA, instrumentation, or industrial controls

» A utility-sponsored operator training or apprenticeship program
- Edison Electric Institute (EEI) System Operator program
- North American Electric Reliability Corporation (NERC) System Operator training providers
- International Brotherhood of Electrical Workers (IBEW) Joint Apprenticeship and Training Committee (JATC) operator tracks

» A military pathway with relevant experience such as Navy Electrician's Mate (EM), Army Power Generation Equipment Repairer (91D), or Air Force Electrical Power Production specialist

Specialize With:

Knowledge in:

» Real-time grid operations
» Outage management and restoration
» Renewable energy integration
» Reliability and contingency analysis
» Energy markets and dispatch support

OCCUPATIONAL SKILLS

» Monitoring SCADA and Energy Management Systems (EMS) for real-time voltage, frequency, and load conditions
» Issuing switching orders and coordinating with field crews
» Identifying reliability risks before they affect customers
» Tracking renewable generation output and balancing it against demand
» Logging, prioritizing, and resolving customer outages
» Communicating with neighboring utilities, balancing authorities, and Independent System Operators (ISOs)

BENEFITS

These energy industry careers offer:

» Stable, year-round employment with strong demand across the energy sector
» Competitive pay and comprehensive benefits
» Upward career growth into senior operator, dispatcher, and reliability coordinator roles
» Meaningful, mission-critical work — your decisions keep entire regions powered
» Strong training pipelines and employer-sponsored education support

What Might You Do As A Grid Operations Analyst?

ENTRY LEVEL
1-4 years

MID- CAREER
5-8 years

EXPERIENCED
8+ years

What you will do:

ENTRY LEVEL

- Monitor SCADA dashboards and report unusual readings to senior operators
- Assist with outage logs and enter events into the Outage Management System (OMS)
- Follow procedures for switching, tagging, and grounding under direct supervision
- Track weather alerts and load forecasts that may affect operations
- Support senior staff during drills, restoration events, and shift handoffs
- Maintain records, equipment status sheets, and compliance documentation

MID- CAREER

- Independently operate SCADA and Energy Management Systems during a shift
- Dispatch crews, coordinate switching plans, and lead restoration after outages
- Run contingency analyses and adjust generation or transfers to maintain reliability
- Support integration of wind, solar, and battery resources
- Train entry-level analysts and mentor them through NERC certification prep
- Prepare NERC compliance reports and post-event reviews for management

EXPERIENCED

- Oversee control-room operations across multiple shifts and balancing authorities
- Lead major restoration efforts and storm response
- Drive improvement projects for renewable integration, market participation, and contingency planning
- Coordinate with senior leadership, regulators, and Independent System Operators (ISOs)
- Mentor mid-career analysts
- Review and approve operating procedures, switching standards, and reliability protocols

What knowledge, skills and abilities will you need to succeed?

ENTRY LEVEL

- Listen and follow directions from senior operators and supervisors
- Comfort working with computers, multiple monitors, and digital control systems
- Strong attention to detail when entering data or reading displays
- Willingness to work rotating shifts, including nights, weekends, and holidays
- Eagerness to study for the North American Electric Reliability Corporation (NERC) certification exam

MID- CAREER

- Active NERC System Operator certification in the relevant credential
- Fluency in SCADA, Energy Management Systems (EMS), OMS, and grid simulation tools
- Solid grasp of contingency analysis, load flow, and state estimation concepts
- Clear communication with field crews, traders, and neighboring utilities
- Working knowledge of Federal Energy Regulatory Commission (FERC), NERC, and regional reliability standards
- Composure and sound decision-making during storms and emergency events

EXPERIENCED

- Deep expertise in transmission and distribution operations, markets, and reliability standards
- Leadership and people-management skills for running a 24/7 operations team
- Strategic communication with executives, regulators, and partner utilities
- Strong analytical and financial judgment for dispatch and market decisions
- Mastery of change management as the grid integrates more renewable resources

GET PAID!

Entry Level:
- $71,380 / year*

As You Gain Seniority:
- $106,100 / year*

Later in Your Career:
- $141,930 / year*

*Source: United States Energy & Employment Report (2025). These figures use the 10th, 50th, and 90th percentiles of all workers in the role as a proxy for seniority progression and for consistency with BLS OEWS and the United States Energy & Employment Report. Compensation figures should be used as a guide; actual compensation may vary depending on education, geography, experience, and many other factors.

ENERGY INDUSTRY CAREERS OFFER:

- Excellent salaries
- Opportunities for advancement
- Job growth & stability
- Professional development and training
- Great benefits

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