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# Electricity Supply Security and Shortage Allocation Training Course

12 – 16 July 2027
Barcelona

# Electricity Supply Security and Shortage Allocation Training Course

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Electricity Supply Security and Shortage Allocation is a 1-week training course for utility planners, energy ministry analysts and supply managers who must decide how scarce electricity and fuel are shared, and it builds a shortage allocation plan each participant takes home. Tight reserve margins, fuel delivery risk and rising demand from new loads make these decisions frequent rather than rare. Jupiter Prime Training runs this course for teams that carry that responsibility.

## Why Electricity Supply Security and Shortage Allocation Matters Now

Demand is growing faster than firm capacity in many systems as cooling, desalination, data centres and electrified transport add load during the hottest and busiest hours. Generation leans on variable wind and solar output and on fuel chains exposed to shipping shocks. Customers, from hospitals to heavy industry, expect transparent rules when supply runs short. Prepared allocation rules protect essential services and public trust; improvised cuts bring disputes and damaged equipment. The course rests on accepted reliability planning and emergency operation practice.

## Who Gains Most from Electricity Supply Security and Shortage Allocation

- Planners responsible for supply adequacy studies and reserve margin targets
- Analysts who draft fuel and electricity allocation policy for ministries and agencies
- Supply managers who balance generation, imports and fuel stocks day to day
- Control room and dispatch leads who carry out load rotation during shortfalls
- Customer and key account staff who maintain priority supply registers

A utility sending planners, dispatch leads and customer staff together gains most, as the plan is shared across functions from the start.

## Electricity Supply Security and Shortage Allocation Capabilities

Participants move from sizing a shortfall to deciding, in writing, who receives supply first.

- Assess supply adequacy using reserve margins, loss of load measures and fuel stock cover — investment and contingency decisions
- Build demand scenarios for peak, drought and fuel disruption cases — planning committees
- Design allocation rules that rank customer groups by essential service value — policy makers
- Specify load rotation schedules and feeder groupings for controlled shortfalls — dispatch and network operators
- Weigh fuel switching, imports and demand response against rationing — supply managers
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Communicate shortage stages and customer obligations clearly — the public and large consumers

## Key Electricity Supply Security and Shortage Allocation Terms

- Supply adequacy — whether available generation, imports and fuel can meet expected demand with a reserve.
- Reserve margin — capacity held above forecast peak demand to cover outages and forecast error.
- Loss of load expectation — the expected number of hours or days a year when demand cannot be fully supplied.
- Priority supply register — a list of customers, such as hospitals and water plants, kept on supply during shortages.
- Load rotation — planned, time-limited disconnection of feeder groups in turn so a shortfall is shared fairly.
- Fuel stock cover — the days generating plants can run on fuel already held in storage.

## Electricity Supply Security and Shortage Allocation Day by Day

### Day 1: Supply Security Context and Shortage Drivers

- Supply Chain Mapping From Fuel Source to Customer — Points of Failure
- Shortage Typology: Capacity, Energy and Fuel — Which Response Fits
- Historic Shortfall Case Reviews From Two Sectors — Lessons for Planners
- Stakeholder Map of Essential Users — Who Must Be Consulted
- Roles of Ministry, Utility and Operator — Clear Decision Authority

### Day 2: Measuring Supply Adequacy

- Peak and Energy Demand Forecasting — Range of Credible Futures
- Reserve Margin and Loss of Load Calculations — Adequacy Targets
- Variable Wind and Solar Output Profiles — Firm Capacity Credit
- Fuel Stock Cover and Delivery Lead Times — Fuel Security Thresholds
- Stress Scenarios for Heat, Drought and Fuel Loss — Contingency Triggers

### Day 3: Allocation Rules and Priority Customers

- Essential Service Ranking Criteria — Order of Supply Protection
- Priority Supply Register Design and Upkeep — Data Owners and Checks
- Sector Allocation Between Industry, Homes and Public Services — Fairness Trade-Offs
- Fuel Allocation Between Power Plants and Other Users — National Fuel Balance
- Exemption and Appeal Procedures — Handling Contested Priority Claims

### Day 4: Rationing Tools and Demand-Side Options

- Load Rotation Schedules and Feeder Grouping — Controlled Shortfall Sharing
- Under-Frequency Load Shedding Stages — Automatic Protection of the Grid
- Demand Response and Interruptible Contracts — Cheaper Alternatives to Cuts
- Fuel Switching and Emergency Imports — Cost Against Supply Gained
- Shortage Stage Announcements and Customer Notices — Public Confidence

## Day 5: Practising the Shortage Allocation Plan

- Adequacy Scenario Applied to a Sample System — Size of Shortfall
- Priority Register Applied to Sample Feeders — Protected Load Total
- Rotation Schedule Drill for a Four-Hour Deficit — Operator Actions
- Communication Sequence Rehearsal for Each Stage — Message Owners
- Shortage Allocation Plan Assembly and Peer Challenge — Plan Ready for Sign-Off

## Applying Electricity Supply Security and Shortage Allocation After the Course

- Run a stress scenario on your own system with the adequacy and fuel stock cover methods.
- Check your priority supply register against the ranking criteria with the network team.

## Electricity Supply Security and Shortage Allocation Questions FAQ

### What is electricity supply security and shortage allocation, and why does it matter now?

It is measuring whether supply can meet demand and deciding in advance how a shortfall is shared. Demand growth, variable generation and fuel risk make shortages more likely now.

### Which roles gain most from electricity supply security and shortage allocation training?

Supply planners, allocation policy analysts, supply managers, dispatch leads and customer staff gain most, especially if you maintain priority lists or carry out load rotation.

### How does electricity supply security and shortage allocation differ from a general power system planning course?

It focuses on the shortfall rather than long-term expansion. A general planning course sizes new plants and lines; this one ranks customers and sets rotation and fuel allocation rules.

### What will I bring back from electricity supply security and shortage allocation training?

You bring back a draft plan with adequacy triggers, a ranked priority register, a rotation schedule and staged customer messages for colleagues to review.

## Electricity Supply Security and Shortage Allocation: The Way Forward

The shortage allocation plan first informs which customer groups stay on supply when reserves fall below the agreed trigger. Planners, dispatch leads and customer teams use it together at each shortage stage. After its first real use, revisit the ranking criteria and rotation lengths, since actual customer response often differs from what the plan assumed.