



Professional Process for Production Electricians

A producer-facing guide to the professional process

The Production Electrician is a key member of the production team, responsible for turning the lighting design into a safe, practical and fully working temporary electrical and data installation.

Introduction

They work closely with the Production Manager, Lighting Designer, Programmer, venue teams, lighting hire companies, set electrics providers and other departments to make sure that the production's lighting system is properly planned, installed, tested, documented and maintained.

For producers, it is useful to understand that the Production Electrician's work begins long before the company arrives in the theatre. Many of the decisions made during pre-production directly affect the safety, efficiency, cost and success of the technical period. Early engagement, clear communication and sufficient preparation time can prevent expensive or difficult problems later in the process.

This document outlines the main stages of a Production Electrician's professional process, and explains the areas where producers and production managers may need to allow time, budget and support.

Engagement

Availability and Booking

A Production Electrician may be availability-checked by the Producer, Production Manager or Lighting Designer. However, until a deal memo or contract has been agreed, they are not formally engaged on the production.

It is best practice to confirm this as early as possible. The Production Electrician will often need to begin conversations about equipment, any additional crew, power requirements, data, scheduling and hire company costs well before the fit-up or technical period.

It is also worth noting that the Production Electrician's work is not necessarily complete once the lighting rig is hanging in the air. The creative and production teams may continue working on the show daily through technical rehearsals and previews, up until the agreed show lock or technical freeze. Additional staffing, time or follow-up work may therefore be required and should be planned for where possible.

Contract / Deal Memo

A deal memo or contract should clearly set out the agreed terms of engagement. This protects both the Production Electrician and the Producer, and helps avoid confusion later.

This should include:

- The agreed dates of engagement.
- Day rates or weekly rates.
- Payment schedule.
- Expected working pattern.
- Travel and accommodation arrangements.
- Per diems, where applicable.
- Whether the engagement runs to press night, opening night, technical freeze, or another agreed point.
- Any aftercare or future support expectations.

For further guidance, please refer to the ALPD Production Electrician Contract Checklist.

Pre-Production

Pre-production is one of the most important stages of the Production Electrician's work.

At this point, the Production Electrician works with the Production Manager, Lighting Designer, Programmer, hire companies, set builders, set electrics suppliers and other departments to understand what the production needs and how it can be delivered safely, practically and within budget.

Good decisions at this stage can save considerable time and money later. They can also help avoid pressure during the fit-up, technical rehearsals and previews.

Planning and Design

During the planning stage, the Production Electrician helps translate the lighting design into a practical installation.

This may include:

- Discussing the lighting design with the Lighting Designer.
- Drawing up a bid list for lighting hire companies.
- Liaising with hire companies and comparing bids.
- Working with the Production Manager and Lighting Designer to agree a practical hire package.
- Coordinating set electrics requirements with the Designer and relevant build companies.
- Agreeing the load-in schedule with the Production Manager.
- Working out appropriate crew levels.
- Finding and engaging the lighting crew.
- Designing the power distribution.
- Designing the data and network distribution in discussion with the Programmer.
- Liaising with sound, video, automation and other departments about power and data requirements.
- Designing any required metalwork, construction or rigging solutions.
- Calculating the weight of the lighting rig in conjunction with the rigging team.
- Planning the truck pack and transport requirements.
- Managing Carnet requirements where equipment is travelling internationally.
- Checking that the lighting design can be achieved in all relevant venues.
- Issuing and updating Lightwright and Vectorworks files, where required.
- Attending production meetings and responding to any technical matters arising from rehearsal.

For producers, it is worth noting that this is not simply administrative work. These conversations shape the cost, safety and deliverability of the lighting installation.

Pre-Production Preparation

Once the main decisions have been made, the Production Electrician begins detailed preparation.

This work is vital and should not be underestimated. A well-prepared lighting system is safer, quicker to install, easier to maintain and less likely to create delays during the technical period.

Power and Data Design

This may include:

- Designing the power distribution system.
- Confirming power distribution locations.
- Planning control system locations.
- Calculating cable runs, power loading and cable lengths.
- Checking that the system is suitable for the venue or venues.
- Coordinating data, control and network requirements.

Hire Company Orders

The Production Electrician will usually clarify and manage the detailed equipment order, including:

- Lighting fixtures.
- Hanging hardware.
- Cable types, lengths and ratings.
- Mains distribution.
- Data and network equipment.

- Custom metalwork.
- Storage and travel dollies.
- Colour, gobos, tape and sales items.
- Lighting accessories needed for the design and installation.

This is often where details can become complicated. A clear process at this stage reduces the risk of missing equipment, unsuitable cable, incorrect accessories or avoidable additional costs.

Hire Company Preparation

For many productions, the Production Electrician will spend time at the hire company preparing the equipment before it arrives at the theatre.

This preparation may include:

- Booking time and space in the hire shop.
- Coordinating equipment being supplied by other departments.
- Creating cable looming lists.
- Addressing intelligent lighting equipment.
- Creating identification labels for fixtures, cables, looms, power and data.
- Discussing orientation and modes of moving lights with the Programmer.
- Keeping paperwork and documentation up to date.

This preparation makes the venue installation quicker and more efficient. It also allows some problems to be solved before the pressure of the fit-up.

Hire Shop On-Site Prep

Depending on the scale and nature of the production, hire shop preparation may also involve:

- Building lighting cable looms.
- Including sound, video or automation cables within shared looms where appropriate.
- DMX addressing intelligent equipment.
- Building and populating trusses, side towers or other rigging elements.
- Loading colour and gobos.
- Adding accessories such as top hats or barndoors.
- Packing lighting equipment into flight cases for transport.
- Building control racks.
- Setting up the control system.
- Loading the show file from the Programmer, where appropriate.
- Preparing production desk equipment.
- Checking that everything is correctly labelled.

Production Load-In

The load-in is the point at which the lighting equipment is installed in the venue.

This may take place over several days or several weeks, depending on the scale of the production. At this stage, the Production Electrician leads the lighting team while working closely with the Production Manager, venue staff and other departments.

Sufficient time should be allowed for this work to be carried out safely and properly.

The Production Electrician and lighting team may be responsible for:

- Rigging lighting trusses, bars and lighting positions.
- Hanging lighting fixtures.
- Running lighting looms and cabling.
- Setting up mains distribution.
- Setting up control systems.
- Testing equipment.
- Troubleshooting and rectifying faults.
- Installing set electrics.
- Supporting focus sessions with the Lighting Designer.
- Coordinating with other departments.
- Responding to changes as required.
- Setting up production desks, including any required seat removals.
- Installing backstage working light requirements.

This is a highly collaborative stage. Delays or late changes in one department can affect the lighting installation, and producers should be aware that sufficient access, crew and time are essential.

Technical Rehearsals

Once technical rehearsals begin, access to the stage becomes much more limited. Further technical work often has to happen during breaks, meal times or agreed work sessions.

Production Electricians may therefore take breaks at different times from the rehearsal schedule in order to keep the work moving safely and efficiently.

During technical rehearsals, the Production Electrician may:

- Respond to notes from the creative and production teams.
- Liaise between show staff, creatives, venue staff and production management.
- Make improvements to the lighting system.
- Future-proof the installation for the run, tour or transfer.
- Update documentation and labelling.
- Support the Lighting Designer, Programmer and lighting crew.
- Troubleshoot issues as they arise.

The technical rehearsal period can be pressured, and the Production Electrician's calm management of the system is often central to keeping the room moving.

Previews

During previews, the production continues to change and settle. Lighting notes are often generated during the evening performance and then need to be dealt with the following day.

It is important that staffing levels and working time are planned to accommodate this.

During previews, the Production Electrician may:

- Set up production desks each day for technical work.
- Respond to notes from the Lighting Designer and creative team.
- Make adjustments to the lighting system.
- Train show staff to operate and maintain the rig.
- Remove or reset production desk positions before performances.
- Continue updating documentation.
- Support the transition from technical rehearsal into performance conditions.

For producers, it is important to recognise that preview work is not simply “tidying up”. It is often the period in which the production becomes stable, repeatable and ready to hand over.

After Press Night / Opening

A production will usually still require some level of aftercare once it has opened.

This should be discussed and agreed in the deal memo or contract, particularly if the Production Electrician is expected to remain available for advice, further work, touring support or future venue moves.

Aftercare may include:

- Providing advice when technical issues arise.
- Offering on-site technical assistance where required.
- Completing and distributing final documentation.
- Coordinating crew for load-out or future moves.
- Preparing for load-out.
- Supporting the transfer of knowledge to show staff or venue teams.

Clear agreement about aftercare helps avoid uncertainty once the main production period has ended.

Summary

The Production Electrician’s role is central to the safe and successful delivery of a production’s lighting system.

Their work combines planning, technical knowledge, crew management, communication, documentation, problem-solving and collaboration. Much of this work is most effective when it happens early, with clear lines of communication and realistic time allowed.

For producers, understanding this process helps support better planning, more accurate budgeting and a smoother technical period. It also helps ensure that the lighting design can be delivered safely, efficiently and to the highest professional standard.