

Design & Installation

With our experience and knowledge of designing and installing electrical systems we can offer a real benefit to your organisation.

We also refurbish and install additions to existing systems.

As part of our commitment to our clients we start the process by gaining a full understanding of what they are trying to achieve. Only then can we recommend, advise and design in the knowledge that we are offering what is relevant and right for the client. If we are in tune from the beginning of the project then it provides both reassurance and helps ensure we complete the project in time and on budget. As a result of this we will provide the most cost effective option whether in terms of materials, labour or a low carbon approach depending on the client's priorities.

In order to ensure the best outcome, there are a number of criteria to be considered, including:

- Current wiring regulations
- Other building regulations
- Disability Discrimination Act regulations
- Safe Working Practices
- Longevity and maintenance of materials
- Specialist location requirements
- Low carbon solutions
- Working to budget and timescale

Each of these criteria will be studied and the most effective solution proposed to meet each one as required.

We have extensive experience of working with building management systems designed to manage the environment within the building, controlling such elements as heating, ventilation, lighting, security and fire alarms. These can vary from simple to very complex and we will work with a designated control panel manufacturer to ensure the most effective solution for both the panel and the associated control wiring.

We are very conscious of the safety of your staff and the need to cause minimum disruption to your organisation. We offer flexible working, such as out of hours, to ensure our work is carried out with the minimum of inconvenience to you.

Our Quality Management System ensures all our work is carried out with a zero defect policy. Everything we do is fully tested on site and is only signed off on positive release. This means additional reassurance for our clients at every stage of the project.

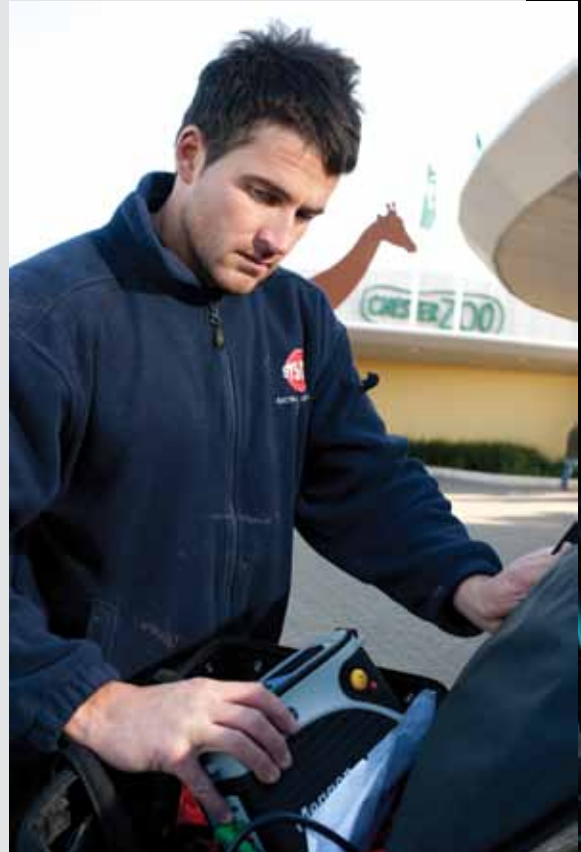


Design & Installation continued

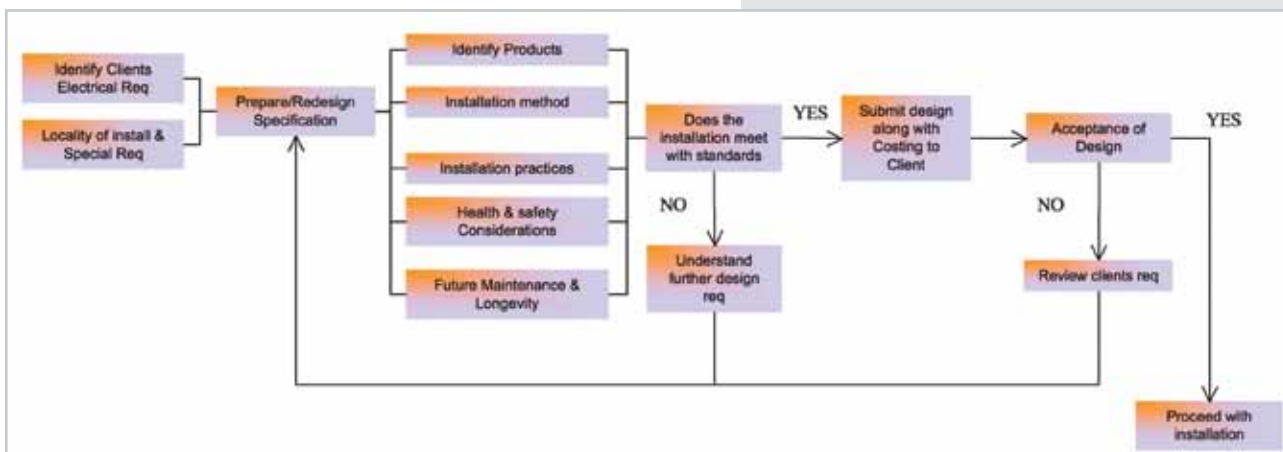
VALUE ENGINEERING

System Electrical are heavily involved in all aspects of design, construction and commissioning of electrical installations at Chester Zoo on a weekly basis.

This ongoing project work requires an unusually high degree of care and attention, due to the individual nature of the site and the specialist needs of the client, not to mention its inhabitants. All electrical design carried out by System Electrical is based on a detailed examination of locality, build ability and safe working practices. Through this level of attention to detail we supply the most cost-effective solution available and ensure a 'right first time' approach at all times.



Installation Design & Verification



Testing & Inspection

Testing and inspection of electrical systems is a necessary precaution against potential damage to equipment and injury to people. For commercial or public premises it is also a statutory requirement. To reinforce the safety aspect we also inspect emergency lighting and fire alarm systems.

All electrical installations and equipment deteriorate over time through usage and age. It is recommended that commercial electrical systems are fully tested every 5 years. This can be broken down over the period or all in one go. All testing is carried out against BS7671 wiring regulations, the national safety standard for electrical installations.

Due to the intrusive nature of turning off the power supply, System Electrical will always come to an agreement with clients to minimise disruption.

After any testing we will supply standard testing and inspection reports. All these are NICEIC certified to ensure you are fully compliant with current legislation.

Equipment that needs PAT testing includes:

- Portable and hand held appliances – kettles, hair-dryers, drills, vacuum cleaners
- Moveable equipment – AC units, fire equipment, compressors (on wheels/ casters)
- Stationary appliances – refrigerator, washing machines
- Fixed appliances – towel rails, heaters
- IT equipment – computers, printers, telephones
- Extension leads – those containing additional sockets



PAT TESTING

PAT, or Portable Appliance Testing, is a visual and electronic safety check of electrical appliances. The aim is to prevent danger or harm to users as a result of electrical faults. PAT testing is a statutory requirement and the frequency varies depending on the working environment. Please contact us and we will advise you accordingly.



Maintenance and Reactive Maintenance

System Electrical has the resource and experience to offer a maintenance service tailored for the individual client.

All elements of electrical systems deteriorate over time and maintenance is key in prolonging life and avoiding potentially hazardous problems with electrical systems and equipment. In order to carry this out in the most efficient way possible we develop a close working relationship with our clients so as to fully understand both their needs and every aspect of their particular system. We compile detailed records of the system and any activity relating to it to enable any maintenance, whether scheduled or reactive, to be efficient and effective.

For reactive maintenance from replacing bulbs through to dealing with a major system failure, we will react as quickly as you need us to. For any significant issues we will keep you fully informed all the way and if necessary will agree a plan of action with you. For non-emergency and scheduled maintenance we will always agree a convenient time for the work to be carried out, such as out of hours, so as not to inconvenience or endanger your staff. This could include issues highlighted from an inspection report or long term scheduled maintenance such as the replacement or refurbishment of a distribution board.

We will always ensure that all special requirements are met, such as parts of the system needing to be kept live during a shutdown to help ensure no further problems are created.

When on a client's site, all our staff and contractors endeavour to cause as little disruption as possible and will always ensure it is left how it is found. Our aim is that you won't know we have been there, other than the work has been successfully carried out.



Safety and Security

In a commercial or organisational environment safety and security of both staff and buildings is of paramount importance. As part of our service offering, System Electrical provides peace of mind through professionally installed, commissioned and maintained systems. We cover everything from exterior lighting to fire alarms, emergency lighting, access control, intruder alarms and CCTV.

The effect of a major fire on any type of business can be devastating. As well as the issues of personal safety it is well known that the majority of businesses cease trading within 3 years of a major fire. As well as damage to buildings, equipment and stock there is also the potential for massive data loss.

Fire alarms vary in complexity and we would always discuss your requirements in detail before proposing a particular solution. It is important that fire alarm systems are properly designed to take account of the building, then professionally installed, commissioned and maintained and tested over time. All our fire alarm installations comply with BS5839, the relevant British Standard for this area.

Emergency lighting is designed to provide enough light in a commercial or public premises for people to be able to safely exit in an emergency. With very few exceptions, if artificial lighting is installed in a work or public place, then emergency lighting will need to be installed alongside it. As with all safety systems, the key is to fully understand the

requirement and design a suitable solution. We will take the time to discuss your requirements and study the building to design the most efficient and cost-effective emergency lighting system for you. We will also work with you to develop an ongoing testing and maintenance plan.

For some premises access control and CCTV are important parts of their security requirements. We work in partnership with selected specialist companies to design and install these systems to meet your exact requirements. Whether it is a simple access control to a restricted part of your premises or a full blown CCTV system for a retail outlet we have the necessary expertise and experience.



Data Networking

Easy and reliable access to data is vital for the success of businesses, commercial enterprises and public sector organisations. Whether it is calling up customer information while talking to them, the smooth running of an automated manufacturing facility or reliable and easily accessible patient information for healthcare provision, network cabling is of key importance.

At System Electrical we spend time with our clients to fully understand their requirements. This means we can design a data and voice network both for efficiency and reliability but also to meet the client's needs and importantly, projected future needs. The system also has to work within the constraints of the physical environment, such as the building. This means careful planning to maximise efficiency and minimise any issues from poor cable installation such as intrusive cabling or too tight bends reducing efficiency. We also install associated equipment such as switches, floor panels and communications cabinets, and IT equipment such as screens and whiteboards.

We work within the criteria specified for installing Cat 5e, Cat 6, Cat 6a, Cat 7 and Fibre Optic cabling, using only skilled technicians at all times.

CABLING AUDITS AND MAINTENANCE

Over time cabling networks deteriorate. This is often because the environment around them changes. In an office, people move around, desks and work stations move and the network as it stands becomes less suitable. Also, poorly installed cabling can quickly become inefficient leading to failures in data transmission.

System Electrical will carry out a data network audit to pick up any issues or improvements that can be made. We would then provide a proposal as to how the system could be refurbished, renewed or reinstalled depending on the most cost effective option for the particular circumstance.

Any data networking work can be very intrusive in whatever setting, from a small office to a large manufacturing plant. We will always minimise disruption and will work out of hours if required by the client.



Power management and low carbon systems

Power management systems improve the efficiency and quality of power use. This means reduced electricity costs and a more reliable supply if you suffer from power spikes, circuit breaker trips or power outages.

System Electrical offers a fully bespoke service to businesses and organisations to develop a cost effective solution to power management, often with a surprisingly short payback on investment period. We will examine your current electrical system and usage and then offer the best solution for you and your business.

POWER MANAGEMENT

Many businesses pay a premium on their electricity costs due to low power factor. This simply means you are drawing more power than you actually need and this can be caused by inefficiencies in wiring, lighting, appliances and especially induction motors on start up.

System Electrical can install equipment that can drastically reduce these issues, increasing your power factor so as to minimise or negate premium payments. It helps ensure that everything runs efficiently, using just the right amount of power, so it will also reduce your usage costs.



REDUCING CO2 EMISSIONS

Reducing electricity usage, through a variety of means, leads to reduced CO2 emissions. Power management systems are part of this process, as described opposite.

An alternative approach for some businesses is to dramatically reduce the cost of their lighting by moving to LED lighting systems, and where appropriate installing auto sensors. Compared with traditional fluorescent or halogen lighting systems, LED can produce savings of up to 70% on electricity costs. This is not only done without loss of actual light but the light can be more evenly distributed and there is none of the flickering and buzzing associated with some systems. LED lighting is also maintenance free and the bulbs have a long life expectancy.

With a recent history of steadily increasing electricity prices, and nothing to show this changing in the future, organisations should be looking at how to reduce their electricity usage whether as part of their corporate social responsibility or simply as a cost saving exercise. For a discussion of suitable options simply contact System Electrical.