



## Litigation Specialisms

### **Erroneous reading/assessment of electricity usage**

Dr Brown has acted in numerous cases where the parties have claimed errors in the 'readings' of the electrical consumption meter, integral to the electrical system of a domestic, commercial or industrial property. Here a party may allege the meter is reading/measuring high (to date, never low) or a party claims they have been over charged for electricity based on the readings/measurements taken from the meter or the parties assessment of energy requirements/consumption of their appliance/electrical system.

#### **Notable cases involving alleged erroneous reading/assessment of electricity usage**

##### **NPower –v- English**

A dispute over bills for the supply and consumption of electrical energy. The Defendants now domestic property comprised a former commercial premise, and hence the electrical system had remnants of a commercial electrical system. Investigation indicated that the commercial electrical consumption meter was unsuitable for a domestic system and was reading wrongly. Consequently the case was dismissed.

##### **NPower –v- Beasley and Beasley**

A further dispute over alleged over charging for electrical consumption by an electrical supplier. The Defendants claim, relies upon their assessment of energy requirements/consumption at their premises. Analysis of the Defendant claims in correlation with the claims of the Claimant appeared to favour of the Defendant.

### **Theft of electricity**

Theft of electricity occurs when a party consumes electrical energy, yet in doing so takes measures to prevent the electrical consumption meter from measuring the electricity consumed. There are various methods employed,

By circumventing the electrical meter by use of a loop of electrical cable connected between the fuse of the utility company electrical service head and the consumer unit (fuse box) of the property.

By applying or placing magnets having a strong magnetic field, about or in in close proximity to the electrical consumption meter, which impedes the free movement of a rotating disc within the meter which in turn prevents accurate incrementation of clocks/dials which indicate accumulated electrical consumption.

By applying or placing suitable electrical equipment in close proximity to the electrical consumption meter, the electrical equipment having a magnetic field generating capability which in turn impedes the free movement of a rotating disc within the meter and prevents accurate incrementation of clocks/dials which indicate accumulated electrical consumption.

#### **Notable cases involving the alleged theft of electricity**

##### **R –v- Price**

A case involving the use of a 'loop of wire' circumventing the electrical consumption meter. The utility company-imposed charges based on the last recorded meter reading and the meter reading at the time of discovery of the circumventing action. Imposing charges based on these circumstances is considered unlawful, since the utility company has no knowledge of when the circumventing loop was installed, so they cannot impose an accurate monetary figure for the theft, which could be of a minimal amount.

### **R –v- Waheed**

A case where the Defendant was alleged to have placed suitable electrical equipment in close proximity to the electrical consumption meter, an action the Defendant denied. Again the utility company attempted to impose monetary charges for the alleged theft based on the amount of electricity used from the last recorded figure of electricity consumption to the figure noted at the time of the discovery of the alleged unlawful practice. Similarly imposing charges based on these circumstances is considered unlawful, since the utility company has no knowledge of when the unlawful practice of placing suitable electrical equipment in close proximity to the electrical consumption meter started.

### **Protection devices in electrical system and the non-conformity of electrical systems in relation to electrical shocks and fatal electrocutions**

Generally, protection devices within electrical systems are such devices which are incorporated to avert electrical circumstances which could cause damage to the electrical system, further to electrical appliances/loads connected to the electrical system, yet importantly to users of the electrical system or appliances. Such protection devices are fuses, miniature circuit breakers (MCB's), residual current devices (RCD's) and there are others.

Importantly the electrical protection devices are inherent within an electrical system logically for safety reasons, and legislation exists which places responsibility for the inclusion of the protection devices and the correct and timely maintenance of such devices on landlords, employers and the like.

Unfortunately, circumstances arise where such devices have been dutifully and illicitly tampered with, are not to specification, and indeed do not function when required which, regrettably have brought about tragic consequences.

### **Notable cases involving the attributes of protection devices in electrical system**

#### **R –v- North**

A tragic case of fatal electrocution where an employee in the process of using electrical welding equipment in adverse weather conditions, received a fatal burst of electrical energy. Unfortunately the electrical which, the welder was inherent did not have an RCD which could have averted the tragic incident. Since the inclusion of an RCD in an electrical system, is a current regulation then the employer was deemed liable for the incident.

#### **R –v- Nimani**

A further tragic case where an employee was fatally electrocuted whilst in the course of taken a shower within an electrically heated shower located within an employee accommodation building. The electrical system was deemed to be in a very poor state and again excluded the inclusion of an RCD contravening present regulations hence the employer was deemed liable for the incident.

#### **R –v- Wakefield Housing Limited**

Another tragic incident where a residual current device (RCD) failed, when called to clear (isolate) a high magnitude electrical current, resulting in the death by electrocution of an employee within a tropical fish shop. The shop environment being of a constant high humidity was deemed to be the fundamental issue with the continued failure of the RCD which when called to operate given a legitimate electrical fault failed to do so.

#### **R –v- Hoult**

A very sad case where a young lady had lived in a property for two (2) years since its first building. On the day of the incident, a water leak had sprung from a pipe beside a washing machine and had accumulated and soaked into an area of carpet. The young lady knelt onto the wet carpet to reach and turn off the supply of water at a brass tap. On touching the tap the young lady received a fatal burst of electrical energy.

Investigation of the circumstances found that in the building of the property, a screw holding a plasterboard to a metal batten had pierced through and electrical cable causing the batten to be charged

to a live voltage potential. Due to the water leak the batten when in contact with the water, charged the water to the live voltage potential which brought about the tragic consequences.

At the time of building the electrical system had been tested and certified as worthy, yet the circumstances of the incident dictated that the tests most probably had been falsified hence the certifying signatory to the electrical test certificate was prosecuted.

## **Industrial automatic process control systems, design, installation, testing, commissioning and operation**

Automatic control systems are prevalent within most of manufacturing industry to aid efficient production, quality control and increase product yield. Generally process control system a formed around sensors capture data relative to a process variable. Such sensors are monitored by a central processing unit, more often this being a computer on which acts on the sensor data and initiates actuating devices to physically control the process variable.

However sometimes (rarely), the process control system fails, is ill designed, poorly manufactured, is difficult to integrate within the production process, all of which can bring about litigation between parties involved within project.

### **Notable cases involving industrial automatic process control systems, design, installation, testing, commissioning and operation**

#### **Saftronics Limited (Defendant) –v- Nomenca (Claimant)**

The Defendant in this case was contracted to design a process control system for a process within the clean water industry. The contract involved the manufacture and testing of several systems, 'off site', which on completion were planned to be dispatched to site and integrated by the Claimant. The Defendant alleged that the Claimant pushed for early delivery, and the Defendant obliged however on integration the system were found not to function as expected which according to the Defendant was due hasty testing.

#### **Robinson and Johnson –v- Southern Water Services**

A case involving an escape of raw sewage which flooded properties causing sever flood damage. The escape of sewage came about at a time of persistent rain in the locality, which brought about the need to use an emergency wastewater pumping station. Unfortunately, the automatic process control system controlling the wastewater pumping station, failed hence the case focused on the causation of failure, i.e. a legitimate fault in the system or poor maintenance of the system by the Defendant.

## **Domestic White Goods**

Dr Brown has undertaken numerous investigations of the malfunction of electrical 'white' goods yet of these several have focused on the appliance provoking the onset of fire ignition.

### **Notable cases involving Domestic White Goods**

#### **Jaguar Landrover**

Case involving the investigation of a fire alleged to have started with the tumbler drier, the drier being integral to the kitchen facility at the spares/stores of Jaguar Landrover. The fire provoked the closing of the spares/stores facility and hence stopped production at Jaguar Landrover for three/four days. In respect of fire causation the tumbler drier was of a make/model, and the focus of a product recall initiative, hence the appliance was deemed to be the causation. There was no formal joint inspection of the appliance since other fire related evidence supported the appliance as cause.

#### **Elie Deli , Earlsferry, Fife**

Investigation of a fire alleged to have initiated due to electrical malfunction of a commercial cooling display cabinet. Prior to the fire the cabinet had malfunctioned and in repair and replacement of a controller/relay located with the base of the cooler, it was found that electrical connections had

become unsound, i.e. loose. This it was suggested that electrical heating and fire ignition was brought about by a loose electrical connection.

### **Bolton and Sons Limited –v- Clas Ohlson**

Opinion of the circumstance surrounding a fire thought to have been caused by a faulty electrically powered kettle the subject of a product recall. The fire was cited within a large industrial sewing facility and the remnants of the kettle were found close to a badly damaged sewing machine. Fire investigators proposed the sewing machine to be at fault yet, 'other' forensic engineers suggested the kettle to be the causation basing opinion on the product recall notice. The case is ongoing.

## **Testing and compliance to standard**

Most system, appliances, components whatever before distribution within the market place have to be tested and achieve compliance to a particular standard. There are many standards, be these national standards i.e. British Standards, European Standards, United States of America and Canadian Standards or for that matter any other country standard. Compliance depends on the location of the market.

Some system, appliances, components may be manufactured in a country outside of the market yet the system, appliances, components must conform to standard of the market which sometimes is dubious and questionable.

### **Notable cases concerning testing and compliance to standard**

#### **Electrium Sales (UK) Limited –v- Havells (India) Limited**

The case concerned the manufacture of miniature circuit breakers (MCB) in India, which were distributed within the United Kingdom and were tested to conform to British and European Standards. Following distribution of the design of MCB, the MCB was alleged to be the causation of the ignition of house fires due to an alleged design flaw, which should have been detected in the testing to standard, prior to distribution. The case investigated the testing process and the credentials of the test establishment.

#### **Auriga Europe Limited –v- Rotronic Instruments (UK) Limited**

The Claimant purchased a number of electrical power cords (similar to a kettle or computer power lead) from the Defendant, which following distribution, was alleged to be counterfeit and not to standard. The case investigated the attributes of the cords and conformity of the attributes to several standards.

## **Fundamental operation of electrical devices, explanation of fundamental phenomena**

Some cases require the understanding of the fundamental operation of electrical devices, and the explanation of fundamental electrical phenomena. Some examples,...

### **Notable cases concerning fundamental operation of electrical devices, explanation of fundamental phenomena**

#### **R –v- Perkins**

Some devices if exported outside of the European Community require customs authorisation, i.e. an export license. The requirements for an export license is established via a criteria-based system where some fundamental attributes of the device are assessed against the criteria and given certain outcomes the need or not for and export license is forthcoming. In this particular case the suitability of the fundamental attribute of the device was questioned and its basis as a criteria for export control conformity.

## **Weatherford –v- Hydropath / Clearwell / MS Oilfield Services**

The intellectual property of some devices is protected to a degree by patents. However, some companies call foul of others when similarities of their products, processes or methodologies are discovered used within other companies, which jeopardises the company market share, revenue income and company existence. Most often, yet particularly in this case, the dispute condenses to the understanding of the fundamental operation of electrical devices and the difference in fundamental phenomena, which underlie the patent. This case required to understand the difference between a transformer and an ariel/antenna, as magnetic field generators.

## **Stun Gun Analysis of Stun Gun attributes**

A stun gun is a device which possesses two (2) electrodes, and on demand, i.e. by operation of a switch (trigger) a high electrical charge (voltage) is developed between the electrodes which on contact with an electrical conductor, i.e. human tissue/skin, will invoke the injection and conduction of an electrical current capable of disorientating and debilitating i.e. to stun a target a human being.

A stun gun is similar to the police 'Taser' anti-social behaviour 'weapon' and also in a functional sense, a cattle prod. Possession of a stun gun requires the possession of a Section 5 firearm certificate and without such possession of a stun gun is a criminal offence.

### **Notable cases involving a Stun Gun Analysis of Stun Gun attributes**

#### **R –v- Armane Miller**

Here the accused was charged with possession of a homemade Stun Gun (the gun). Defence Counsel was of the opinion that the gun was not a 'stun gun' since, given its appearance, opinion was that the gun was incapable of bringing about muscle spasm and incapacitation in a human. Consequently, Counsel was for arguing that the gun be classed as an offensive weapon rather than a firearm. The case involved the classification in electrical and physiological reaction terms, the attributes of a stun gun and hence to determine whether the homemade gun could be classed as a stun gun or not.

#### **R –v- Jessica Peters**

Peters was stopped at airport HM Customs station and found to be carrying a stun gun in luggage without a licence. The stun gun according to Peters was alleged to be four years old and belonging to a former long departed acquaintance. On testing, the gun was observed to function satisfactorily which, given its age and period of non-operation, HM Customs concluded that the gun must belong to Peters. The case involved the determination of charge holding capabilities of the guns batteries, the result being that after a sustained period of non-operation the batteries would still be capable of provoking/inducing a significant magnitude of current at discharge instant.