FIREPOINT

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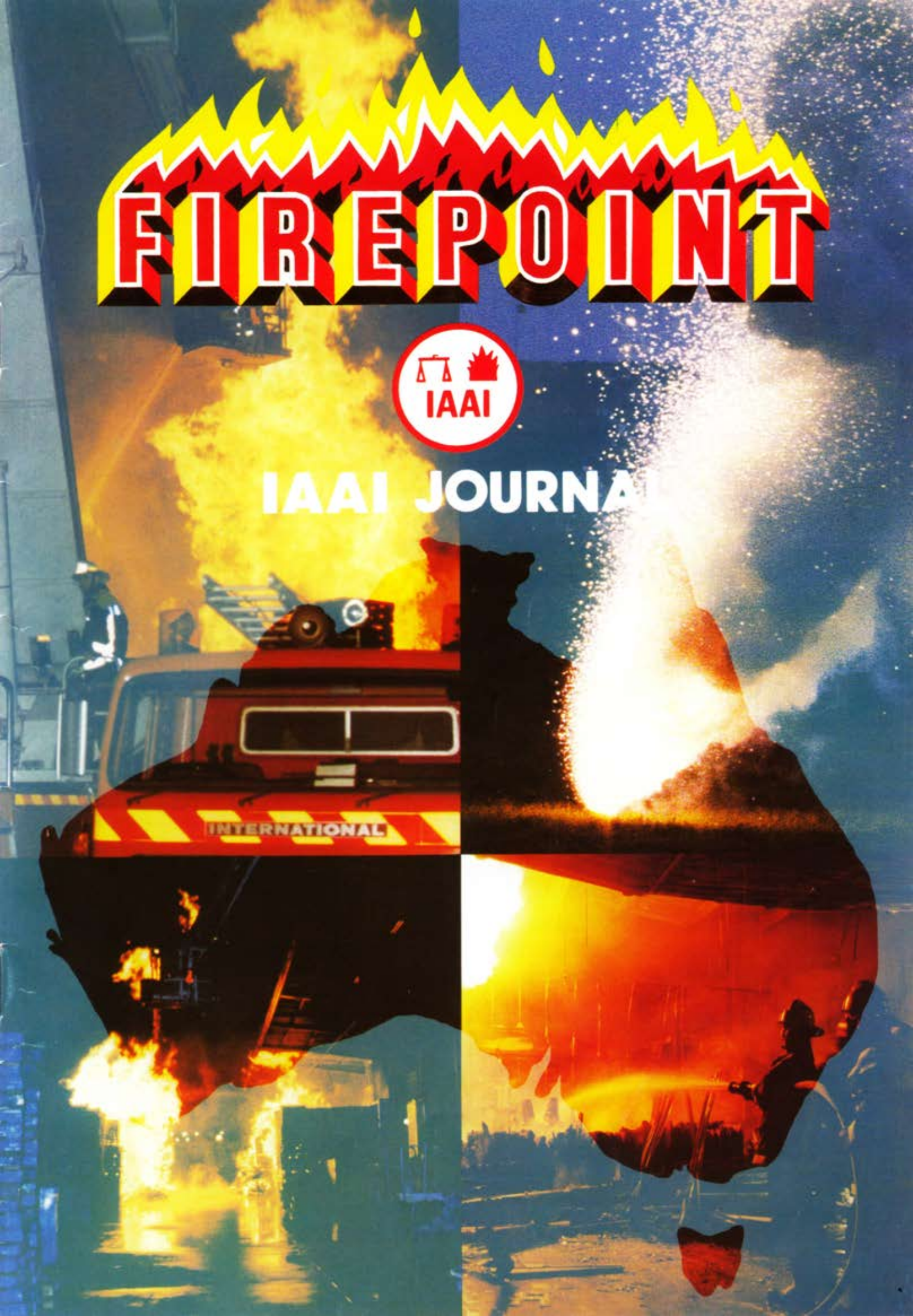

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FIREPOINT: IF YOU HAVEN'T PAID YOUR FEES FOR THE CURRENT YEAR, PLEASE DO SO NOW.

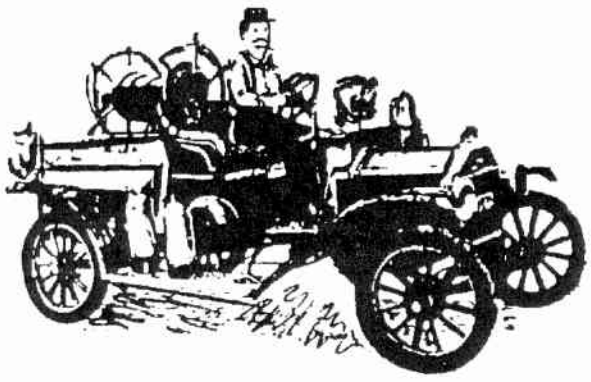
EDITORIAL

A large part of this issue is devoted to a single article. Marlon Bran gives a detailed explanation of electrical theory and its application in fires. He presented his paper to the 2010 seminar of the Queensland Chapter.

He provides both theoretical and practical advice and education for the fire investigator.

It is with great regret that Victoria reports the death of one of its Chapter founders, Fred McCoach. He played an important role in the inception of the Chapter.

Wal Stern



CONTENTS

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Electrical Theory and Ignition Sources.

Introduction: Electrical Fire Analysis

The purpose of this article is to help you, Fire Analyst, determine whether or not a particular piece of electrical equipment involved in a fire is the culprit that started the fire or merely an innocent victim.

Firstly, this requires that you perform the role of an electrical fire investigator and gather facts related to the fire that might help establish its origin. The second requirement is that you perform the analysis required to interpret these facts in order to determine the roles of specific equipment in the fire.

Although most accidental house hold fires are undoubtedly of electrical origin, you must remain constantly aware that many fires are not.

Electrical Fires can start in wiring or in appliances, and if it is determined that an appliance cause the fire, it is necessary to determine where in the appliance the fire started. Was it caused by the switch, fault insulation in a terminal block, an unintended ground connection or poor design?

Who needs to know these things?

- The insurance company: The insurance company needs to know if a fault in a particular piece of equipment was the culprit, and if the dollar value of the loss has been high. Under such circumstances, the insurance company will pay the claim and then may try to collect from the manufacturer of the equipment. If it can be proved to the satisfaction of a jury that the fire was the result of poor manufacturing or design, the insurance company will probably be able to recover losses. Before paying off any claim for losses, information is necessary to determine if there is reason to suspect arson. If there has been arson and the insured is a suspect, the insurance company will be reluctant to pay until the matter is settled.

- The manufacturer: The manufacturer of the appliance may also want to know whether or not their appliance was the source of a fire to avoid paying for unjustified claims. In addition, if it is determined that the on-off switch was the cause of the fire, the appliance manufacturer may decide to bring a suit against the switch manufacturer in an attempt to recover the sum paid to the insurance company. The switch manufacturer may, in turn, bring suit against the manufacturer of the piece of plastic insulation that failed, resulting in the switch failure, resulting in the fire in the appliance that burned down the house. Conceivably the plastics manufacturer could sue the maker of the plasticizer that was at fault, and the plasticizer manufacturer could sue the manufacturer of some critical component of the plasticiser. Fortunately, things seldom go that far, but it does, at times, seem as if a whole group of people make a career from a single incident.

- The fire department:
  Fire departments and safety analysts also need to know the causes of fires. If a particular piece of equipment is unsafe, this information should be gathered and should be made known. Homeowners would like to know if the products they are buying are unreasonably prone to burn.

- The police:
  The Police also needs to know the results of an investigation, especially when the fire caused victims and an arson activity is involved.

- The Government/Regulators:
  The political implications of this are, of course, tremendous. It seems unlikely that accurate figures on the probability of fires occurring in equipment used in the home will ever be released. Nonetheless, organizations such as the Queensland Electrical Safety Office and SAA Approvals gather data on this and will pursue the manufacturers of products that are unusually hazardous, thus helping to protect the public.

- All:
  Even the average homeowner who has seen his home destroyed by fire may be interested in attempting to determine what caused that fire.

1. The Necessary Background

Anyone who hopes to analyse an electrical fire successfully must have a basic knowledge of electricity. In most cases this does not mean that the fire investigator must be an electrical engineer, although the more knowledge he has on this subject, the more successful he will be as an electrical fire analyst.

Although the thrust of this section of the seminar is the analysis of fires suspected of having started in electrical equipment, the successful investigator of electrical fires must also have background in general fire investigation.

It will often be necessary for you to use general principles of fire analysis in order to eliminate many potential sources of a fire that are not of concern in a particular situation, so that you can concentrate on the most fruitful areas.

1.1. Electricity – Basics

1.1.1.VOLTAGE

Voltage is the electrical force that moves electrons through a conductor as shown in Fig 1. Voltage is electrical pressure also known as EMF (Electro Motive Force) that pushes electrons.

The greater the difference in electrical potential push (difference between positive and negative), the greater the voltage force potential.

VOLTAGE IS PRESSURE

Figure 1

1.1.1.1. MEASUREMENT

A VOLTMETER measures the voltage potential across or parallel to the circuit.

The Voltmeter measures the amount of electrical pressure difference between two points being measured.

Voltage can exist between two points without electron flow.

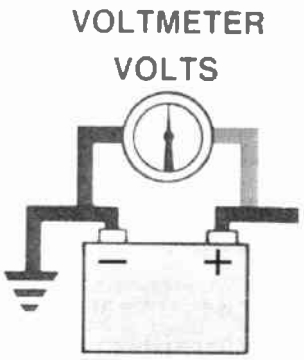

Figure 2

1.1.1.2. VOLTAGE UNITS

Voltage is measured in units called VOLTS. Voltage measurements can use different value prefixes such as millivolt, volt, kilovolt, and megavolt.

Table 1

VOLTAGE	LESS THAN BASE UNIT	BASIC UNIT	LARGER THAN BASE UNIT
Symbol	mV	V	kV
Pronounced	millivolt	volt	kilovolt
Multiplier	0.001	1	1,000

1.1.2.CURRENT (AMPERES)

CURRENT is the quantity or flow rate of electrons moving past a point within one second. Current flow is also known as amperage, or amps for short.

Higher voltage will produce higher current flow, and lower voltage will produce lower current flow

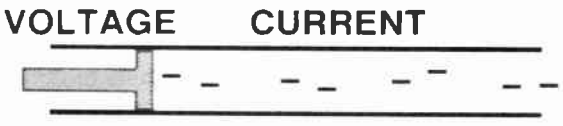

Figure 3

1.1.2.1. MEASUREMENT

An AMMETER measures the quantity of current flow. Ammeters are placed in series (inline) to count the electrons passing through it.

For example, a water meter counts the gallons of water flowing through it.

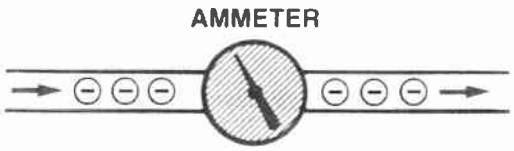

Figure 4

1.1.2.2. AMPERAGE UNITS

Current flow is measured in units called AMPERES (amps).

Amperage measurements can use different value prefixes, such as microamp, milliamp, and amp.

Table 2

AMPERAGE	LESS THAN BASE UNIT	LESS THAN BASE UNIT	BASIC UNIT
Symbol	μA	mA	A
Pronounced	microamp	milliamp	Amp
Multiplier	0.000001	0.001	1

1.1.2.3. EFFECTS OF CURRENT FLOW

Two common effects of current flow are Heat Generation and Electromagnetism.

HEAT: When current flows, heat will be generated. The higher the current flow the greater the heat generated. An example would be a light bulb. If enough current flows across the filament, it will glow white hot and illuminate to produce light.

ELECTROMAGNETISM: When current flows a small magnetic field is created. The higher the current flow, the stronger the magnetic field. For example, electromagnetism principles are used in alternators, ignition systems, and other electronic devices.

1.1.3.RESISTANCE

Resistance is the force that reduces or stops the flow of electrons. It opposes voltage.

Higher resistance will decrease the flow of electrons and lower resistance will allow more electrons to flow.

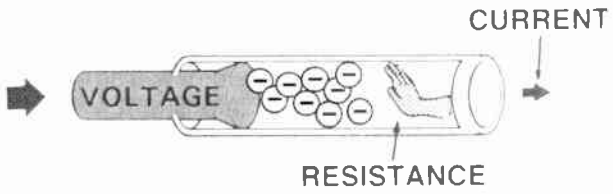

Figure 5

1.1.3.1. MEASUREMENT

An OHMMETER measures the resistance of an electrical circuit or component. No voltage can be applied while the ohmmeter is connected, or damage to the meter will occur.

For example, water flows through a garden hose and someone steps on the hose. The greater the pressure placed on the hose, the greater the hose restriction and the less water flow.

1.1.3.2. RESISTANCE UNITS

Resistance is measured in units called OHMS.

Resistance measurements can use different value prefixes, such as kiloohm and megaohms.

Table 3

RESISTANCE	BASIC UNIT	MORE THAN BASE UNIT	MORE THAN BASE UNIT
Symbol		K	M
Pronounced	Ohm	kiloohm	megaohm
Multiplier	1	1,000	1,000,000

1.1.4.POWER

Electric power is the rate at which electrical energy is transferred by an electric circuit. The SI unit of power is the watt.

When electric current flows in a circuit, it can transfer energy to do mechanical or thermodynamic work. Devices convert electrical energy into many useful forms, such as heat (electric heaters), light (light bulbs), motion (electric motors), sound (loudspeaker) or chemical changes. Electricity can be produced mechanically by generation, or chemically, or by direct conversion from light in photovoltaic cells. Electricity can also be stored chemically in batteries.

1.1.4.1. Circuits

Electric power, like mechanical power, is represented by the letter P in electrical equations. The term 'wattage' is used colloquially to mean "electric power in watts."

1.1.4.2. Direct current

In direct current resistive circuits, electrical power is calculated using Joule's law:

$$P = VI$$

Where P is the electric power, V the potential difference in Volts, and I the electric current in Amps.

In the case of resistive (Ohmic, or linear) loads, Joule's law can be combined with

Ohm's law (I = V/R) to produce alternative expressions for the dissipated power:

$$P = I^2R = \frac{V^2}{R}.$$

Where R is the electrical resistance in Ohms.

1.1.4.3. MEASUREMENT

The WATTMETER is an instrument for measuring the electric power (or the supply rate of electrical energy) in watts of any given circuit.

1.1.4.4. POWER UNITS

Power is measured in units called Watts

Power measurements can use different value prefixes, such as kilowatt and megawatt

Table 4

POWER	BASIC UNIT	MORE THAN BASE UNIT	MORE THAN BASE UNIT
Symbol	W	K	M
Pronounced	Watt	Kilo watts	Mega watts
Multiplier	1	1,000	1,000,000

1.2. Materials

1.2.1.INSULATORS

An INSULATOR is any material that inhibits (stops) the flow of electrons (electricity).

An insulator is any material with 5 to 8 free electrons in the outer ring. Because, atoms with 5 to 8 electrons in the outer ring are held (bound) tightly to the atom, they CANNOT be easily moved to another atom nor make room for more electrons.

Insulator material includes glass, rubber, and plastic.

1.2.2.CONDUCTORS

A CONDUCTOR is any material that easily allows electrons (electricity) to flow.

A CONDUCTOR has 1 to 3 free electrons in the outer ring. Because atoms with 1 to 3 electrons in the outer ring are held (bound) loosely to the atom, they can easily move to another atom or make room for more electrons.

Conductor material includes copper and gold.

1.2.2.1. SEMICONDUCTORS:

SEMICONDUCTORS are a very special category of materials, with specific added impurities.

When these carefully controlled impurities are added these substances become conductors under some electrical conditions, and insulators under others, which is why they can be used to control the flow of electricity.

Semiconductor materials include silicon or germanium.

1.3. Types of Electricity

Two basic types of Electricity classifications: static electricity and dynamic electricity.

1.3.1.STATIC ELECTRICITY

Voltage potential with NO electron flow.

For example, by rubbing a silk cloth on a glass rod, you physically remove electrons from the glass rod and place them on the cloth. The cloth now has a surplus of electrons (negatively charged), and the rod now has a deficiency of electrons (positively charged).

Another example you could try is to your shoes on a rug and then touch a metal table or chair.... Zap!! The shock you felt was the

static electricity dissipating through your body.

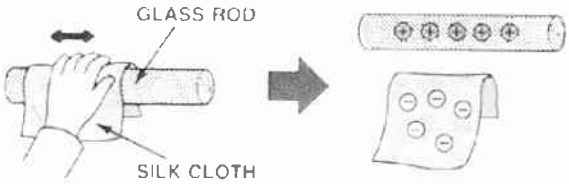

Figure 6

1.3.2.DYNAMIC ELECTRICITY

DYNAMIC ELECTRICITY is electricity that is in motion. Voltage potential WITH electron flow.

Two types of Dynamic electricity exist: Direct current (DC) and alternating current (AC).

1.3.2.1. DIRECT CURRENT (DC)

Electricity with electrons flowing in only one direction is called Direct Current or DC.

DC electrical systems are used in cars.

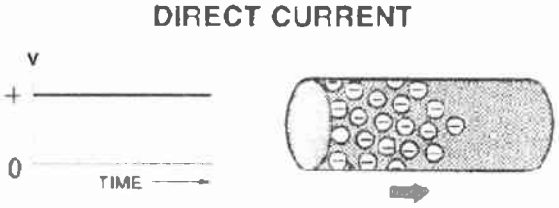

Figure 7

1.3.2.2. ALTERNATING CURRENT (AC)

Electricity with electrons flowing back and forth, negative - positive- negative, is called Alternating Current, or AC. The electrical appliances in your home use AC power.

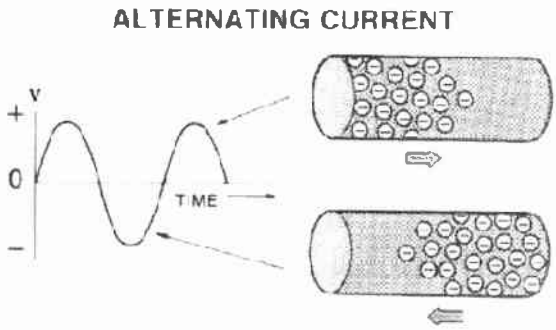

Figure 8

1.4. Sources of Electricity

Electricity can be created by several means: friction, chemical action, magnetic action, light, heat or pressure.

Only a few of these sources of energy are used in the automobile. The battery produces electricity through chemical action, and the alternator produces electricity through magnetic action.

- **Friction** creates static electricity.
- **Chemical** Action of certain chemicals will create DC electricity.
- **Magnetic** generated when conductors pass through a magnetic field, is called generator and creates AC electricity.
- **Light** applied to photoelectric materials will produce DC electricity.

Others:

- **Heat** can act upon a device called a thermo couple to create DC.
- **Pressure** applied to a piezoelectric material will produce DC electricity.

1.4.1.STATIC ELECTRICITY

Refers to the build up of electric charge on the surface of objects. The static charges remain on an object until they either bleed off to ground or are quickly neutralized by a discharge. Although charge exchange can

happen whenever any two surfaces come into contact and separate, a static charge only remains when at least one of the surfaces has a high resistance to electrical flow (an electrical insulator). The effects of static electricity are familiar to most people because we can feel, hear, and even see the spark as the excess charge is neutralized when brought close to a large electrical conductor (for example, a path to ground), or a region with an excess charge of the opposite polarity (positive or negative).

Figure 9

1.4.2.BATTERY

An electrical battery is one or more electrochemical cells that convert stored chemical energy into electrical energy. Since the invention of the first battery (or "voltaic pile") in 1800 by Alessandro Volta, batteries have become a common power source for many household and industrial applications

Figure 10

1.4.3.ELECTROMAGNETIC INDUCTION

Is the production of voltage across a conductor moving through a magnetic field

1.4.4.TURBINES

All turbines are driven by a fluid acting as an intermediate energy carrier. Many of the heat engines just mentioned are turbines. Other types of turbines can be driven by wind or falling water.

Sources include:

1.4.4.1. Steam - Water is boiled by:

1.4.4.2. Nuclear fission: The burning of fossil fuels (coal, natural gas, or petroleum). In hot gas (gas turbine), turbines are driven directly by gases produced by the combustion of natural gas or oil. Combined cycle gas turbine plants are driven by both steam and natural gas. They generate power by burning natural gas in a gas turbine and use residual heat to generate additional electricity from steam. These plants offer efficiencies of up to 60%.

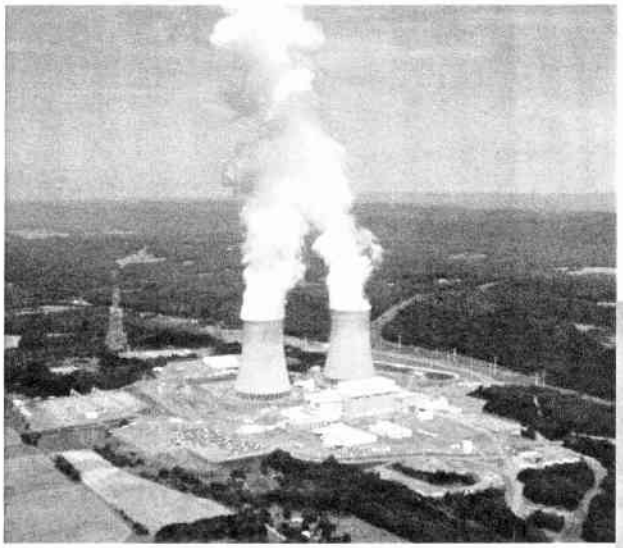

Figure 11

1.4.4.3. Renewable sources - The steam generated by:

1.4.4.4. Biomass: The sun as the heat source: solar parabolic troughs and solar power towers concentrate sunlight to heat a heat transfer fluid, which is then used to produce steam.

1.4.4.5. Geothermal power: Either steam under pressure emerges from the ground and drives a turbine or hot water evaporates a low boiling liquid to create vapour to drive a turbine.

1.4.4.6. Other renewable sources: Water (hydroelectric) - Turbine blades are acted upon by flowing water, produced by hydroelectric dams or tidal forces.

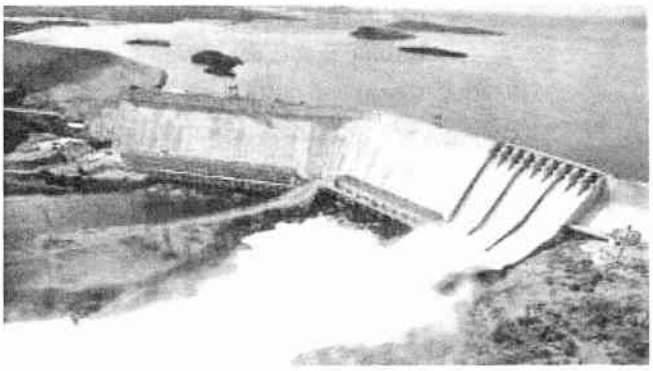

Figure 12

1.4.4.7. Wind - Most wind turbines generate electricity from naturally occurring wind. Solar updraft towers use wind that is artificially produced inside the chimney by heating it with sunlight, and are more properly seen as forms of solar thermal energy

Figure 13

1.4.4.8. Photovoltaics (PV): A method of generating electrical power by converting solar radiation into direct current electricity using semiconductors that exhibit the photovoltaic effect. Photovoltaic power generation employs solar panels comprising a number of cells containing a photovoltaic material. Materials presently used for photovoltaics include monocrystalline silicon, polycrystalline silicon.

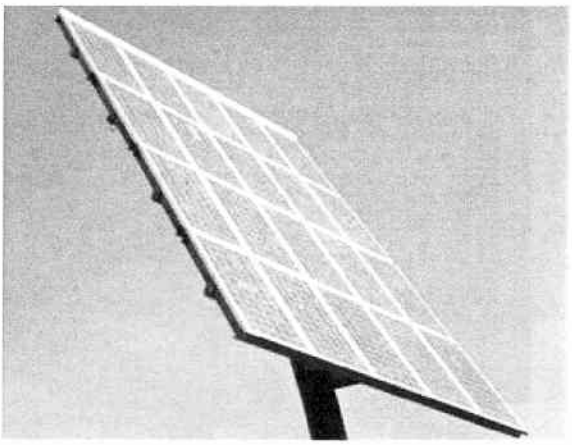

Figure 14

2. Essential Elements of Fire Initiation:

There is an ancient maxim that for a fire to occur there must be three essential elements: (1) a source of heat or energy, (2) air or oxygen, and (3) fuel.

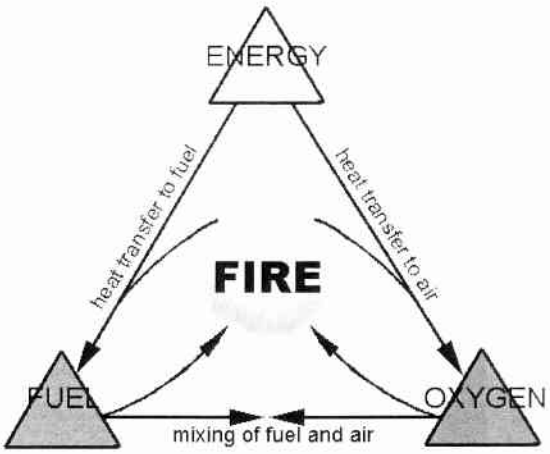

Figure 15

In an electrical fire, electricity provides the source of heat. The other two ingredients must also be present, and the availability of fuel and air will influence the direction in which the fire spreads and the degree to which it grows.

Electricity can start a fire only if there is enough electricity to raise the temperature of the fuel to the point where it begins to burn.

An indication of how much power is needed to start a fire is given by incandescent light bulbs. Some night lights use seven watt bulbs. The filament in those bulbs obviously glows white hot, or close to it, in order to provide the light output. I believe such a filament generates sufficient heat to ignite many plastics.

Many electronic circuits operate at 12 volts. This suggests that only about 0.6 amperes would be needed to start a fire in an electric circuit at this voltage. (12 volts x 0.6 amps = 7.2 watts.) Perhaps a fire could be started with much less power. But this at any rate gives an indication of how low the electrical power can be, and still have the possibility of starting a fire. If greater power is available, a fire is certainly possible.

2.1. "Electrical Activity"

In the well-known equation ENERGY + FUEL + AIR = FIRE, electricity can provide the necessary heat (ENERGY). There are various ways in which electricity can do this, but three predominate in fire initiation. These are:

A. **Resistance heating**
B. **Arcing**
C. **Arc tracking**

A. Resistance heating:

When electricity flows through any material, heat is always generated, and the heat that is generated is always equal to the square of the current times the resistance of the material. We can write this in an equation form as $W = I^2R$. The power or energy that appears is HEAT, measured in watts, is the current

squared times the resistance. This is true in any circuit.

When electric current is passed through a resistance, heat is generated, and this is the basis of electric heating elements in a variety of appliances. These are designed to produce heat and can easily cause a fire if a fuel in some way comes in contact with the heating element.

Resistance heating in "Wires and appliances":

The heating of conductors used to carry current is negligible under ordinary circumstances.

Many conductors and appliances have a temperature rating recommended by the manufacturer to be the maximum the device can safely withstand. Use above this temperature may result in degradation and fire hazard.

Overheating can be defined as the permanent destructive heating that has potential to cause fire. Overheating degrades the insulation, conductor, surroundings materials or all three. Overheating causes can be separated into three categories:

i. **Excessive current**
ii. **Poor Connection**
iii. **Induction (rarely seen in non industrial applications)**

2.1.1.Overheating by excessive current.

An excessive current can occur due to poor design, overload conditions, surge currents, short circuit, fault to ground, etc. For instance, a 20A fuse used instead of 15 A size is a 33% overprotection, this means the conductors designed to carry only 15A could be sustain an excessive current without protection.
(Picture- Fire caused by a wire used as fused)

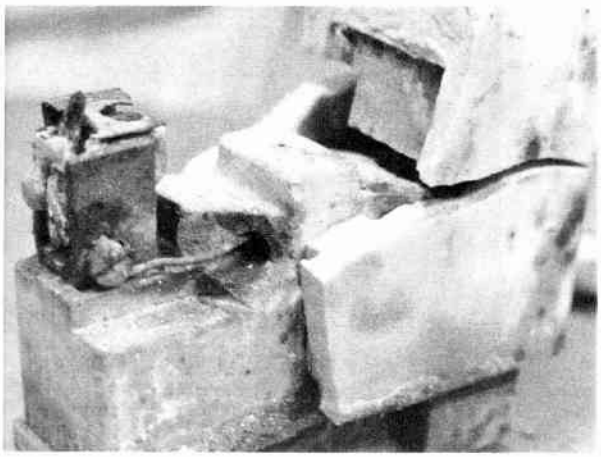

Figure 16

2.1.2.Overheating by poor connection.

When current tries to pass through a poor or loose connection (one with high resistance), it can generate heat. In this case the heat and its effects on nearby materials will be localised around the poor connections. A good example of such a failure is where a wire is wrapped around a screw terminal. (Picture- Fire in Dishwasher caused by loose connection in the circuit board)

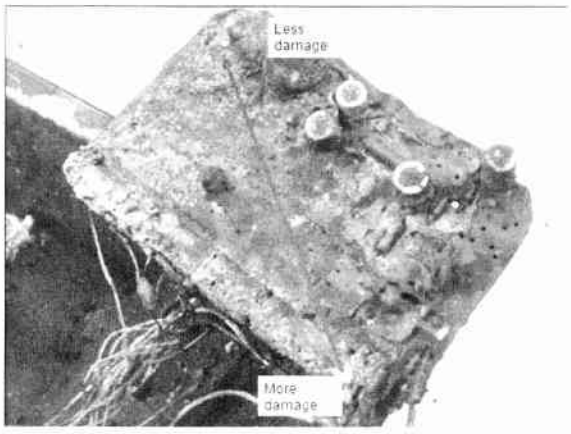

Figure 17a

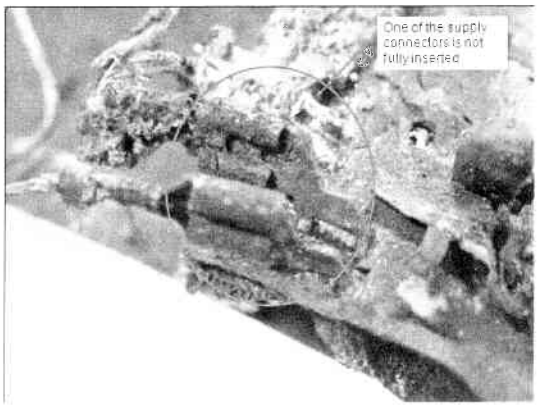

Figure 17b

2.1.3.Induction

Electric motors and transformers have a similarity in that they contain magnet wire that is wound on an iron core. Both can overheat from excessive current flow, and this excess can cause insulation destruction, which, in absence of proper overload protection, is capable of causing ignition.

The picture below shows thermal deterioration of the insulation in all of the phases of the winding typically is caused by load demands exceeding the motor rating. Note: Under or over-voltage, exceeding AS/NZS standards, will result in the same type of insulation deterioration.

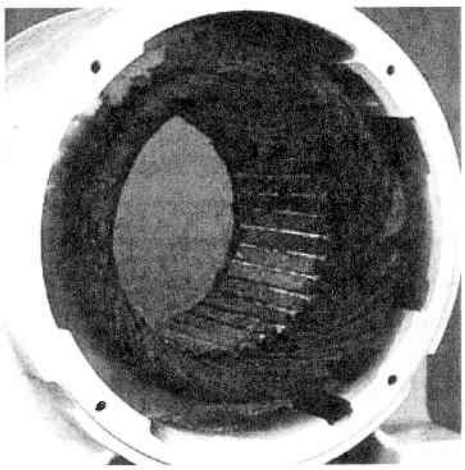

Figure 18

B. Arcing

Arcing is considered by many to be the chief form of electrical initiation of fires. While there is no doubt that arcing can start a fire, it is more often the result of a fire than the initiator of a fire.

Extremely high temperatures can be developed in arcs, depending on the size of the arc, which is influenced by the circuit voltage and current capacity.

Probably the major reason why arcing does not cause more fires is because arcing cannot occur at household voltages unless the conductors are touched and separated, this occurs during "Switching".

Arcing is frequently the result of a fire. A fire will burn the insulation off wires, allowing them to touch and separate, causing an arc. Arcing will also result when a wire carrying a current breaks, and under this circumstance beads of copper will usually form on the broken ends of the wires.

It is generally not difficult to find evidence of a serious arc. A high-current sustained arc will vaporize any metal, so that portions of the metal simply disappear. The edges of the remaining metal will be rough, with obvious signs of melting, and there will be droplets of metal scattered about widely. In fact, scattered droplets of metal are one of the more obvious signs of arcing.

Where less severe arcing occurs, it may be much more difficult to detect and may still generate sufficient heat to cause a fire. Careful examination with a magnifying lens or low-power microscope may be necessary. Arcing in which the circuit protection device immediately opened, or in circuits with limited current capacity, will leave small,

distinct pits in metal surfaces to which there was arcing.

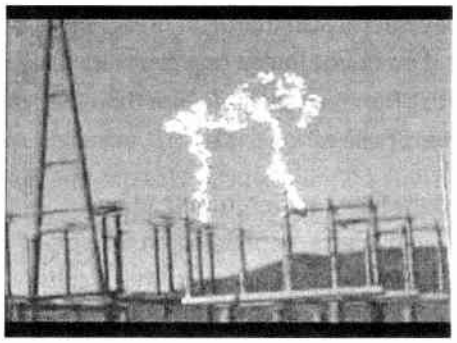

Figure 19

C. Arc Tracking

Arc tracking occurs when a piece of material that is supposed to be an insulator begins to conduct electricity. Even insulators will conduct some small amount of current when a voltage is applied to them, but it is extremely small.

The arc track is the path followed by the current across the surface of the insulation. If this phenomenon is reaching its final stages, just prior to the initiation of fire, and it is viewed in the dark, a line of scintillating points of light can be seen along the path of conduction.

The arc track does eventually produce enough heat to cause flammable gases to be emitted by plastic insulation, and the heat of the arc track is sufficient to ignite these gases. At first there may be just a brief puff of flame that promptly self-extinguishes because all the gases are consumed. However, as the process continues more gases are emitted. When a point is reached where a steady gas flame is generated, we have conditions that can easily lead to a substantial fire.

The sequence of picture below shows the remains of a kettle after a fire initiated by arc tracking.

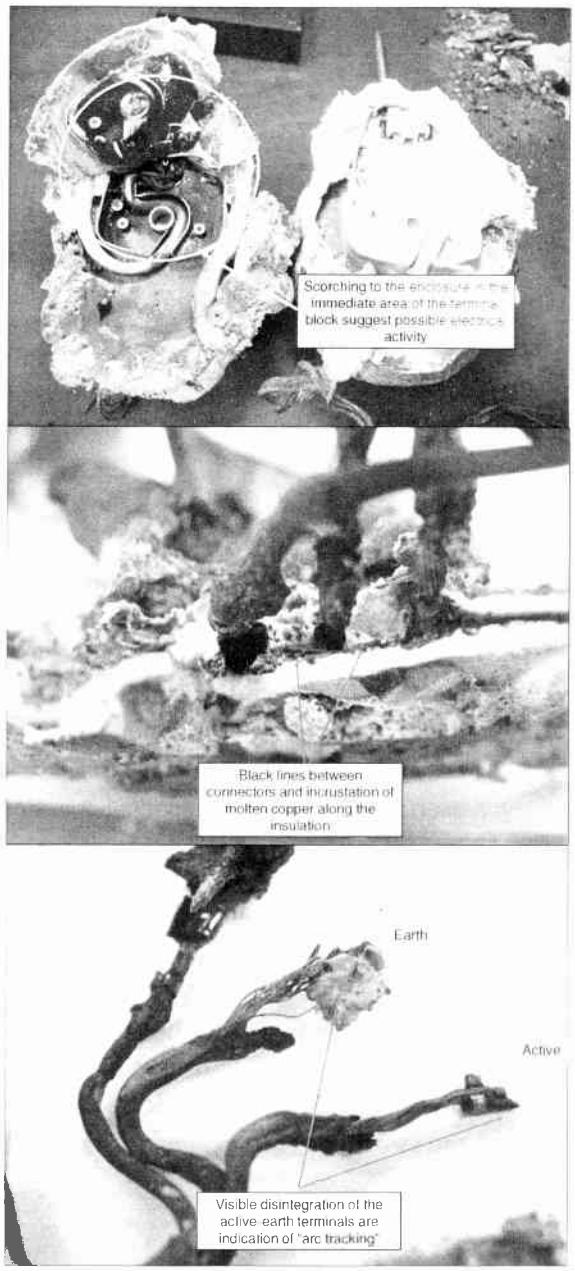

Figure 20, 21, 22

The paper above was prepared by Marlon Bran, Compliance Engineer, SAA Approvals Pty. Ltd. for the seminar on "Electrical Fire Investigations", held by the Queensland Association on 28 October, 2010.

Marlon has been working in Australia for the past 8 years, mainly in the area of Safety Certification of electrical equipment and Education of Electrical Engineers.

NSW ASSOCIATION OF FIRE INVESTIGATORS INC
(IAAI CHAPTER No.47)

Web: **www.nswafi.com.au**

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President's Report

Welcome everyone to another new year. I hope that Christmas and the New Year celebrations were not too painful for you. The New South Wales Committee are looking at another great year for our members with new educations planned.

On the 3rd March 2011 at the Ryde Eastwood Leagues Club, we will be holding our first Education Night for the year and will be slightly different from what we have done in the past. This time we will be having 3 speakers, 2 from the NSW Rural Fire Service and 1 from Fire and Rescue NSW speaking about case studies. They will go for approximately 20 minutes each with a short time allocated for questions. Should be an interesting night and if the response is good, we will probably hold another one throughout the year. If you have any topics you wish to be covered on our Education Nights, please drop me an email and we will see what we can do.

Could all members of NSW Association of Fire Investigators Inc please send me an email with their contact details which will include Home Address, Postal Address, Phone Numbers and more importantly a current email address as we now have a new website and the providers will have an area in the website to so that we can automatically remind of renewals, upcoming events etc.

I would like to personally like to thank Terri and Jeff from WSI who have made our website more professional and user friendly and this will have a members only area, so this is one of the reasons for correct details.

I welcome all members and even non-members to visit our website: www.nswafi.com.au and have a look, you may even wish to purchase some merchandise.

I send a hearty welcome to the following new members of NSWAFI: Gian-Luca Bertoldi (FRNSW), Samuel Khoudair (Insurance Investigator), Melanie Staples (NSWP), Mark Pellegrino (Investigator) and David Tandy (NSWRFS).

Don't forget to pencil in 2012 for the National Conference to be held in Victoria.

Please be safe and look forward to seeing you at one of our Education Nights.

Mark Black
NSW Association President

Victorian Association of Fire Investigators Inc. Including Tasmania (VAFI)

Website www.vicfire.com

VALE – FRED McCOACH 3 Dec 10

The President and Committee of the Association sadly announce the death on 3 Dec 10 of Frederick (Fred) McCoach, a foundation member, Past President and a Life Member of Chapter 58 (Victoria) of the International Association of Arson Investigators.

In 1990 as the Officer in Charge of the Victoria Police Arson Squad, Fred McCoach together with Inspector Gary Martin, then Officer in Charge of the MFB Fire Investigation Unit, was instrumental in establishing Chapter 58, which went on to become the foundation of VAFI.

As a Police Officer, Fire Investigator and mentor, Fred McCoach was the complete professional. He was dedicated to ensuring that fire investigators within the police and fire services in the State of Victoria were provided with the most up-to-date information and training so that they were operating with a coordinated approach toward the science and art of fire investigation, and at the highest possible standard for the greater benefit of the community.

Many of us will remember with warm affection, Fred's assistance in matters fire, terse commentary if we strayed, and above all, his friendship.

Fred is survived by his wife, 4 children and several grandchildren.

He will be sadly missed.

National Conference 2012

VAFI has established a sub-committee to plan for and organize the National Fire Investigation Conference 2012 to be held in Melbourne. The members of the sub-committee, which will report to the VAFI committee, are

Brian Neal - CFA (retired)
Karen Ireland - VicPol FSC
Alex Conway - MFB FIA Unit
Colin Fowler - CFA
Belinda Webb - Insurance

Planning will commence next month, and details will be announced in Firepoint.

VAFI Membership

VAFI is going from strength to strength. Membership now stands at about…

CFA	75
MFB	40
Police	30
Insurance	19
Private Examiners	11
Govt incl ESV and Tas	10
Private	4

We now have members throughout Victoria and Tasmania, in WA, New Zealand, and Singapore.

Email Addresses

The Committee is calling for all member email addresses (if available) with a view to emailing out notices and other news rather than posting them. This cost saving measure if successful will ease the burden on those who handle the postage. It is appreciated that not all members may have an email address. If not please telephone Cmdr Ian Hunter on +61 (03) 9420 3882 and let him know.

If you have access to an email address, please notify him at IHunter@mfb.vic.gov.au so he can update our database. He is looking forward to hearing from all members either way.

VAFI Scholarship

Applications for The VAFI Scholarship (up to $1000.00) are open for 2011. Entries close on 31 May 11. All members interested in undertaking studies relevant to Fire Investigation are invited to send in their submissions for consideration. The application form is available on the VAFI website at www.vicfire.com.

Applications must be in writing and be accompanied by a short submission outlining the proposed studies and what the member hopes to achieve. The Committee will assess the applications during June, and the successful candidate will be notified.

Training

The next training night will happen before the issue of Firepoint and will occur on 23 Feb 11. Flyers have been sent out to all members. The subject is "Junior Fire Setters – Emerging Trends". The speakers are..

SSO Murray Talbot (MFB)
LFF Geoff Fletcher (MFB)

Look for the report in the next Firepoint.

Animal Rights Activist Sentenced in Arson Case

An animal rights activist who pleaded guilty to setting a Colorado business on fire in April of 2010 has been sentenced to 5 years in federal prison for arson.

Walter Bond was also directed to pay the owners of the leather store and its insurers $1.17 million in restitution. At his sentencing Bond addressed his victims and said that he was not remorseful for his actions and would not be paying them for the damage he inflicted on their property.

The fire destroyed a building owned by the Sheepskin Factory and its contents. Bond is also facing federal charges for allegedly setting fire to another leather store in Salt Lake City Utah and a Restaurant in Sandy, Utah. He claims that his actions are due to his beliefs as an animal rights activist, although U.S. District Attorney John Walsh claims this is not true, as Bond had a history of committing crimes involving fire before he became an activist.

Queensland Chapter

QAFI President's Report

QAFI held its annual general meeting on 17 February 2011. The outgoing president thanked the previous committee for their work during 2010 and noted the excellent support of all in the association and associated industries for the 2010 seminar on electrical causes of fire. The president thanked the QAFI sponsor **SAA APPROVALS** for their support during 2010.

The president noted the successful activities of the QAFI – MARCH breakfast seminar on identity fraud. JUNE morning seminar on case studies. OCTOBER major seminar on electrical fires, including solar photovoltaic (PV) system hazards and live burns highlighting ways electrical equipment can be an ignition source. The day was a big success, well supported by members, industry and sponsors **AUSTRALEC SWITCHGEAR** and **QEC GLOBAL**.

The work of the management committee of 2010 (**Bernie Nunn, Rowley Ahearn, Gary Nash, Des Ede, Andy Rowan, Gordon Hemphrey, Danny Carson and Brian Richardson** and later co-opted assistance of **Peter Unwin**) along with valuable input from honorary solicitor **Quentin Owen** and the work of **Tony Libke** and his team has put the QAFI into a strong position.

Committee members Rowley Ahern and Danny Carson indicated their intention to retire from committee work and their contributions over the years, and not just for 2010, were noted and appreciated.

It was noted the new rules of association approved at the last AGM have been registered with the Department of Fair Trading and thanks was expressed to Quentin Owen of law firm **COOPER GRACE WARD** and his team for the assistance with
this issue.

The website had major work, conducted by **Des Ede,** and a new version of the site was unveiled in 2010 (www.qafi.com.au). The QAFI constitution is on the website for easy access by all members.

The QAFI also appreciates the strong support of the Queensland Fire and Rescue Service (QFRS) and through Bernie Nunn and his team at the Fire Investigation Unit organised a donation to the QFRS preferred charity the Queensland Royal Woman's Hospital Burns Unit.

The new 2011 committee is:

President – Brian Richardson
Treasurer – Gary Nash
Secretary – Tony Libke

Committee:
Bernie Nunn
Des Ede
Andy Rowan
Gordon Hemphrey
Peter Unwin
Darren Smith(co-opted, non voting)

L to R: Superintendent Peter Shillington, RBWH Foundation CEO Peter Treseder AM, Brian Richardson (QAFI President), Chief Superintendent Neil Reid, Inspector Bernard Nunn (QAFI Committee).

The 2011 committee met briefly after the AGM and Quentin Owen accepted the position of Honorary Solicitor.

The new committee anticipates more training days of case studies (dates to be announced) and a **major conference in September** that will again include live burn demonstrations to allow members to gain further experience in ignition sources and burn patterns in fire investigation.

Key Witness in USArson Murder Trial Rewarded

A witness in the 2009 arson-murder trial of Rayond Lee Oyler has been given a $50,000 reward for providing information and testimony in the case.

The Riverside County Board of Supervisors unanimously approved a motion to award the witness half of a $100.000 reward that was offered during the October 26, 2006 wildfire that killed five U.S. Forest Service firefighters and destroyed 39 homes in Southern California.

Subsequently, Oyler was arrested, charged and convicted of arson and murder and sentenced to death. Prosecutors credit the witness' testimony as a key part of Oyler's conviction. The witness filed the claim for the reward after his 2009 testimony.

US K9 Handlers and the Media

The FireK9.org Annual Detection Conference provided a special demonstration regarding Canine Handlers and the media with speakers educating handlers on "What to Say and How to Say It" when giving on-camera interviews.

"We want to get a correct story out. We want to get what the media wants, and we also want to protect the canine and the canine handler and make sure that they don't say something silly.

People get really nervous in front of a camera, and it's real easy to say silly stuff that doesn't even make a whole lot of sense. And then after you go back and look at the tape you're like, 'Holy smokes! Did I say that?', " explained Troy Morrison, President of FireK9.org.

Mark Campbell, Owner of Professional K9 Detection Services and a conference attendee said, "it is very important to know what you're saying and how you're saying it because I would then listen to the media clips and I would say 'I never said that.' Because it was chopped up.

But being out of the fire service now for 10 years, you tend to forget. And it's really easy on a scene for someone to come up and start asking you, and then I kind of have to get back into the routine of being very careful what I say, being polite and courteous, but just making sure that I don't contaminate the overall investigations."

Tips given by Battalion Chief Nick Schuler with CAL FIRE/San Diego County Fire Authority included:

- Allow the media to ask the questions they want, and then give them the message that you want conveyed to the viewing audience.

- Handlers should not be completely off-topic, but should always make sure that what they say to reporters is giving them a positive outlook.

Battalion Chief Schuler added, "I bet you could say 'Unfortunately, we had one person killed, but due to the quick response from the fire department, we were able to save the other four.'

So you've taken something that is an awful, unfortunate incident, but you've shown what it is. Or, 'Fortunately, no one was killed because of active smoke detectors,' or whatever that message is."

Troy Morrison claimed that the main goal of this demonstration is to get handlers prepared by actually meeting up with the news media and working with them before "the big story hits."

"So, it's like talking to one of your friends instead of talking to the bad guy on the other side of the camera, or the bad guy that's trying to make my dog look bad, or whatever the story might be.

We encourage education, we encourage networking, we encourage getting out the good stories. People love dogs and it's a great story.

Today's world has a lot of negative stories. At the end of every news story, there should be a nice story about a dog," added Morrison.