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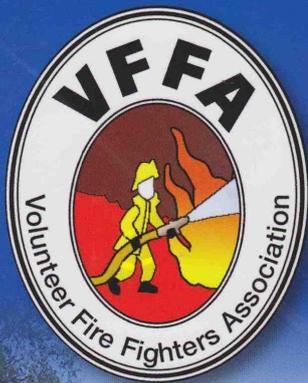
the

Winter 2011

volunteer fire fighter

Volume 3 No.1

Official magazine of the Volunteer Fire Fighters Association



How Can We Protect Residents From Bushfires?

Car Fires – The Hidden Dangers

Volunteers And Occupational Health and Safety

Volunteer Firefighters Don't Just Fight Fires

The Combo Con

RFS Volunteer Fire Fighter Discipline

Procedures In Need Of Reform



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www.theWFSF.org

THE COMBO CON

Combination Ionization/Photoelectric Smoke Alarms Why the International Association of Fire Chiefs said, “No.”

“What about the use of a combination photoelectric/ionization detector?
. . .What is to be gained from adding an ionization element to a photoelectric
element? **In the subcommittee’s opinion, nothing.**”

International Association of Fire Chiefs, ‘Residential Smoke Alarm Report’, Sept, 1980

**“When you mix clear water with muddy
water - you still have muddy water.”**



Chief Marc McGinn

Albany Fire Department, Albany, California, USA
(Albany passed photoelectric-only legislation, July, 2010)



Special World Fire Safety Foundation Report
for the Volunteer Fire Fighters Association.

This report, with live Internet links, is at:

www.theWFSF.org/vffa

In 1980 the International Association of Fire Chiefs (IAFC) warned ionization smoke alarms were not safe and the IAFC could ONLY recommend the use of photoelectric smoke alarms. Their research proved photoelectric alarms performed adequately in BOTH the flaming AND smouldering stages of fire.

They also warned against combining ionization and photoelectric sensors into a single combination alarm due to increased cost and encumbering a perfectly adequate photoelectric sensor with the unacceptable

false alarm problem with ionization sensors.

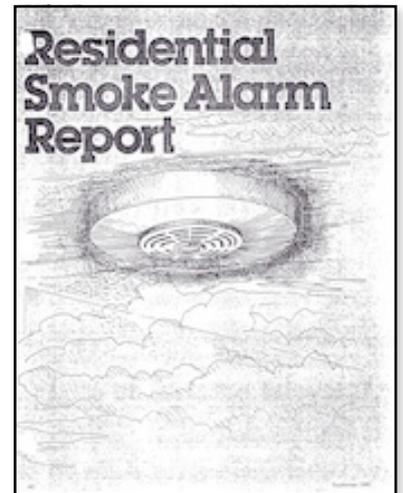
However, as the truth about the inherent defects in ionization technology began to finally emerge, the fire industry, who have failed to warn the public of the deadly, life-threatening problems with ionization smoke alarms for over three decades, offered their flawed combination smoke alarm compromise.

Combination ionization/photoelectric smoke alarms may, on the surface, sound like a good idea. This report explains why they are not.

Why Are Firefighters and the Public STILL Being Told in the Media to Install 'Working' Instead of Photoelectric Smoke Alarms?

September, 1980

The International Association of Fire Chief's (IAFC)
'Residential Smoke Alarm Report'



Why the IAFC said "No" to combination alarms

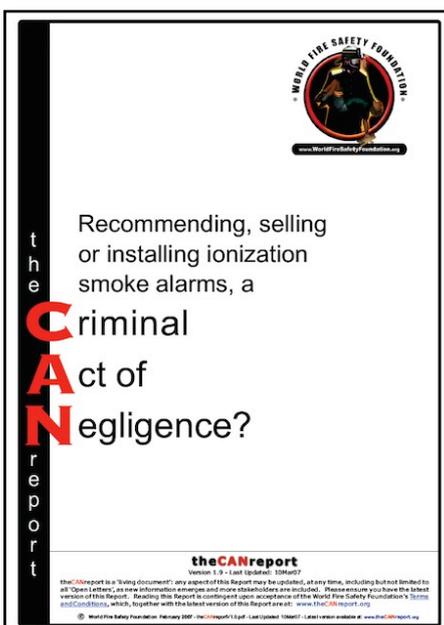
*"Therefore, because of the present state-of-the-art in detecting smoke, the Subcommittee on Smoke Detection can take no other course but to recommend the installation of photoelectric detectors . . .
What about the use of a combination photoelectric/ionization detector? . . .
What is to be gained from adding an ionization element to a photoelectric element? In the subcommittees opinion, nothing."*

More Information:

- The IAFC's 1980 'Residential Smoke Alarm Report': www.theWFSF.org/iafc
- The Official Position of all Australian and New Zealand Fire Brigades:

"That all residential accommodation be fitted with photoelectric smoke alarms."

['Position on Smoke Alarms in Residential Accommodation'](#), AFAC, June, 2006, page 3



Recommending, selling or installing ionization smoke alarms, a

Criminal
Act of
Negligence?

theCANreport

Version 1.0 - Last updated: 01/06/07

The CAN Report - Feb, 2006
Documentary Evidence about
Ionization Smoke Alarms Defects

Recommending Selling or Installing Ionization Smoke Alarms, A Criminal Act of Negligence?

The Australasian Fire & Emergency Services Authorities Council (AFAC) warned about ionization smoke alarms in June, 2006, and:

- recommended all homes be fitted with **photoelectric** smoke alarms, and
- explained why combo ion/photo alarms have only a "marginal" benefit.

The public has NOT been warned about the defects with ionization and combination ionization/photoelectric alarms despite AFAC's official position:

"Ionization smoke alarms may not operate in time to alert occupants early enough to escape from smouldering fires."

['Position on Smoke Alarms in Residential Accommodation'](#), AFAC, June, 2006, page 3

The CAN Report

Eighty eight CAN reports were sent by registered mail to Fire Industry, Safety Professionals and Government Agencies throughout Australia, Canada, New Zealand and the USA exposing the truth about "**deadly**" ionization smoke alarms.

published by The World Fire Safety Foundation, Feb, 2007

www.theWFSF.org/can

USA - Legislating Against Ionization Smoke Alarm Technology:

An increasing number of US states and cities and European countries have legislated to mandate photoelectric smoke alarms: www.theWFSF.org/legislation



Here are some of the reasons against combination ionization/photoelectric smoke alarms:

1. False Alarms

Ionization technology has an unacceptably high false alarm rate. Studies show that over 20% of consumers disconnect them.

The world's largest smoke alarm manufacturer, BRK, supports legislation to mandate the use of stand-alone photoelectric smoke alarms because of the high false alarm rate with ionization alarms:

www.theWFSF.org/brk

For in-depth research about the ionization smoke alarm disconnection problem, see the 'Fathers For Fire Safety' video and presentation notes (slides 31 - 38) presented at the University of Cincinnati's Smoke Alarm Symposium, 28 June, 2010:

www.theWFSF.org/uc7



[Father For Fire Safety Presentation](#)

explains unacceptable disconnection problem due to excessive false alarms

2. Increased Cost

Combination alarms come at an increased cost. There is a direct correlation between at-risk groups from fire deaths and low income. Therefore, those on a limited budget may not be able to protect as many rooms in any given home with combination alarms. This reason was also [cited by the International of Fire Chiefs \(IAFC\)](#).

3. Confusion: 'And' Gate, 'Or' Gate, or 'Algorithm'?

The May 2009 study by the Worcester Polytechnic Institute, Massachusetts, USA, including commentary by AFAC, exposed critical drawbacks with combination ionization/photoelectric smoke alarms:

*"However, combination units also have their drawbacks. Detectors can be combined using either an "AND" gate or an "OR" gate (Ian Thomas Interview, Appendix L). An OR gate will sound an alarm if the unit receives a signal from either one of the detectors. This means that the unit will sound at the earliest possible time, but also that the unit is susceptible to the most nuisance alarms due to the cumulative weaknesses of each detector. **A unit designed with an AND gate will not sound until it receives a signal from both detectors.**"*

www.theWFSF.org/wpi

4. Environmental - AM241



Ionization smoke alarms contain Americium 241, a highly radioactive isotope. Manufacturers argue only a 'small' amount of AM241 is contained within their alarms.

However, if more than 10 ionization alarms are being disposed of at any one time why are they not allowed to go into landfill?



Ionization Smoke Alarm
Radioactivity Warning/Disposal Sticker

If ionization smoke alarms are subjected to a high heat fire the AM241 may be released and inhaled by fire fighters or members of the public. Some argue this is a potential health risk.

How long does AM241 remain radioactive?

The AM241 in an ionization smoke alarm has a half-life (i.e. how long it takes for a substance undergoing decay to decrease its level of radioactivity by half), of 432.2 years. The amount of AM241 declines slowly as it decays into neptunium-237 which has a half life of over 2.14 million years. Photoelectric smoke alarms contain no radioactive material and pose no health risk.

Note: This report, with live Internet links, is at: www.theWFSF.org/vffa

Public Health Association of Australia - Radiation Concerns

On March 23, 2011, Dr Michael Fonda from the Northern Territory branch of the Public Health Association of Australia said the Northern Territory Government should consider legislating for the use of non-radioactive (i.e. photoelectric) smoke alarms:

"In an age where we have lots of exposure to radiation, and this is something that we can't really measure until years down the line and potentially generations down the line, I think there is a real cause for concern with continued exposure to low-level radioactivity."

['Doctors Push For Radioactive-Free Smoke Alarms'](#)

Dr Michael Fonda, 7 News, 23 March, 2011



Dr Michael Fonda

5. Compulsory in Commercial Buildings

All new commercial buildings in Australia must have photoelectric alarms or detectors fitted in all sleeping areas and exit paths to which the standard applies (AS1670.1 April, 2004). Photoelectric smoke detectors are fitted in most commercial buildings in the USA.

Why provide effective, environmentally safe, fire protection in commercial buildings and not in our homes? **Note:** Standards Australia has acknowledged Australia's Smoke Alarm Standard (AS3786) is flawed and is in the process of correcting the flawed standard: www.theWFSF.org/sa

6. "You Have Two Types of Fire so You Need Two Types of Smoke Alarms" - True or False?

Since the mid 70's fire authorities have almost exclusively promoted ionization smoke alarms. In September 1980, the IAFC published the 'Residential Smoke Alarm Report'. This report warned "lives may be in danger" and "The subcommittee can take no other course but to recommend the installation of photoelectric smoke detectors." In June 2006, the Chief of Barre City Fire Department in Vermont, USA, lost his niece and her four children in a home fitted with hard-wired, working ionization smoke alarms.

"You don't know what kind of fire you're going to have, a fast burning fire which ionizations prefer or a smouldering smoke fire which photoelectric's better."

UL Statement - 2nd reading of Albany's Smoke Alarm Ordinance, July 19, 2010

www.TheWFSF.org/afdo



Howard Hopper
Underwriters Laboratories

After this fire the truth about ionization alarms began to finally emerge. So how could the smoke alarm industry hide the fact it promoted defective ionization smoke alarms for decades and tens of thousands of people had been needlessly maimed or killed and billions of dollars of property had been destroyed?

By adding the flawed (ionization) technology with the effective (photoelectric) technology no one would know about the deadly defects with ionization alarms. That's why the claim, "There are two types of fire so you need two types of smoke alarms" is so insidious. And yes - on the surface it does sounds impressive, it even appears to make sense. But is this claim valid? Does this claim have integrity?

No. Here's the simple, easy to understand reason why this claim is flawed and designed to promote the combination ionization/photoelectric smoke alarm compromise.

There are often two **stages** of fire, smouldering and flaming, and you **MUST** detect fire in the smouldering **stage**, before it breaks into the flaming **stage** - because once fire breaks into flame it is almost always far too late.

More information: www.TheComboCon.com

UNIVERSITY OF Cincinnati College of Engineering & Applied Sciences

Smoke Detector Seminar

"Is it possible that the recommendation for dual or for both is maybe a compromise to transition away from ionization detectors?"

Captain Clayton L. James
Newport Fire Department, Kentucky, USA

www.theWFSF.org/uc9

Capt. Clayton James

7. "Muddying the Water"

The Combo Con

"If you tell the public to buy photoelectric or combination ionization/photoelectric smoke alarms because "they're better", most people will do absolutely nothing. Why should they change? Their ionization smoke alarms go off when they open the oven or cook toast, so almost everyone thinks they're safe.



Adrian Butler
Chairman, WFSF, Former Firefighter

The public must be given a clear, no-compromise message:

1. Stand-alone ionization smoke alarms are "[deadly](#)" because they do not safely detect smouldering fires, and;
2. Ionization technology has a documented, [unacceptably high false alarm rate](#). Why encumber a perfectly adequate photoelectric smoke alarm with an ionization sensor?"

Albany Fire Department's No-Compromise Stand on Combo Alarms



Chief Marc McGinn

"When you mix clear water with muddy water - you still have muddy water."

Chief Marc McGinn
Albany Fire Department, California, USA



Californian Government Commendation

April, 2011

See Chief McGinn's commendation for his no-compromise stand in eliminating ionization technology in all residential homes:

www.SmokeAlarmRecall.org/marcmcginn



All Albany Fire Department Appliances carry this Warning about Ionization Smoke Alarms

Note: This report, with live Internet links, is at: www.theWFSF.org/vffa

The Combo Con - Volunteer Fire Fighter Magazine - Winter, 2011

Latest copy with live Internet links: at: www.theWFSF.org Complete, nine page article at: www.theWFSF.org/combocon