

## 3. The Report

### Can Australian & US Smoke Alarm Standards be Trusted?



**Chief Jay Fleming**

*"I think the ionization alarm is responsible for as many as 10,000 deaths since 1990."*

Chief Jay Fleming, Boston Fire Department  
Massachusetts, USA. Dec 2007



*"Using better (photoelectric) smoke alarms will drastically reduce the loss of life among citizens and fire fighters."*

Harold Schaitberger, President, The International Association of Fire Fighters, U.S.A. October, 2008  
quoted from 'When Standards are Flawed Who Can You Trust?', see page 5



**Harold Schaitberger**



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document - see page 4

1. The Story

2. The Speech

3. The Report

4. The Open Letters

# SUMMARY

*“But we have to trust the Standards.”*

For the better half of a decade almost no one believed a word. The public said; *“Are you trying to tell me my smoke alarms are defective? Mine go off every time I burn the toast. They have to pass strict government standards - they must be OK!”*

Authorities insisted; *“But we have to trust the Standards.”* Standards keep us safe, they are the final authority - not our our local council and not even our fire departments.

We can rightfully be proud of our firefighters - they risk their lives to make ours safer. However, their role is to *enforce* the Standards. But what if the Standards are flawed? This report explains how the ionization type of smoke alarm in hundreds of millions of homes around the world should never have been allowed to pass any of the safety Standards.

Have flawed Standards compromised your family’s safety? Is this a known problem and if so for how long . . . and what is being done? You’re about to find out - and after you do, install photoelectric smoke alarms in your home, and please . . . help spread the word.

The Report   A Must-Read for EVERY Firefighter	
<p><b>For the Public</b></p> <p><b>1 The Story</b></p> <p><b>‘Flawed’ Detectors Pass The Test</b> The Sun-Herald Sydney, Australia 16 June, 2013</p> 	<p><b>For Firefighters, Council Members, Legislators, Litigators and the Media</b></p> <p><b>3 The Report</b></p> <p>World Fire Safety Foundation Report Exposing Flawed Smoke Alarm Standards 20 May, 2013</p> 
<p><b>2 The Speech</b></p> <p><b>“Are Ionisation Smoke Alarms Defective?”</b> Speech to the NSW Parliament, Australia 20 June, 2013</p>  <p>Mr Chris Gulaptis, MP</p>	<p><b>4 The Open Letters</b></p> <p>Open Letters to UTC &amp; CSIRO Exposing Flawed Smoke Alarm Standards May, 2009 ~ June, 2013</p> 

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Page 5: Chief McGinn (17s) [Full TV Report](#) (2m:11s)

Page 6: Mr Isaac (64s) [Extended Preview](#) (3m:24s)

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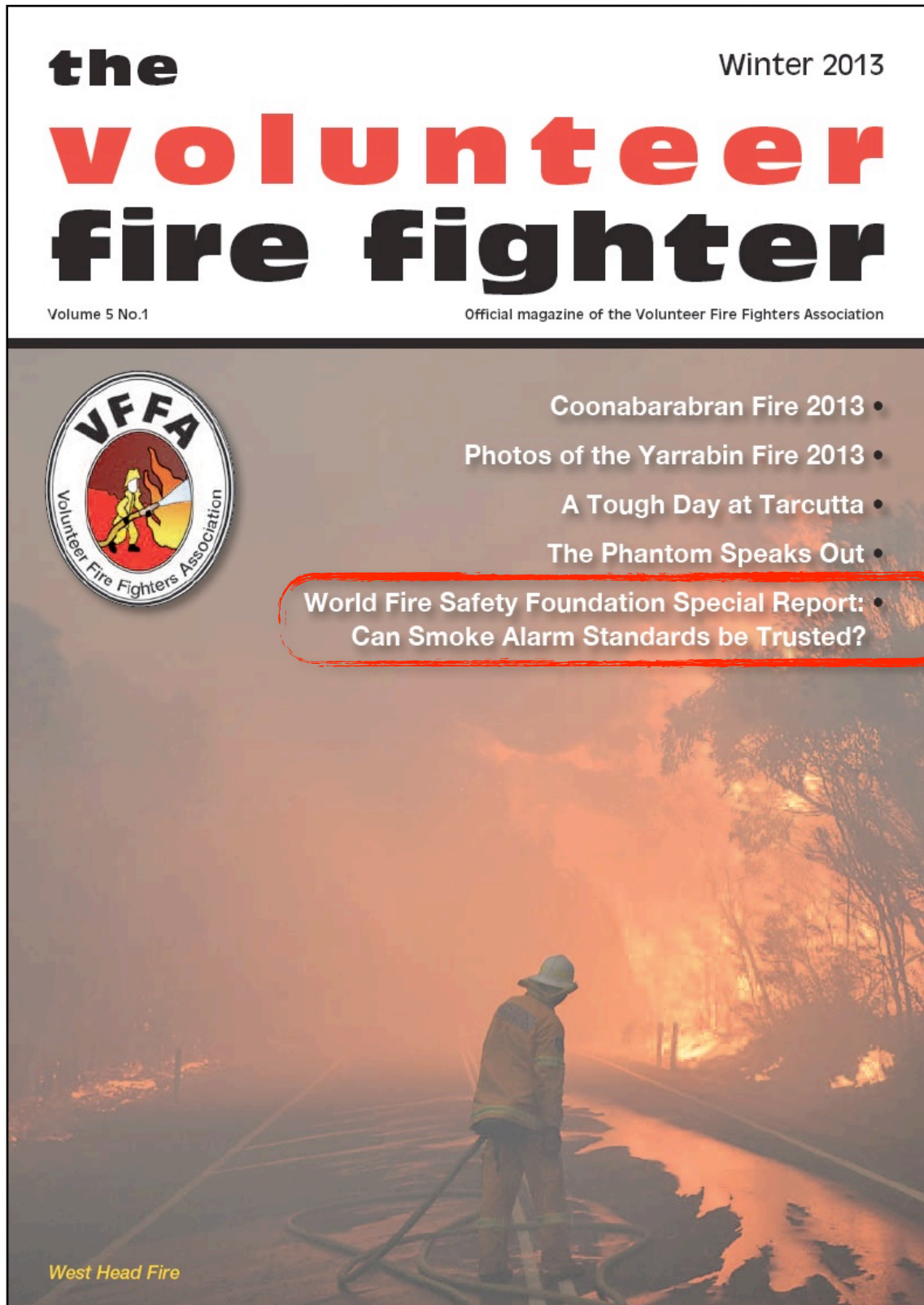


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## Can Australian and US Smoke Alarm Standards be Trusted? WFSF Special Report - May, 2013 | Volunteer Fire Fighters Association Magazine

The following World Fire Safety Foundation special report has been extracted from the Winter (May) 2013 edition of Australia's Volunteer Fire Fighter Association's (VFFA) magazine. Minor graphical changes have been made to accommodate addition of multimedia buttons and Internet links.

The World Fire Safety Foundation thanks the VFFA for permission to reproduce this report.





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**Darren Curtis**

Senior Reporter, Channel 9 News  
Brisbane, Australia. May 2011

**“...the *ionization* alarms have failed\* Australian Standards since 1993.”**

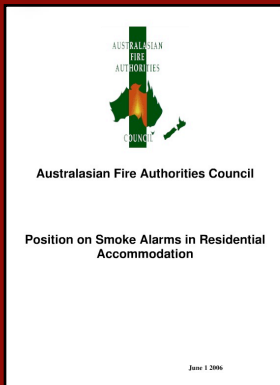
\*Unable to pass CSIRO scientific tests for visible smoke.

In May, 2011 a stunning statement was made about the ionization type of smoke alarm installed in hundreds of millions of homes around the world.

They have been unable to pass Australian Government (CSIRO) scientific tests for visible smoke since 1993.

Is this the catalyst for a global ban and recall?

### Australian & N.Z. Fire Brigades Make a Stand



#### AFAC's Official Position

*“That all residential accommodation be fitted with **photoelectric** smoke alarms.”*

Australasian Fire & Emergency Service Authorities Council's (AFAC) official position on smoke alarms. June 2006

AFAC is the peak representative body of all Australian & New Zealand Fire Brigades:

[www.theWFSF.org/afac](http://www.theWFSF.org/afac)



## Can Australian and US Smoke Alarm Standards be Trusted?

A Special World Fire Safety Foundation Report

### Australia's Double Standard

**Note: There are two completely different types of smoke alarms:**

Ionization and Photoelectric - both can be either battery or hard-wired.

- The **Ionization** type are in most homes.
- The **Photoelectric** type are in most commercial buildings.

May 2004: Photoelectric alarms made mandatory in new commercial buildings.  
Feb 2006: Discovery made that ionization alarms in most Australian homes do not activate until “*dangerously high*” levels of smoke. Why was the correction to the Australian Smoke Alarm Standard blocked?

(See The C.A.N. Report on page 3).

We frequently turn on lights, fasten our seat belts, hop in elevators and fall sleep at night protected by our smoke alarms - without giving a second thought as to whether these devices are safe. Why should we? Most products carry seals of approval from Government Standards organizations. We trust them. But what happens if a Standard is flawed?

### Standards Approved

From 1993-2000 Karl Westwell and Adrian Butler owned and operated a franchise that installed tens of thousands of ionization smoke alarms in Australian and New Zealand homes.

These alarms carried the seals of Standards Australia and in some cases the world's largest testing agency, America's Underwriters Laboratories (UL). So when customers started complaining their smoke alarms would go off when burning toast but failed to activate in real-world fires, Westwell and Butler investigated. What they discovered shocked them.

### IAFC Warned about Ionization Alarms in 1980

In September 1980 the International Association of Fire Chiefs (IAFC) published their '[Residential Smoke Alarm Report](#)' urging fire chiefs to only recommend photoelectric alarms.



**Chief Jay Fleming**

Boston Fire Department  
Massachusetts, USA. Dec 2007

UL217 Standards Committee Member

**“I think the *ionization* alarm is responsible for as many as 10,000 deaths since 1990.”**

Deadly Smoke Detectors TV series:  
[www.theWFSF.org/cbs](http://www.theWFSF.org/cbs)

They warned ionization alarms; **“... might be so slow to operate in a smoldering fire that lives may be in danger.”**

The IAFC also warned about [combination ionization/photoelectric alarms](#); **“...what is to be gained by adding an ionization element to a good photoelectric element? In the sub-committee's opinion, nothing”** (Page 6, Appendix B).

### UL Testing Questioned

In December 1999 in the Washington Post's exposé, 'How Safe are Products Bearing the UL Mark?' Boston Fire Chief Jay Fleming warned, **“While an alarm may sound in UL's labs, it may not go off in a home...”**

## 'Silent Alarms' Documentary

In January 2000 Canadian TV aired an award-winning documentary, 'Silent Alarms'. This film featured a landmark law suit where US\$16.3M was awarded in punitive damages because the manufacturer, "Failed to disclose the known limitations of the (ionization) detector to the consumer" - even though the manufacturer argued their alarms passed UL's testing standards.

**"But we have to rely on the Standards."**

Because of the large number of customer complaints and after extensive research, Westwell and Butler co-founded the World Fire

Safety Foundation (WFSF) in March 2000. The WFSF's mission is to warn the public and fire fighters about the life-threatening defects inherent in all ionization smoke alarms.

Nevertheless, for six years fire authorities in both the USA and Australia took the position there was nothing wrong with ionization alarms because they passed the Standards.

However, in February 2006, Standards Australia discovered a serious flaw in the Australian Standard. CSIRO data showed ionization alarms were not activating in smoke alarm tests until "dangerously high and totally unacceptable" levels of smoke.

CLICK PLAY



Chief Marc McGinn

Albany Fire Department, CA, USA  
Today Tonight, Australia. June 2011

**"... it's about recall - it's about banning ionization technology and only having the photoelectric technology."**

CLICK LINK to Full Video on Internet - 3min:24sec

## UL & Kidde (UTC) try to Block Photoelectric Legislation

*"I was appalled when I heard Kidde was going to be here and I was appalled when I heard Underwriters Laboratories was going to be here. They are here for one reason. Profits. They want to protect monetary interest . . . we want to protect your kids."*

Dean Dennis, Fathers For Fire Safety, testifying at Albany City Council hearing. June 2010



CLICK LINK to Video on Internet

Dean Dennis

## When Standards are Flawed - Who Can You Trust?

### The Smoke Alarm Manufacturers and Government Agencies who Failed to Warn us for Decades?

OR



### The International Association of Fire Fighters?

(over 300,000 US and Canadian members)

- Do not fight fires or risk their lives.
- Despite empirical scientific evidence proving ionization smoke alarms are unable to respond reliably to the presence of visible smoke, they continue to fail to warn the public.<sup>1</sup>
- Recommend Photoelectric AND Ionization alarms.

- Risk their lives fighting fires.
- Urge changing to photoelectric alarms to; "**drastically reduce the loss of life among citizens and fire fighters.**" The IAFF also warns; "**ionization smoke alarms may not operate in time to alert occupants early enough to escape from smoldering fires.**"
- Recommend ONLY photoelectric smoke alarms.

*"The International Association of Fire Chiefs discovered ionization smoke alarms were dangerously defective in 1980<sup>2</sup>: [www.theWFSF.org/iafc](http://www.theWFSF.org/iafc) Tragically their message was buried. So after decades of failing to warn the public and after thousands of needless deaths, manufacturers and Government agencies now claim (since 2006) there are two types of fires (smoldering and flaming) so you now need two types of smoke alarms<sup>3</sup>.*

*This is misleading, there are not two types of fires. There are stages of a fire. Most fires have a smoldering stage that usually transitions into the flaming stage. Ionization alarms are unreliable in the smoldering stage."*

*Adrian Butler, Chairman, The World Fire Safety Foundation, NSW, Australia, May, 2013*

**Note:** see the IAFF's position above, and the official position of all Australian and New Zealand Fire Brigades (AFAC) on page 1.

<sup>1</sup> See the series of Open Letters where UTC, the world's largest ionization alarm manufacturer has failed to disclose the level of smoke their ionization smoke alarms activate in CSIRO testing to an Australian Member of Parliament: [www.SmokeAlarmWarning.org/utc](http://www.SmokeAlarmWarning.org/utc)

<sup>2</sup> Most Fire Departments today are unaware of the decades of misinformation about ionization alarms and flawed Government Smoke Alarm Standards. However, as they become aware of the facts, an increasing number of Fire Departments are making a stand, e.g.: North East Ohio Fire Prevention Association: [www.NEOFPA.org](http://www.NEOFPA.org) | Queensland Fire & Rescue Service: [www.theWFSF.org/qfrspromo](http://www.theWFSF.org/qfrspromo)

<sup>3</sup> **Types vs Stages:** Fatal fires often have an extended smoldering stage - before the fire bursts into flames Photoelectric alarms are proven reliable for BOTH stages. Ionization alarms have been proven to be defective in the early, smoldering stage of fire. If you can convince consumers there are two types of fire you can sell them two types of alarms. However, if you have two stages of fire you only need ONE alarm - one that will respond reliably to the early smoldering stage AND the flaming stage. This is why the IAFF only recommend stand-alone photoelectric alarms and do NOT recommend combination photoelectric/ionization alarms: [www.theWFSF.org/iaff](http://www.theWFSF.org/iaff) (see graph on next page).

## Why Australian and US Smoke Alarm Standards Can Not be Trusted

### US Smoke Alarm Standard: UL217

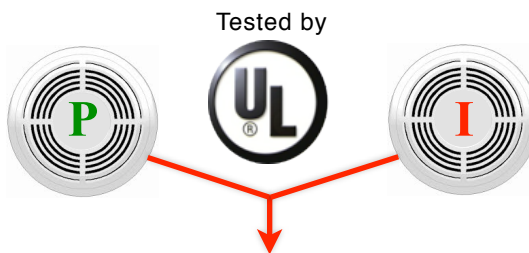
**Photoelectric and Ionization alarms must pass identical smoldering and flaming fire tests. . .**

**Passing Identical Tests**

Manufacturers defend their ionization alarms stating, for example, "Every Kidde smoke alarm, regardless of technology, **must pass identical tests** in order to meet the current smoke alarm performance standard, UL217."


However, UL is being sued for alleged fraudulent Standards testing:

[www.theWFSF.org/ulsued](http://www.theWFSF.org/ulsued)




**. . .but what if the tests are flawed?**

**Photoelectric & Ionization alarms must pass tests for both stages of fire**

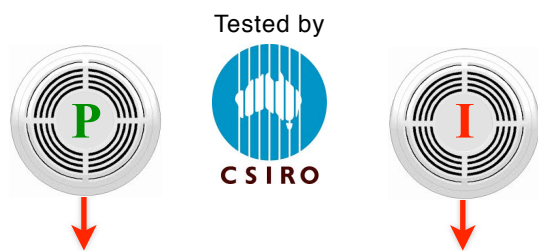


Smoldering



Flaming

### Australian Smoke Alarm Standard: AS3786-1993




**Must pass tests for visible smoke**



Smoldering

**Must pass tests for sub-micron particles**



Flaming

**Photoelectric** smoke alarms must pass tests for **visible smoke**

i.e. smoke particles typically generated in the **early**, smoldering stage of a fire which continue into the flaming stage.

**Ionization** alarms must pass tests for **sub-micron particles, but not visible smoke**

i.e. invisible particles are typically generated **after** fire in the early, smoldering stage transitions into the flaming stage.

Clause 2.1 of Australia's Smoke Alarm Standard states, **"The smoke alarm shall be designed to respond reliably to the presence of smoke."**

In 2005 the WFSF warned the Standard was flawed as ionization alarms were not required to pass the test for visible smoke. Standards Australia corrected the flawed Standard in August 2008.

The Australian Building Codes Board is continuing to block the amended Standard: [www.theWFSF.org/sa](http://www.theWFSF.org/sa)

**Flaw in Australian Standard Discovered Feb 2006**

*"What we discovered to our horror, as the Australian Standard's committee doing some enquiries into test data, was that the ionization smoke alarms are allowed to go to 50-60% (smoke) obscuration per meter, dangerously high, totally unacceptable!"*

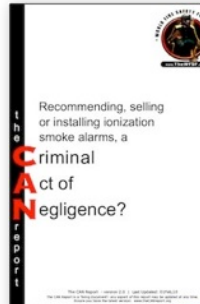
David Isaac, **Standards Australia Committee FP002 Member**, NSW, Australia. August 2006 from 'The C.A.N. Report', (page 8) [www.theWFSF.org/can](http://www.theWFSF.org/can)

**CLICK LINK for Extended Preview - 3min:24sec**

**David Isaac**



**CLICK PLAY (64secs)**



**The C.A.N. Report**



**Dr Megan Clark**

The CSIRO advised Standards Australia in February 2006 that photoelectric smoke alarms, when tested by the CSIRO in accordance with the Australian Smoke Alarm Standard, respond to 8-16% smoke (light obscuration per meter). The maximum limit set for photoelectrics under the Standard is 20%. Ionization smoke alarms subjected to the same tests do not respond until over 50% smoke. Examine Standards Australia's argument to require ionization alarms to pass the same test for visible smoke that photoelectric smoke alarms must pass: [www.Scribd.com/doc/13917758](http://www.Scribd.com/doc/13917758)

CSIRO scientific test data proves ionization alarms do not respond reliably to the presence of smoke. The public needs to know that their ionization alarms may not give the early warning they need to safely escape from smoldering fires. Will the CSIRO's Chief Executive, Dr Megan Clark act responsibly and block certification of ionization alarms before more lives are needlessly lost? (See Open Letter on page 4).

Monday 13 May, 2013

Dr Megan Clark | Chief Executive, CSIRO  
 C/- Annemaree Lonergan | P.A. to Dr Clark | by Email  
 Locked Bag 10, Clayton South VIC 3169 | by Registered/Certified Mail



## Open Letter Extract: Should the CSIRO Certify Ionization Smoke Alarms?

Dear Dr Clarke

This Open Letter is following the advice of Mr Mark Brisson, the Australasian President of United Technologies Corporation (UTC) the world's largest ionization smoke alarm manufacturer (see final paragraph below).

The World Fire Safety Foundation (WFSF) has been communicating with the CSIRO for several years about litigation and public safety concerns with the CSIRO's testing of ionization smoke alarms.

UTC own the Quell, Chubb and Kidde smoke alarm brands. Standards Australia are responsible for Australia's Smoke Alarm Standard. Testing in accordance with the Standard is conducted by third parties, primarily the CSIRO. On 23 April 2012, at my request, my local MP, Mr Chris Gulaptis, wrote to UTC requesting disclosure of the level of visible smoke the Quell Q946 ionization smoke alarm in his home activated under CSIRO testing. When UTC's President Mr Brisson responded to Mr Gulaptis's letter on 04 June 2012 he failed to answer Mr Gulaptis's sole question. Despite three follow up letters in August and November 2012, and February 2013, UTC have, after a period exceeding one year, failed to answer Mr Gulaptis - hence the reason for this letter.

A Certificate of Conformity for the Quell Q946 ionization smoke alarm in Mr Gulaptis's home was issued under the CSIRO's ActiveFire Verification Services scheme on 22 December 2011 (attached). The Certificate of Conformity and all Gulaptis/Brisson letters are in the Public Domain: [www.SmokeAlarmWarning.org/utc](http://www.SmokeAlarmWarning.org/utc)

**Litigation:** CSIRO scientific test results state ionization smoke alarms do not activate until **at least double** the 20% maximum limit for visible smoke set by Standards Australia. In *Mercer vs BRK*, US\$16.7M in punitive damages was awarded when BRK; *"failed to disclose the known limitations of the (ionization) detector to the consumer."* [www.theWFSF.org/mercercase](http://www.theWFSF.org/mercercase) In 2008 U.S. Federal court appeal judges ruled that the failure of an ionization alarm to sound a timely warning was; *"a legal cause of the deaths of William and Christine Hackert."* [www.theWFSF.org/hackertcase](http://www.theWFSF.org/hackertcase) An original hard copy of the WFSF's C.A.N. report 'Recommending selling or installing ionization smoke alarms', a **Criminal Act of Negligence?** was provided to the CSIRO in February 2007: [www.theWFSF.org/can](http://www.theWFSF.org/can)

**Public Safety:** The CSIRO's Code of Conduct states; *"Our primary function is to . . . encourage or facilitate the application and use of the results of CSIRO scientific research."* (page 2, para 2). Note the statement made by UTC's Mr Brisson in his attached letter of 04 June 2012; *"...if you have any questions regarding the Certificate of Conformity issued by the CSIRO Verification Services, these questions should be directed to the CSIRO."* Ms Clark, further to Mr Brisson's request, please advise the smoke density recorded under the CSIRO's smoke alarm sensitivity testing under clauses 7 (e) and (f) of AS2362.17 for Quell's Q946 ionization smoke alarms as per the CSIRO's Certificate of Conformity.

An objective of the CSIRO ActiveFire scheme is; *"To provide an effective and **transparent** mechanism for testing..."* [www.activfire.gov.au/outline.asp](http://www.activfire.gov.au/outline.asp) An email copied to you in August 2009 asked (in the interests of transparency), if we could film the CSIRO's smoke alarm testing. The message was unanswered. May we, or the media, film these tests?

Please advise. Thank you.

Sincerely,

**The World Fire Safety Foundation**  
 Adrian Butler *Chairman, Co-Founder*

### Complete Document in the Public Domain

This Open Letter extract is part of a larger document which includes a CSIRO 'Certificate of Conformity'.

[www.Scribd.com/doc/139516400](http://www.Scribd.com/doc/139516400)

**More:** Open Letters to Underwriters Laboratories (UL) about flawed testing of ionization alarms: [www.theWFSF.org/ulletters](http://www.theWFSF.org/ulletters)  
 The law suit alleging fraudulent Standards testing of ionization alarms by UL: [www.theWFSF.org/ulsued](http://www.theWFSF.org/ulsued)

**The World Fire Safety Foundation**

45 The Lakes Boulevard, Wooloweyah, NSW 2464 AUSTRALIA P +61 (0) 409 782 166 E [ab@theWFSF.org](mailto:ab@theWFSF.org)

**It's time for a solution - to end the double standard and pass legislation to mandate the same photoelectric protection in our homes as in our commercial buildings - before more lives are needlessly lost.**