



0000156835

Warren Woodward  
55 Ross Circle  
Sedona, Arizona 86336  
928 204 6434

RECEIVED

2014 OCT 21 A 11: 01

October 19, 2014

Arizona Corporation Commissioner (ACC)  
Docket Control Center  
1200 West Washington Street  
Phoenix, Arizona 85007

AZ CORP COMMISSION  
DOCKET CONTROL

Arizona Corporation Commission  
DOCKETED

ORIGINAL

OCT 21 2014

Re: Docket # E-01345A-13-0069

DOCKETED BY 

Commissioners;

Enclosed is an email I received from your “Manager of Consumer Services”, Connie Walczak. It is in response to my September 2<sup>nd</sup>, 2014 letter to you (docketed here: <http://images.edocket.azcc.gov/docketpdf/0000155746.pdf>) concerning information I received about thousands of APS's “smart” meters being replaced due to heat induced failure of the remote disconnect switch and LCD display. I'll remind you that the “smart” meter remote disconnect switch has been the cause of many “smart” meter related fires and subsequent “smart” meter recalls in the U.S. and Canada.

Ms. Walczak's email raises several concerns.

The first is that it is shocking to learn that here in Arizona we have our first “smart” meter related house fire lawsuit against APS and the “smart” meter manufacturer, Elster. The suit really should also name each of you for carelessly and negligently allowing “smart” meter installations despite repeated warnings from myself and others.

Back in 2012 for example, I sent all ACC commissioners a 21 page compilation of reports from the US, Australia and Canada about fires, explosions and burned out appliances due to “smart” meter installations. That list is at the following link and is, of course, longer now because the problem has not gone away: <http://emfsafetynetwork.org/smart-meters/smart-meter-fires-and-explosions/>.

The second concern is that your “investigation” of this very serious “smart” meter issue consisted of asking APS questions without placing APS under oath. When will you learn that this company cannot be trusted to give honest answers? Several times in the past I have pointed out the futility of asking APS anything unless they are under oath. When are you going to wake up?

One of the latest incidents of APS lying to you was their response to questions submitted to them by commissioner Brenda Burns. In my YouTube video, **APS Caught Lying Again**, I

proved that some of the answers APS gave commissioner Brenda Burns were lies. Typically, you did nothing about it.

It is very alarming to learn that there have been other fires in Arizona that APS has been able to blame on “broken or loose meter clips.”

APS: “There have been some fires within the APS service territory that were initially alleged to be caused by Elster meters. However, in these instances, a root cause external to the meter itself, such as broken or loose meter clips or defective wiring at the location, was determined to be the cause of the fire.”

“*Some fires*”? How many is “some”? Isn't the ACC at least curious? Are “smart” meter related fires so commonplace they are met with a yawn now? Just the 'price of progress'? Or is the ACC uninterested because meter clips are on the customer's side of the meter?

I called attention to the absurdity of APS's 'meter clip defense' three years ago in an email sent to all ACC commissioners on September 10<sup>th</sup>, 2011. I was commenting on APS's lame excuse made two days previous at an ACC “workshop” meeting when APS was asked about the “smart” meter fire issue. I wrote:

“I could not believe you accepted the APS response about meters causing fires. Their response was on a par with *“The dog ate the homework”*. To refresh your memory, APS said if there is a fire it is probably because the old meter has not been changed for 40 years and the jaws that grip the new meter are corroded away. Think about that. What they are saying is the installer saw something was wrong but went ahead with installation anyway!”

The kicker is that, as you should well know, APS can legally deny responsibility for anything on the homeowner's side of the meter, which includes meter clips – clips that worked fine for God knows how many years until APS came along and messed with them by yanking out a perfectly good meter and replacing it with an expensive microwave radiation emitting fire hazard. What an absolutely sickening scenario, and APS gets to blame the victims! When was the last time you checked your meter clips?

The problem of a bad connection at the clips is known as a “hot socket”. Tesco, self-described as “the trusted source for electric meter testing equipment and metering accessories for over 100 years”, has determined through testing that, “**Electromechanical meters withstand hot sockets better than solid state meters.**” In other words, analog meters withstand imperfect meter clips better than “smart” meters.

I have enclosed an article written by K.T. Weaver that explains the whole hot socket issue and includes slides from a Tesco presentation on same. Weaver's impressive bio includes a B.S. in Engineering Physics, an M.S. in Nuclear Engineering with a specialty in radiation protection, and employment in the nuclear division at a leading electric utility for over 25 years. (Article is online here: <http://smartgridawareness.org/2014/10/16/analog-meters-withstand-hot-sockets->

better-than-smart-meters/)

Ms. Walczak's conclusion is typical of the ACC: "Staff's review found no issue with APS's response. If you feel this is not the case, you may file a formal complaint with Docket Control."

Staff's review found no issue with APS's response?

OK, here's *my* review: 1) "Smart" meter related fires are occurring in Arizona but APS gets to blame the victims so you don't care. 2) We aren't told how many of these fires have occurred or what the damage was. 3) We have our first Arizona "smart" meter house fire lawsuit. 4) Once again, the gullible (or is it corrupt?) ACC takes APS at their word. 5) If I don't like any of this I get to do the ACC's regulatory work for them once more by filing a formal complaint.

I already have one formal complaint pending against APS. I don't think I can take on more of your neglected work for free at this time.

As regulators you people are a sad joke.

Sincerely,



Warren Woodward

PS – Commissioner Gary Pierce, at a political event in early 2013 I heard you try to assuage a constituent's anxiety over "smart" meter related fires by telling her that we have not had any "smart" meter related fires in Arizona. What would your response be now that you know there in fact have been fires in Arizona? Tough luck for people who don't check their meter clips? Tough luck for people whose wiring worked fine until the "smart" meter came? The "smart" grid is so fantastic it's worth the risk of people's lives and property? What, Gary?

And one other thing: APS wrote, "APS is aware, through various media reports, that utilities in several jurisdictions have replaced advanced meters manufactured by Sensus Corporation after allegations that those meters were related to house fires."

To clarify, "smart" meter fires that are the result of actual meter malfunction (as opposed to hot socket, etc.) are not confined to the Sensus brand. For example, after a number of Sensus fires in Pennsylvania, PECO Energy switched to Landis & Gyr "smart" meters then still had another "smart" meter fire in which 16 apartments were damaged and 30 people were displaced in Bensalem, PA on February 6<sup>th</sup>, 2014.

## Remote Disconnect Switch Failure Investigation

- Connie Walczak
- Oct 17 at 4:05 PM

Dear Mr. Woodward,

This email is being provided as a response to your September 2, 2014 letter to the Commissioners, docketed September 5, 2014. In that letter you requested that the Commission investigate APS regarding faulty “smart” meters that required replacement due to heat induced failure of the remote disconnect switch. You questioned recalls in states where house fires occurred due to remote disconnect switch failures.

Staff presented the following questions to APS in response to your request. APS’s response is below each question.

1. Has APS removed any meters installed as part of APS’s AMI system in the past year due to heat induced failure of the remote disconnect switch or LCD display? If so, how many?

APS has not removed any of the Company’s AMI meters in the past year due to heat induced failure of the remote disconnect switch or LCD display.

APS did replace 32,000 AMI meters (roughly 3%) in 2014 from January 1st through August 31st. Approximately half of these meters were replaced by the meter manufacturer due to a problem with the soldering of a circuit board within the meter. The other meter replacements were for various reasons with the most common failures attributed to blank LCD displays and non-communicating radio modules. Those meters still under warranty were also replaced by the meter manufacturer. Again, none of these replacements were associated with heat induced failures.

2. Is APS aware of other utilities in the country that have replaced or recalled meters of the types installed as part of APS’s AMI system as a result of disconnect switch or LCD display failure? If so, please provide the name of the utility(ies) and all information you may have about these replacements including meter manufacturer(s).

APS is not aware of any Elster (manufacturer of the AMI meters in use at APS) meters that have been replaced or recalled by another utility company as a result of remote disconnect failures or LCD display failures associated with heat induced failures. As noted above, LCD failures have occurred in some meters for other reasons.

3. Has APS experienced any house fires that are attributable to failures or flaws in meters installed as part of APS's AMI system? If so, please provide details.

No. There have been some fires within the APS service territory that were initially alleged to be caused by Elster meters. However, in these instances, a root cause external to the meter itself, such as broken or loose meter clips or defective wiring at the location, was determined to be the cause of the fire.

4. Finally, an insurance company otherwise responsible for paying a claim on a house fire, has filed a lawsuit against APS and Elster, claiming that the Elster meter was the cause of the fire. Elster, APS, and their internal and external investigators, disagree with the insurance company's claim. To date, the insurance company's claim remains unsupported by any expert testimony.

Interestingly enough, the very same insurance company has alleged that a second house fire was caused by an Elster meter. However, no lawsuit has been filed, and no evidence has been provided to support the allegation. It is APS's understanding that the insurance company is now focusing its investigation on an attic fan as the potential source of the second house fire.

5. Is APS aware of other utilities in the country that have experienced house fires that are directly attributable to failures or flaws in the types of meters installed as part of APS's AMI system? If so, please provide the name of the utility(ies) and all information you may have about these incidents.

APS is not aware of any Elster meters that have been implicated in house fires.

APS is aware, through various media reports, that utilities in several jurisdictions have replaced advanced meters manufactured by Sensus Corporation after allegations that those meters were related to house fires.

Hopefully, the above information will provide the answers you are looking for. Staff's review found no issue with APS's response. If you feel this is not the case, you may file a formal complaint with Docket Control.

Best Regards,

Connie Walczak

Manager Consumer Services

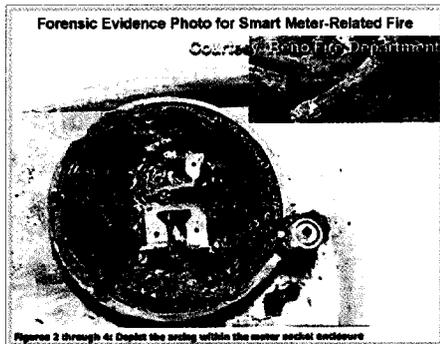
Utilities Division

Arizona Corporation Commission

602-542-0291

# Analog Meters Withstand “Hot Sockets” Better Than Smart Meters

Posted on October 16, 2014 by SkyVision Solutions



## Key Article Point

Even if electric utility companies are able to “blame” a hot socket or customer wiring for many **smart meter-related fires**, the meters themselves likely contributed to the fires, the severity of the fire damage, or the speed at which the fires spread.

## Introduction

Subsequent to a house fire, one of the primary responsibilities for investigators is to determine the point of origin and cause of the fire. Determining the cause typically involves establishing whether the fire was accidental or criminal in nature. It is also possible that the final investigation report will document that the fire’s cause remained “undetermined.”

When a smart meter and associated meter box are the origin of a fire, many times the evidence is burned or “consumed” to the extent that a full cause determination is difficult to make with certainty. This is exemplified by examining the above photo for a smart meter-related fire in Reno, Nevada, still under investigation. For some smart meter fires, the fire may simply be documented as “accidental” and where the cause was “electrical” in nature. In other instances, a complete forensics investigation is not completed due to a lack of training, time, or other needed resources for the assigned investigators.

Utility companies are able to take advantage of the above situation where it is usually difficult for fire investigators to “definitively” establish the cause of smart meter-related fires. Utility companies (and particularly meter manufacturers) thus always blame the customer’s wiring or a “hot socket” issue for smart meter-related fires even when contrary evidence exists. A hot socket is where there is a loss of tension in at least one of the meter socket jaws for the meter receptacle. This loss of tension contributes to micro-arcing that can lead to eventual **catastrophic failure of the smart meter** with a subsequent explosion and/or fire.

## Industry Testing Results

**The primary purpose of this article to establish that even if the “hot socket” is a source or “cause” of a smart meter-related fire, it is probable that the smart meter contributed to the eventual catastrophic failure.** This has been confirmed through industry testing results that utilities won’t disclose. ...

Industry testing by a company called TESCO – The Eastern Specialty Company, arrived at the following conclusion (and as pictured in the slide below):

## “Electromechanical meters withstand hot sockets better than solid state meters.”

### Expected & Unexpected Results

#### Expected:

- Hot Sockets are exactly that – hot sockets. The hot sockets are the source of the problem and not hot meters.
- Electromechanical meters withstand hot sockets better than solid state meters

#### Unexpected:

- Current plays only a small role in how quickly a meter will burn up. Meters were burned up nearly as quickly at 3 amps, 30 amps, and 130 amps.
- Relatively small amounts of vibration can be the catalyst to the beginning and eventual catastrophic failure of a hot socket. Note: Other catalysts include but are not limited to power surges, debris, humidity.
- Contact resistance plays no role in creating a hot socket



3/19/2014

Slide 6



Source: TESCO representative's presentation on "Hot Socket Issues" at the Southeastern Meter School & Conference 2014.

Slide 15 of the presentation by a TESCO representative indicates that:

**“At the start of our laboratory investigation the oldest electro mechanical meters withstood hot sockets the best.”**

**“The latest vintage solid state meters withstood hot sockets the least.”**

There was an acknowledgement that meter manufacturers recently (“over the course the past twelve months”) have begun to release smart meters designed to better withstand hot sockets, but this is little comfort to the people and millions of homes across North America where smart meters have already been installed over the past several years.

Slide 5 (shown below) of the presentation by a TESCO representative states:

**“Legal counsel for the utility customers would not allow publication of any data linking their utility to this sort of research.”**

Also note that Slide 5 indicates that meter manufacturers and utilities “wanted an independent third party to ... prove that the meters [themselves] were not the source [of fires].”

## The Initial Investigation

- Our Utility and our meter manufacturing customers had similar but different goals.
- Both wanted to make sure that the meters were not causing fires at the meter box. Neither expected that they were but they wanted an independent third party to help to determine the causes for the hot sockets, simulate these causes and prove that the meters were not the source.
- The meter manufacturers wanted to make this information public.
- The utilities wanted to understand the causes and see what else they could do to better identify hot sockets in the field. Legal counsel for the utility customers would not allow publication of any data linking their utility to this sort of research.



3/19/2014

Slide 5

Source: TESCO representative's presentation on "Hot Socket Issues" at the Southeastern Meter School & Conference 2014.

What is described above is not exactly an objective testing goal. ... So the presentation/ testing results makes the "desired" conclusion that "hot sockets are the source of the problem not hot meters," but yet solid state meters are more susceptible to catastrophic failure than traditional analog meters. **That logically means that smart meters are indeed a source of catastrophic failure "problems."** Hopefully you appreciate the "sleight of hand" on how these testing results are presented by the industry testing company.

### Conclusions

SkyVision Solutions believes that there are inherent issues with smart meter construction and operation that makes fires more probable or severe than with traditional analog meters. These issues were discussed in a recent article, **Smart Meters Increase the Risk of Fires!** Some of these reasons deal with the potential flammability of plastic enclosure materials under fault conditions and the fact that electronic components contained within smart meters such as metal-oxide varistors (MOVs) can burst into flames when degraded over time from such conditions as voltage surges in the power lines.

Actually, one only needs to read documents written by Underwriters Laboratories to confirm this common sense conclusion whereby the UL wrote:

**"The introduction of smart meters raises new concerns about functional safety, performance and product safety, data security, and interoperability, which are not fully addressed by the [current] standards. ... This [new] standard was developed to address problems that have been reported from field installations of smart meters, including fires, meters ejecting from meter socket bases and exposed live parts. When electronic components are overstressed, there is a potential for the components to explode."**

In any case, based upon the evidence presented that traditional analog meters withstand hot socket conditions better than smart meters:

**Even if utility companies are able to somehow "blame" a hot socket or customer wiring condition for many smart meter-related fires, the smart meters likely contributed to the fires, the severity of the fire damage, or the speed at which the fires spread (as compared to a traditional**

**analog meter).**

Do you still want a smart meter attached to your home? I didn't think so.

---

Source Material for this Article:

TESCO Presentation by Tom Lawton on "Hot Socket Issues – Causes and Best Practices" at the Southeastern Meter School & Conference 2014, available for viewing (as of October 16, 2014) at: <http://www.slideshare.net/bravenna/hot-socket-issues-causes-best-practices>.

"Writing a Fire Investigation Report," at [http://www.interfire.org/res\\_file/reports.asp](http://www.interfire.org/res_file/reports.asp).

#### About the Website Moderator

K.T. Weaver, the website moderator for *SkyVisionSolutions.org* has earned a B.S. in Engineering Physics and an M.S. in Nuclear Engineering with a specialty in radiation protection, both degrees received from the University of Illinois at Urbana-Champaign. He was employed by a leading electric utility for over 25 years. He served in various positions and functions, including Station Health Physicist, Shift Overview Superintendent, Senior Health Physicist, corporate Health Physics Supervisor, and corporate Senior Technical Expert for Radiobiological Effects. He was considered qualified by the Nuclear Regulatory Commission (NRC) as a site Radiation Protection Manager in accordance with USNRC Regulatory Guide 1.8. The website moderator served in various on-call emergency response organization positions including Health Physics Director and Environmental Manager. He served as a member of the corporate Radiation Advisory Committee which dealt with radiation protection policy and litigation issues that included interaction with the company's General Counsel and company Medical Director. The website moderator has received specialized training in radiation biophysics, radiological emergency response planning and preparedness, and project management. The moderator has participated in various industry committees and activities related to the Edison Electric Institute, the Institute for Nuclear Power Operations, the American Nuclear Insurers, and the Nuclear Energy Institute. The moderator is a member of the Tau Beta Pi Association and is also a member of the Honor Society of Phi Kappa Phi. He is an emeritus member of the Health Physics Society and has three times served as President of the Midwest Chapter of the Health Physics Society.