



CHIEF'S FILE CABINET

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Up on the Roof

Santa Claus has the reputation for being someone that operates up on the roof. His reputation is that he takes to the roof as a part of the expectations of each Christmas story. Generally speaking Santa is only prancing about on the roof to deliver Christmas presents. And it is well known that many civilians go up on and actually enjoy themselves on rooftops of apartment. Barbeques are held on rooftops. Parties are held on rooftops. But try landing a sleigh and 8 tiny reindeer up there.

But, rooftops have always been a danger zone to firefighters. It may be even more dangerous tomorrow.

For purposes of this article I am going to focus on only one roof danger. I am talking to those of you who may be designated to be “up on the roof” during a fire fight. In cities that have truck companies you already know who you are. In those communities that don't have truck companies it may be a little vaguer. It could be anybody on an engine company who is given an ax or a saw and an assignment to go to the rooftop to ventilate. What you may find when you get there is becoming more and more of a potential threat.

I am talking specifically about the concept of solar energy. In an age in which energy costs and the greening of America are converging to create a brave new world, the world of a firefighter is changing to be even more complicated.

How much do you know about what is on your rooftops today? If your training division hasn't been providing information on solar energy there is a remote possibility that there is a scenario out there that could go bad in a hurry. In addition to that, if your department does not pre-fire planning what is going on with solar energy, you're increasing your vulnerability on a daily basis.

There are several ways that you can overcome these obstacles. First and foremost can become familiar with what this technology is all about

The term Photovoltaics (PVs) applies to an array of cells containing a solar photovoltaic material that converts solar radiation into direct current electricity. There are various chemicals used in PV's include monocrystalline silicon, polycrystalline silicon, microcrystalline silicon, cadmium telluride, and copper indium selenide/sulfide.

Photovoltaic production has been doubling every 2 years, increasing by an average of 48 percent each year since 2002, making it the world's fastest-growing energy technology. At the end of 2008, the cumulative global PV installations reached 15,200 megawatts. Roughly 90% of this generating capacity consists of grid-tied electrical systems. Such installations may be ground-mounted (and sometimes integrated with Urban Wildland Interface areas, farming or grazing) or built into the roof or walls of a building, known as Building Integrated Photovoltaics or BIPV for short. Driven by advances in



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technology and increases in manufacturing scale and sophistication, the cost of photovoltaics has declined steadily since the first solar cells were manufactured and they are showing up on residential buildings. Net metering and financial incentives, such as preferential feed-in tariffs for solar-generated electricity; have supported solar PV installations in many areas where they were previously not utilized.

In order to be better prepared to deal with these installations several training programs are being put together and being distributed to the fire service that explain this phenomenon. One good example is to visit the following website:

<http://osfm.fire.ca.gov/training/pdf/photovoltaics/pvhighlights.pdf>

There you can obtain copies of information that you can incorporate into your departments training program. For the most part this information is free. But free isn't a relevant term unless it is used down to the most basic level in the fire service; the firefighter.

As chief of the department, are you giving any consideration to this phenomenon? Has it been brought up in staff meetings regarding risk assessment? Has it been brought to the attention of the commanding officers of your platoon about this phenomenon? If the answer to all of these is yes, you are to be congratulated. However, if the answer to any of these questions is no, trouble might be brewing.

One last point. This is not necessarily just a phenomenon of urban America. To the contrary, solar energy may be more of an issue to the rural fire service than anyone else. Recently I performed an inspection of a canyon containing a lot of cabins and homes in which most of the homes were off of the grid entirely. They had huge solar panels incorporated in a rural setting where a local fire department may or may not have any form of official training program.

We continually state that firefighting is a hazardous profession but we sometimes avoid confronting the hazards themselves. We all ought to be taking some advice from Santa and get up on the roof this year to see what is going on.

Failure to do so might create a shocking experience.