Houston, PA., 15342-1232

Monday, July 01, 2013

Prescott Fire Department
1700-West Iron Springs Road
Prescott, AZ., 86305
[(928)-777-1700]
Atttention: Fire Chief Dan Frano
Re: Prevention of Subsequent Fires
Similar to that at Yannell Hill
To Whom It Concerns,

The devastation of property and loss of 19-lives caught my attention, discussed on our 5:00 PM news. Prevention of further fires of its strength should be a subject discussed, probably at a state commission level, since my thoughts require some developement and funding.

Just a touch of basics, please. Continued combustion requires 3-factors, namely fuel, i.e. combustible materials; temperature, i.e. a minimum temperature surrounding the fuel(s), above which the fuel(s) can continue to burn; an oxidizer, i.e. something that will provide oxygen to the fire(s). If any of the 3-factors aren't met, combustion cannot continue.

The 2- most common methods of fire control are, 1/. Spraying the fire(s) at its, (their) base(s);and removing fuel by burning it, called "setting back fires". From what the TV news showed, neither method seemed to suppress the fire(s) effectively. The fires seemed to have kept the fuels, trees and dry bush to sustain continued burning. A "chimney" effect kept sucking up air to sustain the elevated temperatures, so spraying the fire bases didn't seem to work.

I viewed a film showing the extinguishing of an airplane fire by spraying the plane with a foam made by combining water and a surfactant, like the soap "DAWN", allowing the water to spread quickly over the fire. Since "DAWN" isn't combustible, the spray finally choked out the fire. No "chimney" developed, so the supply of fresh air didn't take place. This incident showed the value of quick timing in reducing air temperature and choking off the oxidizer supply.

How about "lacing" a water/"DAWN" mixture with liquid carbon dioxide? That may further reduce the time required to extinguish the fire(s) by producing a non-combustible bubble.

Some time ago, a story surfaced from the Cincinnati, Ohio, area, stating that P&G industries, former Proctor & Gamble, used to keep a tanker trailer/truck combination on stand-by to aid in suppressing vehicular fires. P&G may have some information available on the venture. The mixture used was ***98% water; 2% "DAWN".***

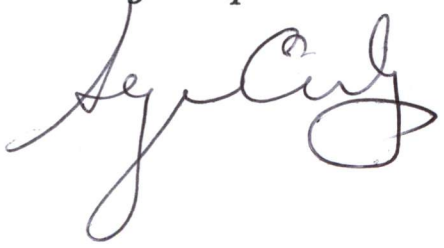
What about trying something like a 96% water, 2% "DAWN", and 2% carbon dioxide? Use a trailer truck combination with a pump/syphon feed, combining in a nozzle to spray the mixture? If the terrain is difficult to negotiate with trucks, there is a company in Pittsburgh, PA., that produces custom- made vehicles engineered to perform various difficult task.

May I help a fire suppression commission formulated to study advanced fire suppression technicues by supplying you with the name of the company that produces custom robotic equipment as a start?

I'm not a fireman or an engineer, but want to help control a frightening problem by adding my ideas.

Thanks for you attention and interest.

Respectfully,
George Culp



c: Tim Solobay, local fire chief & PA St. Sen.{reference}
c: AZ state governor Jan Brewer {referenced}
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