

## **WATER MIST PROPOSALS**

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We are now in the 21<sup>st</sup> Century and the Aviation industry is placed under the microscope in a way that it has never been so in the past. We are not considered to be an environmentally friendly industry and the finger is pointed quite frequently at us by Politicians, Environmentalists and AHJs that we do not appear to be doing enough to clean up our act. Those of us involved in research over the past 8 years know this is not true.

There are three significant obstacles that affect our industry:

1. Ozone depletion
2. Global warming
3. Atmospheric life

All are considered to have serious implications for our environment. The United Nations have identified the urgent need for these issues to be reviewed in great detail frequently and for industry and commerce of the world to action directly and indirectly to reduce emissions into the atmosphere.

By way of the aviation research and development programme to date we know that trying to find the perfect fire suppression and extinguishing agent to replace H1301/1211 is proving difficult to the extent of almost impossible. Our work to find a solution is a technological minefield to find alternative medias offering the same level of safety, with the same weight, space and cost as to halons. To date our progress in this area for aircraft systems has been minimal, not for the want of trying, but through one of difficulty and complexity. If there was any green light appearing on the horizon for an alternative gaseous agent, this has now been damaged by new concerns for global warming and atmospheric which are now being recognized around the globe and are not sustainable long term for fire control and extinguishment.

Presented with these facts it would be remiss of our industry not to place the emphasis of our research, test and development efforts into an area where it may be possible to find a solution that will overcome ozone, atmospheric life, and global warming concerns. Current data and research indicate that the vast majority of the gaseous alternatives will fall into the catchment control area of ozone, global warming and atmospheric life.

It is for this reason that we need to look at the alternatives and place on top of the list of our research and development programme a media that has the most minimum impact on the environment. The only agent that offers this environmental safeguard is water mist.

Developments to date using water technology systems has been significant over the past 5 years. There are now many applications where water is the number one choice for suppression and extinguishment this was not the position a short time back.

It is now 5 years since we have done any serious work using water as a principle fire extinguishing agent. Yes, there has been some minor scale testing but nothing that

could be considered as a serious test article to learn from the work, experience and application of new fire engineering solutions.

With a group of highly skilled engineers such as the International Aircraft Systems Fire Protection Working Group our way forward has to be to test a media that offers the best choice of success from a safety and environmental impact point of view. The UNEP wants us to act in this way and for us not to proceed in this way would have a very negative effect on our integrity and credibility as a group.

Of course there are concerns regarding the use of water a prime extinguishing agent for aircraft. These have been identified by many colleagues in their comments, but in today's modern technological world, there are means of overcoming these difficulties, and special risks can be reduced to a very low minimum.

The UNEP, Governments, AHJs and environmentalists have their net firmly placed around us and we must be able to explain our R&D programme to the interested groups that we are going to start from a base that has little or no environmental impact, and if the results of this work do not produce the solutions we require, then we can without fear demonstrate that we cannot deliver the same level of safety as currently provided by the Halon family. This would also produce the guidelines and mandate to test with other alternative agents or even reconsider the use of Halons for the life safety of aircraft occupants, aircraft safety, protection of the environment, and airport communities.

There are many references relating to use of water as a primary fire suppression agent and these can be found in DOT/FAA/CT-95/9 Chemical Options to Halons for Aircraft Use. Plus, there are several others listed in the NFPA research database.

In conclusion, we must act as a group with responsibility, and it is only by immediately putting water mist as No. 1 in the priority list for testing that we will retain credibility with the interested parties throughout the world. Failure to proceed in this way will send a significant negative result. This is something we must and should not allow to happen.