

Factoring the Future

By Gary Barnhard, Chairman of the NSS Executive Committee

As the new chairman of the executive committee (CEC) of the National Space Society, part of my job is to help chart a course for the society which fosters our efforts to architect the future. To that end, this column on “risk” is the first of a new series of articles by the CEC, intended to address both distinctions and decisions critical to finding the paths to the space faring future that is our goal.

Risk can be defined as a factor, thing, element, or a course involving uncertain danger.

Risk is a pervasive element of our lives. Risk is with us personally, professionally and politically. Every project, no matter how great or small, has elements of cost, schedule and technical risk. Everything we do individually and collectively, at any level, entails the explicit and/or implicit acceptance of risk, whether we choose to acknowledge it or not. On closer examination, most things, including many that we take for granted, entail risks far greater than we care to realize.

So what do you and I as individuals, as a society, or for that matter as a species do? Are we to be forever held hostage to the axiom “while timorous intelligence stands aghast it is audacious ignorance that gets the job done?” I would hope not, but the choices necessary to do otherwise will rarely be easy ones.

Heretofore, spacecraft have been built based on the paradigm that it is incumbent on all those involved in their design, construction, and operation to do everything possible to make them work safely and correctly. This is done with the full realization and explicit acknowledgment that even if everything that can be done is done, and done right, rockets may still blow up.

We are entering an era where commercial passenger spaceflight is a reality. No matter how rare and expensive such launches may be at the moment. A new day has dawned. The questions we are faced with are “How far do we let it go?”, and “How fast do we allow it to happen?” Furthermore, this is not just about the hottest tourist tickets to be had. It is about engineering both government and commercial endeavors that will enable people to both work in space and live there permanently.

Someday, we may yet succeed in building the equivalent of the “DC-3” of spacecraft — spacecraft so robust that they meet or exceed any objective safety criteria applied to civilian passenger aircraft. However, I believe if wait until we can build such spacecraft before moving forward to a space faring society we may never get there.

I contend that there must be some reasonable balance of interests achieved which will allow the risks of spaceflight to be bounded for all concerned. The model of the experimental aircraft regulatory regime may yet prove the most useful and enduring.

What constitutes an acceptable risk? Our forefathers set a very high bar when they adopted the words in the Declaration of Independence "... we mutually pledge to each other our Lives, our Fortunes and our sacred Honor." They were willing to risk everything to foster the evolution of a new nation.

The bottom line, from an individual perspective, is that being alive is risky, but it is clearly a risk worth taking. From a societal standpoint evolving to a space faring society buys us options as we seek to architect the future. From a species perspective standpoint, we must either evolve into a space faring species or face certain extinction.

Pragmatically, if we expect a transition in how our culture deals with risk, we must let the difficult choices we are willing to make and support known to Congress, the President and the agencies charged with interpreting and implementing policy. In short, we must all proactively engage in this discussion at all levels, or the future that comes to pass will forever be circumscribed by our own ignorance.

This issue of *Ad Astra* takes on the subject of risk as it applies to space endeavors from many perspectives. From the space shuttle return-to-flight, as viewed by the men and women whose jobs it is to fly it; to the business of commercial space flight from the designer of Space Ship One. From space missions that will come to pass, to those that could come to pass. It is our earnest hope that you find this issue informative, engaging and demonstrable proof of the NSS's commitment to foster the dialog of ideas necessary for us to evolve into a space faring society.