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It is my conviction that the present NASA plans for human space flight are deeply troubled by insufficient margins for performance, mass, cost, and schedule. This may lead to a serious false start of President Bush's Vision for Space Exploration plans, not becoming inescapably obvious until near the end of the term of office of our present Administration. Present approaches for development of a new *Crew Launch Vehicle*, a *Crew Exploration Vehicle* and the "nose-mount" *heavy lift vehicle* require, in my view, a thorough review and corrections before new major development contracts are issued.

These plans were developed by the Administrator, Dr. Mike Griffin, almost a year before he commanded the technical strength of the Agency and its aerospace contractors. I do not believe that his plans have since been critically reviewed nor, it appears to me, did he review the large body of related work conducted within both industry and government by his predecessor. Recent major changes in technical direction and cost escalation of the launch vehicles are symptoms of this lack of review.

I suggest that the relevant Committees of both the House and Senate require NASA to conduct a timely "peer review" by objective authorities and that the results be heard in Congressional hearings as prerequisites to NASA issuing new development awards.

In the 1960's and 70's, I was an executive with the NASA Johnson Space Center. I managed a number of important developments, including three of our successful *Apollo Lunar Modules* and, for almost ten years after *Apollo*, the *Advanced Systems Office*, reporting directly to Dr. Max Faget. I have remained active in this area and consider myself to be current on the relevant technologies and their application to new space systems. Since my entering the private sector, I have viewed with alarm several past NASA ventures, including the ill-fated "single-stage-to-orbit" vehicle and any number of space launch proposals, each of which has subsequently failed to materialize after billions of dollars of taxpayers' money have been spent.

These suggestions are not made lightly. I believe it imperative that we return to human space flight and begin to exploit, by means of robust automated missions, the vast resources of the Moon. I also believe that another false start will cause us to lose our position in the new "space race" now underway with other nations. We must bring to bear the best efforts of our people and those of our friends, providing our leadership to other friendly nations, to successfully execute a sound plan for carrying out the objectives so well stated by President Bush.

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