

# BUILD ANOTHER SPACE SHUTTLE?

Interview with Joe Allen, former astronaut, now executive vice president of Space Industries, Inc.

**PRO**

**Q Mr. Allen, why should the U.S. build another shuttle to replace the Challenger spacecraft destroyed in January, as President Reagan has just proposed?**

We must have a strong transportation system to space, and that means at least four orbiters, or the equivalent. As an exploring nation, we have a history of being on new frontiers. And our biggest space accomplishment so far has been, first, to set eye upon the earth from space and, second, to begin to utilize space.

The shuttle provides a zero-gravity environment, as will a future space station, in which hundreds—maybe thousands—of useful things could be done. For example, certain kinds of crystals can be made more efficiently in space. It is possible they could become the backbone of the next generation of computers, but it would take thousands of hours in zero-gravity experiments to find out.

**Q In an era of high deficits, would the country be getting its money's worth by spending \$2 billion to \$3 billion for another shuttle?**

Yes. We can't continue deficit spending, but, at the same time, to abandon our ability to carry Americans out to new frontiers would be contrary to our history.

Other transportation systems—railroads, canals, interstate highways—were all supported by the government. All have proved to be economically very important. They all improved the standard of living in the long run.

**Q For many missions, aren't unmanned space vehicles less expensive and just as efficient?**

In many cases, yes. But once we build a space station or its equivalent, it will be cheaper to have people involved in the complicated experiments in space. On ocean-research voyages, we find large numbers of scientists and technicians useful.

**Q Isn't there a danger that, so soon after the Challenger accident, more lives will be lost with another shuttle?**

Anytime you get in your car or ride an airplane, you risk human life. You have to decide if it is worth the risk. No transportation system was perfect the day it was built.

**Q Congressional foes of funds for a fourth shuttle will ask: Why can't we get by with three shuttles?**

Four is the minimum to do the job adequately. Some of the first zero-gravity experiments were so promising that more flights are really needed than three shuttles can provide.

It would be fine if alternative systems were built instead of the fourth shuttle, such as an aerospace plane or a cargo-carrying, expendable launch vehicle or some other cargo-carrying spaceship. What is important is that we have a way to get along that highway to space and take people and cargo back and forth.

YES — "No transportation system was perfect the day it was built"



Interview with James Van Allen, professor of physics, University of Iowa

**CON**

**Q Professor Van Allen, why do you oppose building a new shuttle to replace the Challenger spacecraft?**

Because it would be throwing good money after bad. The shuttle has proved to be not only unsafe but outrageously expensive. Most missions can be done better by unmanned, expendable launch vehicles and automated spacecraft.

**Q Wouldn't unmanned missions often be less effective than a new shuttle in bringing new discoveries?**

I'm not intrinsically opposed to manned flight. But within a frozen space budget, NASA is emphasizing things that don't work and neglecting those that do. Research in communications, weather forecasting and all fields of space science is suffering severely. The shuttle is nowhere near meeting promises that its commercial and military projects will allow it to pay for itself.

**Q Some say the United States can't know today what benefits will result from manned shuttles tomorrow—**

How long can you sustain that hope? After all, we've had manned flights since 1961. Proponents talk about growing large crystals and preparing pure pharmaceutical compounds in space. The idea that they are going to blossom immediately into huge industries in space is grossly optimistic.

NASA has postponed shuttle flights for two years to remedy the famous O-ring problem. There are also many other safety problems that will be very expensive and time consuming, among them the landing gear and turbine pumps. In the meantime, the U.S. is in a state of frustration and even national trauma because of our meager capability to launch anything.

NO — The shuttle is "not only unsafe but outrageously expensive"



**Q Doesn't that make it important to reinvigorate the space program with a replacement to the Challenger, to improve morale?**

Absolutely not. We're going the wrong way. We should return to reliance on expendable launch vehicles. Besides that, the entire shuttle concept has failed to meet its objectives.

**Q Aren't there some jobs in space only astronauts can do?**

It was more efficient for humans than machines to collect moon rocks, and there have been some other useful functions by humans in space. But most jobs in space can be done far better by automated devices.

**Q Won't we lose some of our edge in space over the Soviet Union and Europe if we fail to build a new shuttle?**

Nobody else has a shuttle now. If we still have three, we have three more than anybody else. More important, we have several billion dollars' worth of high-priority spacecraft waiting to be launched. We need a resilient system of launch vehicles. It is hard to estimate the effect another shuttle accident would have on Americans and on the space program.