The Columbia tragedy: NASA, Congress, Bush ignored safety warnings

The Editorial Board
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With the investigation into Saturday's Columbia space shuttle disaster still in its initial stages, it is too early to draw definitive conclusions as to the specific technological factors, or combination of factors, that led to the tragedy. But the loss of the shuttle and death of seven astronauts was not only a personal tragedy for the families and a source of shock and grief for millions around the world, it was also a significant political event.

Whatever the outcome of the inquiries now under way, the Columbia explosion holds important lessons. Properly considered within its social and political context, it says a great deal about American society and the forces that dominate it.

Multiple warnings went unheeded

In the wake of the shuttle explosion, numerous reports have already emerged of advance warnings of impending disaster received by top NASA administrators, congressional committees that oversee the agency, and President Bush himself.

Those in positions of responsibility for the space program had ample notification of mounting safety problems, but chose to do nothing. Instead they retaliated against scientists and engineers who sought to bring to the public's attention serious safety problems in the areas of maintenance and training caused by years of budget cuts. Six scientists were dismissed from the Aerospace Safety Advisory Panel in March 2001 after repeatedly complaining about deficiencies in NASA's operation of the shuttle program.

Less than two months ago, the Bush administration brushed off the warnings of a retired NASA engineer who wrote to the White House on several occasions urging a halt to all space shuttle launches. One such letter said immediate action was needed "to prevent another catastrophic shuttle accident."

The writer, Don Nelson, a supervisor and mission planner who retired from NASA in 1999 after a career going back to the first moon missions, wrote to Bush last August saying the shuttle astronauts were in imminent danger. He cited a series of malfunctions such as hydrogen leaks, dented fuel lines, wiring problems and computer failures.

John Marburger, director of the Office of Science and Technology and Bush's chief science adviser, discussed Nelson's criticisms with NASA officials. He then wrote back to the retired engineer, praising NASA's safety practices and concluding, "Based on these discussions, I do not think that it is appropriate for the President to issue a moratorium on Space Shuttle launches at this time."

Nelson made one last attempt, after a report of a propellant leak on the shuttle, writing to the White House December 21, "I assume that you are aware that there has never been a launch vehicle that has not had multiple catastrophic failures. I assume you have informed the president that the request for a moratorium has been denied and his administration is accepting the responsibility for the fate of the space shuttle crews." Nelson received no reply.

Cutbacks in the maintenance workforce

This exchange of letters was only the most explicit of a series of warnings and expressions of concern over deteriorating conditions at NASA in general and the space shuttle program in particular. The NASA workforce devoted to safety and maintenance in the shuttle program was slashed from 3,000 to 1,800 between 1995 and 1999. It now stands at just under 2,000.

According to a report submitted to the Senate Committee on Commerce, Science and Transportation on August 15, 2000 by the General Accounting Office, an agency of Congress, "Several internal NASA studies have shown that the shuttle program's workforce has been affected negatively by the downsizing."

The report continued: "The shuttle program has identified many areas that are not sufficiently staffed by qualified workers, and the remaining work force shows signs of overwork and fatigue. Forfeited leave, absences from training courses and stress-related employee assistance visits are all on the rise."

Nonetheless, that same year Congress imposed a $380 million cost cap on each shuttle launch, leading NASA officials themselves to warn that personnel cuts "pose significant shuttle program flight safety risks."

In March of 2001 NASA's Aerospace Safety Advisory Panel issued a report highly critical of the agency's safety problems, focusing especially on the aging fleet of four space shuttles. It warned that work on long-term safety issues "had deteriorated" because of the impact of budget cuts and the backlog of "more immediate problems."

The response of the agency was to draft a new procedure for selecting members of the advisory group, which resulted in the dismissal of five of the panel members and two consultants. A sixth member, retired admiral Bernard Kauderer, resigned in protest over the firings of colleagues.

Dr. Seymour C. Himmel, one of those fired, told the *New York Times*, "[W]e were telling it like it was and were disagreeing with some of the agency's actions." Another fired panel member, Dr. Norris D. Krone of the University of Maryland University Research Foundation, said, "It's unusual to terminate people from a high-level group like that in midterm. We all thought it was ill-advised."

Despite the purging of NASA critics, the reshuffled advisory panel continued to highlight safety problems. The chairman of the panel, Dr. Richard D. Blomberg, told Congress last April, "I have never been as worried for space shuttle safety as I am right now. One of the roots of my concern is that nobody will know for sure when the safety margin has

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been eroded too far. All of my instincts suggest that the current approach is planting the seeds for future danger."

Blomberg added that his concern was "not for the present flight or the next or perhaps the one after that," but for the medium term. Columbia was the fourth shuttle launch to occur after his warning.

Subsequent congressional action did not reflect these heightened safety concerns. While NASA's funding has been cut 40 percent over the last decade, in July 2002 the Senate reduced its manned space flight budget another 10.3 percent.

One senator who flew on the space shuttle and is very familiar with the program, Bill Nelson (Democrat from Florida), complained that the upgrading of shuttle safety standards was being delayed. He declared, "We are starving the shuttle budget, greatly increasing the chances of catastrophic loss." The White House response was to propose an increase of barely 3 percent in the NASA budget for the coming fiscal year.

The impact of privatization

The role of the Clinton administration underscores a critical political fact: both bourgeois parties are culpable in the degrading of the space shuttle program.

Clinton ordered the privatization of shuttle maintenance in 1996, and a joint venture, the United Space Alliance (USA), was established by the two largest US aerospace corporations, Boeing and Lockheed-Martin, to fulfill the lucrative contract with NASA. The vast majority of those working on the space program are employed by USA, not by NASA—7,600 of the 10,000 in Houston, Texas, where the Johnson Space Center is located, and 12,600 of the 14,000 who work at the Kennedy Space Center in Florida.

Some 92 percent of NASA's $3.2 billion in spending on the shuttle program goes into the coffers of private contractors, making the space shuttle the single most privatized federal program. Lockheed-Martin clears $85 million a year in profits from its share of the partnership and other space-related subcontracting. Boeing profits from both USA and separate contracting work through its Rocketdyne subsidiary, which makes the shuttle engines.

According to a report by NASA's own inspector general, the agency no longer attempts to exercise oversight of United Space Alliance, preferring to monitor performance through what it calls "insight"—a periodic testing of performance standards—as opposed to "traditional intense oversight methods requiring the government's review and concurrence of contractor processes and decisions."

The Clinton administration boasted that the privatization effort, a component part of Vice President Al Gore's much-touted "reinventing government" initiative, was a great success. The decision to subcontract shuttle maintenance cut one quarter of the combined government and contractor workforce and reduced the average cost of each shuttle flight from $600 million to $400 million.

A recent study by the Rand Corporation warned NASA that it was losing control of shuttle maintenance at a critical point, when the shuttle orbiters needed even greater attention because of their age. Columbia itself was built 25 years ago, and first flew in orbit in 1981. "NASA must focus on retaining the engineers and managerial staff needed to ensure proper insight and oversight," Rand concluded.

The Columbia disaster is thus the latest demonstration of the destructive consequences of the right-wing nostrums of privatization and the unbridled sway of the capitalist "free market." The US aerospace industry has built a total of five shuttle vehicles. Two have now been destroyed in catastrophic events, each with the loss of all on board.

The penny-pinching forced on NASA by a decade of budget cuts is part of a larger process, in which a small and privileged elite within the US has enriched itself while allowing the basic infrastructure to decay. While tens of billions have been squandered on CEO salaries, bonuses and stock options, the shuttle astronauts have been obliged to fly in vehicles based on 1970s design and engineering.

In the final analysis, the modernization of the manned space program and the safety of the astronauts, like all other aspects of American society, have been casualties of the subordination of social needs to the demands of the capitalist market and the private accumulation of wealth.

The destructive and irrational impact of the underlying economic system on the space program can be illustrated with many examples. To cite one: During the telecom bubble of the late 1990s more than $300 billion was poured into the building of redundant fiber optic lines, resulting in 20 times the capacity that can be used by the US population. Throughout the same period the space shuttle orbiter was compelled to use 8086 computer chips, like those which powered the first IBM personal computers more than two decades ago.

The Bush administration, space and war

Press accounts note that Bush has shown little personal interest in the space program, never visiting the Johnson Space Center in Houston despite his six-year tenure as governor of Texas. Science adviser Marburger said that he had never met with Bush on the space program, but had spent time discussing possible technologies for a missile defense system.

Bush reportedly delegated the space program, like much else in his administration, to Vice President Richard Cheney. He chose Sean O'Keefe, a Cheney crony, to run NASA. O'Keefe was an official of the Office of Management and Budget with no space experience, indicating that Bush's priority was to cut costs. O'Keefe accordingly proposed a budget that would cut shuttle upgrade spending by 43 percent through 2006—in an administration that was raising US military spending to a staggering $400 billion annually.

There has always been an underlying tension in the US space program between genuinely progressive scientific and technical achievements—the moon landing, the unmanned missions to the planets, the Hubble space telescope—and the drive by American imperialism to utilize these advances for national prestige and military advantage.

This contradiction has reached its height under Bush, who has proclaimed a commitment to the militarization of space while seeking to cancel the most important scientific missions proposed by NASA, including the planned mission to Pluto and a flyby of Jupiter's moon Europa, one of the few bodies in the solar system where water has been detected.

Political impact of the shuttle disaster

The space shuttle disaster is a tragedy for the astronauts who died in the breakup of the spacecraft, for their families, for the broader community of scientists, engineers and technicians who have dedicated their lives to the space program, and for all those who share the conviction that space exploration is an expression of humanity's progressive striving to understand and master nature.

For the Bush administration and for corporate America, the loss of the

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Columbia is a blow of a different sort. It brings into question the myth of technological invincibility that the United States has cultivated through a series of military interventions from the Persian Gulf War of 1991 through the invasion of Afghanistan, with one-sided defeats of militarily inferior enemies and virtually no American casualties.

Coming on the eve of a US military onslaught against Iraq, it discredits the claims of Pentagon and White House spokesmen that US technical prowess guarantees an easy victory, and that precision weaponry will target only Saddam Hussein and his minions, while leaving the great mass of the Iraqi people unharmed.

The response of the Bush administration to the shuttle disaster has highlighted its real priorities. The day after the tragedy, White House spokesman Ari Fleischer declared that it would not interfere with the accelerating drive towards war against Iraq. Secretary of State Colin Powell would proceed with his speech to the UN Security Council February 5, Fleischer emphasized, initiating the final diplomatic flurry before the onset of war.

Bush's televised remarks on Saturday, several hours after the shuttle disaster, were as perfunctory as they were banal. They reflected concerns within the ruling elite that the Columbia disaster had damaged US prestige and heightened the anxiety of broad sections of the American population over his government's policies of militarism abroad and attacks on democratic rights and social conditions at home.

True to form, he gave what amounted to a sermon, complete with invocations of god and a biblical quotation. This wallowing in religious consolation has a definite political function. While commending the souls of the departed astronauts to heaven, Bush seeks to offload the responsibility for their deaths onto the deity as well.

Capitalism, the nation state and space exploration

The roots of the Columbia disaster are not only earthly, they are entirely comprehensible. A social order whose priorities condemn millions to go without jobs, health care, proper housing or education, which allows entire cities to decay and starves essential services like public transport of desperately needed resources, in order to further enrich a privileged few, is organically incapable of developing science and technology in a socially progressive manner.

Moreover, the development of space science and exploration, like all other branches of human knowledge, is held back and distorted by a social order that remains chained to the narrow confines of nationalism and the nation state. Science can be developed for the benefit of mankind only to the extent that its pursuit is reorganized consciously on an international basis.

The eruption of war and reaction in the US testifies to the perversion of science and technology, when subordinated to private profit and the nation state, to serve as instruments of military conquest and repression. Science, including space science and exploration, will flourish only when the international working class has freed it from the hands of the financial oligarchies so that it can be developed on the basis of a planned, democratically controlled socialist economy.

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