

Excerpts from the CAIB Report

"As the White House, Congress, and NASA Headquarters plan the future of human space flight, the goals and resources required to achieve them safely must be aligned."

"Based on NASA's history of ignoring external recommendations, or making improvements that atrophy with time, the Board has no confidence that the Space Shuttle can be safely operated for more than a few years based solely on renewed post-accident vigilance."

The Space Shuttle "has never met any of its original requirements for reliability, cost, ease of turnaround, maintainability, or, regrettably, safety."

"NASA's current organization does not provide effective checks and balances, does not have an independent safety program, and has not demonstrated the characteristics of a learning organization."

"The changes we recommend will be difficult to accomplish - and will be internally resisted."

"If NASA will accept this prescription and take the "medicine" prescribed, we may be optimistic regarding the program's future; if, however, NASA settles back into its previous mindset of saying, 'Thanks for your contribution to human space flight,' summarily ignoring what it chooses to ignore, the outlook is bleak for the future of the program." [From Appendix D, Supplementary Views of Brig. Gen. Duane Deal, CAIB Board Member]

Regarding the Safety Culture:

"The attitudes and decision-making of Shuttle Program managers and engineers during the events leading up to this accident were clearly overconfident and often bureaucratic in nature."

"Program managers created huge barriers against dissenting opinions by stating preconceived conclusions based on subjective knowledge and experience, rather than on solid data. Managers demonstrated little concern for mission safety."

"The safety personnel present in the Debris Assessment Team, Mission Evaluation Room, and on the Mission Management Team were largely silent."

"In briefing after briefing, interview after interview, NASA remained in denial: in the agency's eyes 'there were no safety-of-flight issues,' and no safety compromises."

"A pattern of acceptance prevailed throughout the organization."

"NASA's safety system does not effectively manage risk."

"Hazard analysis processes are applied inconsistently across systems, subsystems, assemblies, and components."

Of the 4,222 Criticality 1/1R Items, "3,233 have waivers... (and) 36 percent of these waivers have not been reviewed in 10 years."

"The Board could not find adequate application of a process, database, or metric analysis tool that took an integrated, systemic view of the entire Space Shuttle system."

"The Safety and Mission Assurance Pre-Launch Assessment Review process is not recognized by the Space Shuttle Program as a requirement that must be followed."

"NASA's views of its safety culture...did not reflect reality... NASA's blind spot is it believes it has a strong safety culture."