



Family From A1

week at Cape Canaveral in pre-launch seminars and festivities with the nine other finalists and more than 100 other teachers who represented their states in the teacher-in-space competition. She returned to Washington Monday after the third weather postponement of the launch.

At Cape Canaveral, about 200 NASA guests, many of them relatives and friends of the astronauts, watched the Challenger liftoff from bleachers. Their cheers turned to screams and anguished wails when the shuttle exploded.

Nine-year-old Scott McAuliffe's third-grade classmates, standing behind a "Go Christa!" banner, were among the witnesses.

Scott and his 6-year-old sister, Caroline, were with their father and other family members in a nearby observation building. But Christa McAuliffe's parents, Ed and Grace Corrigan, saw the tragedy that claimed their daughter's life from the grandstands.

The Framingham, Mass., couple stood in shocked silence as the NASA loudspeaker broadcast the terrible news. A NASA official then walked up to them and said, "The vehicle has exploded."

A stunned Grace Corrigan repeated his words as a question.

The official nodded his head and the Corriganes were quickly led away.

Many of the 114 semi-finalists for the teacher-in-space spot on the shuttle were in the bleachers. They stood quietly, shook their heads and wiped tears.

"I'm horrified," David Staples, a colleague of McAuliffe's in Concord, said as he fought back tears. "It's just unbelievable."

Hours later, chaperones for Scott McAuliffe and his classmates released a statement before boarding a plane to head home.

"We know we are joined in our sorrow by our fellow Americans and by people the world over who have experienced this tragedy with us," it said.

"To have been there at the moment of excitement and joy, so soon followed by sorrow and pain, leaves us numb and confused and makes us seek the comfort of our families so that we, and especially our children, can feel our grief in the quiet and privacy of our homes."

The statement said the group found "a kind of consolation in the knowledge that our spirits and our hearts were as close as possible to Christa, her crewmembers and their loved ones at the moment when they most needed our prayers and our love."

Despite the tragedy, legislators and astronauts defended NASA's safety record and urged continuation of U.S. space exploration.

Sen. Jake Garn, the Utah Republican who eight months ago became the first lawmaker to fly in space, was shaken but said he still had "great confidence" in the space program.

"The crew members that I knew so well, I would expect that they would want us to go ahead with the space program after we had gone through the proper investigation and analysis and know what happened," Garn said.

At Edwards Air Force Base in Southern California, where the latest space shuttle flight by Discovery ended safely Jan. 18 on a dry lake bed, NASA spokesman Ralph Jackson was visibly shaken.

"Somehow, we'll keep going," he said. "It's still too early to tell but I'm sure we'll investigate the accident thoroughly and find out what the problem is and probably start flying again."

Former astronaut Frank Borman, who circled the moon aboard Apollo 8 in 1968 and now is chairman of Miami-based Eastern Airlines, was "startled and concerned."

"These launches are right on the cutting edge of technology," said Borman, who retired from the space program in 1970.

Borman said NASA's success makes the public treat launches "almost as everyday events," but "anyone who's been in or around the program knows each one has an inherent degree of risk, which in my mind is very great."

From his home in Grass Valley, Calif., retired ace test pilot Gen.



McAuliffe's family, from left, sister Lisa with parents Grace and Ed Corrigan

Charles "Chuck" Yeager said, "They'll have to analyze the problem and make some decisions."

Added Yeager, the pilot who first broke the sound barrier and the man for whom "The Right Stuff" was named: "I don't think this is the end of the space program."

The pain was clearly deepest for the loved ones of the Challenger crew.

In Concord, thousands of McAuliffe's hometown fans watched the televised liftoff. "A real shock wave of grief has covered the entire city," said City Manager James C. Smith.

At the New Hampshire Statehouse, crying lawmakers gathered around a television outside Gov. John Sununu's office.

"I have not felt this way since John Kennedy was shot," said Sen. Susan McLane of Concord.

McAuliffe's sister, 27-year-old waitress Betsy Corrigan, said she came home to Los Angeles from Cape Canaveral on Monday night "thinking they would get off safely like they always do."

Mark Broth, a colleague of lawyer Steve McAuliffe, said the teacher's husband was "always asked ... questions about what could happen, but people were thinking of this in terms of an adventure."

Edward Barnwell, a neighbor of the McAuliffes, said Christa had been "very, very excited and enthusiastic."

Barnwell said the teacher "was quite optimistic about what her journey would do in terms of opening up space and space frontiers to normal citizens like ourselves."

Friends of Challenger commander

Francis Richard Scobee in his home state of Washington said he was also eager to go into space.

"We're just devastated. We're just numb," said Joanne Almon, one of about 150 friends and relatives Scobee had invited to Florida to witness the launch. Mrs. Almon came home Monday night.

Scobee never discussed the dangers or expressed fear about the shuttle's safety, Mrs. Almon said. "He said there's no experience like being in one of those chairs when the fire is lighted."

Ellison Onizuka casually discussed the dangers of space travel with his sister-in-law, Linda Onizuka, of Kealahou, Hawaii, two weeks ago. She said he told her the challenge was greater than the risk.

Expert blames Congress in tragedy

By JOHN CONWAY
Staff Writer

Responsibility for Tuesday's explosion of the space shuttle Challenger belongs with Congress and the president rather than NASA officials, said an expert on space law at the University of North Carolina at Chapel Hill.

Politicians and the media will be quick to blame NASA for the disaster, said Hal White, a visiting professor at UNC-CH and a researcher for Smithsonian Institute's space law project.

"Where the blame really belongs is with the policy-makers," he said in an interview Tuesday.

The nation's space program has been in a sharp decline since 1965, White said. He blames the decline on a lack of funding, definition and priority — all factors controlled by Congress and the White House.

But he emphasized that it was a combination of these factors — not one in particular — that has put stress on NASA and the space program.

"The program is seriously wounded," he said. "In Congress, space takes a back seat." NASA's budget has shrunk by 75 percent in the past 20 years, White said. Funding has

Visiting UNC professor cites funding drop

decreased in part because NASA does not have lobbyists in Congress or a large constituency of support, he said.

Because of funding cutbacks and lack of direction, he said, the program has not met the ambitious goals set years ago.

NASA was supposed to have a shuttle fleet of five, he said. Instead, it has four. The design of shuttle was scaled back because of low funding. White said NASA officials had scheduled one mission a month in 1986, which included sending the first teacher and journalist into space. Those plans likely will be set back because of Tuesday's catastrophe, he said.

The "silver lining" in the otherwise dark cloud over NASA is that the accident may cause a re-emphasis on the space program. White said it was strengthened after the fire in 1967 on the Apollo launch pad, in which three astronauts died.

In addition to delaying the shuttle program, White said the explosion may further scare those companies that insure launches and other space

projects.

"It's already a tight market," he said. "Satellite insurance is virtually unavailable." To have a satellite insured, White estimated it would cost more than half of the total value of the satellite.

The astronauts aboard the shuttle probably were insured by the government, he said, and their families will receive compensation for their loss. White said he was unsuccessful in obtaining copies of the astronauts' work and insurance contracts, because of federal privacy acts. He said he does not know if Christa McAuliffe, the schoolteacher on board, was insured because she was a private citizen.

White said the shuttle missions have raised questions about the legal, social, political and economic ramifications of putting and keeping people in space. The Smithsonian's space research project aims to answer some of those questions, he said. The project will culminate with a book, "Envoys of Mankind," which White will co-author with another researcher.

Officials said that Reagan was so shocked by the explosion that when he met the television reporters moments later, he recalled that Bush and Poindexter had told him the news. Actually, White House officials said, it was Buchanan, who had been informed of the explosion in the hallway outside the Oval Office by David L. Chew, deputy assistant to the president.

In the family quarters of the White House, Nancy Reagan, who was watching the liftoff on television, exclaimed, "Oh my God, no," said Elaine Crispin, Mrs. Reagan's press secretary. "She was very emotionally moved by it. Her eyes welled up with tears. She was in shock and disbelief."

Although Reagan told the television journalists Tuesday afternoon that he planned to proceed with the State of the Union address, his key aides met and unanimously agreed that the speech should be delayed, White House officials said.

Shuttle From A1

She was selected last July, and since then had been in rigorous training for the mission. She was to have taught two classes from space.

National Aeronautics and Space Administration officials said they did not know what triggered the fireball. An immediate internal investigation was ordered and all shuttle activity was suspended. In his statement, Reagan vowed there would be future shuttle flights.

Jesse Moore, NASA's associate director of space flight and the official who gave final approval to commence the flight, refused to speculate about cause or about several of the rumors that immediately trafficked through the space center.

Interpretations of footage of the explosion varied, as some experts who watched replays said it appeared the first flames appeared in one of the two solid rocket boosters, rather than the fuel tank.

There were questions, too, about how cold weather might have contributed to the calamity. It was 32 degrees when the launch began, and temperatures had dropped much lower throughout the night, for a time endangering the launch.

Before the blastoff, an eight-member "ice team" had been sent to the pad to chip away icicles as long as two feet. A meeting among top NASA officials about the potential dangers associated with the ice halted the countdown for a half-hour.

The explosion came at one of the most critical points in the launch routine. One minute into the blastoff, Commander Francis R. Scobee received pre-planned instructions to restore shuttle engines to full power.

The engines had been slowed to decrease air pressure on the spacecraft, as well as on the expendable, auxiliary fuel tank and booster rockets needed to propel the shuttle into orbit. Pushing the engines back to full power would subject the spacecraft to the most extreme pressure during the entire procedure.

"Go with throttle up," a controller in the Johnson Space Center in Houston told Scobee.

"Roger," Scobee said, "go with throttle up."

His were the last words heard from Challenger. At the precise moment Scobee's transmission ended, television replays showed, flames appeared to shoot from the rear of the main fuel tank, a rust-colored, 15-story cylinder loaded with 1,589,000 pounds of liquid fuel attached to the shuttle's belly.

In the next millisecond, the tank erupted and a ball of fire obliterated the spacecraft.

The two solid rocket boosters peeled away from the side of the apparatus and spiraled wobbly toward earth. Dozens of smaller pieces of the shuttle rained down in lazy arcs, leaving eerie white contrails in the vivid blue sky.

Many spectators here were novice shuttle watchers who mainly had been drawn by McAuliffe. They first thought the spectacle was part of the normal procedure. They greeted it with cheers as they scanned the skies for a sight of the white-and-black Challenger.

At the press gallery, however, veteran space reporters and NASA public affairs officials sensed disaster. Some began speaking frantically in the technical, acronym-laden lexicon found in abundance here.

"RTLS! RTLS!" several shouted at once, indicating that they believed the boosters had been blown away to accommodate an emergency return to the landing site.

They looked in vain for the spacecraft and listened hopefully for the sound of the sonic boom that would signal a return approach.

"Where's the bird?" a disbelieving Time correspondent said, his eyes rimmed red with tears. "God, where's the bird?"

It quickly became clear to all that something was terribly wrong. The most noticeable sign was that the thunderous roar of blastoff had dissolved almost unnoticed into a haunting and complete silence.

The calm but subdued voice of NASA mission control announcer Steven Nesbitt in Houston broke the quiet.

"Flight controllers here are looking very carefully at the situation, obviously a major malfunction," he said.

The announcement was followed by a tense, 40-second silence. Disbelief was the dominant emotion.

Then Nesbitt confirmed the worst fear: "We have the report from the Flight Dynamics Officer that the vehicle has exploded. The Flight Director confirms that. We are looking at, uh, checking with the recovery forces to see what can be done at this point."

At the spectator gallery, a few hundred yards from the press

grandstands, the crowd of teachers, schoolchildren and family friends who had come to watch the blastoff stood stunned in the aftermath. One young man sat on the cold pavement, his legs crossed, sobbing as he clutched a camera brought to gather mementos of the event.

Some gathered in small knots, embracing one another. Many wore the bright lapel buttons bearing McAuliffe's likeness that had sold briskly at souvenir stands.

Schoolchildren stared in bewilderment as the adults' emotions changed abruptly.

Jim Cole, an Associated Press photographer from Concord, N.H., where McAuliffe lived, was with the teacher's parents and other family members in a special viewing room during the launch.

"The mother saw it first," he said of Grace Corrigan, who only four days ago had confessed at a press conference a sense of nervousness she described as a "knot in my stomach."

Cole continued: "There was fear in her eyes. She knew it was going down. Then the sister caught on. Then the announcement."

The crowd dispersed abruptly, shuffling silently into tour buses, and within a few minutes the entire viewing section was emptied. Stacks of sodas brought for a post launch celebration sat unopened under a bright yellow-and-white tent.

Overhead, the shuttle's snaky contrail and the brilliant white cloud of smoke generated by the explosion slowly began to dissolve in the stiffening breeze.

The appearance of a silvery parachute emerging from the explosion's cloudy aftermath gave a few onlookers a moment of hope, but it carried no astronaut and instead was believed to have been one of the chutes that normally would have brought the booster rockets back to earth two minutes into the launch.

The mission, the 10th for the shuttle Challenger and the 25th of the 5-year-old program, already had been delayed three times in three days by weather conditions and the tardy delay of a previous mission, also caused by bad weather.

Moore was asked at a brief press conference Tuesday afternoon if NASA had felt pressed into pushing forward with the mission.

"There was absolutely no pressure to get this particular flight up," he said. "We have always maintained that flight safety was our top priority."

Moore said his top advisers "to my knowledge all felt that Challenger was ready to go, and I made the decision that we launch."

Moore said a hasty review of all flight information recorded in Houston gave no indication of anything but a normal flight before the explosion.

Moore said he had ordered an immediate internal investigation. He said all NASA film, notes, tapes and other data relating to the launch was to be "impounded" to assist the probe.

He said an official outside investigation by experts also would be organized by the space agency.

The Department of Defense handled rescue efforts. At its height, 13 aircraft and seven vessels foraged the choppy waters off the Florida coast for remnants of the disaster. By dark, the effort had netted only a few small pieces of debris, officials said. The ships were to search throughout the night.

The searchers had not been able to move into the zone beneath the explosion for an hour because debris dropping from high altitudes created a danger.

"Anything in the area would have been damaged," said Air Force Lt. Col Robert W. Nicholson Jr.

Flags were lowered to half-staff at the space center. Reagan, in a salute to the seven crew members killed Tuesday in the space shuttle Challenger, ordered that the American flag be flown at half-staff on public buildings and military installations throughout the world. The order, contained in a proclamation, is effective through next Monday.

Vice President George Bush and Sen. John Glenn, D-Ohio, the first American to orbit the earth, came to deliver condolences to families of the crew members.

The crew had been awakened at 6:18 a.m. and ate breakfast a half-hour later. Following a 10-minute briefing, they departed for the flight pad, arriving at 7:48 a.m.

They all were full of smiles and pleasantries for the ground crews before they entered the spaceship shortly before 8:30 a.m. McAuliffe was presented with an apple by one of the technician's who helped her don her powder blue space suit and board the craft.

Journalist flight probably not scrapped

CHAPEL HILL, N.C. (AP) — NASA's Journalist-in-Space Program may be delayed because of Tuesday's explosion of the space shuttle Challenger but it won't be scrapped, an official working with the program says.

"It's dangerous going into space and accidents can occur. That doesn't take away any of the tragedy but I think the project will go on," said Richard R. Cole, dean of the School of Journalism at University of North Carolina at Chapel Hill.

Cole, who is directing UNC's activities as one of the coordinating

schools in the Journalist-in-Space Program, said it was too early to say what effect the explosion of the shuttle will have on the program.

The flight carrying a journalist is planned for this fall.

Cole said he was talking by phone Tuesday morning with potential judges for the regional selection process, apparently at about the same time the shuttle was exploding.

Some 1,700 journalists have applied for a chance to be the first reported to travel in the shuttle.

Reagan From A1

a chance and expanding man's horizons.

"The future doesn't belong to the fainthearted, it belongs to the brave," Reagan said. "The Challenger crew was pulling us into the future and we'll continue to follow them."

Reagan had been scheduled to deliver his annual State of the Union address to a joint session of Congress Tuesday night, but postponed the speech until next Tuesday and dispatched Vice President George Bush to the Kennedy Space Center at Cape Canaveral, Fla.

"We all felt that you just can't go ahead and give the State of the Union tonight," one ranking White House official said. "The story of the day was a tragedy. Here we wanted to give an upbeat speech about America moving ahead. It just didn't fit. It seemed incongruous."

The loss of the crew of the space shuttle Challenger dominated the White House Tuesday.

Reagan first heard about the disaster at 11:44 a.m. while seated in

the Oval Office with several aides. He was scheduled to appear at 11:45 in the nearby Roosevelt Room to respond to questions about his State of the Union address from visiting television reporters.

According to White House aides, as Reagan was discussing the budget with one of his aides, Dennis Thomas, Patrick J. Buchanan, the president's director of communications, walked into the Oval Office and interrupted.

"Sir, the shuttle blew up," he said.

Buchanan recalled later: "The president was stunned. He said something like, 'Isn't that the one with the teacher on it?'"

Another aide, Alfred H. Kingon, the Cabinet secretary, said, "His eyes went wide, his mouth opened in total surprise and shock."

Almost immediately, Bush and Vice Adm. John M. Poindexter, the president's national security adviser, stepped into the Oval Office. Quickly, the group of about a dozen White House officials, with Reagan

standing in the center, clustered around a television set in the adjoining study and watched the replay of the disaster.

"It was somber — grim and somber — nobody was saying anything," Buchanan said.

Later, describing his emotions as he watched replays of the explosion, Reagan said, "It just was — I say — a very traumatic experience."

Pete Roussel, a deputy press secretary, said: "There was almost an eerie silence the entire time we watched. The president had a deep, furrowed brow. It must have gone on for 10 or 12 minutes."

Larry Speakes, the White House spokesman, said: "The president stood there in almost stunned silence as he watched the television. You could certainly read the concern, the sorrow, the anxiety on his face as he watched."

"Every now and then somebody would moan and groan and say, 'My God,'" said one White House official.