NASA: Beggs leaves, Graham takes over

James M. Beggs, administrator of the National Aeronautics and Space Administration for the last four years, began a leave of absence last week. The action came shortly after Beggs was charged with conspiring to defraud the Army on a weapons contract when he was an executive vice-president at General Dynamics Corp., before coming to NASA.

Graham

Beggs

Photos: NASA

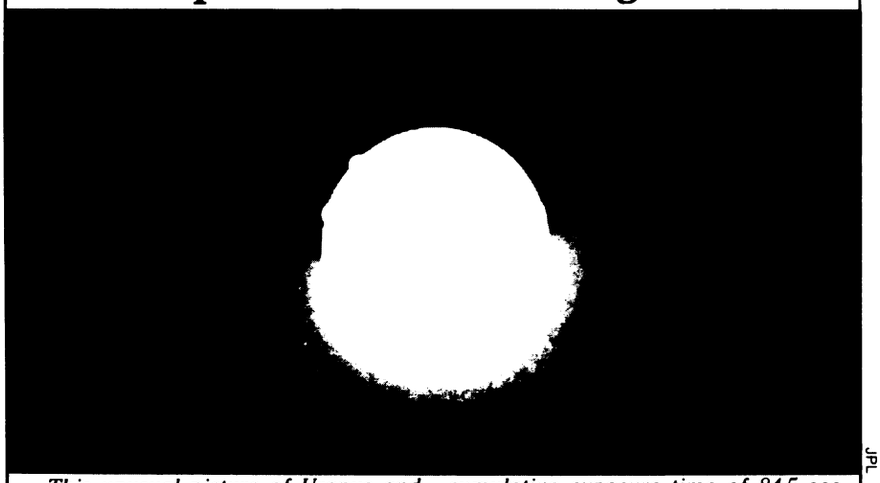
NASA's deputy administrator, William R. Graham, was named acting administrator until the charges against Beggs are resolved. Beggs's departure, though voluntary, came after several members of Congress called for him to resign. In a prepared statement, Beggs said, "For the record, I do not intend to leave the agency. This is not an interim step to a resignation." In a subsequent speech to NASA employees, Beggs was even more forceful. He reportedly labeled the charges against him as "outrageous" and "ridiculous" and part of an "adversarial relationship" created by the federal government against contractors.

Beggs was one of three officers of the St. Louis-based company indicted by a federal grand jury in Los Angeles. They were accused of illegally billing the Army for several millions of dollars in cost overruns on a prototype of the Sergeant York anti-aircraft gun. Ultimately, after about a $2 billion investment of federal funds with a number of companies, the project was canceled because the gun didn't work.

Beggs, as well as General Dynamics, has denied the charges. "There is nothing that I did in the case involved that I would not do again if I had to do it over again," said Beggs, 59. "We acted in an entirely ethical, legal and moral sense . . . I feel confident that . . . I'll be completely exonerated of the charges."

Graham, 48, had been on the NASA payroll just over a week before he was thrust into the interim role. Prior to joining the agency he was senior associate of R&D Associates in Marina Del Rey, Calif., and had served for three years as chair of President Reagan's General Advisory Committee on Arms Control and Disarmament. Reagan, who defended Beggs after the charges were made public, said he was "reluctantly" granting the leave. □

First sharp look at a Uranian ring



JPL

This unusual picture of Uranus and the outermost of its nine known rings was made by computer-adding, or integrating, a series of six images taken by the Voyager 2 spacecraft on the way to its Jan. 24 encounter with the planet. The rings were discovered in 1977, when they caused blinks in the light of a star as Uranus moved in front of it, but this is the first picture to show even one of them in a way that was not extremely blurred by earth's atmosphere.

The ring shown, called the epsilon ring, is either eccentric or elliptical, and appears to range in width from about 20 to 100 kilometers. It is also believed to be extremely dark, reflecting about 1 to 2 percent of the sunlight that falls on it, suggesting that it may be composed of carbonaceous material like that covering some asteroids and the dark side of Saturn's moon Iapetus.

Making such a dark object visible, even with the capability of computer-enhancing Voyager's images, required not only the multiphoto sequence, so that the tiny brightness difference between the ring and the surrounding space in each frame could be combined, but also unusually long exposure times. The frames were taken with either 11- or 15-second exposures, producing a cumulative exposure time of 84.5 seconds. But that was not good enough for the narrow ring. The slightest motion of the spacecraft, such as the starting or stopping of its tape recorder, produces vibrations that trigger corrective firings of the craft's attitude-control system, so engineers at Jet Propulsion Laboratory in Pasadena, Calif., had to reprogram the system to minimize the corrective effects as well.

Even with such techniques, however, the other rings, which are narrower still, have remained invisible to the Voyager cameras. The six frames in this picture were all taken on Nov. 28, with the craft about 72.3 million km (44.9 million miles) from the planet. Uranus itself is highly overexposed, due to the long exposure times necessary for the rings. And a number of artifacts – not parts of the real scene – are present due to the extreme computer-processing, such as the dark region just above the planet, the bright region below it and the small, bright projections on its upper left.

The ring appears less prominent in the lower left portion of the image, and more prominent in the upper right, which is consistent with where researchers have expected to find its narrow and wide portions. – J. Eberhart

En route to thought: Recognition and recall

The monkeys roam around, indiscriminately picking up objects, edible and inedible, and putting them in their mouths. Again and again they perform this ritual with the same items. First considered a type of mania, this abnormal behavior occurs in monkeys sustaining damage to a brain structure called the amygdala. Scientists now propose a new explanation for the behavior, and for some other forms of brain damage, based on research aimed at understanding thought processes.

"For these monkeys, looking at the object gives no clue as to what the object feels like and picking it up gives no clue as to what it tastes like," says Mortimer Mishkin of the National Institute of Mental Health (NIMH) in Bethesda, Md. Experiments in his laboratory indicate that certain brain structures, including the amygdala, act as selector switches to allow the association of different types of stored information, Mishkin told journalists at a Cold Spring Harbor (N.Y.) Laboratory workshop.

Mishkin and his colleagues began their investigations of thought by study-