RESPONSE TO INQUIRY FOR STS-5
ENVIRONMENTAL EFFECTS

KENNEDY SPACE CENTER, Florida -- The environmental effects of the launch of the fifth Space Shuttle mission, November 11, 1982, conformed to pre-launch expectations.

As in previous STS launches, the combustion of the solid rocket boosters, which provide the Space Shuttle's principal lift off the launch pad, produced a cloud of aluminum oxide and gaseous hydrogen chloride. The levels of these exhaust products outside the immediate launch area were similar to previous launches and did not present any health hazard. Extensive sampling and observation from the ground and from the air confirmed the accuracy of the mathematical models used to predict the contents and direction of the shuttle's exhaust cloud. The cloud drifted west from the launch pad at Complex 39 north of the VAB toward the Indian River at an altitude of about 4,000 feet.

For STS-5, the cloud produced a particulate fallout as far as 4 miles from the launch pad. This deposition caused spotting of some sensitive vegetation, but no other effects have been observed. Personnel assigned to science teams investigating Shuttle environmental impacts were positioned at a point north of the VAB prior to launch and were able to obtain first hand knowledge of the deposition. They described the fallout as being wet, somewhat acidic, and of short duration, lasting only about one to two minutes as the cloud passed overhead. None of those who experienced direct fallout required medical attention.

As a part of this same investigation, the cloud was sampled directly by an aircraft which measured concentrations of gases by flying through the cloud for a period of 90 minutes after the launch. The crew reported no adverse effects on aircraft or personnel.

On the launch pad, the rotating and fixed service structures and the ground and vegetation north of the pad were again coated with a residue which was disposed of safely by washing down the pad and structures as soon as possible after launch. Only the first crews to inspect the pad after launch were required to wear special protective clothing. An area just to the north of Pad A and extending 2,000 feet shows drying-out and wilting, probably due to a combination of heat and acidic exhaust.

A very small fish kill occurred in the area just beyond the launch pad perimeter and work is underway now to confirm that this is a result of very localized low pH in a small lagoonal area. Scientists monitored other wildlife in the area and reported no significant effects from the launch.

No concerns have been identified for areas beyond the immediate vicinity of the launch pad.

Evaluation of data is continuing, and a report of findings for monitoring STS-5 effects on air quality, water quality, soil, acoustics, vegetation, and terrestrial fauna will be released in approximately 45 to 60 days.