

## Alaska pipeline: Approval expected

A Federal decision on whether a consortium of oil companies can go ahead with a \$2-billion pipeline from Alaska's North Slope to the port of Valdez will be made the middle of April, says Interior Secretary Rogers C. B. Morton.

The decision will be based on a 25-pound, 9-volume Interior study to be released next week. The Council on Environmental Quality will make the final decision, based on its examination of the study. An earlier Interior study

was ruled inadequate by a Federal court after environmental groups sued the Government on grounds the study did not sufficiently take into account the delicate tundra, mountain and river ecosystems over, or under, which the pipeline would pass. Morton says the new study gives the highest possible priority to environmental considerations.

Morton has answered no direct questions about whether the decision will be to approve building the pipeline. But United Press International reported he used the words "will be" rather than "would be" in describing construction that will go on if approval is granted. □

## Official blessing for joint manned mission

Last week officialdom finally gave its blessing to a joint United States-Soviet Union space docking mission. Said Secretary of State William Rogers in testimony before the Senate Foreign Relations Committee, "We are actively working on arrangements for a possible joint space mission."

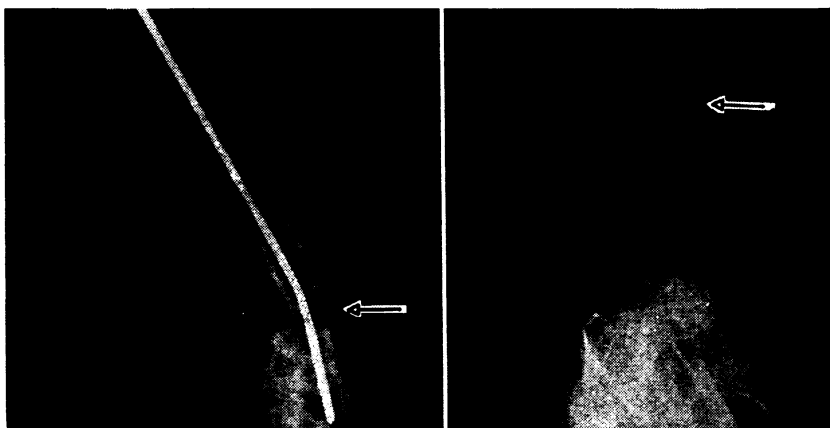
Engineers from the National Aeronautics and Space Administration and the Soviet Union have been working on the mechanics of such a mission—a universal docking collar and compatible spacecraft systems—for over a year (SN: 5/1/71, p. 303). The date most often mentioned for the first "trial" docking has been 1975. Astronauts and cosmonauts have spoken enthusiastically about "joint missions" to international audiences. But such ventures tend to take on more political overtones than scientific, and thus NASA has always hedged—waiting for the diplomatic arena to decide that such a mission would occur.

It is not exactly clear yet what the astronauts and cosmonauts will do once they have docked in earth orbit. The political climate could be sufficient to justify the venture just for the sake of docking—with no science at all. Recent estimates on the cost for readying an Apollo command and service module (CSM) to dock with a Soyuz spacecraft or Salyut space station are about \$216 million. This is the cost for an older model Apollo craft—the one without the service module bay equipped with orbital remote sensing cameras and instruments. These instruments could be used for earth resources data, but the cost of readying the leftover Apollo 15 CSM for such a mission range from \$250 million to \$300 million.

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In other space news this week, NASA announced that Donald K. (Deke) Slayton, one of the seven original Mercury astronauts, was being returned to active flight status. Slayton, now director of flight crew operations at the Manned Spacecraft Center in Houston, has never flown in space. He was removed from astronaut flight status March 17, 1962, after being selected to pilot the Mercury-Atlas 7 mission. The physicians had discovered that he had an erratic heart rate known as idiopathic atrial fibrillation. Slayton has had no medication for about two years now and there has been no recurrence of the irregularity. The decision to return Slayton to full flight status involved both NASA and Federal Aviation Administration approval. "I'm not living in the past," says Slayton of his wait. "I'm looking forward to a chance in space."

## Electricity enhances leg bone healing



SUNY Downstate Medical Center

*X-rays before and four months after electric therapy show growth of bone.*

Although chemotherapy has traditionally held the upper hand in Western medicine, electric therapy is starting to command attention. Last fall, Robert O. Becker of the State University of New York Upstate Medical Center succeeded in partially regenerating amputated limbs in rats with electricity. Carl Brighton and his team at the University of Pennsylvania healed a patient's fracture with electricity (SN: 11/13/71, p. 322). Now Leroy S. Lavine and his group at the State University of New York Downstate Medical Center and at New York University have succeeded in using electricity to help close a gap in the lower leg bone of a teenager.

The patient had had a congenital defect in one of his tibiae that was healed by bone grafting when he was four years old. But he fractured the tibia at age 11. This time neither grafting nor surgery worked. Limb amputation seemed the only alternative. Then Lavine's team, on the basis of extensive work with rabbits, ventured to close the bone gap with electricity.

They drilled holes on either side

of the break, put electrodes through the holes, placed pins in the bone to maintain alignment, sewed up the skin and put the leg in a cast. Current was applied to the electrodes for the next 125 days at least 92 percent of the time. After the cast and electrodes were removed, the gap was inspected with X-ray photos, histological studies and electron microscope investigations.

The EM tissue samples after therapy showed the formation of collagen and new bone in the former defect. X-rays taken four months after therapy also showed the growth of bone at the site. Today the patient is walking normally.

In reporting their work in the March 10 *SCIENCE*, the New York scientists conclude: "The success of applied electric current in treating this difficult orthopedic condition warrants, in our judgment, its application to other less rare problems, such as nonunion and delayed healing on fractures."

But they caution that far more work is needed on the coupling mechanisms linking electricity to basic cellular phenomena.