

Technology Notes

FOOD IRRADIATION

Plant Planned for Meat Treatment

Irradiated meat which needs no refrigeration will be produced in commercial quantities under a contract with the Atomic Energy Commission. The AEC asked for bids before April 17, 1967 on a plant which would produce a million pounds of meat a year for three years.

The Army has a prime interest in the plant, and has promised to buy 300,000 pounds of meat a year. Irradiated bacon and potatoes have already been used by the Army in small quantities overseas.

The purpose of the program is to demonstrate the feasibility of large-scale processing of foods at a competitive cost. The AEC is putting up \$140,000 for engineering design and \$230,000 for radiation sources. The contractor will pay for the plant.

The Food and Drug Administration has already approved irradiated bacon, white potatoes, wheat and wheat flour for commercial use. The AEC hopes that ham and other pork will be approved next, in 1967, followed in 1968 by chicken, beef, shrimp and pork sausage.

MARINE CONSTRUCTION

Steady Base for Offshore Drilling

A design for an offshore oil-drilling platform shaped like a huge, perforated cup would reportedly provide a stable base even in seas so rough that present drill rigs would have to shut down.

When a wave strikes the cup, some of its strength is dissipated as it passes through the holes. Within the cup is a large, central buoyancy tank, whose walls force the water back through the holes, creating turbulence and reducing the effect of the next wave.

Though only models have been built so far, the Canadian National Research Council sees other uses for the platform as a floating dock, or even a satellite tracking station. A full-size version, 200 feet across and 150 feet deep, would reportedly move only one foot when pounded by 10-foot waves.

ELECTRONICS

Cooling Cuts Arcing

To cut down arcing between closely-spaced, high-voltage electrodes in a vacuum, such as used in plasma generators, Argonne National Laboratory suggests cooling both, or at least the cathode, with liquid nitrogen.

The liquid, at minus 195 degrees C., can be fed to the electrodes through a hollow tube, insulated to protect the vacuum seals.

AVIATION

Canada Orders Both SST's

Canada's biggest airline, Air Canada, has put in its order for supersonic transport planes from both the U.S. and Europe.

The airline has reserved delivery positions for six U.S. SST's and four Anglo-French Concorde's. The reservation system, which costs \$100,000 per plane in the U.S., is not regarded as an absolutely binding

guarantee by the Federal Aviation Agency, but industry sources seem to feel that it will generally be followed.

ISOTOPE POWER

Atomic Water Purifier for Space

Human water wastes—wash water, urine and condensate—are purified for reuse in space by an isotope-powered system announced by the Atomic Energy Commission and the Air Force.

About 500 grams of plutonium 238 give the heat necessary for the two-step process. Designed for long-term manned flight, the device draws no electricity from the on-board systems, and could operate as long as a year. A scaled-down version, put through unmanned tests at AEC's Mound Laboratory in Miamisburg, Ohio, recovered about three-quarters of a pound of water each hour.

TECHNOLOGY

Hologram Can Be Seen by Candlelight

Scientists are now able to produce holograms that not only can be reconstructed and viewed with ordinary white light—even a candle or a match—but can be reproduced easily and cheaply as well. Holograms are recordings on photographic films or plates of full three-dimensional images that can be viewed by shining a light through the film.

Although production of the master hologram requires a laser, the first thousand copies can be reproduced for no more than 25 cents apiece, using the technique developed by scientists at Bausch & Lomb, Rochester, N.Y.

SPACE COMMUNICATIONS

Quick-Scan Space Antenna

Missile detection, docking in space and surveillance of unknown space objects are possible uses for a compact new radio antenna which can scan a 30-degree area of space in one-tenth of a second.

Designed for millimeter wavelengths, the antenna was developed for the Air Force by Sylvania Electric Products Inc., Buffalo, N.Y. Sweeping through space, the antenna can rapidly pinpoint the location of another antenna, enabling huge quantities of information to be exchanged when the beams of the two instruments are aligned.

MILITARY

40 Russian Nuclear Subs

The Soviet Union now has 40 or more nuclear submarines, about one-third of them equipped with three ballistic missiles each, according to the Navy's anti-sub warfare director, Vice Adm. Charles B. Martell.

The liquid-fueled missiles have a range of a few hundred miles, he said, compared with 2,500 miles for the U.S. Polaris missiles. He listed the total Russian submarine force, including non-nuclear types, at 400 subs and 120 missiles, while the Chinese reportedly have 30 submarines, one of which carries one missile.

America's 41 Polaris subs carry 16 missiles each, all capable of being launched from underwater. The Soviet Union may not yet have this capability.