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The flow of weather data follows an elaborate path from the forest to CDF's Fire Protection Office. Because mountains and trees block direct line-of-sight transmissions, the weather information is routed first to the GOES satellite. GOES then retransmits the signals to a computer complex in Suitland, Md. where reports from each transmitting station are identified by a code number. The CDF data are then relayed by land line to Sacramento, where another computer translates the information into a form usable for prediction. The entire process takes less than 90 minutes, sometimes less than an hour.

From evaluation of the initial network of 25 stations, covering only one region of the California

forest, CDF will be able to determine the improvement in fire-suppression operations and how much it would cost to operate and maintain a broad system covering the whole state. If the system proves itself, CDF envisions a statewide network providing data for the most effective use of fire fighting resources.

Coast Guard Firefighting Module

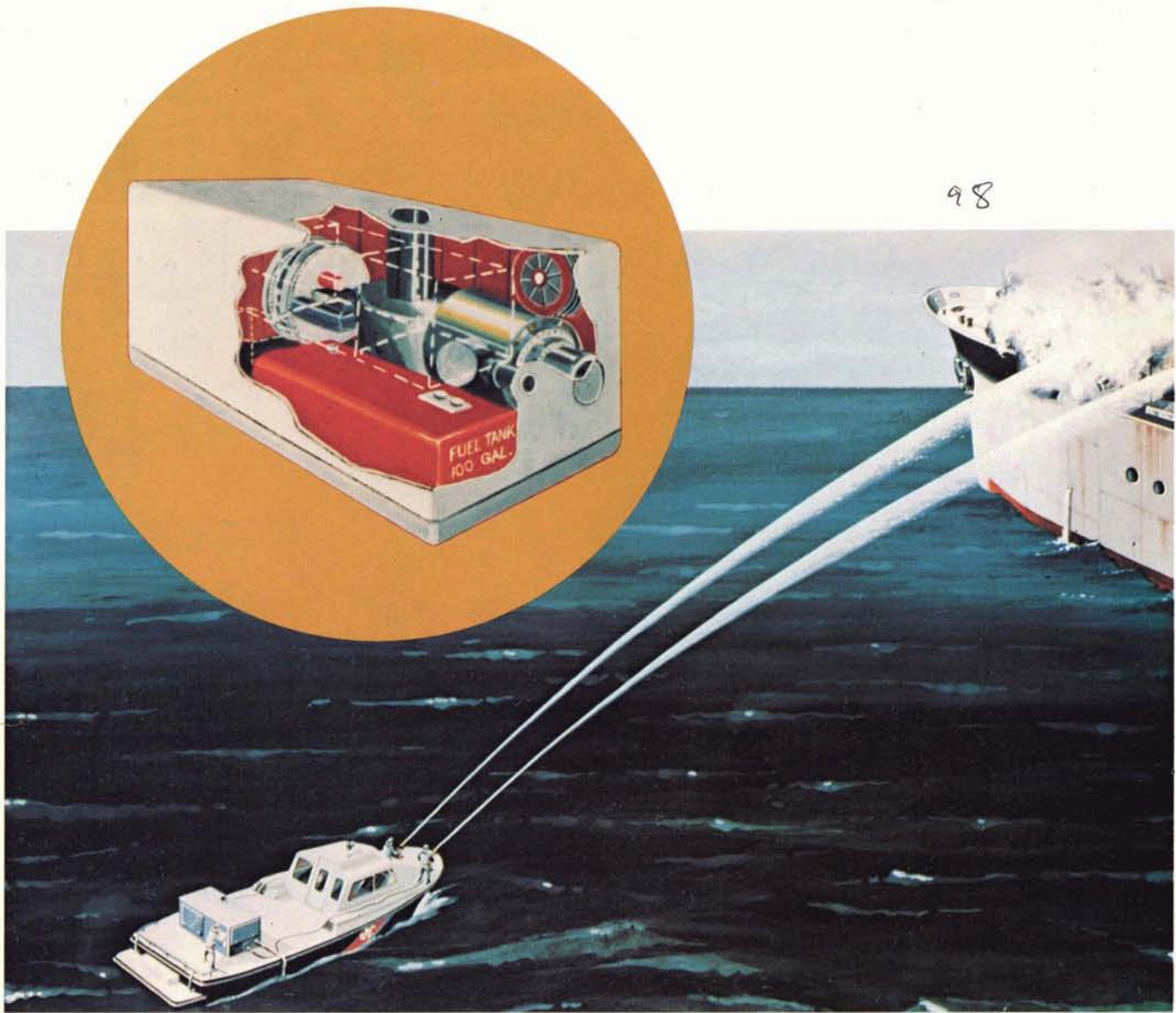
In another anti-fire application, NASA is working with the U.S. Coast Guard to develop a portable firefighting module for combating shipboard or dock fires. Lightweight and completely self-contained, the module can be helicopter-transported to a ship's deck or to dockside. In a compact package, it has everything needed for fire fighting: its own pump,

Videofile is used by a number of law enforcement agencies in the U.S. and Canada. It is a computerized pictorial record-keeping system offering high reliability and rapid retrieval of information. Key components of Videofile are derived from a video-tape storage and retrieval system developed for NASA.

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which delivers 2,000 gallons of sea water per minute, a quick starting gas turbine, hose, monitors, nozzles, protective suits, and other equipment.

NASA's Marshall Space Flight Center is directing the project, drawing on its experience in high-capacity rocket engine pumps, lightweight materials, and compact packaging acquired during the Skylab program. Northern Research & Engineering Corp., Cambridge, Mass., is building the module under NASA contract. A prototype is scheduled for acceptance and service testing this year.

Videofile for Law Enforcement

Components of a videotape storage and retrieval system originally developed for NASA have been adapted as a tool for law enforcement agencies.

Ampex Corp., Redwood City, Cal., built a unique system for NASA-Marshall. The first application of professional broadcast technology to computerized record-keeping, it incorporates new

NASA and the U.S. Coast Guard are jointly developing a lightweight, helicopter-transportable, completely self-contained firefighting module for combating shipboard and dockside fires. The project draws upon NASA technology in high-capacity rocket engine pumps, lightweight materials and compact packaging.

equipment for transporting tapes within the system. After completing the NASA system, Ampex continued development, primarily to improve image resolution.

The resulting advanced system, known as the Ampex Videofile, offers advantages over microfilm for filing, storing, retrieving, and distributing large volumes of information. The system's computer stores information in digital code rather than in pictorial form. While microfilm allows visual storage of whole documents, it requires a step before usage—developing the film. With Videofile, the actual document is recorded, complete with photos and graphic material, and a picture of the document is available instantly.