

wastes generated within the Redstone Arsenal reservation. The Army, has in turn, made the Marshall Space Flight Center responsible for taking corrective action on wastes generated in the NASA portion of the reservation.

The Department of Health, Education, and Welfare requested that they be furnished information on a plan of action which would control pollution in accordance with established criteria including: the start and completion date of the necessary engineering reports; an indication of the time and conditions of the authorization of the respective agency; the fiscal year in which the agency proposed to finance facilities; a time schedule for the commencing and completion of construction; and, the date operation of the facility is scheduled to commence. MSFC was requested to give serious consideration to providing holding facilities of sufficient capacity to provide protection from the adverse effects of accidental spills in test or component development areas.

Project: Fire Surveillance System

Question. How critical is the absence of a central fire detecting system? Have there been any instances where a fire was undetected for some time and would have caused intensive damage had it not been detected accidentally? How much damage would have resulted if the fire cited as occurring in the basement of the F-1 Engine Test Stand had not been noticed?

Answer. The absence of a central fire detection system is critical to the quick suppression and control of fires. It is a generally recognized fact that fires which are detected during the initial stages can be extinguished with a minimum of damage whereas fires which are undetected up to the point where they have gained substantial headway frequently result in a complete loss of the structure and its contents.

In one instance a burning motor on an air conditioning system serving the film vault in one of the major MSFC warehouses was detected by sheer accident. Had this fire, which was started through an electrical short circuit, not been discovered a major facility and the supplies stored therein could have been lost. Had the fire in the basement of the F-1 Engine Test Stand not been noticed and been brought under control it could have resulted in damage to the S-IC test stand as well as the F-1 stand since both are interconnected through an underground tunnel leading to the Test Control Center. The Government's investment in these facilities exceeds \$35 million, all or part of which could have been lost.

Question. What other NASA centers employ a centralized fire detection and reporting system? Are such systems used in other Government installations? (Name a few representative installations). Does industry employ such systems and, if so, which companies as an example?

Answer. Other NASA centers employing a centralized fire detection and reporting system include the following:

- Mississippi Test Facility
- Michoud Assembly Facility
- Manned Spacecraft Center
- Kennedy Space Center (Three separate centralized systems due to the large area to be covered)
- White Sands Test Facility
- Goddard Space Flight Center
- Ames Research Center
- Langley Research Center (Partial)
- Lewis Research Center (Partial)

Such systems are used in Government installations including the following:

- Arnold Engineering Development Center, Tullahoma, Tenn.
- Warner-Robbins SAC Base, Macon, Ga.
- Fort Gordon Army Base, Augusta, Ga.
- Fort Jackson Army Base, Columbia, S.C.
- Dobbins Air Force Base, Marietta, Ga.
- Turner Air Force Base, SAC, Albany, Ga.
- Fort Benning Army Base, Columbus, Ga.
- Charleston Air Force Base, Charleston, S.C.
- Fort Sill Army Base, Oklahoma
- Fort Bliss Army Base, Texas
- Carswell Air Force Base, Fort Worth, Tex.
- Milan Arsenal, Tennessee

Large industrial corporations also employ fire detection and reporting systems such as the Ford Motor Company and the General Shoe Corporation.