

detect the passage and determine the trajectories of known radiating satellites. The Diamond Fuze Ordnance Laboratories has made an outstanding record in the development of microminiaturized electronic components which have had such a vital role in many space programs. The facilities of the Army Ordnance Missile Command also constitute valuable resources. This includes the White Sands Missile Range in New Mexico, the Army Rocket and Guided Missile Agency which is developing the technical missiles for the Army. The Army Ballistic Missile Agency, since the transfer of its Development Operation Division to NASA, is restoring its capability of developing ballistic missiles for the Army.

"3. The Corps of Engineers through its extensive experience in construction programs throughout the world, probably constitutes the Nation's number one source of talent for unusual construction in difficult environments. It has the capability of making valuable contributions in extraterrestrial operations when the time comes. Through its Army Map Service, great progress has already been made in mapping the Moon and studying the lunar topography.

"4. The Army Chemical Corps and its facilities at the Army Chemical Center and the biological warfare labs can do many tasks of collateral value in space programs. Among these is the work now going on in the sterilization of space probes.

"5. The Quartermaster Corps with its research and development labs has an extensive capability for clothing and feeding human beings in hostile environments.

"6. The Transportation Corps with its Research and Engineering Command has experience and background in developing vehicles to perform under diverse and difficult environments ranging from providing barges to haul massive boosters on the ocean to studying vehicles capable of operating on the lunar surface.

"7. The Army Medical Service has the capability of performing biological research slanted toward or with indirect benefits to space programs. Included here is the Army's experience in putting animals into space on missile nose cones and related research. The program of protecting animals against the effects of ionization radiation by use of drugs has obvious applications to space. The facility of the Walter Reed Army Institute of Research and the Fort Knox R. & D. Lab are prominent among the resources in this field."

Approved by: Brig. Gen. D. C. Lewis.

Action officer: Maj. Mittenthal/71714.

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We would like to keep these capabilities and have them recognized in connection with the authorization of research, at least. "Preliminary research" is a new term. We are generally familiar with basic research and the terms applied in supporting research. What the intent is, if anything, with respect to the word "preliminary," I am not sure, but at least it would infer in the field of basic research and possibly some supporting research, the Army's capabilities would be utilized.

Thank you.

The CHAIRMAN. General, you have given us a very fine statement. Very short and very fine.

How many of these missions or programs that you refer to are lost as a result of the directive?

General TRUDEAU. There are no programs as such that are lost. This is on the assumption that we will be firmly given the responsibility to continue the Advent program and to do the necessary work that is in the planning and research stage on mapping and geodesy.

The CHAIRMAN. Well now, in the foreseeable future, would you say that this directive is going to hurt the research and development program of the Army?

General TRUDEAU. I will be glad to answer that, Mr. Chairman, but before that, I would like to add also among the other two programs that I mentioned what I consider the absolute desirability of retaining