tendency to concentrate its reactor work heavily on development in order to meet requirements for specific applications proposed by one or another agency, and more toward pursuing promising technological openings on the assumption that if a reactor development with special properties is achieved, practical applications to make use of the development will soon be found.

The whole dispute over the prototype reactor program, meanwhile, illustrates an amusing facet of the public relations side of government. The AEC almost fell over itself rushing to confess that the reason the program had been deferred until a later year was to cut the budget. On almost any nondefense program, this is the indicated approach. It saves you from having to argue with supporters of the program about whether it is really worth the money it would cost and at the same time lets you pose as sober, conservative guardians of the public purse, deferring desirable projects in the interests of "fiscal responsibility." With a defense program, on the other hand, you virtually never admit that keeping within a budget had anything to do with your cuts, for if you do, no matter how marginal the value of the program, your liberal critics will argue that you are putting the almighty dollar ahead of the safety of the country, and your conservative critics will argue that you should cut domestic welfare programs instead of risking the safety of the country to allow room in the budget for programs designed merely to win votes.
—Howard Margolis

Space Notes: Soviet Guests; Restrictions on Military Developments; West Ford

The current Soviet affability on space cooperation has revitalized a guessing game that might be called "Invitations." It is based on the uncertainties of (i) will the Russians accept a given invitation and (ii) if they do, will they show up.

If the first answer is "yes," the record demonstrates that the odds favor an appearance. But there have been occasions—most provocative for the craft of Kremlinology—when the acceptance of an invitation to a technical or scientific meeting has not been followed by the guests. This happened last September when the Soviets did not show up for a physics conference at Brookhaven. Two months later another Soviet delegation failed to attend a conference here on weather satellites. And a few years ago the Soviets failed to arrive for a study of American broadcasting techniques, a study that was written into the Soviet-American exchange program at Soviet insistence. In none of these cases was an official explanation forthcoming. On some occasions, the Soviet failure to appear has been followed by charges that the State Department is maliciously playing games with visas, holding up their issuance until the last minute. The State Department denies this and contends that last-minute visas are nothing more than the product of last-minute applications.

Invitation Accepted

The latest round of "Invitations" was played last Tuesday at the United Nations, when the Soviets accepted an invitation to visit Cape Canaveral, but failed to join the party. This was not surprising to old-timers in the exchange business, some of whom maintain that on occasion the Soviets have carried the game even further by turning up after turning down an invitation. Specific information on this refinement of the game is hard to come by since those associated with fostering cooperation have no desire to emphasize difficulties and are happy to see the Soviets arrive, despite violence to the R.S.V.P. custom.

The U.N. incident involved a State Department invitation for the 28-nation U.N. Committee on the Peaceful Uses of Outer Space to tour Cape Canaveral and witness the firing of the first international satellite, a British scientific payload atop an American Thor Delta rocket. The Soviets were among those who accepted the invitation, but even before departure time, their delegates were indicating that the home office had had second thoughts. When the plane left for Canaveral, the Soviets were not aboard; however, delegates of six other Communist nations—Bulgaria, Czechoslovakia, Hungary, Outer Mongolia, Poland, and Rumania—went through with the trip, becoming the first Communist representatives to visit the base. (Representatives of Tass, the Soviet news agency, and other Communist bloc news services were included in the blanket invitation for the world's press to cover the manned space launchings from the Cape, but they all stayed away.)

Administration officials see no point in attempting to read any deep significance into the Soviet absence from the Cape. The initial acceptance of the invitation by the U.S.S.R., plus the attendance of the other Communist nations, would seem to indicate that although the Soviets had some doubts about the precedents involved in the U.S. opening a launching site to Communist visitors, the doubts were not overwhelming. (One Administration official noted, "There is nothing to make them give us a look at their launching sites just because we took them inside Canaveral." He added, "Anyone who thinks they might be embarrassed into reciprocity has a very naive view of what makes them tick.")

The official's comments, of course, still leave open the question of why the Russians did not come along. Since the Russians are not telling, the best speculation seems to be that Soviet politicians do not fully share the cooperative spirit which has been quite conspicuous among Soviet scientists. They seem to share it far enough, however, to leave the Administration fairly confident that the Soviets are moving along in good faith toward a series of technical talks endorsed by the U.N. Space Committee. One source of assurance is the fact that the subject of space cooperation seems to have been placed out of bounds for propaganda exploitation.

Military News Curb

While the Administration has been broadening opportunities for other nations to get a look at and join in the civilian side of this nation's space program, it has taken steps to restrict information on military space activities. This development has led to reports that the most politically sensitive element in the military space program, the Samos reconnaissance system, is either (i) doing so well that it would provoke the Russians if we revealed its quality or (ii) is doing so poorly that there is nothing to write home about. In either case, the Air Force is not talking, and the field is left to the speculators, who claim equally reliable sources and offer conflicting conclusions.

From its first days, the Kennedy Administration has been whittling down on the flow of information about military space exploits. One of its first steps was to abandon the announcement of forthcoming launchings, a practice that gave away a good deal of information about the reliability of military rockets. The new policy was first put into effect

last November after a launching from Point Arguello, California, which had previously been publicized as a development site for the Samos program. A brief announcement stated that the shot was successful and was for the purpose of launching a satellite "carrying a number of classified (secret) test components."

That terse statement has since been the model for most military rocket launchings, but the Administration has decided that henceforth even greater brevity will be employed. The new rule governing announcements is itself classified, but its effects became clear last week after another launching from Point Arguello. An announcement stated little more than that the launching was a success and employed an Atlas-Agena combination, which is not giving away very much since the launchings are visible for great distances and intimate details of the Atlas-Agena's capabilities can be had at any teen-age rocket club. This country's biweekly submission to the U.N. space register calls for some additional information—inclination, apogee, perigee, and nodal period—but these items are presumably available to anyone with a good radar set. The register's designation of "satellite category" is a multiple-choice affair, calling for the registrant to pick one: Development of spaceflight techniques and technology, space research and exploration, practical applications of space based technology or nonfunctional objects. The categories are obviously quite broad, and it will not be difficult to place Samos or its cousins in a wholly unrevealing slot.

The Needles Again

Project West Ford, the long-standing and controversial space-needles experiment, is in the works again, but this time it appears that through a combination of circumstances the world is going to hear about it only if it is successful. If it is a fizzle, as it was the last time, very few people will be the wiser.

The object of West Ford is to place in orbit a band of 350-million fine copper wires to test their usefulness as a communications reflector. The band would be circular and 40,000 miles long at an altitude of 2000 miles. The experiment has peaceful as well as military implications, the latter lying in the possibility that the needles would help provide jam-proof communications for this nation's widely dispersed military forces.

An analysis of the first West Ford launch, last October, has led to the conclusion that the attempt failed because insufficient spin was imparted to the needle package when it separated from its rocket. The needles, embedded in naphthalene, were expected to be dispersed by the force of the spin as the naphthalene turned to gas. Instead, they clung together in a number of fragments. These were spotted by radar after a long and difficult search.

The new attempt will incorporate several new devices, among them a more reliable spin mechanism, a ground-command release system that will make it possible to release the needle package only if it is in a proper orbit, and telemetering equipment that will signal the location of the package. Telemetry in the initial package would have made the radar search considerably easier.

Just when the new attempt will be made is a matter that the Air Force is keeping to itself—"later this year" is the most precise information offered—principally because the West Ford package rides as extra cargo on a rocket whose main business is to carry a reconnaissance satellite. Thus, there will be no advance word of the launching, nor, it seems, will there be any later announcement unless the experiment goes as planned. In line with its new information policy, the Air Force is extremely cagey about its space activities and sees no point in giving out any more information than it feels necessary. This arrangement reflects the Administration's desire to reduce the possibility of a renewal of the controversy that developed when West Ford was first announced. At that time, the International Astronomical Union expressed fears that the needles would interfere with radio and optical observations, and the Soviets tossed in a few objections, charging that the experiment amounted to a Pentagon-inspired pollution of the heavens.

The Administration, after several special studies, concluded there were no valid objections to proceeding with the experiment. It remains wary, however, because of the potential for Soviet propaganda if there is any indication that the U.S. is withholding information on the touchy subject of filling the sky with needles. As a result, the world will quickly know if West Ford works, but if it doesn't, it is likely that the failure will not be disclosed at all or, possibly, will be disclosed only long after the fact.—D. S. GREENBERG

Announcements

A complete map of the **Antarctic Continent**, incorporating findings of the 1961–62 anarctic research season, has been issued by the American Geographical Society. Produced under a grant from the National Science Foundation, the map is at a scale of 1 : 5,000,000 and measures 42 by 56 inches. Latest developments recorded include the Thiel Mountains, formerly referred to as the eastern Horlick Mountains, and Thurston Island, depicted on earlier maps as a prominent peninsula lying between the Bellingshausen and Amundsen seas (more extensive investigations have shown that it is attached to the mainland by floating shelf ice). The Flichner Ice Shelf, second largest mass of shelf ice in the continent, is shown closer to its true proportions, extending more than 400 miles southward from the Weddell Sea and farther westward than previously believed. All known geographic features, overland traverse routes, and manned stations are included; bathymetric lines, contours, selected soundings, and depths of underlying rock surfaces are also shown. (American Geographical Soc., Broadway at 156 St., New York 32. $2, folded; $3, rolled)

The Justus Liebig University in Giessen, Germany, is establishing an **Institute for Agriculture, Veterinary Medicine, and Nutrition in the Tropics and Subtropics**, to train senior students as experts for developing countries. The facility, the first German university institute formed specifically for this purpose, will also train students from the developing countries.

A 25-year review of **Soviet biochemistry**, based on an analysis of the U.S.S.R's leading biochemical journal, is available through the U.S. Department of Commerce. (Office of Technical Services, USDC, Washington 25, D.C. $2. Order 61-31229)

The U.S. Department of Defense has announced plans to construct a **Blue Mountain Seismological Observatory** near Sparta, Ore., as a part of the Advanced Research Projects Agency's VELA-UNIFORM program concerned with detection and identification of underground nuclear weapons tests. The $700,000, six-man facility, to be completed this summer by Texas Instru-