This material is being released jointly by NASA and DOD

For Release:
11 a.m. Wednesday
July 1, 1959

President Eisenhower has approved a revised charter for the Civilian-Military Liaison Committee giving the committee expanded authority to coordinate civilian and military aeronautics and space activities, the National Aeronautics and Space Administration and Department of Defense announced today.

Principal change in the charter, called the CMLC Terms of Reference, directs the committee and its chairman to deal with jurisdictional differences when they arise between NASA and DOD. The previous charter allowed this type of mediatory action only when requested by NASA or DOD.

The CMLC consists of four NASA and four DOD representatives. A ninth member is W. M. Holaday, chairman. Secretary of Defense Neil H. McElroy has released Mr. Holaday to spend full time on these activities. This move was contemplated when he was appointed chairman of the committee. Authorized by the Space Act of 1958, the committee was formed to assure close liaison in civilian and military aeronautical and space activities. Members have met on an average of once a month since last November.

The CLMC Terms of Reference spell out the organization objectives, functions and authority and membership.

NASA members are Dr. Hugh L. Dryden, Deputy Administrator; Dr. Abe Silverstein, Director of Space Flight Development; Dr. Homer J. Stewart, Director of Program Planning and Evaluation, and Ira H. Abbott, Director of Aeronautical and Space Research.

Department of Defense representatives are Roy W. Johnson, Director of the Advanced Research Projects Agency; Major General

W. W. Dick (U. S. Army), director of Special Weapons, Office of the Chief of Research and Development; Vice Admiral R. B. Piri (U. S. Navy), deputy Chief of Naval Operations (Air), and Major General R. P. Swofford (U. S. Air Force), assistant deputy Chief of Staff, Development.

William J. Underwood is assistant to the chairman and committee secretary.

Alternate NASA members are DeMarquis D. Wyatt, assistant to the director of Space Flight Development, and Abraham Hyatt, assistant director for Propulsion Development.

Defense alternates are John B. Macauley, deputy director, Defense Research and Engineering; Colonel Charles G. Patterson (U. S. Army), deputy director of Special Weapons, Office of the Chief of R & D; Rear Admiral K. S. Masterson, (U. S. Navy) director of Guided Missiles, Office of the Chief of Naval Operations, and Major General M. C. Demler, director of Research and Development, assistant deputy Chief of Staff, Development.

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NASA Release No. 59-177

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

NASA RELEASE NO. 59-176
EX 3-3260
Ext. 6325

FOR IMMEDIATE RELEASE:
July 2, 1959

NASA NAMES ASSISTANT RESEARCH DIRECTOR

Emerson W. Conlon has been named Assistant Director of Aeronautical and Space Research (Power Plants) for NASA, with responsibility for research on propulsion problems and energy generation for application to both aeronautics and space.

Conlon will take leave of absence as Director of Research for the Drexel Institute of Technology in Philadelphia to accept the appointment effective July 6. The post formerly was held by Addison Rothrock, now Scientist for Propulsion in NASA's Office of Program Planning and Evaluation.

After receiving a degree in aeronautical engineering from Massachusetts Institute of Technology in 1929, Conlon spent 12 years in private engineering. He joined the aeronautical engineering department of the University of Michigan in 1937.

In January, 1942, Conlon went on active duty with the Navy Bureau of Aeronautics, later directing the development of the Douglas D-558, the Navy transonic research airplane. He left the service with the rank of commander returning to Michigan as chairman of the aeronautical engineering department. He remained chairman until 1953, but was on leave to the Air Force in 1950-51 to serve as technical director of its Arnold Engineering Development Center at Tullahoma, Tennessee.

Conlon returned to private industry in 1953 with Fairchild Engine Division, Farmingdale, N. Y. Prior to becoming research director at Drexel Institute in 1958, he was general manager of the Turbomotor Division of Curtiss-Wright.

He is a Fellow of the Institute of Aeronautical Sciences and serves on the Technical Advisory Panel of the Committee on Aeronautics, Department of Defense.

Conlon was born at Hancock, N. Y., on December 5, 1905. With his wife, the former Muriel Chamberlin, and son, he lives in Haddonfield, N. J.

- END -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

July 6, 1959

NOTE TO EDITORS:

Matthew H. Portz will be NASA's Western Public Information Officer beginning July 13. Located at the NASA Western Coordination Office, 150 Pico Boulevard, Santa Monica, California (Telephone EXbrook 3-9641), he will be responsible for information activities in Southern California and neighboring states.

Portz is transferring to the new post from the NASA Lewis Research Center, 21000 Brookpark Road, Cleveland, Ohio, where he has been Information Officer since August, 1956. His successor at Lewis is Harry J. McDevitt Jr., formerly of the General Electric Company News Bureau.

Portz, born in Wheeling, West Virginia, March 11, 1921, is a graduate of Wittenberg College. He took post-graduate training in advertising and public relations at University of California, American University and Art Center School of Los Angeles. He is a member of the Public Relations Society of America, Aviation Writers Association and Phi Gamma Delta Club of New York City.

A Navy veteran of World War II and the Korean War, he is active in the Naval Reserve, holding the rank of commander. He was designated a naval aviator in 1943. From 1952 to 1955 he headed the staff of Naval Aviation News in Washington. He was on the staff of the Department of Defense, Office of Public Affairs, before joining the Lewis Center.

Portz and his wife, the former Josephine Wyatt of Beverly Hills, California and their sons, Wyatt, Charles and Harvey will make their home in the Santa Monica area.

McDevitt, native of Philadelphia, attended Dickinson College and University of Pennsylvania. In World War II he served as a Marine Corps correspondent. He joined the Ford Motor Company News Bureau in 1947 and, in 1952, the news staff of the Albany, New York, Times-Union. He was associated with GE from 1953 until last year, handling public relations for outdoor lighting, instrument rectifier, meter and service shops departments.

He and his wife, the former Veronica Lubera of Hudson, New York, and their three children, Barbara Jane, Harry and Peter, live at 3226 Park Drive, Parma, Ohio.

Walter T. Bonney
Director
Office of Public Information

59-182

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

Statement by

Dr. T. Keith Glennan, Administrator

National Aeronautics and Space Administration

before the

Senate Appropriations Committee

July 13, 1959

* * *

Mr. Chairman and Members of the Committee:

I welcome the opportunity to appear before this Committee, for the first time. I am here to discuss H.R. 7978, which is now before you. In particular, I want to discuss the crippling reductions in the budget requests of the National Aeronautics and Space Administration that are embodied in H. R. 7978. These cuts, if sustained, would have disastrous consequences, and I am impelled to point them out.

The degree of success or failure of the United States space effort, vis-a-vis that of the Russians, will be gravely influenced by what Congress decides in this crucial matter.

A year ago this month, the Congress passed the National Aeronautics and Space Act: unanimously in the House, overwhelmingly in the Senate. One of the chief mandates laid down in the legislation was: "The preservation of the role of the United States as a leader in aeronautical and space science and technology. . ."

During later hearings on our fiscal 1959 budget request, some members of Congress raised serious questions about our not having

requested far greater sums than we felt, after careful study, that we needed to organize NASA and initiate its programs.

What has happened since then to give anyone a sense of complacency? For I can only interpret the action of the House as an indication of a lessening in the sense of urgency which has been expressed so often on the floor and in Committee.

Have we--who started serious work in the space field six or seven years after the Soviets were pouring unlimited funds and their best brains into the drive to dominance in space--suddenly achieved some enormous advantage?

If so, I would like to know about it. I would sleep better at night.

Or has it come about in some way that we know that the Soviet satellites and space probes, which our scientific devices have tracked and reported, were somehow gigantic hoaxes?

Gentlemen, tracking devices such as ours are not easily misled. We believe that the Russians have done exactly what they have announced they have done. And perhaps they have achieved much more that they have not revealed.

Wholesale expression of Congressional support for NASA was evident until very recently. Today the situation is strangely changed. NASA is faced, not with having to decline a plethora of funds, but with the prospect that vital projects will have to be curtailed or even put on the shelf because funds for them are being denied.

I will not be challenged when I say that the United States must bend every effort to achieve a position of leadership in the

space field. And we are all agreed that leadership in a race where there are only two participants cannot conceivably mean running second.

I do not have to tell you that we must have the facilities to exert that leadership. Also, we must have the men, we must have the money necessary to the task.

The goal all of us seek -- U. S. supremacy in space -- was set by Congress last year and reaffirmed this year when Congress authorized the full NASA budget request. This authorization reflected the awareness of Congress that we cannot win the race in which we are engaged during this turning point in history should we be deprived of the all-out support of our legislators.

Therefore, I request, with all the earnestness I can muster, that the cuts in the NASA budget be fully restored.

The reductions in the NASA budget total $68,225,000. They represent cuts both in the $45,000,000 supplemental budget request for fiscal 1959 and from our $485,300,000 budget request for fiscal 1960. Actions in the House caused the reductions.

First, the House Committee on Appropriations cut the combined requests by a total of 45,500,000.

Second, technical points-of-order passed during debate in the House resulted in a further reduction of $22,725,000 in both requests.

I am urging the members of this Committee to make full restoration because to sustain those cuts or to compromise them will hamstring the United States space program.

Moreover, if the Congress slices an already-lean NASA budget at a time when this nation has barely begun its space effort, the

world will conclude that the U. S. is having second thoughts about facing the Communist challenge in this field. Realistically, a research and development program of the complexity and magnitude of this one cannot be turned on and off at a moment's notice. Having made the decision to enter the race, and for many other important reasons, we must pursue with vigor an imaginative, well planned program.

Well aware of the implications of the Russian's commanding space lead, Congress created NASA last year around the nucleus of the highly respected National Advisory Committee for Aeronautics which had been serving the military services and the aircraft industry for 43 years. Our agency became operative on October 1, 1958 -- one year after Sputnik I began beeping ominously overhead. With NACA personnel and facilities, we were off to a good--if late--start.

From the outset, both Houses of Congress have given us the strongest possible support. House and Senate space committees have devoted many weeks of hearings to our problems and programs. The House Committee on Science and Astronautics has heard 300 witnesses from NASA, the military services, and private industry during 70 days of hearings so far this year. The Senate Committee on Aeronautical and Space Sciences has devoted a great amount of its busy schedule to NASA's program and the nation's space effort. In connection with our 1960 budget the Committee has published technical hearings of NASA work which are the most comprehensive, understandable, and educational documents on the Federal Government's

aeronautical and space activities that exist today.

Both Houses of Congress have this year overwhelmingly approved the requested authorizations for our 1959 supplemental and fiscal 1960 appropriations.

Consequently, I am unable to grasp the reasons for the House cut.

As Administrator, I have resisted the temptation to indulge in Sunday supplement speculation about the coming wonders of spcae exploration. I have been doing my utmost to see to it that the taxpayers' money is spent wisely as we venture into this new realm and reap its benefits. I have made it a point, however, to be explicit with the Congress about the inevitable costliness of space reserach. Repeatedly I have stressed during Congressional hearings that NASA budgets will grow in the years ahead.

At the same time, I have tried to convey my deep conviction that space research holds the promise that it may soon be paying for itself many times over in tangible economic benefits. We have every right to count on developments in satellite meteorology, communications, navigation, and geodetics that will dramatically affect the lives of all of us.

Taking these considerations into account, last year we put together a budget for fiscal 1960 which we felt would get us well into space exploration. As has been said time and time again, inventions are not conceived on schedule, and vast sums of money, spent without adequate thought and planning, particularly in the early phases of a program, may hinder rather than facilitate projects.

Because space technology is an expensive, fluid affair, it requires continuous review. Since January, when the President submitted our fiscal 1960 budget request, we have found means to get considerable more space mileage per dollar in some areas than originally had seemed possible. We have also discovered that others of our programs will cost more than our original estimates.

When we prepared our first budget estimates back in November 1958, we based our space flight program upon Juno II and Thor-Able boosters. Our studies have taught us, however, that future reliance upon these vehicles would be uneconomical, in fact, that it is almost impossible to justify their use because of their limited load-carrying capacity and lack of versatility. We will, of course, use them for special purpose tasks in connection with particular projects already under way. However, building on the technology developed out of the missile program, we have initiated development of Thor-Deltas, Vega, and Centaurs which--within two years--will enable us to launch much larger scientific payloads far more efficiently and cheaply.

This decision required that we pare our funds for basic research and for other activities. Subsequent studies have also indicated the need for additional tracking and data reduction installations and for the immediate modernization of existing stations. To meet this need, we have again had to trim elsewhere in the budget.

Adjustments like these are by no means unusual in a research program, particularly as we work at the frontiers of a new technology. We must deal with a new order of complexity and cost. We

need to build and manage systems that are more than global in scope. Organization of the myriad components into a working whole is a staggering task.

At one and the same time, we find that advances of science generate a flood of new proposals and an unprecedented rate of obsolescence, thus making appraisal, selection, and phasing more and more difficult and complex. Direction and control of technology has become one of today's most pressing and managerial challenges.

As I brought out earlier, our present budget has no slack whatsoever. As further evidence of our tight belts, I would like to state that we do not have a single "backup" vehicle for any of our scientific experiments. Each must be a "one shot" affair, and if the booster malfunctions, we will simply have to lay the experiment aside.

Before spelling out for you just what this cut will mean to our program, I would like to point out that our research centers, which are deeply involved in aeronautical as well as space research, account for slightly more than $100,000,000 of our 1960 request. Actual new money for the space field is somewhat less than $375,000,000. Some or all of the large budget, long lead-time items in our space program, would be affected by the House action, if sustained. Here, in brief, is what the reduction could mean to our national space program in terms of time and progress:

1) The development of the Vega rocket propulsion system might have to be drastically cut back. A key vehicle in our

future plans, Vega will be capable of placing more than 5,000 pounds in an Earth orbit. It will be one of the first space vehicles capable of making extensive television surveys on the Moon's surface. It will also be used for communications satellite relay experiments and will have the capacity to launch two-man satellites. It will be our first which is capable of matching the payload lofting capability of the Soviets.

2) In addition to cutting back Vega, we might have to retard Centaur, another key space vehicle which will be able to place more than 8,000 pounds in a 300-mile orbit and should be capable of soft-landing a 730-pound scientific payload on the Moon. The Department of Defense, as well as NASA, has a strong interest in this vehicle.

3) We would have to eliminate or drastically reduce the $30,000,000 needed for the 1½-million-pound-thrust, single-chamber engine. This is a long lead-time project to provide in about six years time propulsion units capable of 6,000,000 pounds thrust. Only with this vehicle will it be possible to carry our manned expeditions to the Moon and back. The budget cut will set this back at least one year.

4) Among other long lead-time items on which we would have to reduce the pace is Project Rover which concerns the development of nuclear propulsion for space travel.

5) We would have to delay completing additions to our tracking and data acquisition networks.

6) Even our top-priority Project Mercury, the manned satellite project, would certainly be affected if we are to carry on with any

semblance of a balanced program. This, of course, would increase the probability of the Soviets scoring still another "beat" in this aspect of space exploration.

Let me assure you that I am not crying wolf. While we have not had the time to evaluate in detail the effect of the proposed cuts, it is clear that the items enumerated would be those most likely to be affected.

A final, serious matter that I want to mention is the House action which reduced NASA's request for personnel increases and supporting costs. You will recall that when the National Advisory Committee for Aeronautics was absorbed by NASA, 7,699 employees were transferred to the new agency. Along with the transfer went NACA's heavy aeronautical research responsibilities. Since that time, only 1,269 employees have been added to carry the additional responsibilities.

Now, we have requested funds to employ an additional 1,027 -- a modest increase in view of NASA's mission. The House cut this number by 15 percent. These people are urgently needed to help make up the time that has already been lost. And the management - the sensible management - of a budget of the size under consideration is done by people in adequate numbers and of high quality. We have said that we propose to limit the size of our own staff in favor of contracting a substantial part of the space program. But we need men for planning, contracting and monitoring those contracts. And we must have a sufficiently large in-house operation to assure that we have people knowledgeable in the field to provide

the technical judgments necessary to the development of a sound program. Without the men to do the job, we will break our stride and fall even farther back.

The decision in this Nation's space exploration program is up to the Congress. Whatever the decision you make, we will attempt to carry it out with diligence and devoted effort.

The work we are now doing is an important instrument of international prestige. By utilizing their space exploits as an instrument of power politics, the Russians have convinced a large segment of world opinion that success or failure in these experiments is a valid measure of our scientific progress and general cultural status, as opposed to theirs. And there is no blinking the fact that the uncommitted nations are influenced by space achievement.

In conclusion I want to say that in my judgment, and in the judgment of the scientists and engineers who are with me here today, our 1959 supplemental and 1960 budgets as originally submitted are sound--and conservative. They cannot be reduced without placing in jeopardy some of our most important programs.

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NASA Release #59-185

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

NASA RELEASE NO. 59-187
EX 3-3260
Ext. 6327

FOR IMMEDIATE RELEASE
July 15, 1959

NASA SELECTS WESTERN ELECTRIC TO BUILD MERCURY TRACKING NETWORK

The National Aeronautics and Space Administration has selected the Defense Projects Division of Western Electric Company, Inc., New York, with whom to negotiate a contract for a world-wide network of tracking and ground instrumentation stations to be used in Project Mercury, the United States effort to achieve orbital manned flight. Negotiations for a formal contract with Western Electric will begin this week.

Four companies will be associated with Western Electric as major subcontractors. The companies and their responsibilities are: Bell Telephone Laboratories, Whippany, N. J., system engineering, engineering consultations, and command and control displays; International Business Machines, New York, computer programming, simulation displays, and computers; Bendix Aviation Corp., Towson, Md., installation of radar, ground to air communications, telemetry and site display equipment, and Burns and Roe, Inc., Hempstead, L. I., N. Y., site preparation, site facilities, construction, and logistic support. Western Electric, as the prime contractor will be responsible, in addition to contract management, for overall logistics and training, and ground communications.

The total cost of the Project Mercury tracking and ground instrumentation is expected to be in excess of $25,000,000. The

contract to be negotiated is on a cost plus fixed fee basis.

NASA initiated the competition for the contract about two months ago, and on May 18, a technical briefing was conducted, with nearly 40 firms, including possible prime and sub-contract bidders in attendance. On June 22, the closing date for bids, seven groups made proposals. The proposals were then evaluated by NASA technical and management teams, and the final selection was determined yesterday by T. Keith Glennan, NASA Administrator.

The Mercury tracking network will include both radar tracking and telemetry installations, located in Africa, South Pacific, Central America, Cape Canaveral, Florida, Hawaii, Southern California, on an island in the Atlantic, two on islands in the Pacific and two on ships.

The tracking network -- to be completed in 1960 -- will be composed of existing components. All new stations will be composed of van-mounted, portable equipment with the exception of the station in the Atlantic. This equipment will be re-deployed for later phases of Mercury and for other future projects.

The equipment will be assembled to provide telemetry and communications links with the Mercury capsule in orbit. It must be capable of monitoring the on-board equipment of the capsule, including the life support system, the physiological reactions of the Astronaut, and the re-entry command equipment. It must also be capable of maintaining communications with the Astronaut during the flight.

- END -

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

NASA RELEASE NO. 59-188
EX 3-3260
Ext. 6326

FOR RELEASE:
Friday, PM's
July 17, 1959

NASA APPOINTS GOETT DIRECTOR OF GODDARD CENTER

Harry J. Goett, long associated with NASA flight research, has been appointed Director of the agency's new Goddard Space Flight Center. In announcing the appointment, T. Keith Glennan, NASA Administrator, said it will be effective September 1, 1959. As Director, Goett will report to Abe Silverstein, NASA Director of Space Flight Development.

In his new post Goett will head a staff of scientists, technical and administrative employes engaged in basic research, and in developing satellites, space probes, vehicles and systems for tracking, communications and data reduction.

Pending completion of new quarters for the Center at Greenbelt, Maryland, units of the organization are located in several temporary sites at Washington, D. C. and Langley Field, Virginia. Temporary main office is at 4555 Overlook Drive, Washington 25, D. C.

Goett, beginning in 1948 directed some of the first space research of the NASA's predecessor agency, the National Advisory Committee for Aeronautics, using a special wind tunnel to reproduce low densities found at extreme altitudes. He has been engaged in research in aerodynamics and the operating problems of flight more than 23 years. Since NASA was established last October 1, he has provided technical liaison for the agency's West Coast satellite and space probe activities,

including the Pioneer series, one of which was put into orbit around the sun.

Goett was chairman of a technical review team which contributed improvements to rocket vehicle systems used by NASA. He is a member of the Research Advisory Committee on Control, Guidance and Navigation, and Research Steering Committee on Manned Space Flight, and head of the Astronomical Satellite Team of the NASA Ames Research Center.

In his career with NACA Goett for many years was a member of the Subcommittee on Automatic Stabilization and Control, and of the Working Group on Instrumentation of the Special Committee on Space Technology which was formed in 1957. He comes to his new duties from the Ames Research Center, where he has been Chief of the Full Scale and Flight Research Division since 1948.

The Goddard Center organization will be composed of three major research and development groups under assistant directors. These are Space Sciences and Satellite Applications, under John W. Townsend Jr.; Tracking and Data Systems, under John T. Mengel, and Manned Satellites, under Robert R. Gilruth. Michael J. Vaccaro is business manager.

Born November 14, 1910, in New York City Goett attended elementary and high schools there. He was graduated from Holy Cross College in 1931 with bachelor of science degree, and two years later earned the degree of aeronautical engineer at New York University. He took additional studies of law at Fordham University.

From 1933 to 1935, he supervised machinery installations for the Waterbury Rope Company, New York City, then was employed by the Sumerill Tubing Company and the Douglas Aircraft Company for a short period. He joined the research staff of NACA's Langley Aeronautical

Laboratory in July, 1936. He was transferred in July, 1940, to Moffett Field, California, where the Ames Laboratory was under construction.

At Ames, Goett first was engaged in design of wind tunnel model and support systems. He bacame head of the laboratory's 7 by 10 foot wind tunnels, conducting research on stability and control qualities of airplanes. In World War II he was advanced to head the 40 by 80 foot wind tunnel (world's largest), supervising the general research program for improving American airplanes. He was promoted again in 1944 to Assistant Chief of the Full Scale and Flight Research Division, where he became Chief four years later.

His research work has covered a broad range of problems in aerodynamics and operations, including atmosphere reentry, aerodynamic heating, low speed and vertical takeoff aircraft, stability and control, in-flight studies of boundary layer control, automatic flight and jet engine thrust reversers. Under his direction, the Division conducted successful research on a thrust reverser and flight approach control for jet airplanes. Goett has written or co-authored a dozen technical reports.

He and his wife, the former Barbara Alexander, are parents of two boys and two girls. They now live in Los Altos, California.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

NASA RELEASE NO. 59-191
EX 3-3260
Ext. 6327

FOR RELEASE:
FRIDAY A.M.'s
July 24, 1959

PRESSURE SUIT FOR ASTRONAUTS SELECTED

The National Aeronautics and Space Administration today selected a modified U. S. Navy pressurized flight suit as the life-support garment to be worn by the Project Mercury astronauts in manned orbital flight.

Selection of the suit came after more than six months of intensive testing and evaluation of three different pressure suits. The Navy suit is made by the B. F. Goodrich Company, Akron, Ohio.

NASA is ordering 20 suits. Final cost of the order is expected to be about $75,000.

Under the one-piece Navy suit, the orbiting astronaut will wear a double-walled rubber ventilated garment of a type used by Air Force pilots. The inner wall of this suit will be perforated to permit the body pores to "breathe."

Air will flow into the inner suit through a waist connection, circulate through the suit and be exhausted through a pipe in the helmet. The air then will move through an air conditioning system under the astronaut's couch where impurities will be purged before it is recirculated.

The outer suit features body, leg and arm lacings. The

headgear, which locks to the suit on a neck ring, looks like a football helmet with a plastic facepiece.

As in modern fighter aircraft, the outer suit -- a single layer of reinforced rubber -- will be pressurized only if the capsule pressure fails. It will serve as a backup safety feature. Should anything go wrong with the capsule pressurization, the astronaut will have the pressurized suit to fall back on.

The suit will be coated with a silver spray which is to act as an additional heat buffer and a radiation shield.

Factors in the suit decision -- made by a six-man NASA selection board which included Astronaut Walter M. Schirra -- were: mobility, compactness, reliability, resistance to temperature, pressure integrity and ease of getting in and out of it.

At Wright Air Development Center, Wright-Patterson AFB, Dayton, Ohio,and McDonnell Aircraft Corporation, St. Louis, Missouri, NASA prime contractor for the Project Mercury capsule, rigorous suit evaluation tests were carried out.

Test team members spent as long as 24 hours in the suits to check mobility and the fitting. Temperatures up to 180 degrees F. -- much in excess of the temperatures the astronaut is expected to encounter in flight -- were applied for more than two hours at a time.

In addition, tests were made in a whirling centrifuge pulling as many as 8 G's. Sound-reduction features also were carefully gauged.

Plans are for the astronauts to wear the suit in the sub-orbital Redstone-boosted Mercury test flights as well as the Atlas-boosted orbiting flights.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

RELEASE #59-193
EX 3-3260
Ext. 6327

For Immediate Release
Wednesday, July 29, 1959

STATEMENT BY NASA

Dr. Hugh L. Dryden, Deputy Administrator of the National Aeronautics and Space Administration, welcomed the announcement today in the British House of Lords that Her Majesty's Government has approved proposals for cooperation with the United States in scientific research in space, subject to the conclusion of formal arrangements between the two governments.

Viscount Hailsham, Lord President of the Council, told the House of Lords that Her Majesty's Government has considered and approved proposals that British scientists prepare instrumentation for satellites to be placed in orbit from the United States.

The proposals were submitted by Professor H. S. W. Massey and a team of experts who visited the United States in June for discussions with the National Aeronautics and Space Administration. These talks resulted in an informal technical understanding between NASA officials and Professor Massey for the launching of several instrumented satellites by means of the "Scout" vehicle, which NASA is developing for use with civil scientific research.

Dr. Dryden said:

"It is gratifying to know that British scientists now will join with American scientists in unlocking the secrets of space for the good of all mankind. There is much that free nations can contribute to understanding of the universe and the celestial bodies which compose it, as well as to the practical application of that knowledge. We look forward to fruitful cooperation with our British colleagues."

As announced by Lord Hailsham today, information concerning the joint U.S.-U.K. space exploration programs and their results will be made available to the international scientific community.

The British action today culminates discussions which began between scientists of the United States and of the United Kingdom last winter and which led to Prime Minister Macmillan's announcement May 12, 1959, that Professor Massey and the team of experts would be sent to the United States.

Under the terms of the proposals approved today the launchings of the British-instrumented satellites would take place over the next three or four years.

The Scout, which will be used to launch the satellites, is a low cost rocket vehicle now under development by NASA. Made up of four stages, it is designed with a capability of putting a 150 lb. payload into orbit more than 300 miles above the Earth.

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

WASHINGTON 25, D. C.

NASA Release #59-195
EX 3-3260
Ext. 6327

For Release:
Friday PM's
July 31, 1959

LUNAR WORK REFLECTED IN JUNE CONTRACTS

Contracts for an instrument to probe the surface of the moon and the study of a new rocket engine concept are among nearly $16 million worth of contracts awarded by NASA in June.

Under NASA contracts, scientists at Columbia University and California Institute of Technology will collaborate on the construction of a "lunar seismograph."

A moon landing isn't going to happen tomorrow, scientists emphasized. But if a roughed-out schedule moves along as planned, the United States may attempt to "soft-land" a seismograph on the moon within five to six years.

Such a "moonquake" detection system would provide a first-hand means of studying the makeup and crust activity -- if any -- of the moon. Information on the kinds of rock there, whether they are molten and details as to the size and velocity of meteorites hitting the moon are some of the aims of the project.

This sort of information would aid greatly in the study of other planets as well.

Size, shape and weight of the lunar instrument will depend on the guidance and weight-carrying abilities of the rocket used. Landing impact expectations also will have a lot to do

with planning of the payload.

However, scientists at both schools believe a "rugged" seismometer -- weighing about 10 to 20 pounds -- appears feasible. Retro rockets will be used to soften its impact.

Initial NASA funding for the first year's work on the project amounts to $130,000 each to Cal Tech and Columbia.

In other lunar-oriented work, a $150,000 contract for studies of the problem of soft lunar landings went to the Army Ordnance Missile Command. Massachusetts Institute of Technology, under a $100,000 contract, is to design and build a prototype instrument to measure the density of plasma (electrified gases) between the earth and the moon and particularly around the moon.

In the same area, two contracts went to the Naval Research Laboratory (ONR). One is for instrumentation to measure the natural radioactivity of the moon. The other is for a lunar data acquisition and recording system for $80,000.

In engine research, a $390,000 contract went to General Electric Co. for a study into what propulsion engineers call a plug-nozzle engine.

Most rocket engines employ a cone-shaped nozzle through which fire and exhaust gases escape. In theory, the plug-nozzle concept "spikes" the conventional central opening and combustion takes place in a ring of cells about the rocket's base.

Exhaust gases would follow the contour of the conic-shaped spike in leaving the combustion chambers and push away from

the spiked surface depending on the altitude. The idea is that the departure of the gases would be self-adjusting according to altitude and therby increase the rocket's efficiency.

Preliminary studies suggest such a concept could increase low-altitude rocket efficiency substantially.

Plug nozzle advocates say the concept would be best employed in the initial booster stage of a multi-stage rocket. If successful, the study may provide information for the scaling of rocket engines to the multimillion pound thrust category. The eight-month GE study contract is to produce proportions and operation estimates of plug nozzle engines under a wide variety of conditions.

Other contracts awarded in June:

Air Force Ballistic Missile Division (ARDC) -- $7,500,000 -- Initial funding for eight modified Atlas boosters to be used in the three-stage Vega rocket. (See NASA Release No. 59-131, May 6, 1959). Another contract with BMD, for $5,870,000, represents initial funding for 11 Thors to be used in the three-stage Delta rocket. (See NASA Release No. 59-124, April 27, 1959).

Aerojet General Corp. -- $140,000 -- To cover costs of fabrication, static firing and shipping the booster stage of the all-solid four-stage Scout rocket.

Vector Manufacturing Company -- $60,000 -- Subcarrier oscillator components in the Scout electrical system.

Motorola Inc. -- $60,000 -- Command receivers to be used in the guidance and telemetry systems of Scout.

AF Cambridge (Mass.) Research Center -- $50,000 -- Test

of drogue chutes which open first as the manned Project Mercury capsule descends.

University of Minnesota -- $60,000 -- To build a life-support system using plants (probably algae) to generate oxygen for human breathing on extended space flights. The long-range study is to develop a prototype system.

Grand Central Rocket Company -- $180,000 -- To demonstrate the feasibility of a unique design of solid propellant rocket engines. The project is classified.

ARDE-Portland,Inc. -- $90,000 -- To investigate the performance of refractory materials on rocket nozzle liners.

Smithsonian Institution -- $100,000 -- Science and engineering studies of instrumenting an orbiting telescope.

Hughes Aircraft Corp. -- $200,000 -- For design and construction of an atomic clock using ammonia vapor which may be used to test Einstein's Theory of Relativity regarding time variations in space.

Naval Research Laboratory -- $100,000 -- Preliminary design work on advanced detectors to measure ultra-violet radiation, principally, in space.

Bureau of Ordnance (Navy) -- $140,000 -- For 12 solid rockets to be used in sounding rocket tests.

Ordnance (Army) -- $150,000 -- Partial funding for 12 Honest Johns and 24 Nikes to be used in the sounding rocket program.

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