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THE WHITE HOUSE

PRESS CONFERENCE

OF

DR. GUY STEVER, DIRECTOR,
OFFICE OF SCIENCE AND TECHNOLOGY POLICY

THE BRIEFING ROOM

AT 11:50 A.M. EST

MR. NESSEN: As promised, we have Guy Stever here.

The reason that we thought you might want to hear from Guy Stever is that the President has already made some decisions in his budget that affect the area of research and development, science, and so forth. These are interesting, I think, in the directions they point.

Although Guy will not be able to give you the dollar numbers today, he may be able to use some percentages and so forth. We thought you would be interested to hear some of the decisions the President has made in this area.

I am going to let Guy tell you about the meeting that was held this morning, who attended, what transpired, outline these budget decisions and answer your questions.

DR. STEVER: Ron, ladies and gentlemen, I am delighted to be here. The President ran a little long in the meeting.

We had 19 leaders in the field of science and engineering from around the country to meet with the President and discuss some of his budget thrusts in the R&D budget this year, and we also had a dozen or so of the science and technology leaders within the Government, from NASA, Department of Defense, ERDA, Interior, HEW, and so on.

The President has from the beginning taken a special interest in research and development and has been very anxious to reestablish a strong communication between the science and technology community and the White House, and I believe that he has succeeded very strongly. The leaders of the community spoke very strongly about that reestablishment and expressed a great pleasure about that.

As you know, several things have happened in this Administration with respect to R&D. One of them, the President from the beginning wanted to reestablish science in the White House and a strong communication through a legislative program. He asked the Vice President to spearhead that effort. That effort resulted in the passage of the science and technology priorities bill and the establishment of four entities, the Office of Science and Technology Policy within the White House, with a director serving as Science and Technology Adviser, and also the President's Committee on Science and

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Technology, chaired by Dr. Ramo, and Vice Chairman, Dr. Baker of Bell Labs.

The third entity, the Federal Coordinating Committee on Science and Technology, and a fourth entity, an inter-governmental panel to work between the State and local governments and the Federal unit. All of those have been established.

One of the most important things that the President did on the recommendation of the Vice President was to establish sort of precursor committees to look over the field, the issues that have grown in science and technology over a number of years that the new office could work on when it was established. It is going to take some time to get the bill through, and so on. Dr. Baker chaired one committee and Dr. Ramo chaired another.

Many of the issues on which those committees worked have, in fact, emerged in this year's budget cycle. I think the President is particularly pleased that that whole process has worked so well.

In the field of basic research, which President Ford has been particularly interested in, basic research is performed in the universities, but basic research across the Government as well, a field where the Federal Government is the primary sponsor of the work.

The President in each of his budgets has taken an initiative to reverse a downward trend that has occurred that has taken place for almost a decade. He has succeeded in doing so. He wants to continue that thrust.

In the meeting today, several of the leaders of basic research, Dr. Hackerman, Chairman of the National Science Board, Dr. Handler, President of the Academy of Sciences, and others from the academic and scientific world, spoke out about this leadership.

The President is determined to have in his budget a sufficient increase in basic research support so that there will be a real growth, definitely above the expected inflation rate, and one part of that is very interesting.

The Baker-Ramo precursor committees recommend strongly that we strengthen basic research in agriculture by establishing a competitive grant program. The Secretary of Agriculture was here, and also other representatives from the science community, Mr. Dan Aldrich, who is Chancellor at the Davis Campus of the University of California, and they spoke of that and the kinds of things that could be done with such a competitive grant program.

This is another thrust which started a couple of years ago and is now reaching budget fruition this year.

Another area which the President asked for comments on from the group was the outlook in space. We have had obviously tremendous successes in space and we had one great one in the Mars program this year and we are all delighted, but the science community has felt very strongly that unless

some new starts in space were made at periodic intervals we, in fact, would lose our capability over a period of time.

This year there are some new starts to be recommended in the upcoming budget. The space telescope, what will be one of the great instruments of modern science when it is finished, will start. This has been coming up through the system for some time, but there is a definite start of the program in the coming budget.

Q How much?

DR. STEVER: I would rather put that off until the President announces a specific amount, but it essentially starts the program at the speed with which it can grow reasonably. In other words, it isn't being held back as a future program for that.

Q Can you also give us the percentage on this agriculture competitive program?

DR. STEVER: No, but I can give you the percentage on the basic research in general, a real growth of 3 percent is hoped for.

Q Where will the telescope be located?

DR. STEVER: In space. This is the beautiful thing about the space telescope. It does not have to be located in any geographical area of the world. Therefore, the siting program is the easiest we have ever had in any major science facility. But it is obvious that it is a program that will last a long time. Of course, the reason that it is wanted by the science community is that the telescope will operate outside of the earth's atmosphere and will not be subject to the problems of viewing that the earth's atmosphere gives due to the turbulence of the atmosphere and also due to the impurities in the atmosphere which affect the spectrum of light coming through.

Q How long will it take to be built?

DR. STEVER: I am not sure of that, but if you are interested in that I can get my team to give you kind of a schedule.

Q Could we ask, is this a U.S. project or are we getting the cooperation of other countries?

DR. STEVER: It is basically a U.S. program, but the scientists of the other countries, I am sure, will cooperate a great deal and will want to use this program. It will be a great focus of astronomy in the future.

Q This is not an optical telescope, is it?

DR. STEVER: It is, yes.

Q Is this a two meter?

DR. STEVER: Two meter is the last I heard, but the important thing is that we get it in space rather than the size. That is the important factor. It may be a little less. I will check that.

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Q Is it planned to use a space shuttle for it?

DR. STEVER: Yes.

Q So the people who are using the telescope will be out in space with the telescope; is that right?

DR. STEVER: It will be shuttled back and forth so they can use it. Of course, it would be a very automatic device, but it can be tended by people going to and from it. That is important.

Q No way on earth that you can get pictures transmitted from it?

DR. STEVER: Yes, you could; sure. You probably could do both, in fact; transmit them and also pick them up out there.

Another space initiative is the beginning of a Jupiter orbiter probe to be launched in 1981 as the next step in our systematic scientific exploration of the solar system, and a third initiative which is going to be started is the development of an advanced technology earth resources survey satellite, the LANDSAT D, which is in the fourth of a series of experimental satellites.

In today's program, unfortunately, Jim Fletcher, the head of NASA, was indisposed and couldn't be here, but Mr. Al Lovelace was there representing him, and Dr. Cortright, who is the head of the AIAA, the American Institute of Aeronautics and Astronautics, was there and they discussed these programs, and Dr. Handler, the President of the Academy of Sciences. The Academy has a Space Science Board which has advised on these programs over a number of years, and Dr. Handler spoke of the things that were coming out of that advisory mechanism.

So I believe again that new initiative is in response to the scientific community in reasonable form. Obviously not everything can be started in one year, but the important thing is that a pattern of new starts has been established.

Q Can you go into this? Are you through?

DR. STEVER: No.

Q Before you go on, you really ought to tell us what a systematic Jupiter solar probe --

DR. STEVER: The Jupiter orbiter probe is essentially the first more complete scientific exploration of Jupiter. It is obviously an important planet in our solar system and we haven't paid as much attention to it as we should. It is the largest planet. It will offer us more experiments on planetology, not geophysics but solar system physics, new studies of formation of life, and so on.

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Q Isn't it true also that the idea of the orbiter was to go up close to some of the 13 moons of Jupiter?

DR. STEVER: That is exactly right, yes. These moons are known about and we will now know a lot more about them.

Q Is there any money for a follow-on on Viking?

DR. STEVER: The follow-on on Viking has a small program, but it isn't accelerated this year. But the follow-on on Viking that can be launched in 1985 is it -- I think it is 1985 -- there is time to bring that in as a new start at another time. It is not a critical new start at this time.

Q There is no money for an '81 mission?

DR. STEVER: Not for an '81 launch, I don't think, but there is another window which comes in, I think, '84 or '85. That is easily within reach of a later start.

Q How about this third thing, the experimental satellite?

DR. STEVER: The LANDSAT D, the advanced technology earth resources survey satellite, that is a follow-on onto what was originally the ERTS program and now is the LANDSAT program, and it will be an advanced model. I think that it is one of a series of steps, one of our most successful programs, namely, earth viewing from space.

The President also spoke of his growing interest in the earthquake problem and his contact generated through the Vice President to the science community with scientists who had looked at the problems of predicting earthquakes and mitigating the effects. There have been programs in the Federal Government on those, but with some success on the part of the Chinese and Soviet scientists in the predicting of earthquakes the interest has grown very strongly and, of course, American scientists along with others in the world are contributing to that program and there is a strong acceleration of that program in the forthcoming budget.

Q In what areas?

DR. STEVER: Really in several areas, in the monitoring of such things as the uplift in California, the uplift which is associated with the San Andreas fault, an uplift which has occurred, the kind of uplift that has occurred as a precursor to some earthquakes, but not all, the increase in research on a whole other series of precursors, the measurement of the electric resistivity, for example, of the rock, the transmission of sound waves through the rock, and so on, a whole series of experiments and pieces of research to improve our knowledge of these precursors.

Q In terms of monitoring the uplift of the fault, what are you talking about; more equipment, more personnel, or what?

DR. STEVER: I think both. If you are going to monitor something, you would need more automatic equipment to monitor the earthquake action around there. You would need

also more research as something progresses if we are ever to know what precursors there are. As you know, and this point was made by Dr. McElvey of the Geologic Survey who was at the meeting and spoke on this subject, one of the efforts that the Chinese have made to predict earthquakes is to study the effects on animals. Animals apparently have sufficiently sensitive responses to detect the preliminary shocks that go through the earth before a major earthquake. They respond quite sharply. Snakes come out of their -- whatever snakes live in (Laughter) -- holes, layers, or whatever. Small animals apparently will leave their homes or have intense activity.

I believe that this is written about in the great San Francisco earthquake as well. Some people thought of it as folklore or something but, in fact, the Chinese have their people monitoring, not just scientists, but ordinary people look at the rise and fall of wells, and so on. There are some more scientific measurements such as, I believe, the amount of radon in wells, which increases with an approaching earthquake, and so on.

The important thing is, we are learning. It is in the early days, but the earthquake problem has been around the world. It is going to be with us for a long time. It is a field of science which is beginning to emerge, and the President recognized it in this budget. He will roughly double the work in this area in the Geologic Survey and National Science Foundation.

Q Did the President say or make any kind of humorous remark about living in California?

DR. STEVER: I guess the President was in fine humor and he congratulated a number of us, including me, and he asked me to respond and I said, "Mr. President, your remarks only make me doubly sorry that we have not been able to get snow in Colorado for you." However, he asked about and we spoke about the possibility of keeping the rain off the golf courses a little later in California. But his remarks about California and earthquakes were, yes, fairly definite remarks. In fact, he pointed out that at the beginning, when his consciousness about the the ripening of this field of science was brought a year or so ago when he studied the frequency of earthquakes, he was quite surprised to find that although Alaska and California are the two States always mentioned in the dispatches with respect to earthquakes, the fact is that many States of the United States have had serious earthquakes in the past.

Dr. McElvey pointed out that 37 of our States have had them. The President also recalled that the great earthquake in Yugoslavia in the middle 1960's, when he was a Member of Congress, was at a time when he was in Yugoslavia on some mission and, in fact, visited the earthquake area, and he said that he just couldn't believe it. The written word about the shock of an earthquake's damage was not sufficient.

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So he was involved to that extent and followed this very carefully; in fact has asked me and other people in the community, in the OMB and so on to keep him informed on the progress as we develop a stronger program in this area.

Q You say he is doubling the effort. What is it currently?

DR. STEVER: About \$25 million currently.

Q What does that come to over three years because there have been bills in Congress sponsored by Members of the California delegation that would pump \$90 million in over a three-year period? Are you up to that figure?

DR. STEVER: I think that depends. It really depends upon the progress that is made each year. If obviously the research goes well, then they will suggest and lead to a stronger program. I would suspect that if the success is as expected in fact it will go to that high three years from now.

Q Why the reversal because last year this Administration was cutting back on the U.S. Geological Survey and the National Science Foundation survey by \$2 million on the earthquake spending.

DR. STEVER: It wasn't intended to cut back, but the fact is that there was a cutback in the geologic survey and in the beginning it was not expected to end up in the earthquake program, but some of it did and in order to fix that up we had a reprogramming to begin to fix that up. Now the new budget will I believe adequately cover the ideas that are forthcoming.

So it isn't exactly a reversal, but it is essentially paying a lot of attention to the area and with the personal interest of the President and the Vice President and I would say that again is proof that the Baker and Ramo committees could come to proposals that could lead to short-term work.

There was another area that the President asked for comments; on the new budget. As you know, in the field of energy obviously in the new budget there will be many initiatives in energy and in the meeting this morning we didn't take up all of those fields of energy. It would have been quite impossible. Dr. Seamans was there having just returned from the Soviet Union and he spoke of some of his visits there in the energy field and some of the things they were doing. But the discussion this morning centered around one phase of the energy program. That has to do with the handling of wastes and especially the problem of proliferation.

As you know the President took the leadership a little while back to insist that this country as a supplier of nuclear power plants be more careful about supplying which might lead to the nuclear proliferation, changed policy, and the world suppliers have in fact responded to this leadership and are moving to a tighter system. But

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this was an R and D meeting this morning and not an international negotiation meeting.

So we talked about what the field of science and technology could do and there is one initiative in the new budget, new monies in the ERDA budget to study some new cycles in which the plutonium does not need to be separated from uranium in the reprocessing. They go together and in fact some of the very long-term actinimides, nuclear wastes, which normally would have to be handled as wastes actually go back into a breeder reactor. There is going to be a lot of study of this cycle which may help to solve two problems, the waste problem and the plutonium proliferation problem. That isn't a guarantee of success. But with those problems looming as high as they do on the nuclear energy horizon, it pays us, the President believes, to put a major effort into a study of those systems to see if we can get some alternates.

Dr. Seamans said at this stage they begin to show promise and that they greatly appreciate the work.

By the way, Mr. Hitch, who is in the Resources of the Future, who is also I believe the Chairman of the Advisory Committee to ERDA spoke on this at the President's initiative and the President was particularly pleased that this program is now being addressed throughout the world.

Q How much in the ERDA budget for this?

DR. STEVER: I believe that we will have to wait until the budget itself comes out. We did not talk about the specifics this morning. So the President would rather wait.

One final thing: Today the President's Committee on Science and Technology chaired by Dr. Ramo and Dr. Baker which has been established is now meeting and Dr. Ramo spoke of the progress they are making, and particularly the progress that has been made in the communication between the scientific world and the White House of which this meeting was one evidence, but in fact in which there have been lots of occurrences in the recent past of the strengthening of that relationship and its direct impact on budgets and programs in the Federal Government.

The President thanked us all for being there and we appreciated it.

Thank you.

Q I have two questions: One, first, would you comment on the recent report of the accuracy? I understand with the ERTS we have been taking surveys of the wheat harvest and the accuracy has been very good, in the 90 percent.

DR. STEVER: Yes.

Q Can you comment on that and its impact

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for world prediction of wheat harvest? Number two, would you go into this agricultural grant thing, competitive grant, a little bit more?

DR. STEVER: Yes. One part of the meeting was the point that was made from the Agriculture Department that the Soviets have asked us to confirm their bumper wheat crop by our techniques, which we were able to do.

Q That is with LANDSAT?

DR. STEVER: The current LANDSAT, not the LANDSAT D, the one in the new budget.

Q When was that request made?

DR. STEVER: Recently.

Q So it is true?

DR. STEVER: Yes. Our accuracy is very good. By the way, let me say as long as you have asked the question, another phase of the discussion this morning centered on the kind of science and technology from the United States which would help developing countries.

Dr. Handler pointed out that the Academy of Sciences was going to get out a report very shortly in which they talk about the help to the developing countries that the space program can give. The LANDSAT program along with communications satellites and so on, but particularly the LANDSAT program of course is a leader in that possibility. We talked about that to some extent, the President and others speaking on the subject.

Q Dr. Stever, could you repeat what you said about the Soviets and the wheat crop?

DR. STEVER: The Soviets asked us to confirm their bumper wheat crop by our methods and we could.

Q With LANDSAT?

DR. STEVER: With LANDSAT.

Q What is LANDSAT?

DR. STEVER: LANDSAT is the current name, Land Satellite. It is the Earth Resources Viewing Satellite. It is one of a series of satellites, the LANDSAT D is the next in the series, which can look from space to the earth to study resources, such as agricultural resources, forestry resources, mineral resources. It can study pollution in lakes and seas and so on.

The technologies are sort of on the knee of the curve. They are taking off. There is much promise for the future of this. But my personal feeling is that it is one of the most important of the applications of space to everyday problems.

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We have got a long way to go. But the President's decision to include the next one in a series in the upcoming budget is a definite landmark of forward progress.

Q Was the implication of the Soviet request that the Russians have difficulty in measuring their own?

DR. STEVER: I guess we didn't take up any of that sort of implication. I am sure they were glad for corroboration, but we didn't sort of compare our system for detecting crops from space with theirs. So that is all I can say. I just don't know.

Q Have there been other such requests?

DR. STEVER: We have exchanged information reasonably well and so I guess I would say there have been other requests for information.

Q My second question on agriculture, the competitive grant thing?

DR. STEVER: Yes. The competitive grant part of the agricultural basic research is quite important and two or three points were made. I guess I would say that the pressure in the agricultural field for more basic research, I began to detect it probably three years ago at a relatively low level, but the increased pressure on our agricultural system as a whole has made the science and engineering world very conscious of what contributions that community could make to improving agriculture.

Obviously, one of the great successes over a century has been the success of science and technology in agriculture and the question, if we are doing so well and we are doing well on anybody's scale in the world, is can we do better? The answer is yes. We believe we can. There are many segments of the scientific community that are not tapped by the current method of supporting research and development in agriculture.

Through the Land Grant Colleges and their agricultural schools and so on, they have a tremendously successful program, but there are people even in those schools, in the chemistry departments, in the biology departments and so on, who are not part of that research program who in fact have good ideas.

I know for example of a young chemist who wouldn't think of himself as an agricultural scientist at all who has ideas about how nitrogen can be fixed. He now can compete in a competitive program to be run by the Agriculture Department in a manner, competitive program, similar to that run by the National Science Foundation and the National Institutes of Health.

So what we will be able to do with this is to tap a broader segment of the science community.

Q How much of a change in percentage terms are you talking about here?

DR. STEVER: The addition this year will be between \$25 and \$30 million.

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Q Doctor, when did the Soviets make that corroboration request?

DR. STEVER: Recently. We didn't talk about the dates. This came from the Agriculture Department. I have just learned from my brains that it was when the Secretary of Agriculture was on a recent trip.

Q Doctor, could you tell us what was the difference between the observation by LANDSAT and the actual figure which the Soviet officials had?

DR. STEVER: We didn't talk about the difference. The important thing of course is as far as the Soviets are concerned, and the world, they have a very good bumper crop which is a change from the recent past.

Obviously, any government wants as strong a knowledge as possible about that and they essentially asked for corroboration and our figures corroborated theirs.

The exact percentage difference I didn't know and we didn't discuss it this morning.

Q You said the Defense Department people were at the meeting. Did you discuss any new areas of research?

DR. STEVER: No. But I will say that the President pointed out that in the first budget that he was responsible for he strengthened the Defense R and D. He reversed the direction of that and the figures are 10, 15 and 16 percent.

The President has had a very strong initiative in R and D in defense and in these last three years or rather the three years including the upcoming budget, figures of 10, 15 and 16 percent.

Q Is that 16 percent in the new budget?

DR. STEVER: Yes. That is the current. Don't forget that the budget really doesn't become quite final, but that is certainly what has been worked on. I personally think this has been a very good thing for our nation. A great deal of that basic strength in science and technology comes from the organizations which have worked as part of that R and D program of the Department of Defense.

As you know, about a little more than 50 percent of the R and D budget of the Federal Government is spent in defense and as a consequence it is important to have that strong in my view.

Q But you didn't talk about any new projects?

DR. STEVER: We just plain have a time constraint. The President did mention that. He mentioned another initiative or rather place where he believes in strength which was in the general health science area. In that area we again didn't have a chance to talk about particulars this morning.

Q Senator Cranston earlier this year wanted the Administration to spend a lot more money on earthquake

research prediction; research on earthquake prediction. Are you anywhere near what he wanted to spend now in figures for next year's budget?

DR. STEVER: I believe his large budget came abruptly. R and D programs don't go that way and shouldn't go that way. If they are successful, they should grow. There was a degree of argument as to how much we could accelerate the program. The method we used was very simple. This was talked about in the program this morning by Dr. McElvey. When the Baker and Ramo committees recommended a strengthening of work -- they didn't actually recommend strengthening. They recommended that the Federal Government look at the program and our response was as follows:

I set up a committee -- and I am not sure. It must have been 25 people, not from the Federal Government, but working with the Geologic Survey and the National Science Foundation -- but reporting to me and my report went to the Office of Management and Budget as well as they studied the kinds of programs that could be done.

They essentially looked at three levels of budget, one which was essentially about constant, one which was the one we mentioned and a third one which was higher still.

There were some people who felt that the higher budget could be reached this year and was worthwhile and there were others who felt that it ought to grow. The compromise was simply that we pick the in-between one of those. I think it is a reasonably good budget. Obviously, it is going to do a lot more than we have in the past, double in one year which is a rough one to handle.

Q Can you tell us what those figures were because I know what Cranston's figures were?

DR. STEVER: We are only talking about one year. If it is double, I will have to get you the figures. I am not sure.

Q What are you doing in terms, or what are you calculating in terms of increased strong motion seismic measuring stations for earthquake control?

DR. STEVER: Again, we will have to get you to Dr. McElvey.

Q It seems to me if I remember some of these notes I took on this earlier, the U.S. Geologic Survey and the National Science Survey wanted 2,000 strong motion stations to measure seismic movement. Are you anywhere near establishing 2,000 strong motion stations?

DR. STEVER: We will have to get that answer for you. We will try.

THE PRESS: Thank you.

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(AT 12:25 P.M. EDT)