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AMENDING THE ORGANIC ACT OF THE  
GOVERNMENT NATIONAL BUREAU OF STANDARDS

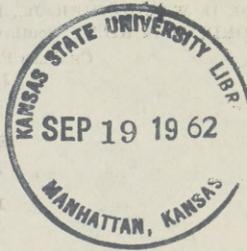
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HEARING  
BEFORE THE  
COMMITTEE ON  
SCIENCE AND ASTRONAUTICS  
U.S. HOUSE OF REPRESENTATIVES  
EIGHTY-SEVENTH CONGRESS  
SECOND SESSION

ON  
H.R. 11561

JUNE 6 AND 26, 1962

[No. 11]



Printed for the use of the Committee on Science and Astronautics



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AMENDING THE ORGANIC ACT OF THE  
NATIONAL BUREAU OF STANDARDS

HEARING

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## AMENDING THE ORGANIC ACT OF THE NATIONAL BUREAU OF STANDARDS

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WEDNESDAY, JUNE 6, 1962

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SCIENCE AND ASTRONAUTICS,  
*Washington, D.C.*

The committee met, pursuant to notice, at 10 a.m., in room B 214, New House Office Building, the Honorable George P. Miller (chairman of the committee) presiding.

The CHAIRMAN. The committee will be in order.

Before we go into the formal phase of the meeting this morning, I want to welcome a new member to the committee, Mrs. Corinne B. Riley from South Carolina, who has been appointed to the committee, and whom I am very happy to have here. I have known Mrs. Riley ever since I have been in Congress, and I want to warn you people that Mrs. Riley is a teacher of Latin, and has a pretty capable tongue. She looks like she is a very easygoing lady, but don't go trying to cross wits with her, because you will find that she can well take care of herself.

Mrs. Riley, we are very happy to have you here. I know that you will enjoy your work with the committee.

Mrs. RILEY. I am sure I will, Mr. Chairman.

The CHAIRMAN. The meeting this morning is for the purpose of hearing witnesses on H.R. 11561 to amend the act of 1901, to incorporate in the organic act of the National Bureau of Standards the authority to make certain improvements of fiscal and administrative practices for more effective conduct of its research and development activities.

This is an administration bill which I have introduced on request. It is my hope that we will find this morning sufficient to secure all the testimony we will need in order to make a decision on the bill. However, if necessary, we can meet again with these witnesses on Friday morning.

I believe the purpose of the legislation before us is primarily to provide additional authority and flexibility for the Bureau of Standards in dealing with the visiting scientists and with the use of Bureau funds.

I am very pleased to see here this morning my very good friend, Dr. Allen Astin, Director of the Bureau, an outstanding scientist and a man who has brought glory to the Bureau. He has kept the high standards that have been established at the Bureau.

Dr. Astin will be accompanied by Dr. Robert D. Huntoon, Deputy Director; Robert S. Walleigh, Associate Director for Administration; Dr. J. E. Skillington, Budget Director; Hirschie Johnson, Counsel;

and Kenneth McClure, Assistant General Counsel of the Department of Commerce.

Now, Doctor, we welcome you here.

I may divert to say that if any of you ever get a chance to visit the Bureau of Standards, I am sure that you will be struck by the activities that take place at this institution. It is one of the unsung heroes of science within Government, one that has received little recognition, but the people at the Bureau have been engaged in doing a job, not trying to hang garlands on their own heads. It is refreshing to see this.

Doctor, I believe that you have a prepared statement. Do you want to proceed in your own way, sir?

### STATEMENT OF A. V. ASTIN, DIRECTOR, NATIONAL BUREAU OF STANDARDS

Dr. ASTIN. Thank you very much, Mr. Chairman.

I have a statement summarizing the purpose and need of the proposed legislation, and I would like to ask that this be inserted in the record, and then I would attempt to summarize this briefly.

The CHAIRMAN. Without objection, it is so ordered.

(The document above referred to is as follows:)

#### STATEMENT OF PURPOSE AND NEED FOR PROPOSED LEGISLATION

To amend the act of March 3, 1901 (31 Stat. 1449), as amended, to incorporate in the Organic Act of the National Bureau of Standards the authority to make certain improvements of fiscal and administrative practices for more effective conduct of its research and development activities

The proposed amendments to the Organic Act of the National Bureau of Standards would permit the following:

1. Appointment of visiting scientists to temporary positions within the National Bureau of Standards and payment of travel costs to their duty station and to return to permanent place of residence.
2. Appropriation of funds to remain available beyond 1 fiscal year.
3. Transfer of appropriations from other agencies and merger with appropriations of the National Bureau of Standards.
4. Discretionary expenditure from undesignated gifts and bequests to aid and facilitate the work of the Bureau.

The Organic Act of the National Bureau of Standards is the act of March 31, 1901, as amended (31 Stat. 1449; 15 U.S.C. 271-278e). The functions and authorities of that act are lodged in the Secretary of Commerce by Reorganization Plan No. 5, 1950. The bill proposes to add new sections 16, 17, and 18, as well as paragraphs (c) and (d) to section 11. The intent of and need for each amendment are explained in the following paragraphs.

#### SECTION 16. VISITING SCIENTISTS

The proposed legislation would authorize the appointment of U.S. citizens and aliens to temporary positions as visiting scientists to the National Bureau of Standards. Normally such appointments would be for 1 year or less, but they would be renewable up to a second year upon determination that renewal would best serve the interests of the Government. The visiting scientists would not come under the civil service and classification laws; they would not be appointed by competitive examination; nor would they accrue civil service retirement benefits. Normal leave privileges would be provided under the Leave Act.

Compensation would be administratively established, taking into account the education, experience, and planned assignment of the appointees, at rates corresponding to those of civil service employees.

When appropriate and of sufficient benefit to the Government to justify doing so, visiting scientists would be reimbursed for the cost of moving to their duty

station and back to their original place of residence. Section 7(b) of the Administrative Expenses Act of 1946 authorizes such payments for the cost of moving scientists and engineers to their first duty station. The proposed bill would extend that authority to include the visiting scientists of the National Bureau of Standards, with three changes in the authority in order to provide for the special needs of the visiting scientist program:

(1) The present statute applies to appointments to positions in the United States only. The proposed bill would not be so limited. While most of the NBS field stations outside the United States would not be appropriate duty stations for visiting scientists, one present station would be quite appropriate and others may be in the future. The Bureau has recently established a field station near Lima, Peru, to exploit a major advance in the radio probing of the ionosphere and upper atmosphere. This station is to be the site for research that is expected to be of major importance to radio science and upper atmosphere physics. It would be extremely unfortunate not to be able to utilize the visiting scientist authority in such work.

(2) The present statute requires that an appointee agree in writing to remain in Government service for 12 months or repay the cost of his travel to the first duty station. The proposed bill does not include such limitation because the 12-month period will not be appropriate in all cases. The Department would, however, establish regulations requiring such agreement covering the term of the visiting scientist's initial appointment.

(3) The proposed bill would also permit payment of travel and transportation costs of visiting scientists back to their previous place of residence or up to an equivalent amount for travel to a new place of residence. This authority is, of course, not required in the Administrative Expenses Act because the act is not concerned with temporary employees. The proposed authority is, on the other hand, specifically for temporary employees. The visiting scientists authority is needed by the Bureau to obtain the short-term services of highly qualified scientists who are unwilling to enter the career civil service. Even at the salaries authorized by the proposed bill, it will be difficult to attract some of the scientists needed by several of the Bureau's modern research programs. This difficulty would at least be minimized if the authority is broad enough to assure the appointee that he will not be out of pocket for the travel and transportation costs. The use of this authority would, of course, require a specific determination that it was in the interest of the Government, taking into account both the expected value of the appointee to the Government and the cost of salary and related expenses.

The proposed bill provides also an alternative to the payment of the costs of transportation of household goods. When an appointee does not wish to move his family to his temporary duty station as a visiting scientist, or when the term of his appointment does not warrant the Bureau's payment of their moving costs, he could be paid a subsistence allowance just as is now authorized for intermittent employees who are away from their place of actual residence.

The wide range of NBS research and development activities in the frontier areas of science and technology results in the frequent need to attract outstanding specialists to bring special experience to bear upon a complex program or to adapt special techniques to a special research problem. In addition, in a period when competent scientific talent is in short supply, the Bureau must look to temporary employment of capable scientists as a means to fill its staffing needs. The proposed visiting scientist program is expected to serve each of these objectives. It will permit employment of specialists under certain circumstances that are not now possible. It will permit the temporary employment of research scientists to supplement and complement the Bureau's teams of civil service scientists.

The authority provided by Public Law 600, 79th Congress, to procure the temporary or intermittent services of experts or consultants has often been of real value to the Bureau as a means of obtaining the advice and assistance of eminent scientists and engineers who would otherwise have been unavailable. That authority needs certain modifications—in terms of rates of pay and employment of foreign nationals—to have optimum value to the Government, but it is an authority which should be retained. Nevertheless, even with modifications, that authority does not meet all the needs that the visiting scientist program is expected to cover. It falls short in a number of ways:

(1) The general prohibition against the employment of noncitizens, except nationals of certain countries, prevents the use of a number of valuable scientists and specialists under Public Law 600 appointments. A bill to authorize the

Secretary of Commerce (S. 2236) to employ aliens in a scientific or technical capacity passed the U.S. Senate on September 1, 1961, and was referred to the Interstate and Foreign Commerce Committee on September 5, 1961, where it is now pending. Approval of this bill would also make the Public Law 600 authority more valuable to the Bureau.

(2) The Civil Service Commission interprets the Public Law 600 authority to employ experts and consultants in a manner that precludes its use to meet many of the urgent requirements of the National Bureau of Standards. Consultants may be used only in an advisory capacity, usually on an intermittent basis. Experts must be highly specialized and may assist in Bureau research activities only when it is not within the scope of current operating programs. In other words, the statute has been interpreted—quite appropriately, with respect to its original intent—in a strict fashion to preclude appointments under it from being a substitute for civil service appointments. The modern research programs of the National Bureau of Standards, however, require a category of employment which goes beyond the experts and consultants category and which, to a limited degree, does substitute for civil service employment where that category falls short of the Bureau's needs.

(3) The employment of experts under Public Law 600 is limited by the statute to a temporary period not exceeding 1 year. Such appointments are not renewable, even with a break in service. In keeping with this requirement, the regulations require that temporary employment be limited to work on programs or phases of programs in which the need will not extend beyond 1 year. Basic research has never fit well in a straitjacket. The need for expert assistance on a basic research project cannot be limited to 1 year, especially in these days when it may take that long to set up and check out experimental equipment.

(4) There is no provision in Public Law 600 for payment of travel costs of temporary employees to their duty stations and back to their homes at the termination of their appointment. Often this factor is more critical in obtaining the services of a research scientist than is the question of the salary rate.

Perhaps the Bureau's need for this new category of employee can best be illustrated by some examples of situations in which the authority would be used:

1. Each year a number of scientists on university faculties would be interested in spending their summer on a research project at the Bureau. At present, the salary structure is not competitive with industrial laboratories or with Government contract laboratories. Because summer research positions are an important source of augmentation of faculty salaries, the better salary opportunities elsewhere will often override more desirable research opportunities at the Bureau. More frequent use of visiting scientists from universities would be of great benefit to the Bureau above and beyond the obvious benefits from the addition of top level research scientists to Bureau laboratories. The fresh approach that such a visiting scientist could bring to a project is often invaluable. The opportunity for Bureau scientists to know firsthand what is going on in university laboratories is beneficial, as is the opportunity to have a firsthand knowledge of Bureau activities to go back to the universities at the close of the summer. Finally, former visiting scientists can be expected to be of assistance to the Bureau in its efforts to attract young scientists at the completion of their graduate study at the universities.

2. Much the same can be said for the opportunity to employ faculty members as visiting scientists during their sabbatical year.

3. Occasionally, the Bureau is called upon to give special emphasis to a particular program for a temporary period in order to exploit a new technique or accelerate the dissemination of results of a special line of research. A recent example was a 3-year program to study the fundamental properties of highly reactive molecular fragments by using a technique of trapping them at extremely low temperatures. The program was a great interest to several other agencies, to university scientists, and to industrial laboratories. In such cases, the authority to appoint visiting scientists for the temporary period of acceleration and emphasis on the program would aid the Bureau in attracting scientists from university and from foundation laboratories, from Government contract laboratories, and from industrial laboratories.

4. Some areas of the Bureau's research program are outside the popular or currently fashionable areas of modern science and are therefore not particularly attractive to many American scientists. A recent example has been seen in a program to develop standards and precise data required for the proper interpretation of astrophysical data and plasma physics research. The work at the

Bureau is thus of great importance to several major national programs, but it requires physicists who are interested in classical atomic physics rather than some of the new areas of research.

The Bureau finds that the supply of such scientists is much more plentiful in Europe than in the United States. It would therefore be extremely helpful to be able to bring in visiting scientists from Europe for temporary periods to help initiate the research programs while the slower process of building a permanent staff is getting underway.

5. Much of the Bureau's work is of international interest and importance. This is particularly true of radio propagation research which, by its nature, must be conducted on a worldwide basis. It would be extremely valuable to the Bureau to bring in visiting scientists from other countries to work in Bureau laboratories for a year before returning to their home laboratory to continue cooperative research programs with the Bureau.

6. Visiting scientists can often be used as an effective training device. A specialist working in Bureau laboratories for a year can impart much of his special knowledge or unusual technique to several Bureau scientists and serve a much more effective training function than would be gained by sending one or more Bureau scientists to him on special training assignments.

As these examples illustrate, the authority for visiting scientists could be most beneficially used by the Bureau. It is true that some of these purposes could be achieved through a broadening of the Public Law 600 authority and through the broadening of the authority to appoint foreign nationals in the civil service.

Such changes would not meet all of the Bureau's needs and they would leave unsolved one basic problem. There is a psychological barrier to the acceptance by some scientists of appointments under present authority. Foreign nationals especially, but also some staff members of American universities, are reluctant to accept positions in the U.S. civil service. The Bureau believes that there would be no reluctance to accept appointment to positions designated as visiting scientists. The National Institutes of Health have authority for visiting scientists and find this to be the case.

It should be noted that although the proposed legislation would provide broad authority for the employment of foreign nationals as visiting scientists, this would in no way eliminate the usual executive requirements for appropriate security clearance. Some of the visiting scientists would undoubtedly come under the State Department exchange visitor program. Others would be required to meet the established Department of Commerce security criteria.

#### SECTION 17. APPROPRIATION AVAILABILITY

The proposed section 17 would provide statutory authorization for appropriations for the Bureau to be on a multiple-year basis or to be without fiscal year limitation. The final determination whether to limit the availability of an appropriation is made when the Congress acts on the appropriation bill, but an appropriation bill providing for a departure from single-year availability would be subject to a point of order if an authorizing statute had not previously been enacted. The proposed legislation is, therefore, merely a first step that must be taken before the question of extended appropriation availability can be raised with the Appropriations Committees.

Almost all research and development appropriations for other agencies are provided as "no-year" funds, available until expended. Their justification is found in the uncertainties inherent in research programs, the high incidence of unpredictable factors that compel readjustment of program activity, and the need for flexibility to permit prompt response to changed circumstances. It is probably not necessary to present a detailed discussion of the reasons for appropriating research funds on a no-year basis, but a summary of some of the pertinent NBS situations may be helpful.

1. Problems of obtaining or developing essential equipment or recruiting essential scientists will often delay implementation of an initial stage of a research project. If the funds budgeted for that first stage are available only for 1 fiscal year and cannot be used that year, they are lost to the project and must be replaced in the succeeding year by all or part of the funds programmed for the second stage of the project. If the funds could be carried over from the first year, at least some of the lost time might be made up by doubling up of effort during the second year.

2. The opportunities to hire high-potential scientists and engineers frequently arise at the most inopportune time in the budget cycle.

Because the academic year closes at about the same time as the fiscal year, recruitment commitments are often needed just at the time when appropriation requests are being considered by the Congress. The uncertainty about appropriation levels frequently prevents timely recruitment commitments. If appropriations could be carried forward to the succeeding year, funds could be set aside to assure the financing of the new staff members long enough to permit other adjustments in the succeeding appropriation if that becomes necessary.

3. The rigid deadline on availability of funds often induces a premature decision concerning initiation of a task or purchase of equipment because postponement of the decision means the loss of the funds and thus elimination of the task or purchase.

4. Program expansions, especially in times of recruiting difficulty, involve problems of budgeting that are aggravated by the single-year availability of funds. It would be much more efficient and desirable to budget for the first 12 months or first full stage of research projects, even though this would cross over into a second fiscal year.

It is also very desirable to have appropriations for construction, plant improvement, and major equipment items available without fiscal year limitation. Many such projects are carried out by Bureau personnel and it is quite important that the funds be available for the entire cost of a project before it is initiated.

#### SECTION 18. FUND TRANSFERS

Section 18 would permit the transfer into NBS appropriations of research and development funds appropriated for other agencies, when the Secretary of Commerce determines that the purpose of the other agency's appropriation can best be achieved by the National Bureau of Standards. The concurrence of the head of the other agency and the Director of the Bureau of the Budget would be required.

The need for a contingency fund for research and development programs has long been evident. Scientific activities involve an exploration for new ideas, a seeking for new solutions, a search for new understanding of physical laws. The new ideas, the radical innovations, the scientific or engineering breakthroughs do not appear in a steady stream. They occur intermittently, often without warning, and they usually carry with them a large price tag for adequate exploitation or application. Experience has shown, therefore, that prompt and full use of the results of research cannot be achieved by waiting for the next regular cycle of the budget process.

In order to be able to take advantage of new ideas or developments as quickly as possible, the Department of Defense has had for a number of years an emergency fund which may be transferred into research and development appropriations. On several occasions the Department of Defense has recognized that a research success at the National Bureau of Standards should be exploited promptly or that the Bureau could best undertake to explore the application of new knowledge in a particular field. These were precisely the sort of emergency needs that the emergency fund was set up to cover, but that fund is available for transfer only among Defense appropriations. The result was that emergency funds were provided to one of the Defense agencies who then contracted with the National Bureau of Standards to initiate the work. Since such tasks are rarely completed in 1 year, the Bureau in turn was faced with the task of budgeting for succeeding years, usually as a major increase within a minor total increase.

The proposed legislation would parallel the present arrangement for the use of the emergency fund within the Department of Defense. It would permit any research and development appropriation, or any procurement or production appropriation involving research, to be the source of transfers to NBS appropriation. It is based on two premises:

1. The ready exploitation of research results is as desirable in a civilian agency as in the military.

2. The National Bureau of Standards must improve its ability to respond to the needs of the major beneficiaries of its research and technical services.

One of the most troublesome problems facing the Bureau is the problem of closer coupling with the major Federal programs that are so closely tied to an advancing technology. The content of the Bureau's work is closely related to the programs of the Defense agencies, the civilian space agency, the Atomic

Energy Commission, and such other users of technology as the Federal Aviation Agency. But the Bureau's resources are so inadequate with regard to the modern demands upon the Bureau that none of the necessary flexibility of programming is possible.

The Bureau is a primary producer of the basic physical data which the major Federal programs devour. The Bureau is the keystone in the structure of a technological economy, a technological military machine, and a technological society. We cannot expect the large Federal agencies to do their jobs efficiently and effectively if they must rely on an unmanned National Bureau of Standards for essential data and services. We cannot continue to pour hundreds of millions of dollars into major national technological programs without either providing comparable support for the NBS programs on which they are dependent or providing a mechanism to make a portion of the large resources available to NBS when needed.

The proposed legislation would serve the latter purpose. It would not automatically affect any agency, but it would provide authority to solve problems which the agencies themselves recognize. It would not provide a unique authority for transfers between appropriations; it would merely recognize that the need for such authority is not limited to the Defense Establishment.

It would provide a means through which new research programs which are basically the responsibility of the National Bureau of Standards, but which become urgent because of an unforeseen development in the program of another agency, can be accommodated in the Bureau's fiscal program.

If this legislation is enacted it is the intent of the Bureau to attempt to use it in any case where a project is requested by another agency which is (1) significant in financial impact (approximately \$100,000 per year or more), (2) represents a need which is likely to continue for several years, and (3) falls within the scope of the Bureau's statutory mission. Subsequent to the transfer, the Bureau would budget to carry the project with its own direct appropriation. If a transfer between appropriations cannot be arranged in such a case, the Bureau intends either to reprogram within available appropriated funds or postpone action until the project can be covered in a future budget.

#### AMENDMENT TO SECTION 11. GIFTS AND BEQUESTS

The proposed legislation would amend the existing authorization to accept gifts and bequests to aid the work of the Bureau, permitting the use of certain gifts for purposes for which appropriated funds may not be used. It would also clarify the status of royalties and honoraria received by the Bureau.

At the present time, when gifts and bequests from private citizens or organizations are deposited in a trust account, they take on the character of appropriated funds and can be used only for the same type of expenditure for which appropriated funds may be used. In most cases this limitation does not interfere with the accomplishment of the purpose of the donor, but occasionally it will. If certain types of otherwise prohibited expenditures would be of benefit to the Bureau, the use of nonappropriated funds would appear to be quite reasonable, especially if adequate safeguards against abuse are provided.

The Bureau is a research institution that, in many ways, is comparable to a university laboratory, a research foundation, or a Government contract laboratory. In many of its relationships with scientists and scientific societies in particular, the Bureau is a research institution rather than a Government agency. The informal relationship thus derived is a great benefit to the Bureau's performance of its mission through the ready exchange of ideas and the better understanding of the needs of the scientific community.

This informal relationship, however, is hampered and restricted by some of the normal restrictions on Government expenditures. The Bureau believes that those restrictions are, by and large, appropriate, but it would welcome some relief from their rigid application. Recognizing that Government funds cannot be used to provide refreshments, for example, when the Bureau is host to scientific meetings, it does not provide them, although this is a failure to reciprocate in such amenities received by Bureau representatives at meetings elsewhere. A moderate relaxation of the restriction would serve an extremely valuable purpose, promoting informal interchange and cooperative activities.

Occasionally, this function is served through contributions by Bureau employees or the employees' association. For many years, for example, the Bureau has entertained at a tea for the members of the American Physical

Society during their annual Washington meeting. This affair must be financed by employee contributions, although the real benefit is to the Bureau, and to the Government, not to the employees. Similarly, senior staff members who have been entertained officially by foreign scientists or American institutions cannot reciprocate, except out of their own pocket, and that is often embarrassing.

The proposed legislation would permit this sort of expenditure from funds contributed to the Bureau from private sources.

If such funds were not otherwise designated for particular purposes, they would be included in a discretionary fund to be disbursed upon certification and approval by the Director. Expenditures for the purpose of entertainment, however, would be limited to \$1,000 per year.

Although the explanation of the purpose of the legislation has dwelt upon entertainment cost, the legislative language has been broadly drawn to cover all items of expenditure otherwise prohibited by law or Comptroller General ruling.

It would not, however, waive prohibitions or restrictions that are not tied to expenditure restrictions. Thus it would not permit the consumption of alcoholic beverages in public buildings, nor the employment of persons at unusual salary rates or outside prescribed conditions.

The authority would be used in those areas where the Director determines that an expenditure is desirable but where it cannot be found to be a "necessary expense" in the rigid prescribed sense for appropriated funds. In certain circumstances, for example, laboratory costs might be provided despite the failure to meet the rigorous criteria currently enforced by the Comptroller General.

Similarly, certain desirable but not necessarily essential equipment or furnishings items might be purchased.

The proposed bill would also provide that payments to the Bureau as honoraria or royalties for papers, books, articles, and speeches prepared or delivered by employees of the Bureau may be deposited in the discretionary fund. Such receipts are more in the nature of gifts than payments because they usually are of nominal value compared to the cost of the service provided.

Because they do not represent the full cost of the service, or even an identifiable element of cost, and because they are often paid after the fact with no prior advice to the Bureau, it is difficult and expensive to try to set these receipts up as partial reimbursements for the costs of services rendered.

Depositing them in the discretionary fund seems to be the most appropriate way to carry out the wishes of the donor to aid the Bureau.

Dr. ASTIN. It is our belief, Mr. Chairman, that we can improve the efficiency and effectiveness of our scientific research and development operations at the National Bureau of Standards if the authorizations requested in this legislation were provided. Specifically, we are asking for four changes in our organic act. These changes would accomplish the following purposes:

First, a visiting scientist program would be authorized permitting appointment of scientists outside the normal civil service procedures and giving authority for paying the travel costs of these scientists;

Second, authorization would be provided permitting the appropriation of funds of availability beyond 1 fiscal year;

Third, we are asking for certain flexibilities in the merging of appropriations in connection with work we do for other agencies of the Federal Government; and

Fourth, we are asking for authorization to use certain undesignated gifts which the Bureau receives from time to time for certain general purposes and specifically to provide representation allowances. This would help us, we believe, in our contacts with distinguished scientists visiting the National Bureau of Standards.

I would like to talk on each of these points in the order that I mentioned them, telling you why we need these specific authorities and why we believe they would be helpful.

In connection with the visiting scientists program, we believe that one of the most effective ways available to us for strengthening the general scientific competencies of the National Bureau of Standards is to bring in distinguished and outstanding scientists from elsewhere in this country, and from abroad, to work with our people for short periods of time, not to exceed, in general, 2 years. It is extremely important in terms of the types of work we have to do to be able to solicit expert competency wherever it is available, or wherever we can find it. It is in this connection that it would be very helpful to select individuals who are outstanding experts in particular areas of science and have them come and work in our laboratories with our scientists for periods of time up to 2 years.

In addition, we would like to have this authority available not only for scientists in this country but for scientists in other countries, when we find individuals with competency and experience which would be valuable to our programs.

The CHAIRMAN. Doctor, if I may interrupt you at this point.

Dr. ASTIN. Certainly.

The CHAIRMAN. Isn't this the practice in AEC and in DOD? To bring scientists in from other countries over here, or hasn't it been the practice, so that they could get the benefit of their activities?

Dr. ASTIN. Yes. It is my understanding that other agencies have legislation of this type. The one I am most familiar with, however, is the authority of the National Institutes of Health.

The CHAIRMAN. They have that authority?

Dr. ASTIN. They have made a particular effort to develop a strong visiting scientist program, including aliens.

The CHAIRMAN. I think that it would be well to note in the record at this time that the Navy, for instance, has a detail from the Office of Naval Research in London that is quite a sizable one. How many employees do they have over there?

Mr. YEAGER. They must have about 20 or 25 civilians.

The CHAIRMAN. Twenty-five civilian scientists, American scientists, who are working with British and European scientists and people in NATO for the purpose of learning what they can and having a free interchange of scientific ideas. So this, again, is about what you are asking for here?

Dr. ASTIN. Well, the primary purpose of this authorization would not be to bring in foreign scientists. It is to bring in any scientists, most of them probably from this country, who have competency and distinction in areas of interest to us.

However, since you have mentioned the alien problem, Mr. Chairman, I would like to deviate a moment and refer to another bill now before the Congress which does deal specifically with the alien scientist problem. This is S. 2236, a bill which passed the Senate last year but on which no action has yet been taken by the House. It would authorize us to employ alien scientists where there is a need in terms of our program and a competency available from countries abroad. Specifically, the other bill would extend authority now available to employ aliens to include neutral countries such as Switzerland and Sweden. Under present authorizations we cannot hire Swiss or Swedes, as examples, because they are not currently allied with the United States. The bill to which I have referred, S. 2236, refers

to the employment of scientists as regular members of the staff, however.

The CHAIRMAN. Who introduced that bill?

Dr. ASTIN. The present legislation deals with a visiting scientist program, a temporary employee who is not expected to continue indefinitely on our rolls. This is an important distinction.

Mr. RIEHLMAN. Mr. Chairman?

The CHAIRMAN. Yes.

Mr. RIEHLMAN. May I ask a question?

Doctor, I want to be sure I understand what you are saying.

Dr. ASTIN. Yes?

Mr. RIEHLMAN. The bill that you are addressing yourself to today, that is before the committee, does provide for foreign visitors to come, is that correct?

Dr. ASTIN. That is correct.

Mr. RIEHLMAN. But the bill that has been introduced in the Senate would allow foreign visitors to come, but on a permanent basis, is that it?

Dr. ASTIN. That is correct.

Mr. RIEHLMAN. That is the difference between the two bills?

Dr. ASTIN. That is the difference, right.

Mr. RIEHLMAN. Now, the next question: What procedure have you set up to screen these scientists and to know about their qualifications and who you are going to bring into the Department?

Dr. ASTIN. Our procedure for screening these scientists would be to select them first on a basis of their scientific competency, where we use the judgment of our staff members and other scientific colleagues in this country, to make an appraisal of scientific competency. Then, the next step is to secure a suitable security clearance. Even though none of these would be expected to work on classified projects, we are concerned that they be suitable employees and not a risk to have in our laboratories. For this purpose, we use the Office of Investigations and Security of the Department of Commerce, and they, in turn, work with the State Department and other agencies when aliens are involved.

Mr. RIEHLMAN. Well, it is my understanding then that if an alien were to be employed, he would not be put on a sensitive job?

Mr. ASTIN. Oh, that is quite so. He would not be.

Mr. RIEHLMAN. All right. Thank you.

Dr. ASTIN. Yes sir.

Coming back then to the request to which I am talking today, the intent here is primarily to implement a visiting scientist program, to bring in individuals, including aliens when considered desirable, to work for limited periods with our staff. We would, under this authority, be able to select individuals outside of the normal civil service appointment procedures. We would be able to pay their transportation when it was considered in the Government's interest to do so, to the duty stations even though they stayed for a period of less than 12 months. Present authorization for paying travel costs to the first duty station are written for permanent employees and require that the employee be on duty at least 1 year. Many of the individuals we would seek to bring into our organization under this authority would be university people who probably would spend only an academic year or even an academic semester with us and would not qualify for this 12-month requirement.

In addition, there are other situations where a person is of sufficient stature and importance to us that it might be desirable and valuable to pay his return travel costs after he had been working with us for a period. These authorities would, of course, be exercised with discretion. We would always make sure that the costs of such travel reimbursements would be worth the value to us of having the scientist work in our organization.

I think these are the primary additional authorities that we would obtain or would be given to us if the legislation requested were provided.

The next item, and that is appropriation availability, concerns securing authority for what are commonly known as "no-year funds." At the present time we do get no-year funds on some of our construction activities. These, however, are always subject to a point of order unless legislation is specifically provided. We are requesting authority to have no-year funds appropriated to us for research and development purposes, but with the stipulation that the funds would always have to be so designated in the appropriation act. This authority would be used only sparingly.

Our primary justification in requesting this authority is that it does increase substantially the flexibility of conducting research and development operations. Since most of the research and development programs in Government have funds which are of this category, we are asking only for approximately the same flexibility that is available to most of the other research and development organizations.

The CHAIRMAN. Again, this is true in the Department of Defense, and in NASA and in AEC, is it not?

Dr. ASTIN. That is correct. I have a list of some of the agencies which have authority for no-year appropriations, which I could read, if you wanted?

The CHAIRMAN. Well, is it long?

Dr. ASTIN. There are about a dozen agencies.

The CHAIRMAN. If you have it, let's put it in the record at this point, if you will.

Dr. ASTIN. Very good.

(The document above referred to is as follows:)

U.S. DEPARTMENT OF COMMERCE, NATIONAL BUREAU OF STANDARDS,  
JUNE 1, 1962

Partial list of agencies with no-year fund authority (funds for research, development, operating expenses, excluding special foreign currency)

Atomic Energy Commission.

Federal Aviation Agency.

General Services Administration.

National Aeronautics and Space Administration.

National Science Foundation.

Department of Commerce:

Weather Bureau (for meteorological satellite observations)

Maritime

Department of Defense:

Advanced Research Projects Agency

Department of the Army

Department of the Navy

Department of the Air Force

Department of Interior:  
 Office of Coal Research  
 Office of Mineral Exploration  
 Bureau of Reclamation

Dr. ASTIN. The third item involved in the proposed change in legislation concerns transfers of funds. This transferred fund problem has been one which has plagued us in many ways at the National Bureau of Standards for a number of years. We have discussed ways and means of simplifying the transferred fund problem with the Bureau of the Budget and our Appropriations Committee in the House. The specific proposal here is one that we have developed as a result of discussions with the Bureau of the Budget. Essentially the authority would permit a transfer of base appropriations from other agencies to the Bureau under certain conditions and when so authorized by the Bureau of the Budget.

The National Bureau of Standards conducts a great deal of its work for the other agencies of the Government. At the present time, approximately 45 percent of our funds come to us as transfers from other agencies of the Government. Throughout the Bureau's history this percentage has varied and about 10 years ago the percentage of transferred funds at the National Bureau of Standards reached about 85 percent of the total operation. We have been striving over the years to bring into the Bureau's own appropriation all of the things that we think we should be doing in the general public interest and consistent with our statutory functions.

We frequently find ourselves confronted with a situation where an urgent national program for which the Congress makes the funds available to another agency requires special assistance from the National Bureau of Standards. In a way, the National Bureau of Standards provides one of the most important technological bases for the progress of science and technology in this country. Because of this, there are few programs of a scientific or technological nature that do not depend in some way on services and assistance from the National Bureau of Standards.

Many times, it is appropriate for the agency requesting assistance from us to pay for it. In general, we would insist that this be done when the work that we do is limited in interest to the agency requesting the service.

In other cases, however, the assistance they want is one that we, ourselves, would expect to provide in the broad public interest. It is in such cases that we would hope that the present legislation would apply. If an agency concerned with carrying out a major national program needs assistance which NBS should normally provide from its own appropriation, the proposed authority would permit a transfer of appropriation base from the requesting agency to the National Bureau of Standards.

This authority would be used in programs where a project would be expected to continue for a number of years, where the project is of a size of about \$100,000 per year, or more, and where it is clearly a problem within the statutory authority of NBS. We feel that in this way we would then have some control on the fluctuations in our transferred fund program and secure a more effective means than we now have of making the base of NBS appropriations commensurate with the needs that other agency programs impose upon it.

The final item for which we are requesting a change in our legislation deals with our gift authority. Our present legislative authorization permits us to accept gifts to augment our program. These have never been very large, but we have received some very important gifts under this authority. In addition, it has become customary for most of the senior staff members who receive honoraria for things that are very closely allied to their official functions, to deposit these honoraria as gifts to the Bureau's working capital fund. Also, we frequently receive gifts to facilitate the participation of NBS staff members in scientific meetings. We would like to have authority to use these gift funds for representation purposes when it is considered appropriate and within certain limitations.

The nature of our scientific activities requires considerable contact with visiting scientists, both from this country and abroad. Our scientists in attending major meetings out of Washington or in other countries frequently are entertained in a scientific capacity. We are unable to reciprocate.

Many of the Government agencies have such representation funds. For example, the National Institutes of Health have had authority for entertainment funds for visiting scientists for a number of years.

Our request is somewhat different than most of these others in that we would not use appropriated funds for this purpose. We would limit it strictly to funds that are available to NBS as gifts, so this representation authority which we are requesting would not be at the expense of our appropriations. This is a summary of what we are asking. More detail is in the material which I submitted for the record.

The CHAIRMAN. You have never had a fund for entertaining scientists or returning compliments paid you when you are attending these conventions and that sort of thing, have you?

Dr. ASTIN. No, sir; we have not had this authority.

The CHAIRMAN. But these funds find themselves in nearly every other agency of the Government, DOD has them, even NASA.

Dr. ASTIN. Yes, sir.

The CHAIRMAN. NASA has money for this purpose, passed on by this committee.

Are you through, Doctor?

Dr. ASTIN. Yes, sir.

The CHAIRMAN. I am going to ask Mr Yeager, the counsel on my left, to ask a number of questions. When we have developed this, then we will open it up to general questioning.

Without objection we will proceed in that way.

You may go ahead, Mr. Yeager.

Mr. YEAGER. Dr. Astin, in regard to the first part of the bill about the visiting scientists, how many do you estimate might be employed in this program—let's say the first year, after 5 years, or after 10 years? What would be the maximum number that you would anticipate?

Dr. ASTIN. I would guess that after a period of 3 to 5 years it might build up to a maximum number of 25. This, to some extent, depends upon program needs and availability of scientists for visiting scientists appointments. In general, however, it would not exceed, after a few years' buildup, about 25 or 30.

Mr. YEAGER. This is the maximum that you envision for the program?

Dr. ASTIN. That is correct.

Mr. YEAGER. Could you give us any estimate of what the costs might be in regard to this program, the maximum cost on an annual basis?

Dr. ASTIN. Oh, I would guess approximately \$30,000 per year per scientist.

Mr. YEAGER. Per scientist?

Dr. ASTIN. Yes. This would mean a total cost of this program, after a few years, of perhaps three-quarters of a million dollars.

Mr. YEAGER. \$750,000, is that what you say?

Dr. ASTIN. Yes.

Mr. YEAGER. If you did not have this authority to utilize the visiting scientists this way, would you have to make a provision in your budget anyway to have this same work done by somebody else?

Dr. ASTIN. Yes. This would give us authority to conduct some of our authorized activities for which we receive appropriations in a more effective manner. That is, we would in general seek to use visiting scientists when we felt that they could make a more effective contribution to our authorized programs than regular staff members or individuals recruited throughout normal appointment procedures.

Mr. YEAGER. But to do the total work that you would want to do, you would anticipate that your budget would be about the same, whether you have this authority or not?

Dr. ASTIN. This really has no bearing on the appropriation request.

Mr. YEAGER. Did the cost estimates that you just gave us include the travel, moving expense, all of that sort of thing?

Dr. ASTIN. Yes, this is correct.

Mr. YEAGER. I notice that you have limited the appointment to 2 years in the case of visiting scientists, that is, the bill does?

Dr. ASTIN. Yes.

Mr. YEAGER. Would there be any advantage to having a longer period than that?

Dr. ASTIN. Well, in general it is our feeling that if they are apt to stay longer than 2 years, then we should consider the regular appointment procedure. There may occasionally be a situation where a person gets on a job that might take  $2\frac{1}{2}$  years, but I think that this would be very remote.

Mr. YEAGER. It is my understanding that most of the work done by these people would probably be in basic research, or in that end of the science spectrum anyway?

Dr. ASTIN. I would believe so, yes.

Mr. YEAGER. Could you give us examples of particular areas in which the Bureau might have need for people who are not now available to it, the particular areas of science?

Dr. ASTIN. Well, the area of plasma physics is one field where I think that we would seek to bring in visiting scientists. I think also in the area that the chairman mentioned to us before we started the meeting, that is in the field of LASER research, we might find it advantageous if we could secure one or two outstanding people and have them work with us.

Another area of a more prosaic type is in the field of precision metrology. Precision metrology is very basic to NBS activities and there are occasionally situations where we find an unusual competency in a very special field developed elsewhere. For example, I think in dimensional metrology that there is probably greater competency in this area in England right now than in the United States or any place in the world. We might choose to bring in an English scientist in that category.

The CHAIRMAN. Define this particular thing, will you, Doctor?

I will confess my colleagues all sit here and look very knowledgeable when you speak of it, but frankly, I just don't know what it is.

Dr. ASTIN. Dimensional metrology?

The CHAIRMAN. Yes.

Dr. ASTIN. This is measuring linear dimension, length, to a very high degree of accuracy under unusual situations. It might be the diameter of a very small bore in a machined object. It might be measuring the regularity of a sphere in terms of how uniform is the diameter along different axes. In another area, it might involve measuring the dimensions of a cube to a very high degree of precision. I mention this last example because I know it is one area where a group of individuals in England have done an outstanding job. The importance of measuring very accurately the dimensions of the cube was to provide standard data on the density of materials. To determine density one has to measure very accurately both volume and mass.

In connection with this type of work, there is considerable talent abroad. As a matter of fact, I learned just a couple of weeks ago that one of the industrial organizations in this country is sending some of their instruments and materials to England for calibration because they think they are getting a better job there than we can give them. These are control devices for dimensional measurements.

The CHAIRMAN. Thank you.

Mr. YEAGER. Dr. Astin, in the statement which you filed for the record, bottom of page 5, this statement appears:

There is a psychological barrier to the acceptance by some scientists of appointments under present authority. Foreign nationals especially, but also some staff members of American universities, are reluctant to accept positions in the U.S. civil service.

What is the reason for that? Is this primarily a money proposition?

Dr. ASTIN. Well, the money proposition is a very serious restriction on our ability to hire people, and since you have mentioned it, I would like to express our very great interest in the President's pay reform bill. I think that as far as the National Bureau of Standards is concerned, this is the single most important piece of legislation before the Congress. However, this authority we are asking here does nothing with the pay levels, it merely removes the individual from the necessity of complying with the normal civil service classification procedures. We feel that to be able to make an appointment outside of the normal examining procedure based on our appraisal of an individual's competency, distinction, and attainments would have certain morale factors in terms of some of the individuals we might bring in during a sabbatical year, for example.

Mr. YEAGER. In one other place in the statement, I don't recall exactly where, you indicate that under Public Law 600 of the 79th Congress, I believe, that some foreign citizens may be employed, some foreign nationals. Do you recall, or does Mr. Johnson recall, what foreign nationals may now be so employed?

Dr. ASTIN. We now can employ aliens from any nations allied with the United States in defense activities for employment categories where there is no U.S. citizen available with comparable talent or ability. This would include nationals of the NATO countries, for example.

Mr. YEAGER. Now, in regard to the no-year funds: as a matter of practice, are the Bureau's funds now ever available on a no-year basis, or are they ever requested as such?

Dr. ASTIN. We always request that the appropriations for buildings and for provision of special equipment be available on a no-year basis, largely because of the extended nature of some of the procurement problems involved. These appropriations would always be subject to a point of order, however. Having this authority would eliminate that possibility.

None of our regular operating budgets are available on a no-year basis. Occasionally we might find it desirable in certain specific operating research programs to have this authority and would then so request the Appropriations Committee.

Mr. YEAGER. In reference to the transfer authority, this is not entirely clear to me. You can, at the present time, receive money from other agencies?

Dr. ASTIN. That is correct.

Mr. YEAGER. But could you summarize, perhaps again, in general terms, what new advantage this legislation would give you, then, that you don't have now?

Dr. ASTIN. Yes. There are occasionally situations where we undertake a program for another agency which both that agency and the National Bureau of Standards recognizes as something we should support with our own funds. Sometimes we undertake a project with funds transferred from another agency with the understanding that we will seek to include the funding of that item in our own appropriations in future years. In such situations it would simplify this process, both at the Bureau of the Budget and in presenting the case to our Appropriations Committee, if at the time of the fund transfer the base for the appropriation was also actually transferred. It would not then appear as an increase in our appropriation when we requested money from the Congress the next year.

Mr. YEAGER. This is a bookkeeping matter; is that right?

Dr. ASTIN. That is right; yes.

Mr. YEAGER. Could you us some examples of how this lack of transfer authority has been troublesome in the past?

Dr. ASTIN. It has been troublesome on occasions in the past when we have sought appropriations to continue projects initiated with transferred funds and have failed to get the money because it appeared to be an increase in program when in fact it was not. This is one situation. Another factor is that the proposed procedure would provide a sort of control on our transferred funds. That is, we would not be permitted under these circumstances to receive funds from

another agency on a continuing project which both agencies agreed belongs in our budget unless the agency were willing to transfer the base. This would have an inhibitory effect, I believe, on fund transfers.

The CHAIRMAN. Dr. Hechler has asked if he may have a follow-up question at this time.

Mr. HECHLER. Dr. Astin, I think your answer to the counsel's question was rather generalized.

I would if you could give us some more precise and specific illustration which would involve a substantive area that has been handicapped by lack of this authority?

Dr. ASTIN. Well, there is one project that we undertook 2 or 3 years ago for the Advanced Research Projects Agency on the determination of thermodynamic data of the light elements. This is a very important program to ARPA. It is one of the precision data projects which is very closely allied to the basic programs of the Bureau, fully consistent with our statutory authority for such programs. We believe, and I think the ARPA people do too, that this is the sort of thing that should be funded with our own appropriations.

This is a program that amounts to about a half a million a year. We are now doing this work, and receiving annual transfers from ARPA for it. We would like, if the Advanced Research Projects Agency agreed, to have them transfer the base for that activity to our appropriation and then have the funds come to us directly, rather than through the transfer route. This would mean a decrease in the base of ARPA, and an increase in our base.

Mr. YEAGER. Yes.

Dr. ASTIN. It is our belief that it would simplify the management and bookkeeping problem if this were done.

Mr. HECHLER. Could you supply perhaps one or two other illustrations analogous to that for the record?

Dr. ASTIN. Another example—

Mr. HECHLER. I mean for the permanent record.

Dr. ASTIN. Oh, yes, we would be very pleased to do that.

Mr. HECHLER. Thank you.

(The information requested is as follows:)

ILLUSTRATIONS OF PROGRAMS CONDUCTED WITH OTHER AGENCY FUNDS WHICH WOULD MEET CRITERIA FOR MERGING WITH NBS APPROPRIATION

URANIUM ISOTOPE ABUNDANCE STANDARDS

A research project to establish a system of reference standards for uranium isotopes and their mixtures was started late in fiscal year 1957 with initial funding of \$20,000 provided by the Atomic Energy Commission. The levels of AEC support was increased to \$100,000 in fiscal year 1958 and has continued at about that level. This is a continuing program involving chemical standardization and research on uranium oxides and uranium compounds, isotope abundance measurements, establishment of primary reference standards for uranium isotopes, and the evaluation and distribution of working standards of uranium isotope abundance.

With the development of nuclear power and other nuclear-chemistry activities it is apparent that the need for accurate standards of materials used in these fields will continue. The provision of these standards is clearly within the basic responsibilities of NBS and should be funded from appropriations made directly to the Bureau.

## RADIOMETRIC STANDARDS

A project was initiated with NASA funding during the current fiscal year for the development of radiometric standards in the vacuum ultraviolet and soft X-ray spectral regions. Such standards are needed in a number of important fields such as plasma physics and photochemistry. Perhaps the most pressing need is for standards and methods to provide for the absolute calibration of ultraviolet flux measuring devices carried above the earth's ozone layer in rockets and satellites. Information collected in these costly experiments is vital to the space program and to the atmospheric sciences but cannot be fully useful unless a basis is established for comparison of the data obtained from the various experiments.

NBS is the logical organization to provide standards for the calibration of these flux measuring devices. For this reason, NASA transferred about \$100,000 this year to enable the Bureau to work on this problem. However, since the program will continue for some time and is of broad interest, it would be highly desirable for it to be funded by direct appropriation to NBS.

## METEOR BURST COMMUNICATIONS

In 1957 the Bureau undertook a study of the propagation characteristics of radio signals reflected from the ionized trails created by meteors entering the atmosphere. This study was intended to provide basic information needed for the development of techniques to utilize this newly discovered propagation mode for reliable long-distance communications.

Because of the urgency of military interest in the matter, the program was initiated with \$330,000 transferred by the Air Force. It was understood, however, that NBS would seek funds in fiscal year 1958 to continue the work as a part of the program of its Central Radio Propagation Laboratory. This effort was unsuccessful since the amount required to continue this one project at the planned level of activity amounted to a substantial part of the total budget increase finally acquired for the Bureau as a whole in that particular year. The program was continued at a reduced level with transferred funds and now is nearing completion. The case is cited here as an example of the difficulty encountered by NBS in accommodating within its budget, sizable new programs initiated to meet pressing needs of other agencies.

Mr. YEAGER. In the final part of the bill, in regard to the gifts request, at what rate does the Bureau receive these gifts at the present time? In other words, about how much a year do you get? I am sure this is not a steady thing, but can you give us a general idea?

Dr. ASTIN. During this fiscal year they total about \$50,000 and I think that over 90 percent of this \$50,000 were designated gifts, that is gifts for specific purposes, either for research or for travel. There in general are less than \$5,000 of undesignated gift funds available in any fiscal year.

Mr. YEAGER. How large is the Bureau's discretionary fund now? Do you actually have it set up?

Dr. ASTIN. We are asking for a limitation of a thousand dollars. We have none at the present time.

Mr. YEAGER. On page 4 of the bill, section 2 is involved at this point. On line 6, you have the proviso in there "not to exceed a thousand dollars may be available annually for the purpose of entertainment," and so on.

Dr. ASTIN. Yes.

Mr. YEAGER. As I understand it, none of this money is appropriated money, this is all gift money that is given to the Bureau?

Dr. ASTIN. That is correct.

Mr. YEAGER. Is there any reason why this limitation is important to the Bureau? Would you have any objection to removing it?

Dr. ASTIN. No. After discussions with the Bureau of the Budget, we agreed to a limitation just to indicate our good faith in not seeking to make this a very large fund.

Mr. YEAGER. Yes, sir.

Thank you, Mr. Chairman. That is all I had.

The CHAIRMAN. Mr. Hechler?

Mr. HECHLER. What additional visiting foreign scientists could you identify whom you would have liked to have had in the past few years that would have really helped in the development of the Bureau's work with such authority as you could get under this bill?

Dr. ASTIN. I can't recall any specific individuals by name. I occasionally hear our staff members mention someone that they would very much like to have, if we had the authority to bring them in. Would you like to reply to this, Dr. Huntoon?

#### STATEMENT OF ROBERT S. HUNTOON, DEPUTY DIRECTOR, NATIONAL BUREAU OF STANDARDS

Dr. HUNTOON. I only wish to add that we don't carry in our heads at the moment the names of some of these individuals. The law being what it is, the people don't bring them to us except in casual conversation. But if you are interested in some examples, I am sure that I can go back and get a few and submit them for the record.

Mr. HECHLER. It might add force to your argument if you could identify some individuals, perhaps, that would have helped you had you had this authority in the past year or two. That is all I was getting at.

Do you have any trouble under current legislation in employing superior students during the summer time?

Dr. ASTIN. No, sir. I think this is one area where we always fare best. Summer employment is usually highly desired by college students and there are always many more applicants for summer positions than we have vacancies available.

Mr. HECHLER. I realize that.

What I meant was whether you felt your current authorization allowed employment of a sufficient number that would assist you, not only in your current work, but in identifying scientific talent for the future to help the Bureau in its future work.

Dr. ASTIN. We believe very strongly in the value of our summer student program. It does very well these things that you indicate and we get very bright young people in on this program. Our present limitation on it is, of course, funds, and this would require larger appropriations to expand our summer training program.

Mr. HECHLER. Would you say that the basic reason for seeking this additional authority which you are asking this morning, Dr. Astin, is that perhaps in the popular and congressional mind the National Bureau of Standards is kind of an old line agency which doesn't attract attention?

Dr. ASTIN. Well, it would help, I think, in adding to the distinction of the Bureau. We also are convinced that the reputation of the National Bureau of Standards is enhanced in direct proportion or perhaps even as a power law, as the number of people who know about it increases. The more people that we can bring into our organization

on a working basis for either very short or extended periods, the more people there are who know about the very basic functions we provide and the ways in which we can assist scientific progress throughout the country. This sort of flow throughout the Bureau on a continuing basis of distinguished visitors would strengthen very much our ability to contribute to the scientific strength of this country.

Mr. HECHLER. I concur with the chairman on his compliments to the Bureau and its magnificent accomplishments. I sometimes feel, however, that some of the newer agencies get this authority a little bit quicker, by reason of their glamour.

Dr. ASTIN. That is correct, that is right.

Mr. HECHLER. Thank you, Mr. Chairman.

The CHAIRMAN. If the gentleman will yield, isn't that the fact, that this is an old line agency, it was the original research agency in Government for many years until—I go back to the turn of the century—until the war came. Then we looked to the Department of Defense, several departments in the Department of Defense, to do a lot of research. Then we got into newer agencies, building highways, we set up research. We now have research through all phases of Government. But these laws governing the Bureau have never been updated to meet the same type of thing that other agencies of the Government now enjoy, such as the Bureau of Fisheries, the Weather Bureau, and the rest of them.

We have updated most of their laws through general legislation. But today we are amending an act of 1901 that hasn't been amended many times, has it, in the history of the Bureau?

Dr. ASTIN. There was a major revision of the act in 1950 and there have been a couple of small amendments since 1950.

The CHAIRMAN. Since that time?

Dr. ASTIN. That is right.

Mr. HECHLER. The point I was making, Mr. Chairman, is that many of the glamour agencies can get such authority and engage in such necessary practices to accomplish their objective much easier.

Mr. CASEY. Will the gentleman yield?

Mr. HECHLER. Yes.

Mr. CASEY. I think possibly you would have better luck if you would give it a more glamorous name, along with the various other colorful new agencies that have been created. Why is it taken for granted so much that a lot of people don't even realize the work that you do? I think as far as public support is concerned, a good public relations man could think up a good name and probably get a lot more money.

The CHAIRMAN. If the gentleman will yield again, may I say this: We talk about, for instance, rockets with millions of pounds of thrust and all of that. Throughout the country at universities, research institutions, and in private industry, we hear this. But where can you weigh, within the tolerances necessary, a thousands pounds or 100,000 pounds or more? About the only agency in the country that can do this is the Bureau of Standards, and they all come back to the Bureau of Standards, DOD and the rest of them, when they want this fine work done.

They say, "This is what we have done. This is what the automotive industry has done." But when you come back to, for instance, these

measurements, these tolerances, you have to go to the Bureau of Standards. You see the people there who are actually gaging the tools for private industry. I believe you are paid for that, are you not?

Dr. ASTIN. Yes.

The CHAIRMAN. There is a standard fee but in the airplane industry, the automotive industry, any of these, setting all of these jigs, all of these things that they use for their standards of measurement, they send them to the Bureau to be calibrated and gaged. Yet few people know about it.

This may be unglamorous, as Mr. Casey has said, so that no one pays a lot of attention to it, and yet this is important, very important, basic to the whole of industry.

Dr. ASTIN. Mr. Chairman, may I comment on an earlier remark you made and Congressman Hechler made, concerning our problem in getting the authority to do some of these things that the glamor agencies seem to be able to get more effectively?

The other agencies under the legislation cognizance of this committee, have in their organic act authority for the supergrade positions. Originally we had thought of having that in this present package. However, the President's pay reform bill superseded that, so that our opportunities there now rest in the pay reform bill. The other agencies under your cognizance do have this authority in their organic acts.

Mr. RIEHLMAN. Mr. Chairman, could I ask this question to clarify that statement?

The CHAIRMAN. Yes.

Mr. RIEHLMAN. Is that true with all of the four provisions that you are asking for in this bill?

Dr. ASTIN. That is true of the no-year funds and it is true of the representaion funds, but I think the other two are unique. It is not true with the visiting scientist program, though as I said earlier, NIH has this authority. Here we are seeking something a little bit unique because we think that his type of flow throughout the organization will be very helpful to us. However, NASA and NSF can do nearly the equivalent under other authorizations. The transfer of base is unique to us largely because we are so much a service organization to the rest of the Government. This is almost distinctly an NBS problem.

Mr. HECHLER. Mr. Chairman?

Excuse me.

The CHAIRMAN. Go ahead.

Mr. RIEHLMAN. Excuse me.

The CHAIRMAN. You have the floor.

Mr. RIEHLMAN. Do the four amendments you offer here today have the approval of the Bureau of the Budget? Did you say?

Dr. ASTIN. Yes, sir.

The CHAIRMAN. Anyone else?

Mr. CHENOWETH. Yes, I would like to. Are you through?

The CHAIRMAN. Go ahead. Mr. Hechler has had an opportunity.

Mr. CHENOWETH. Maybe he has one more question.

Mr. HECHLER. I wondered if this name would be acceptable to Mr. Casey and Dr. Astin, the "Bureau of Form and Figure."

The CHAIRMAN. Wait a minute now. We will get away from this.

Mr. CHENOWETH. I see I made a mistake in yielding to him.

Doctor, I want to join the other members of the committee in welcoming you before the committee.

We all recognize the great work you are doing there. You always make a most valuable contribution to our deliberations. I want to join also the compliments that are being made to you in your splendid work. I think we might compare you to the lawyer in the law firm who spends his time in the backroom preparing the briefs with which the more glamorous lawyer in the front office goes into court and wins the case. But you are not getting the attention which some others are.

That is the only comparison I can think of at the moment.

Dr. ASTIN. Thank you, sir.

The CHAIRMAN. I would like to join you in that statement.

Mr. CHENOWETH. Doctor, you recognize, I am sure, that there is a prejudice in this country, maybe a well-founded, substantial prejudice, against employing of alien scientists or any aliens for that matter. There is a matter of securities, security risk, such an important issue at this time, and I am sure you recognize the difficulty which we face.

Dr. ASTIN. That is right.

Mr. CHENOWETH. Do you feel, in view of that situation, you still would like to go ahead with this legislation and bring in a number of alien scientists? Do you feel that you have a definite, substantial need for them?

Dr. ASTIN. Yes, sir; we do. We are fully conscious of the security problem and risk and we believe that we have adequate safeguards for this, particularly in view of the fact that these individuals would not be involved at all in sensitive work. The very nature of science is such that we find specialties developing in particular institutions. An outstanding scientist in one organization will very often become a world leader in a very specific specialty, and frequently a specialty of this type can be very important to our programs. When it is, we would like to have the opportunity of inviting a man who has a competency not available anywhere else in the world, to come and work for us for a limited period.

Mr. CHENOWETH. Can't you do that now on a limited basis?

Dr. ASTIN. Well, we can't appoint them unless they go through the normal civil service appointing procedure. Nor can we cover the travel costs that are necessary, frequently, to invite a person to come and work for us, say for an academic year.

Mr. CHENOWETH. You are not able to pay their travel expenses?

Dr. ASTIN. No. The present travel authority applies to first duty station only, and requires that the individual work for at least a year. It was intended for permanent employees. It was not intended for this type of situation.

Mr. CHENOWETH. How many do you have now of this type in the Bureau?

Dr. ASTIN. I would guess that there are approximately 30 aliens on our staff, but I can give you the exact number for the record.

(NOTE.—As of May 31, 1962, there were 38 aliens on the NBS staff.)

Mr. CHENOWETH. About 30, you say?

Dr. ASTIN. Yes.

Mr. CHENOWETH. How long have you had them? For some time?

Dr. ASTIN. There are some who are here for short periods. Some are here under training programs of the Agency for International Development. Some are planning to become citizens. We have a number of individuals on our staff who initially came for short periods and stayed and became citizens. They are some of our most valued staff members at the present time.

Mr. CHENOWETH. You mention in your statement that some of them would come under the State Department exchange visitor program, and then in your next sentence you say others would be required to meet established Department of Commerce security criteria.

Don't you think perhaps all of them should meet security criteria?

Dr. ASTIN. That is correct; all of them will. But for some of them we depend primarily on the State Department for this suitability guarantee and in other cases—

Mr. CHENOWETH. In some fields the State Department is not altogether too careful in these matters. I think probably the Congress would want some more definite assurance than that.

Dr. ASTIN. I think the Security Office of the Department of Commerce is very careful, and none of these would be appointed without their concurrence.

Mr. CHENOWETH. I mention this because I know there is going to be a substantial opposition to this proposal and I think to overcome it we will have to assure our colleagues in the Congress here that there are going to be adequate, careful security examinations here and they will have to submit to these tests and be able to establish the fact that they are not security risks.

Dr. ASTIN. Well, it is my belief that the Department of Commerce has a very reliable and valid security program. We can give you information about their procedures, if you would like.

(The information referred to is as follows:)

#### DEPARTMENTAL INVESTIGATIVE REQUIREMENTS FOR EMPLOYMENT OF ALIENS

##### APPOINTMENTS FOR PERIODS OF MORE THAN 90 DAYS

1. An alien may be appointed to a nonsensitive position in this Department for a period of more than 90 days only after a full background investigation has been completed and a satisfactory evaluation thereof has been made by the Office of Investigations and Security. An alien may be assigned to a sensitive position only in accordance with the provisions of paragraph (d), below.

(a) Either immigrant aliens or nonimmigrant aliens may be appointed for periods up to but not to exceed 1 year in nonsensitive positions (as defined in Administrative Order No. 207-4) after completion and satisfactory evaluation of the investigation described above.

(1) When personally recommended by the head of the primary unit and approved by the Assistant Secretary of Commerce for Administration and Public Affairs, a scientific or technical position in grade GS-14 or above which does not involve administrative or policy-forming responsibilities may be considered as nonsensitive.

(b) Immigrant aliens may be reappointed after a 1-year appointment or may be initially appointed to nonsensitive positions for indefinite periods (exceeding 1 year) after completion and satisfactory evaluation of the background investigation by the Office of Investigations and Security, provided that the immigrant alien has formally declared his intention to become a U.S. citizen prior to the making of such an indefinite appointment.

(c) When recommended by the head of the primary unit as being in the best interest of the Government and when such recommendation is approved by the Assistant Secretary of Commerce for Administration and Public Affairs, a non-

immigrant alien or an immigrant alien who has not declared intention of becoming a U.S. citizen who has been given a 1-year appointment under conditions described in (a) above, may be reappointed for a temporary appointment of 1 year or less.

(d) An immigrant alien appointed to a nonsensitive position, in accordance with the above provisions, will be eligible for assignment to a sensitive position only after he has been employed in this Department for a continuous period of not less than 3 years and has during such time of employment demonstrated to the satisfaction of his employers his complete trustworthiness and a continuing and sincere desire to become a U.S. citizen. Any investigative clearance granted under these conditions, after 3 years will be limited to the specific projects on which he is employed. A final clearance will not be granted until the employee has presented for inspection by the Office of Investigations and Security a certificate of naturalization as evidence of U.S. citizenship.

#### APPOINTMENTS FOR PERIODS OF 90 DAYS OR LESS

1. Immigrant aliens and/or other aliens may be employed in this Department for a period of 90 days or less in nonsensitive positions (for purposes of this policy grade GS-14 and above which do not require access to classified material or restricted areas, and which do not involve administrative or policy-forming responsibilities, may be considered nonsensitive) after the completion of the following requirements.

At least 30 days prior to the proposed appointment a request should be directed to the Office of Investigations and Security asking investigative concurrence in the proposed appointment and transmitting biographical sketch of the alien (preferably form CD-79a). The appointment should not be finalized until such concurrence is received. It will not be necessary in such cases to process the usual papers required under Executive Order 10450 to the Civil Service Commission in connection with these cases.

Mr. CHENOWETH. You feel satisfied then in your own mind, do you, Doctor, that the Department of Commerce criteria is sufficient?

Dr. ASTIN. We do, yes.

Mr. CHENOWETH. To meet your requirements?

Dr. ASTIN. Yes, sir.

Mr. CHENOWETH. That is all, Mr. Chairman. Thank you very much.

The CHAIRMAN. Any other questions?

Mr. DADDARIO. Just one question.

Doctor, if you run into a scientist in a foreign country who has a unique capacity, has become a leader in a certain field, who has no particular desire to come here, and therefore it is not a question of enticing him, can you enter into a contract with him on his home ground to do certain work for you, which can then be properly utilized?

Dr. ASTIN. I am not sure on this point. My staff tells me we do have authority. I know that we have a limited program now under the Public Law 480 funds. That is the foreign currency program, but it is limited to three countries, Israel, Pakistan, and India.

Mr. DADDARIO. It does include the NATO countries?

Dr. ASTIN. No. This is a program that is limited to certain countries where foreign currencies have become available through the sale of surplus agricultural products. We have a program now amounting to \$1 million. Incidentally, the funds in this foreign currency program are no-year funds. I excluded those when someone mentioned no-year funds earlier.

Mr. DADDARIO. Can you include in that contract, also, perhaps not moving of household goods, but could you include in that contract enough funds to visit this country to take care of whatever problems there might be, so it will take care of the transportation feature?

Dr. ASTIN. We have authority now to bring individuals in as consultants for short periods. However, the regulations in terms of paying costs of consultants precludes their being used for continuous employment. The two are not compatible. We could not use the short-term consultant authority that is available to us to pay for an employee working for several months on a continuous basis.

Mr. DADDARIO. But you could, so it seems, from what you have said, cover the situation involving unique circumstances by entering into a contract, bringing that particular person here, if necessary, and in those few cases where that becomes important, therefore, you already have the authority?

Dr. ASTIN. It is my recollection, but maybe I should ask our legal or fiscal people to comment on this, that we cannot use the contract authority when there is to be an employee-supervisor relationship between the individual involved and our organization. Is this correct? Yes.

Mr. DADDARIO. Have you answered your own question in the affirmative, is that so there cannot be an employer-employee relationship?

Dr. ASTIN. There cannot be.

Mr. DADDARIO. But you do have guidelines in any contract which would overcome that particular problem. The contract would set the guidelines through which he would be carrying out his responsibility to you?

Dr. ASTIN. Well, the contract authority, as I understand it, is very specifically setup to cover something where you want to buy a well-defined package and you don't intend to use the individual in the normal employee capacity. Although there are many things that we can do under that authority, we cannot use it properly, in my judgment, to do all of the things that we would like to do under the authority we are now seeking.

Mr. McClure, Assistant General Counsel of the Department of Commerce would like to comment on this point.

#### STATEMENT OF KENNETH McCLURE, ASSISTANT GENERAL COUNSEL OF THE DEPARTMENT OF COMMERCE

Mr. McCLURE. Thank you, Dr. Astin.

I think you are quite right. I think the Bureau could enter into a contract with a scientist with unique capabilities and ask him to perform something that was definite enough to be spelled out in the contract for the consideration. Furthermore we could make provision in the contract for travel expenses which would envisage a visit to the United States, to the National Bureau of Standards, for example, and a discussion that would bear some relationship to the aim of the contract.

But it does seem to me that there is something quite different involved in this sort of contractual relationship as contrasted with that which Dr. Astin is seeking here for the Bureau of Standards. This visit, for the purpose of effecting the result of the contract, is quite different from having the unique scientist come and be with the Bureau, not only contributing what he would contribute in his unique performance, but also instructing and inspiring so to speak, the members of the National Bureau of Standards who are engaged in related activities.

Isn't that reasonably accurate, Dr. Astin?

Dr. ASTIN. Yes; this is fine.

Mr. DADDARIO. I am not asking these questions to prove any point of mine, I am just asking the questions to probe a little bit into the argument presented by Dr. Astin, because it seems to me that those arguments can be met by authorization already granted to you by the Congress, and authority which you have been using over a course of time.

Mr. Bell?

Mr. BELL. Mr. Chairman.

Dr. Astin, my question is one of fact. Did I understand you to state relative to the answer to Mr. Chenoweth's question that these alien scientists that come in are almost entirely from nations that are our allies, is that correct?

Dr. ASTIN. That is correct.

Mr. BELL. That was the point I wanted to get straight. That is entirely so?

Dr. ASTIN. Yes; they have to be under the present program.

Mr. BELL. They have to be.

Mr. DADDARIO. Mr. Roudebush.

Mr. ROUDEBUSH. I have been most interested in these comments about updating the particular authorization act pertaining to your Bureau.

I wonder if you could tell me how many other Government bureaus or agencies employ foreign scientists under the same provisions that you request in this particular legislation?

Dr. ASTIN. I haven't specific information on this. I would guess that most of them do it, in a limited way, but this is a guess.

Mr. ROUDEBUSH. I realize, Doctor, that it is done in a limited way, but I wonder how many of them have the broad provisions as I gather are implied in H.R. 11561?

Dr. ASTIN. NIH has the closest to this.

Mr. ROUDEBUSH. I see.

NIH has the closest to this. All right.

Now, one other question.

As I read the bill this authorizes the Secretary of Commerce to appoint these particular visiting scientists to service with you and, of course, I realize they will be subject, as Mr. Chenoweth pointed out, and Mr. Bell pointed out, to checks. The Secretary of Commerce would then use his security office to determine if these people were security risks or not.

I am a little bit sensitive about this particular point, Doctor, as Judge Chenoweth pointed out. I realize that you responded to Mr. Bell's question that only allied nations or friendly nations could possibly be appointed, but I see nothing in the act that would imply that.

I also wonder if, let's say, a very talented scientist from Yugoslavia or Poland or Czechoslovakia has some particular talent you wanted to use, what would there be in that act to prevent his appointment by the Secretary of Commerce?

I bring that out because I remember last year we had a group of Russian scientists traversing all over this Nation and the leader of that particular Soviet delegation just recently appeared at the Pug-

wash Conference just a few months before, and said, "Well, I am a Communist first and a scientist second."

I wonder if we shouldn't have other safeguards in this act because I certainly don't want to endorse any legislation that will use taxpayers' money to bring scientists to this Nation who are Communists first and scientists second.

Dr. ASTIN. We wouldn't either, sir.

Mr. ROUDEBUSH. I am sure, but I just wonder about the safeguards.

The CHAIRMAN. Mrs. Riley?

Mrs. RILEY. I notice you said that you had the approval of the Bureau of the Budget; is that correct?

Dr. ASTIN. Yes, ma'am.

Mrs. RILEY. It has been my observation that once funds are authorized and appropriated they find a haven in the Bureau of the Budget and much of those funds develop a mildew. Will you have any trouble getting a transfer of funds? Do you anticipate any trouble, from one agency to another, that is?

Dr. ASTIN. I don't think that there will be serious problems on this. There may be some agencies that would object to transferring a base, in which case we can't do their work, unless it is strictly an ad hoc program. This would not inhibit our continuing to do ad hoc work—that is, one-shot jobs—for other agencies of the Government.

We have this authority now and I think that in our national interest we should continue to provide this type of service under this authority. This would not impair that.

The CHAIRMAN. Mr. Waggonner.

Mr. WAGGONNER. Dr. Astin, would you say then that the general purpose, or the only purpose of updating this particular act is to bring into service of the Bureau of Standards people who can do something for us as compared to our trying to do something for them?

Dr. ASTIN. I think that is a very fair statement. This would permit us to take advantage of the competency that we cannot now take advantage of and thus strengthen our own internal programs.

Mr. WAGGONNER. We want people who can help us, we are not just interested in doing something for somebody else, is that it?

Dr. ASTIN. This is not intended to be a training program for other people. It may have many aspects of training for us, because if we bring in an outstanding competency he can't help but brush a little of that competence off on our staff.

Mr. WAGGONNER. And then the people that we bring in are to be people of competency who are to participate in programs that we are presently undertaking and not something that we are considering for some future date?

They are to be parts, parties, participants in a going program within the present program of the National Bureau of Standards?

Dr. ASTIN. That is correct.

Mr. WAGGONNER. I don't have any other questions.

The CHAIRMAN. Mr. Davis?

Mr. DAVIS. Dr. Astin, in thinking back as to the history of my own State on weights and measurements, I would hazard a guess that at the time the Bureau of Standards was first founded it was thought of primarily as a bureau to standardize weights and measurements in the areas where the Federal Government had a part. I know,

reviewing briefly, in my own State, it was originally set up that each county would handle weights and measurements and supervise the uniformity of them without even allowing the State to participate in it.

Dr. ASTIN. Yes.

Mr. DAVIS. And each, we called him the ordinary of the county, had a set of weights, and he would go around to the different merchants and test the correctness of their weights and measures.

The counties soon abdicated that to the State.

Now, I daresay the States have more or less abdicated this function to the national level, at least in areas that require high degrees of competency, I would say. But regardless of that, I wanted to remark that in the year 1901 or 1902, the concept of weights and measurements was a different thing to what it is in 1962.

For example, nobody had ever heard of quantum physics and very little was known about electromagnetism, that is now known.

In view of your statement that you would like to see a total of 25 scientists participating in this program, I would wonder if you would care to comment on your concept of the mission of the National Bureau of Standards?

What is your mission? What would you be doing with that many scientists?

You wouldn't be just weighing and measuring things, I wouldn't think.

Dr. ASTIN. Well, I can give you quite a speech on this, Mr. Davis, but I will try and make it brief.

The National Bureau of Standards, as I see it, has a dual function. We have six functions according to our organic act, but the first three of these I group together and put in this form:

Our job is to provide national leadership in the development and utilization of uniform accurate techniques of physical measurement.

Our second job, which is essentially a summary of the last three of our statutory functions, is to provide specialized assistance to other agencies of the Government in areas of our own competence. That is, we undertake a number of very special technical jobs serving a central role in Government. The most important of these, or the biggest, at any rate, is our central Radio Propagation Laboratory at Boulder.

I would like to take a minute or two to talk about the measurements standards function which is the heart of our activity. Uniformity and accuracy of measurement is the basis of all exchange in science, in technology, in our mass production industry, and in commerce. The very old weights and measures activity that you referred to began as a Federal activity in 1836, when the Congress directed the Secretary of the Treasury to furnish sets of standard weights and measures to States and to the custom houses. This was really the first implementation of the authority given the Congress by the Constitution to fix the standard of weights and measures.

The activity beginning in 1836 was confined primarily to length measurements, volume measurements, and weight measurements. The rapid growth of the electrical and chemical industry toward the end of the 19th century brought increasing pressures for a national service on measurement uniformity and accuracy in these fields, and it was these pressures that led to the establishment of the National Bureau

of Standards in 1901. The old 1836 function, which had been in the Treasury Department, was combined with the new ones involving mainly measurement services in chemistry and electricity. But industry as well as science has grown more complex. In all of these areas there are increasing demands for measurement services to insure uniformity and compatibility of measurements made with greater accuracy over wider ranges of values and under many new environmental conditions. Our job is one of keeping up with the progress of science in order to make sure that all measurement data can be taken confidently and with reliability on a unified system of measurement commensurate with the needs.

Mr. DAVIS. Then you still think of yourself, as far as your mission is concerned, as being primarily concerned with metrology or measurements?

Dr. ASTIN. This is the heart of our work, yes.

Mr. DAVIS. I see.

Dr. ASTIN. People look to the National Bureau of Standards when there is a difficult measurement job.

Mr. DAVIS. Thank you, sir.

The CHAIRMAN. Are there any other questions?

Mr. CORMAN.

Mr. CORMAN. Doctor, I understand the Department of Defense uses on a contract basis the U.S. Testing Bureau, a nongovernmental testing agency, to establish the competency of some of their contractors and subcontractors. Can you tell when the Department of Defense would use your services and when they would go outside to a private agency?

Dr. ASTIN. I would say in general that they would use our services when we have a unique competence for the job that needs to be done. Our job in this measurements standards field is to provide the central basis for a uniform, accurate system of measurement in this country, and to provide measurement services for the utilization of this system. We can only do some of the most difficult and exacting measurement jobs that are needed, and we encourage the extension of measurement competence throughout the country. We encourage other people to develop this competence and relieve us of many of the routine tasks. I would hope if there is a private organization that can do a job for the Defense Department, they will go to them. They come to us only when no one else can do the job as well.

Mr. CORMAN. Do you test transistors, as to their—I don't know how you measure a transistor.

Dr. ASTIN. We are concerned with some of the rating techniques, that is the adequacy of measurement methods for evaluating transistors.

Mr. CORMAN. I see.

Dr. ASTIN. We are not concerned with routine evaluation of transistors.

Mr. CORMAN. I see. On the question Mr. Roudebush asked, I thought I understood earlier you to say there is some basic legislation which has the provision that we can exchange or, rather, that we can hire scientists from allied nations, and there is a proposal to have that include neutral nations which is presently pending in the Senate; is that correct?

Dr. ASTIN. That is correct, yes.

Mr. CORMAN. I want to ask you if Israel is considered an allied or a neutral nation under whatever the standards are that that—

Dr. ASTIN. Allied.

Mr. CORMAN. Thank you.

The CHAIRMAN. Are there any other questions?

Mr. CASEY. Mr. Chairman, let me ask just one, if I may, please.

The CHAIRMAN. Mr. Casey, yes.

Mr. CASEY. Under your existing law, you have already mentioned that you employ some students for summer work; are you able to employ any of the faculties from some of the universities during their summer leave?

Dr. ASTIN. Yes, sir; we hire some faculty and one of the reasons we would like to have this authority is that this would permit us to hire more and better faculty personnel for a summer period.

Mr. CASEY. Then this bill is to enlarge your existing authority; is that correct?

Dr. ASTIN. That is correct, yes.

Mr. CASEY. You have the authority now to employ—you give as some of your reasons for urging passage of this bill that you would be enabled to employ some of the faculties from universities during their summer year leave and also during their 1-year sabbatical?

Dr. ASTIN. Yes.

Mr. CASEY. You have that authority now, do you?

Dr. ASTIN. We have authority now, but we must, in general, make these appointments under the normal civil service appointment procedure.

Mr. CASEY. This is to get away from the normal civil service procedure?

Dr. ASTIN. And to give us greater flexibility in paying travel costs.

Mr. CASEY. On travel expense and also on your salary, that would be discretionary; is that correct?

Dr. ASTIN. That is correct; yes, sir.

Mr. CASEY. But when they accept under the terms of the proposed bill, they would not come under the regular retirement act, and so forth; is that correct?

Dr. ASTIN. That is correct, yes. These would all be temporary appointments and would not come under the normal retirement act.

The CHAIRMAN. Mr. Bell?

Mr. BELL. Dr. Astin, I hate to belabor this point, but this was a question brought up by Mr. Roudebush again. Relative to bringing in Yugoslav and Polish scientists to help you, wouldn't your answer be there that they couldn't bring in Yugoslavian or Polish scientists because this is only for our allies, only scientists that are members of our allied nations—and they are not to be employed in sensitive areas, and they would be screened by the Commerce Department? Isn't that essentially the answer to this, or is it true that you do have some legislation pending in addition relative to neutralist countries?

Dr. ASTIN. Yes, we do. I mentioned earlier that we have legislation pending now before the Congress. It is S. 2236. It passed the Senate last fall, and is now before the House. This would permit us to employ under regular appointment procedures citizens from neutral countries. Under that authority we would be able to appoint Swiss and Swedes, as examples.

Mr. BELL. Would you be able to appoint Yugoslav or, as Mr. Corman said, Israelites, or—

Dr. ASTIN. We can appoint Israelite citizens now. We would, to answer your question specifically, under the authority of S. 2236, be able to appoint a Yugoslav, if it was considered in the national interest to do so by the Secretary of Commerce. Now, there may be situations where this would be desirable, but they would have to be very special.

Mr. BELL. He would go through the same security investigation?

Dr. ASTIN. Oh, yes. The man would certainly have to go through a security examination.

Mr. BELL. Israel can be considered our ally, but I think Yugoslavia would be a question.

Dr. ASTIN. Yes, the appointment of a Yugoslav would be considered very carefully, but we would have to go through the regular screening procedures.

The CHAIRMAN. Mr. Wagner?

Mr. WAGNER. Mr. Chairman, if you have no objection I would like to ask for the record, if the information isn't available today, that the Bureau be asked to include in the record the list of allied nations and neutral nations from whom people could be employed. I think it is something we will probably have to answer on the floor, and it would be good if that information is made available to us completely as to who could be considered.

Dr. ASTIN. We will do that.

The CHAIRMAN. Very well.

(The information requested is as follows:)

STATEMENT CONCERNING ALLIED AND NEUTRAL NATIONS FROM WHOM VISITING SCIENTISTS COULD BE EMPLOYED

Current limitations on employment of foreign nationals by the National Bureau of Standards, either as regular members of the staff or as temporary visiting scientists as proposed in H.R. 11561, stem from section 502, title V, General Provisions of the General Government Matters, Department of Commerce, and Related Agencies Appropriation Act, 1962. It places the following restrictions on the hiring of noncitizens:

"Unless otherwise specified and during the current fiscal year, no part of any appropriation contained in this or any other Act shall be used to pay the compensation of any officer or employee of the Government of the United States \* \* \* whose post of duty is in continental United States unless such person (1) is a citizen of the United States, (2) is a person in the service of the United States on the date of enactment of this Act who, being eligible for citizenship, had filed a declaration of intention to become a citizen of the United States prior to such date, (3) is a person who owes allegiance to the United States, or (4) is an alien from Poland or the Baltic countries lawfully admitted to the United States for permanent residence \* \* \*. This section shall not apply to citizens of the Republic of the Philippines or to nationals of those countries allied with the United States in the current defense effort \* \* \*." [Italic added.]

A similar restriction has appeared in each General Government Matters Appropriation Act in recent years.

In regard to your request that we furnish, for the record, a list of countries whose citizens are eligible for employment by the National Bureau of Standards, we find that such determinations have been made on an ad hoc basis with the advice of the Department of State and are subject to change. Inasmuch as it appears that the question of determining which countries are presently considered as being allied with the United States in the current defense effort is a matter strictly within the province of the Department of State, the Department of Commerce is requesting that Department to furnish this information so we can fully comply with the request of the committee.

During the past 2 years, the National Bureau of Standards has employed foreign nationals from the following countries:

Belgium	Norway	Denmark
England	France	South Korea
West Germany	Iran	Netherlands
Canada	Austria	Nationalist China
Australia	Spain	Pakistan
Japan	Israel	

This list represents only the recent experience of the National Bureau of Standards and is in no sense a complete listing of countries whose nationals can be employed.

The visiting scientist program which would be authorized by H.R. 11561 would be subject to the limitation on employment of noncitizens contained in the General Government Matters Appropriation Act. However, the Department of Commerce is seeking an exemption to this limitation in the case of alien scientists and engineers as set forth in S. 2236. If that measure is enacted, visiting scientists, as well as regular NBS staff members, might be drawn from any foreign country upon determination by the Secretary of Commerce that the national interest would be served.

Mr. WAGGONER. Does the Bureau of Standards now have the authority to grant scholarship or fellowship awards to employees for further education?

Dr. ASTIN. Yes, we do.

Mr. WAGGONER. Would this authority be extended to these people?

Dr. ASTIN. No.

Mr. WAGGONER. That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. Bell?

Mr. BELL. One more question.

What would be the objection to putting this particular feature in the bill, itself, relative to the neutral nations and the allied nations, naming them in this particular bill?

The CHAIRMAN. I think we can discuss that later when we come to discuss the bill in executive session.

Mr. Yeager has a question.

Mr. YEAGER. You testified in the beginning of your statement that the visiting scientist program probably would be utilized primarily with American scientists; isn't that correct?

Dr. ASTIN. Yes.

Mr. YEAGER. Could you give us any estimate of what percentage might be drawn, or you would anticipate would come from, outside the country?

Dr. ASTIN. I would be reluctant to do so.

Mr. YEAGER. You would think it would be less than a majority?

Dr. ASTIN. I would think alien scientists under this program would be less than the majority, yes.

Mr. YEAGER. One final question: What flexibility does the transfer language in this bill, the transfer of funds, give you—sorry, not the transfer of funds, but in regard to the transportation of visiting scientists? What additional flexibility does this give you which the Administrative Expenses Act does not?

Dr. ASTIN. It would let us pay travel expenses from the individual's location to NBS for appointments less than 1 year and it would also let us pay return travel costs.

Mr. YEAGER. A matter of time, then—

Dr. ASTIN. Yes. This authority, however, would be used only when it was considered justified in terms of the value received.

Mr. YEAGER. Thank you.

The CHAIRMAN. Thank you.

Are there any other questions?

Have you any further statement, Doctor, or your staff?

Dr. ASTIN. I would like to say that I appreciate very much the opportunity you have given me to tell you about our needs in this connection. Also, I would like to re-extend an invitation I have made before to have members of this committee visit the National Bureau of Standards. You will be most welcome at any time.

The CHAIRMAN. Thank you. We will try and take advantage of it. I can tell the members of the committee present that they would be in for a great treat if they visit the Bureau of Standards. I know that they would be impressed with what they see. I want to try and get out again.

Thank you very much, Doctor.

The meeting is adjourned until the call of the Chair.

(Whereupon, at 11 :48 a.m., the committee adjourned.)

The Acting Secretary. This authority, however, would be used only when it was considered justified in terms of the value received.

Mr. Tolson. Thank you.

The Chairman. Thank you.

Are there any other questions?

Are you any further statement, Director, or your staff?

Mr. Tolson. I would like to say that I appreciate very much the opportunity you have given me to tell you about our needs in this connection. Also, I would like to request an invitation for further communication to have members of the committee visit the National Bureau of Standards. You will be most welcome at any time.

The Chairman. Thank you. We will try and take advantage of it.

I can call the members of the committee in person that they would be in for a first round they visit the Bureau of Standards. I know that they would be impressed with what they see. I want to try and get out again.

Thank you very much, Director.

The meeting is adjourned until the call of the Chair.

(Washington, at 12:15 and the committee adjourned.)

## AMENDING THE ORGANIC ACT OF THE NATIONAL BUREAU OF STANDARDS

TUESDAY, JUNE 26, 1962

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SCIENCE AND ASTRONAUTICS,  
Washington, D.C.

The committee met at 10 a.m., Hon. George P. Miller (chairman) presiding.

The CHAIRMAN. The committee will be in order.

Dr. Astin, you have been in contact with Mr. Yeager. I believe you have discussed and known some of the problems that came up at the last meeting, some of the questions that were raised. Do you want to address yourself to some of these?

Dr. ASTIN. Yes; I would like to, Mr. Chairman. It is my understanding that there has been a great deal of questioning about the proposed revision to section 16 in our basic act establishing a visiting scientist program. I further understand that most of the questions that have arisen on this section deal with the proposal that some of the visiting scientists would be aliens.

Here I would like to point out that, from the standpoint of security, this proposed legislation would give us no authority which we do not already have. Therefore, in terms of security clearance, we would be subject to the same restrictions and operating procedures that we now have for regular employees. However, to make sure that the appointment procedures consistent with national security requirements are followed, I have a proposed amendment which I think would meet the requirements and which, I think, would be reasonably easy to administer. I have copies of this and I would like to read it.

We proposed, in section 16, or on page 2, line 9, after the word "Act", to insert the following:

All persons appointed under this section shall be investigated to insure that the appointment is consistent with the national interest in accordance with standards and procedures established by the President.

The CHAIRMAN. Do you want to discuss this, Mr. Yeager?

Mr. YEAGER. Yes.

The CHAIRMAN. What was the suggestion that you had with respect to this?

Mr. YEAGER. I might ask you, Dr. Astin, if you would elaborate on this to indicate what difference it would make in your procedures? What would you undertake normally? Would this require you to do anything that you would not do in any case?

Dr. ASTIN. No. This will not require us to do anything we would not have planned to do without this amendment. I still want to

emphasize that the legislation we are requesting does not permit us to do anything from a security point of view that we are not already authorized to do. I propose this merely to make it plain.

It is my understanding, from my discussions with you, that there was some suggestion of inserting another amendment in here in which there were certain definitions taken from the Subversive Activities Control Act. This, I think, is aimed at accomplishing the same objective that we would accomplish in the normal administrative preappointment reviews. We have looked into possible problems of interpreting and administering the type of amendment you were talking about. We are concerned that since the Subversive Activities Control Act was written for another purpose, not primarily with regard to Federal employment, that we would have to establish completely new review standards and criteria, and we can envision a number of administrative headaches in doing this.

I don't think we would end up with a significantly different result than we would by following normal procedures, but there would be certain additional types of review standards to consider which I think would present problems, mainly because the Subversive Activities Control Act was written for a different purpose and not for Federal employment.

Mr. YEAGER. Yes, sir. I might say, for the record, this, Mr. Chairman, and for the benefit of the other members, that the idea which we had in mind was something like this: That no foreign national who might be employed under the visiting science program could be employed if he advocates world communism as defined in the Subversive Activities Control Act.

This was about the only place we were able to find the term defined in an existing statute.

Do you envision that if this were in the law, Doctor, it would require you to have foreign nationals sign a statement to the effect that they did not advocate world communism and that this itself might present a problem?

Dr. ASTIN. No, I am not sure whether this would be required or not. Our main concern is that it would require us to follow a different set of criteria than those we normally follow for security evaluation purposes. These are defined under administrative procedures for regular personnel appointments. If we had for our visiting scientists program another set of definitions, a different review procedure would be required. They may end up to be exactly the same, because their purpose is the same, but we think we would have a very special problem that would present us with a lot of review procedures which could be very troublesome and perhaps not very constructive.

Mr. YEAGER. I would like to emphasize one thing, if it is correct, Doctor, that the Department of Commerce regulations now prohibit any non-U.S. citizen from working on a classified—or in a sensitive—position, unless he has been with the Department at least 3 years and has satisfied certain requirements. Meanwhile the visiting scientist program is set up for a maximum of 2 years. Therefore none of these people could work, as I understand it, in a sensitive position, or with classified material; is that correct, sir?

Dr. ASTIN. That is correct. There is no intention or desire to use the visiting scientist program for classified work. It is for long-range basic work in the open or unclassified area.

The CHAIRMAN. For the sake of the record, you would be bound in this case by the regulations established by the Secretary of Commerce for employment in the Commerce Department as set forth by Mr. Yeager; is that correct?

Dr. ASTIN. That is correct.

The CHAIRMAN. Are there any questions?

Mr. HECHLER. Mr. Chairman?

The CHAIRMAN. Yes.

Mr. HECHLER. When this amendment refers to "standards and procedures established by the President," does that clause modify "investigated" or modify "national interest"?

Does this amendment intend to have the national interest defined by "standards and procedures established by the President," or is the phrase "standards and procedures" merely to explain how these persons shall be investigated?

It may seem like hairsplitting but I would be interested in knowing.

Dr. ASTIN. I would think that the standards and procedures would apply primarily to the investigative procedures, but I think also they have to apply to the definition of the national interest. This is, I would find it difficult to interpret that as not applying to both.

Mr. HECHLER. National interest is a rather broad term.

Dr. ASTIN. That's right, but from the point of view of our actions in implementing this program, we would certainly want to shape it to the national interest as established by the President.

Mr. HECHLER. The interpretation thereof would be by the Bureau of Standards?

Dr. ASTIN. I would say the interpretation would be by the Department of Commerce.

Mr. HECHLER. Thank you.

Mr. BELL. Mr. Chairman?

The CHAIRMAN. Mr. Bell.

Mr. BELL. Dr. Astin, relative to the research involved by some of these visiting scientists, is it not possible that—not intentionally but in the natural course of research—that matters could come up that might later become semiclassified or very important to our national interest?

For example, I noticed in your statement of purpose and need for the proposed legislation that:

The work of the Bureau is thus of great importance to several major national programs but it requires physicists who are interested in atomic physics rather than some of the newer areas of research. The Bureau finds the supply of such scientists much more plentiful in Europe than the United States.

Conceivably you could be getting close to what might develop into classified matters later—it could be a matter that they might be helping in but nevertheless could be important classified material later?

Dr. ASTIN. Well, this is a very difficult area, and I think deals with the basic fact that you really cannot classify the laws of nature. I mean, they are there for anyone who has the imagination and ingenuity to dig them out and to explain and interpret them.

Mr. BELL. Right.

Dr. ASTIN. It is in applying the laws for practical objectives that we get into classified matters. The purpose of this program is to attempt to broaden our understanding of the laws of nature, which would then provide a basis for other people to apply this knowledge

and understanding for practical purposes. It is in the application that we get into the classified area. I don't see that there is any real danger in this connection. Certainly I think our staff members have had enough contact with classified matters so that if they are dealing with something and realize there might be a classified application of it they would exercise due caution in terms of anyone they talked to about it.

Mr. BELL. Thank you. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Roudebush?

Mr. ROUDEBUSH. Just a question, Doctor.

What percentage of the visiting scientists that you anticipate hiring—just a calculated guess on your part—would be native Americans?

Dr. ASTIN. I would guess about half.

Mr. ROUDEBUSH. About 50 percent would be nationals of European countries?

Dr. ASTIN. That is correct.

Mr. ROUDEBUSH. Also another question. What would the harm be to this bill to spell out the countries from which you could employ scientists? I mean to actually enumerate them in the bill.

Dr. ASTIN. The problem of doing this, as I see it, is that the countries change from time to time, as far as I can determine. As a matter of fact, to the best of my knowledge there is not now established within the executive branch a list of nations from which it is possible to hire people. We tried to get such a list in response to your request and were unsuccessful. Apparently what is preferred is to pick an individual whom we want and then to see if his country is acceptable to the State Department in terms of the current status of international relations. I think that it would provide an unnecessary degree of rigidity if the countries were spelled out. It might not permit the application of this visiting scientist authority to cooperate with scientists in the countries where the State Department has determined that such cooperation is in the national interest.

Mr. ROUDEBUSH. Then, to ask a question from almost a negative standpoint: What would be the harm of spelling out the countries from which you cannot hire scientists?

Dr. ASTIN. Well, this would be subject to the same arguments, but it would not be as bad as the other one—at least in my judgment.

Mr. ROUDEBUSH. I might say we have dwelled to great extent on classified information and I recognize your argument and I have complete faith in you and your Bureau in stopping any possibility of classified information falling in the hands of foreign scientists. But I wonder, Doctor, if you have considered the activities of these foreign scientists while employed here.

Let's say, possible political activity on their part—speeches, and so forth, before student groups.

Would you restrict the outside—let's say the extracurricular—activity of these scientists?

Dr. ASTIN. We have administrative regulations dealing with the external activities of all employees, whether citizens or aliens. One of the requirements under the Department of Commerce regulations for extracurricular activities is that nothing should be done which would embarrass the Department. I think this is the sort of administrative

application which would be applicable here and would permit us, together with the exercise of good judgment and persuasion with these individuals, to prevent such action from happening.

Mr. ROUDEBUSH. One further question, Mr. Chairman, if I might.

Let's assume—this is purely hypothetical—that we would have a visiting scientist from some foreign nation who would take a week's leave from the Bureau and would stump the eastern seaboard, let's say, attempting to propagate an ideology that is foreign to our way of thinking.

Would that give you ground to discharge him?

Dr. ASTIN. It definitely would, yes. I think, in addition, that our normal screening procedures for employees would probably assist very materially in preventing us getting such a person in the first place. I am sure our administrative regulations and standards are such that if a visiting scientist indulged in embarrassing political activity there would be no problem in eliminating him from the roll.

Mr. ROUDEBUSH. Thank you very much.

The CHAIRMAN. Mr. Pelly?

Mr. PELLY. I want to address my question to the Chair.

The witness has posed an amendment covering security clearance. My question had to do with other matters. Should I delay any questions as to whether there might be a limitation as to the number of these visiting scientists?

The CHAIRMAN. Yes. I think that is coming up later. This is on the other question.

Are there any other questions?

Mr. FULTON. I have a preliminary question.

The CHAIRMAN. All right.

Mr. FULTON. My question is on the purpose of the bill.

Is this to pay these higher level employees a salary rate which they deserve, or is it to be on the basis of being comparable to industry so they are given equal pay for equal work?

Which is this?

Dr. ASTIN. The purpose of the bill, with respect to salary and classification, is to provide flexibility in securing the appointment of outstanding scientists, but the intent is, certainly, to follow the same standards that we follow in the Classification Act. We would not appoint anyone under the authority of this bill without attempting to make sure that in terms of experience and ability, his salary would be in line with those employees on our staff under the Classification Act. The desire here is not to obtain any exemption from the qualification requirements of that act.

Mr. FULTON. You are under the Bureau of Standards, and the Bureau of Standards is under the jurisdiction of the Secretary of Commerce in the Commerce Department; is it not?

Dr. ASTIN. That is correct.

Mr. FULTON. Have you read the statement of the Secretary of Commerce, Mr. Hodges, before the Post Office and Civil Service Committee on May 23 in reference to the proposed salary changes under the Department of Commerce?

Dr. ASTIN. Yes. I was there when the Secretary made that statement.

Mr. FULTON. Under that statement he has specifically said that he favors the bill, H.R. 10480, by Mr. Murray, of Tennessee, which is the administration's program to reform the major salary system of the Federal Government and establish comparability with private industry for all employees of the Government.

Do you agree that the way to do it is the way Mr. Hodges suggests?

The CHAIRMAN. You are discussing a matter not within the jurisdiction of this committee, Mr. Fulton. I think the place to do that is in the Post Office and Civil Service Committee. This matter of salaries is not before us. The Secretary's position was made known to the Civil Service Committee and it is up to them to make a decision.

Mr. FULTON. My question, of course, is: Does the Bureau of Standards take the position that Mr. Hodges does as to salaries of these particular scientists and does that then relate to the general policy of the President. I think that is perfectly clear and I think it is a very worthwhile method of checking to see if we have one policy in this Government or do we have a number of policies.

So, my question is: First, within the Department, do you have one policy for salaries of this level in the Department of Commerce, and is this a specific instance of a special exemption for the Bureau of Standards?

Then, if that has been settled, we move to the overall Government and inquire if you are recommending a policy that conforms to the President's proposals for Federal salary reform under H.R. 10480, or are you again making a special exemption in the Bureau of Standards?

I think the witness should answer that.

I see nothing irrelevant in it. It looks to see what kind of standards they are recommending to us on these particular scientists that they are suggesting could receive \$30,000 a year in salary, expenses, and fringe benefits.

The CHAIRMAN. As it pertains to the salaries of these people perhaps it is pertinent. The other part of it, as to the policy of Government, or policy of the Bureau of Standards—the Department of Commerce—certainly Dr. Astin is not qualified to speak for the Department of Commerce.

That would have to be the Secretary and the Secretary's Office. I think he has made his position quite clear before the appropriate committee of this House.

Now, then—

Mr. FULTON. Could I comment?

The CHAIRMAN. All right.

Mr. FULTON. My question to Dr. Astin is: Does your policy representing the Bureau of Standards conform to the general policy of the Department of Commerce?

Then I want to—

The CHAIRMAN. Can you answer that question?

Dr. ASTIN. Yes. The answer is "Yes."

The CHAIRMAN. What is the next question?

Mr. FULTON. Will you explain that, how it is in conformity with the statement of Mr. Hodges before the Post Office and Civil Service Committee on H.R. 10480—

The CHAIRMAN. That is not pertinent.

Mr. FULTON. Let me finish my question and then rule, Mr. Chairman.

The CHAIRMAN. Finish your question.

Let's get on.

Mr. FULTON. I don't want to sit still and have a bill here that we can't see how it fits into a national wage policy for scientists on research and development. I want to check it and see if it is in conformity with the President's policy or whether this is an exception.

The CHAIRMAN. Are you familiar with the bill H.R. 10480?

Dr. ASTIN. Yes, sir; I am.

The CHAIRMAN. Can you answer the question?

Dr. ASTIN. The bill we are discussing at this hearing would establish a visiting scientists program which deals with temporary ad hoc appointments, not permanent appointments. However, the individuals appointed under this program would be given salaries in line with the salaries established under the Classification Act. If H.R. 11561 were enacted, we would follow procedures very similar to those under the present Classification Act or under H.R. 10480 if it were enacted.

The CHAIRMAN. Does that answer your question?

Mr. FULTON. It is an answer to the question, but I would reserve my judgment on the adequacy of the answer.

Have you read the Public Law 87-367 of the 87th Congress?

That is the bill originally H.R. 7377, that became law on October 4, 1961. This act is an amendment to the Classification Act of 1949.

In title I, it refers to positions in top grades of the Classification Act of 1949.

May I read you this act, because I want it in the record at this point, so that you will have the area of reference to make up your judgment.

SEC. 101. (a) The Congress hereby finds that—

(1) The public interest requires that effective limitations and controls be established and maintained with respect to the allocation of positions, whether by law or by administrative action, to grades 16, 17, and 18 of the Classification Act of 1949—

May I just stop here for a minute and ask, does this bill and your recommendation refer to classification grades 16, 17, and 18?

Dr. ASTIN. It would permit appointments up to the level of grade 18.

Mr. FULTON. Then I will continue to read:

the so-called top grades below the Federal executive level in the Government service—in order to prevent the unwarranted allocation of positions to such grades and to promote efficiency and economy in the operation of the Government;

(2) One of the principal purposes of the Classification Act of 1949, as originally enacted and as amended from time to time, was, and continues to be, the establishment and maintenance, by specific provisions of such act, of a coordinated and comprehensive authority and control over the allocation of positions to these top grades of such act;

Our bill does refer to the allocation of the positions in these top grades.

I will read further:

(3) Under the rules of the Senate and the rules of the House of Representatives, as applicable, and the Legislative Reorganization Act of 1946, the Committee on Post Office and Civil Service of the Senate and the Committee on Post

Office and Civil Service of the House of Representatives are vested with exclusive legislative jurisdiction, and charged with the duty of exercising legislative oversight and supervision, with respect to all matters within the purview of the Classification Act of 1949 and the administration thereof, including the allocation of positions to these top grades of such act;

(4) This legislative authority, duty, and jurisdiction of such committees, and the orderly and established legislative processes of the Congress generally in this respect, are being undermined by the increasing practice, resulting from certain solicitations from individual departments and agencies in the executive branch and elsewhere, of allocating additional numbers of positions to such top grades by means of appropriation acts and other laws and reorganization plans (other than the Classification Act of 1949) which disregard the numerical limitations or the standards and procedures, or both, with respect to the allocation of positions to such grades;

(5) At the present time, therefore, the pertinent provisions of the Classification Act of 1949 do not reflect, even by approximation, the existing state of the law with respect to the total number of positions which may be allocated to the top grades of such act;

and so on.

That is the direct statement of Congress as to the application of individual agencies for further positions in these top grades below the Federal executive level in the Government service under the Classification Act of 1949, and its amendments.

Will you please distinguish for me how your request does not come under these provisions of this act of Public Law 87-367 of the 87th Congress of October 4, 1961?

How is it different, or why are you not directly under these provisions?

Mr. CORMAN. Will the gentleman yield?

Mr. FULTON. I can't yield.

Mr. CORMAN. For a question to you, so I understand?

Mr. FULTON. All right.

Mr. CORMAN. I take it you are pointing out this bill is before the wrong committee, am I right?

Mr. FULTON. No; I would rather not go into that. I am asking the witness a different question.

I am saying, under the provisions of this law 87-367 of the 87th Congress of October 4, 1961, what is there in the request of the Bureau that distinguishes it and separates it from the provisions of section 101 (a), and subsections 1 to 4 that I have read?

Mine is a different question.

Dr. ASTIN. Well, the proposed section 16 that we are requesting reads as follows:

The Secretary of Commerce is authorized to appoint and fix the compensation, without regard to civil service laws and the Classification Act of 1949, as amended, of such visiting scientists—

et cetera.

That is the requirement which would exempt us from these limitations which you mention.

We justify asking for this exemption primarily because this is a visiting scientist program. These are not permanent appointments. They are of temporary duration, of 1 to 2 years.

Mr. FULTON. The basis of your distinction is, first, that these are temporary appointments, not permanent appointments?

Dr. ASTIN. That is right.

Mr. FULTON. And, secondly, that they are of a kind of a scientific work that you could not readily obtain through an appointment in the regular Government service; is that a fair statement?

Dr. ASTIN. That is correct.

Mr. FULTON. Your position is that you are asking for a complete exemption of the positions we are now here discussing from the specific statement of congressional policy for Government employees under Public Law 87-367 of the 87th Congress?

Dr. ASTIN. Yes; this is how the act reads because of the special nature of the program.

Mr. FULTON. My next question is: This is in addition, then, and separate and apart from, and distinguished from the statement of Mr. Hodges of May 23, 1962, the Secretary of Commerce, before the Post Office and Civil Service Committee?

Dr. ASTIN. I don't think it is inconsistent with his statement.

Mr. FULTON. I didn't say "inconsistent." I said it was separate and apart from and in addition to.

Dr. ASTIN. That is correct.

Mr. FULTON. On a different subject than Mr. Hodges was testifying?

Dr. ASTIN. Yes; that is correct.

Mr. FULTON. I don't want you to say that it is consistent or inconsistent, but I want to see the area of reference you are operating in. You bring this from the Bureau of Standards to us?

Dr. ASTIN. That is right.

Mr. FULTON. Public Law 87-367 has in it also a provision for a pool of 50 high-level positions, for the use of the President. Could this not be the congressional intent, that these positions are provided to the Executive for situations of the same type as would be considered in our present bill, H.R. 11561?

Can you distinguish for me your policy from the provisions providing this pool of 50 high-level positions? I will read you the portion I am referring to so we are clear on it.

Section 102(a) of Public Law 87-367, of October 4, 1961, the citation is 63 Stat. 959; 74 Stat. 305.

Section 102(a) amends the general schedule of the Classification Act of 1949, and the general schedule under subsection (b) of section 505 of the Classification Act of 1949 is amended to read as follows:

(b) Subject to subsections (c), (d), (e), (f), (g), and (j) of this section, a majority of the Civil Service Commissioners are authorized to establish and, from time to time, revise the maximum numbers of positions (not to exceed an aggregate of nineteen hundred and eighty-nine) which may be in grades 16, 17, and 18 of the general schedule at any one time, except that under such authority—

(1) not to exceed 25 per centum of such aggregate number may be placed in grade 17 and not to exceed 12 per centum of such aggregate number may be placed in grade 18.

I call your attention particularly to this subsection:

(2) fifty of such positions shall be available only for allocation, with the approval of the President, for agencies or functions created after the date of enactment of this subparagraph;

My question is this: How do you distinguish your request from coming under this provision that would empower the President to establish 50 of these high-level positions under this subparagraph 2 of section 102?

Dr. AUSTIN. I would think the main justification for that, Mr. Congressman, is that certain things were envisioned undoubtedly in establishing the quota of 50 that you refer to. This visiting scientist program that we have in mind is something quite different. It is a creation of recent origin and probably was not envisioned at the time that limit was set. It could not be accommodated equitably, in my judgment, in this limit of 50 assigned to the President.

Mr. FULTON. So you would not base this proposal of yours under this section 102(a), subsection 2?

Dr. ASTIN. My primary reason for not suggesting that is that this is a special program not concerned with the normal operating requirements of Government. I think most of the prior supergrade positions have dealt with the senior administrative and operating requirements of Government. Since these people are coming in largely to react with our staff for short periods to permit us to take advantage of unusual competence or excellence for a limited period, it is quite outside of the normal types of things that were envisioned when the last revision to the Classification Act was written.

Mr. FULTON. This function of the Bureau of Standards of which you were speaking, and recommending to us, has been established recently, has it not?

What was the date you established this policy?

Dr. ASTIN. We are seeking authority to establish this visiting scientist program now.

Mr. FULTON. When did you decide on your recommendation to the Bureau of the Budget?

Dr. ASTIN. I think it was submitted to the Bureau of the Budget a year ago. I could find the actual date.

Mr. FULTON. I should like to have that, because this particular provision says that 50 of such positions shall be available only, for allocation, with the approval of the President, for agencies or functions created after the enactment of this subparagraph.

Obviously the Bureau of Standards was in existence on October 4, the date of enactment, but it becomes a question whether this proposal of yours for this function of the Bureau of Standards was created after the date of enactment of this subparagraph.

If "created" means in reference to the passage of the act, obviously your function then is created after October 4, 1961, and to me would come under this provision.

Dr. ASTIN. Well, the proposal for legislation now known as H.R. 11561 was submitted to the Bureau of the Budget on June 30, 1961.

Mr. FULTON. Let me go further: Can you give me the present status of the filling or designation by the President, as well as the allocation, of the 50 of these type grade positions of 16, 17, and 18, of the general schedule under this subsection 2 of section 102(a)?

Dr. ASTIN. I have no information on that.

Mr. FULTON. Mr. Chairman, could we have that put in the record to see if there are vacancies in the executive that could be used for this purpose?

The CHAIRMAN. I presume we can obtain it. We have to obtain it from the Office of the President. I do not know of any other source this could come from.

Mr. FULTON. I imagine the Civil Service Commission can give us that. Or you might inquire of the Manpower Utilization Subcommittee of the Post Office and Civil Service Committee that have the records on manpower utilization and keep pretty close track of that.

(Information requested is as follows:)

## STAFF MEMORANDUM

JUNE 27, 1961.

Subject: Top grade positions allocated under the Civil Service Amendment Act of 1961.

The status of the 50 positions to be allocated with the approval of the President is as follows:

Twenty-seven have been applied for and approved by the President. One has been applied for and approval is pending. None of these has gone to the Bureau of Standards.

One-third of them have gone to the new Office of Science and Technology. The others have been allocated to the Department of Labor for its new program on retraining, to the Interior Department for its new outdoor recreation program, to the Defense Department, which is now being assigned the civil defense program, and several others.

Dr. ASTIN. I might perhaps offer a suggested answer to your question, Mr. Congressman. The bill we are discussing today was submitted to the Congress after the President's pay reform bill was submitted. The President's pay reform bill proposed to assign to the President and the Civil Service Commission authority for determining the number of so-called supergrade positions, and this bill was written to be consistent with that. I think this is probably the simplest answer to your question. It may not be a satisfactory one.

Mr. FULTON. May I read into the record one more provision—of the sense of Congress on the policy that we are referring to on these supergrade positions under the Classification Act of 1949 and amendments.

Section 101(a) I have read and this will be subsection (b) to 101—75 Stat. 786.

(b) It is therefore, hereby declared to be the sense of the Congress—

(1) that the matter of requesting the allocation of additional numbers of positions to the top grades of the Classification Act of 1949, whether by groups of positions or on an individual basis, is properly within the jurisdiction of those standing committees of the Senate and House of Representatives having jurisdiction over the Classification Act of 1949 in accordance with orderly and established legislative processes—the Committee on Post Office and Civil Service of the Senate and the Committee on Post Office and Civil Service of the House of Representatives.

I would say to my good friend, the gentleman from California, that is the provision that would have reference to the question you brought up previously.

Have you made a survey in the Bureau of Standards to make sure that this pay with allowances and fringe benefits you are proposing in these high-level grades are comparable with high-level industry, and if you have such a study would you submit it for the record?

Dr. ASTIN. I am not quite sure what you mean. We have made no survey of the comparability of our salary scale with private industry. We have depended on surveys by the Bureau of Labor Statistics and on the Civil Service Commission.

Mr. FULTON. Have they submitted those surveys to you so that you can assure us that in view of those surveys these positions that you wish to establish under this legislation are comparable with private industry?

The President has said that we shall hereafter, under the policy of the administration and our Government, have equal pay for equal work.

Dr. ASTIN. We would attempt to make appointments under the authority of this act at levels comparable to those that we establish for regular employees as far as salary is concerned. On those scales we follow whatever the Government-wide procedure is for establishing the pay rates in different grades. Whatever we would do under this act would tie back in terms of salary level to whatever criteria are established for Government-wide performance.

Mr. FULTON. But there has been no study made which you have received, in the making of your judgment, as the area of reference or foundation upon which you formed your judgment to show these positions have a comparability with private industry?

Dr. ASTIN. For quite a different purpose I am familiar with the surveys the Civil Service Commission and the Bureau of Labor Statistics have made. However, these surveys relate to establishing judgments as to suitable levels for the total Government pay structure. The only judgment we have exercised in this is that we would pay these people what corresponding people within the NBS are being paid.

Mr. FULTON. NBS?

Dr. ASTIN. Yes.

Mr. FULTON. Would you give us what the initials NBS means.

Dr. ASTIN. National Bureau of Standards.

Mr. FULTON. Have you compared these rates with the rates being paid in the Department of Defense, for example, or the National Aeronautics and Space Agency, or other similar agencies that require scientific research and development personnel in these grades?

Dr. ASTIN. I think that we have made some comparisons. We have relatively fewer of the supergrade positions in proportion to the number of professional scientists on our staff than do these other agencies you mentioned. We are generally below them at the upper grades. I think in the lower grades our rates are comparable. It is the business of the Civil Service Commission to try to make sure that they are.

Mr. FULTON. At the time that Mr. Hodges, the Secretary of Commerce, appeared before the Committee on Post Office and Civil Service on May 23, 1962, which was just about a month ago, you had already submitted to him for his approval, as the head of the Department, this form of recommendation, had you not, for the current bill under discussion, H.R. 11561, because the bill was introduced on May 2, 1962?

Dr. ASTIN. That is correct.

Mr. FULTON. But there was nothing said by Mr. Hodges in his statement, as I recall, and as I have read it, to say that there would be any exceptions, when he made this statement before the Post Office and Civil Service Committee on May 23, 1962, on the President's Federal Salary Reform Act of 1962, H.R. 10480, covering the very grades and types of positions that we are referring to. And, as a matter of fact, he uses you and your Bureau as one of his specific instances. On page 2, Secretary Hodges says:

At the present time we face what appears to me to be a crisis in carrying out our programs. Our research and development activities have increased markedly in the last 2 years. The National Bureau of Standards' budget for fiscal 1963, exclusive of the facilities, is up approximately 50 percent. The

Weather Bureau budget for research and development is up more than 100 percent. The Coast and Geodetic Survey research and development program is up almost 100 percent. Other R. & D. budgets also show marked increases in carrying out the scientific and engineering programs of the Department.

May I say parenthetically, you note he speaks of the whole Department and the scientific and research and engineering perhaps of the Department.

And reading further :

It is vitally important to get and keep scientists and engineers of first-class ability as this is crucial in getting effective results and getting them officially.

He further states on page 3 :

But here is what confronts us. A confidential survey of 61 GS-15 P.O. 313 type scientists in November 1960 shows that more than half of the 61 scientists received \$15,000 or less.

None received more than \$15,000 a year.

He then goes further and speaks of the Bureau of Standards again :

Within our own Department there has been a continuing loss of well-qualified personnel, especially at the senior levels.

He mentions you very favorably, I am glad to note :

Dr. Astin, Director of the National Bureau of Standards, has lost within the last year or two several outstanding employees, including the senior physical chemistry adviser, his best microwave experimentalist, and a right-hand man in the field of science administration.

Dr. Astin advises me that many of these senior staff members are currently receiving extremely attractive offers from outside of the Government. He reports the temptation of these offers are currently being resisted by these staff members in the hope that the Congress will enact the pending pay reform bill.

It seems to me there that you are asking for the same thing that the Secretary of Commerce Hodges very adequately testified to before the Post Office and Civil Service Committee for the Bureau of Standards on May 23, 1962 on H.R. 10480, the proposed Federal Pay Reform Act of 1962.

The CHAIRMAN. May I make this observation: I think you are making a very good case for the necessity for pay reform. On the other hand, this particular bill is trying to do something else.

This bill is trying to enrich the technical competence of the Bureau of Standards by temporarily bringing into it highly competent people who are qualified to do this.

That is the thing. That is the objective of the bill. To do this we have to employ these people, not on a permanent basis, but on a temporary basis.

All they are asking is to be allowed to employ these people, many of whom perhaps are going to be induced to come to the Government at a sacrifice because of their desire to serve, or to bring in some of these people from foreign lands who are particularly competent to help broaden and raise the standard of the group. We are not trying to circumvent the Civil Service Act. Therefore, we have to ask for exemption from the Civil Service Act for this group.

This came up the other day, and we are going to limit this to some number that the committee can accept. This is the whole thing that we have been doing here.

I am certain had you not had to be in Europe when the original presentation was made you would see the necessity for this.

I think you know it from your own knowledge.

I could cite an instance of a very smart young lady that I happen to know who went to work for the Bureau of Standards—

Mr. FULTON. May I comment?

The CHAIRMAN. Just a minute.

For the Bureau of Standards, and I happened to recite this to a member of one of the airplane companies—this girl who had gone through college on straight scholarships had gone to work for the Bureau of Standards—and he said “I will give her \$50 more a month.”

I said, “How do you know what she is worth, you don’t know her qualifications.”

His answer was “Whatever she is worth to the Bureau of Standards, she is worth \$50 a month more to me.”

This was a young girl on her first employment. This is the rating the Bureau of Standards gets by industry.

I am very happy to have you comment again. The hour is getting late. I wish we could get on. You may comment on what I said.

Mr. FULTON. I believe that you made originally an excellent statement of what the problem is. The inquiry here is to find out just where this policy does lie within the existing statutory framework and the jurisdiction of the committees.

The point of my questions, Dr. Astin, has been to have you distinguish and to have you show us under what classification you might fall, and also to point out to you various statutory provisions on which I believe it is necessary that you show that your policy does not fall within these limits.

Don’t you agree with that?

Dr. ASTIN. Yes. I think maybe I can help clarify this by referring back to the quotation you took from the Secretary of Commerce in support of H.R. 10480.

As I recall, it said that one of the major problems confronting the Department is to get and keep scientists of first-class ability. That is what is intended to be accomplished through H.R. 10480. The visiting scientist program under H.R. 11561 is directed toward getting scientists of first-class ability for a short time. It is quite a different program and, I think, outside of what we would like to consider as the normal civil service career activity. H.R. 10480 deals with that program. We are concerned with using visiting scientists as a sort of a temporary catalyst to come in and react with our staff. It is not a career service at all.

Mr. FULTON. You can see that Congress will require a strict level of justification in order to make an exception to the Classification Act of 1949.

Dr. ASTIN. Yes.

Mr. FULTON. And likewise, because of budgetary requirements at the present time and our feeling that we should operate within current limits we want to make sure that you need these scientists at these supergrades. My feeling is that when you bring a foreign scientist into the United States and can give him pay, fringe benefits, expenses, and allowances that would make his total cost to the taxpayers around \$30,000 a year, that we can hardly say that that is comparable to what he would have been paid in private industry in his country or ours.

I might say to you, within this country the question comes up of our not only disrupting the Government pay schedules for equal type of

service, but also raising tremendously the industry type of pay for similar services. The Bureau of Labor Statistics' survey for the proposal for the reform of Federal statutory salary systems under H.R. 10480 certainly does not indicate that particularly high level of reward.

Dr. ASTIN. Well, this bill very specifically limits the upper salary to GS-18. So whatever—

Mr. FULTON. With pay and allowances, expenses, and fringe benefits I believe that you will agree with me that it brings it up to \$30,000 a year, possibly, total, which there has been previous testimony on before this committee.

Dr. ASTIN. No, sir; there must be a misunderstanding. We had estimated that the average cost of a visiting scientist would be about \$30,000 a year. This estimate was based on roughly the following analysis: We would estimate an average salary for the visiting scientist of perhaps \$15,000. The overhead supporting charge on all of our staff members under our business type accounting system is about 33 percent. This adds another \$5,000. Then we estimate that the cost of travel, that is, moving the scientist from his normal place to our laboratory and back, and furnishing him with incidental materials, supplies, and equipment, would consume another \$10,000. These are the items which go together to build up our estimate of a \$30,000 per scientist cost for this program.

Mr. FULTON. And under fringe benefits you did not mention pension.

Dr. ASTIN. These would not come under the normal civil service retirement system.

Mr. FULTON. That is one point I want to find out.

Dr. ASTIN. That's right.

Mr. FULTON. On medical care? Incidental services?

Dr. ASTIN. I am not sure on this point. We could verify it and furnish it for the record, sir. I think they would be entitled to some medical care while working for us.

The CHAIRMAN. They could take advantage of the civil service. They would have to pay their insurance for this the same as any other.

Dr. ASTIN. Yes.

Mr. FULTON. If they are injured in performance of their duty what happens?

Dr. ASTIN. I presume they would be treated as a regular employee. This would depend on the liability of government in an accident that might take place.

The CHAIRMAN. This is established by another board?

Dr. ASTIN. Yes.

Mr. FULTON. When we are going into many possible liabilities such as this, why aren't they hired on a contract basis rather than taken as Government employees on a temporary basis?

Dr. ASTIN. We tried to cover this point at our last hearing. There are certain restrictions on contract employment which would cause serious difficulties. For example, contracting for personnel service does not permit an employee-supervisory relationship. This is one of the restrictions.

Mr. FULTON. How many people do you have in the Bureau of Standards of a scientific research and development level that are hired as consultants by the day, month, or year?

Dr. ASTIN. I don't recall the number. We have quite a few of these. I could furnish this number for the record.

Mr. FULTON. Have you had any history of trouble with this type of scientist on this basis of consulting contract so that it would have been better to have had them on an employee supervisory relationship?

Dr. ASTIN. This is one of the reasons we are seeking this legislation—because of difficulties that we have encountered in getting full value from visiting scientists under existing authority.

Mr. FULTON. I think we should have a statement of that in the record.

Dr. ASTIN. That we attempted to cover in our initial justification.

Mr. FULTON. The reason why you are putting these people on the Government payroll, instead of in a consultative position?

Dr. ASTIN. Very good, sir.

(The information requested is as follows:)

U.S. DEPARTMENT OF COMMERCE—NATIONAL BUREAU OF STANDARDS

STATEMENT CONCERNING CONSULTANTS AND EXPERTS EMPLOYED BY THE NATIONAL BUREAU OF STANDARDS

As of May 31, 1962, the National Bureau of Standards employed 53 persons as consultants or experts. These individuals were appointed as temporary or intermittent employees of the Bureau, usually under authority of Public Law 600, 79th Congress. None were employed under personal service contracts.

The Department of Commerce policy regarding procurement services by contract includes the following provisions which are based upon decisions of the Comptroller General.

"4.01 Procurement of either personal services or nonpersonal services by contract or purchase order, with or without the furnishing of additional items such as equipment, supplies, office space, and other matters, shall not be used for the purpose of evading the requirements of the civil service laws, the Classification Act, or any other law generally applicable to Federal employees.

"4.02 No contract or purchase order involving procurement of personal or nonpersonal services shall be made whenever such services involve, or (from the standpoint of the best interests of the Government) should involve, to any substantial degree, an employer-employee relationship between the Government and the individual rendering the service. For purposes of this subsection it will be considered that experts and consultants as a general rule should have an employer-employee relationship with the Department."

It has been found that consultants and experts hired to advise the Bureau concerning its technical activities usually can be used most effectively only if there is ample opportunity for NBS officials to guide and channel their efforts during the course of their consideration of NBS problems. In the case of visiting scientists, the need for this employer-employee type relationship becomes even more critical since it is intended that these distinguished scientists will participate in the regular technical programs of the Bureau, in some instances for periods as long as 2 years. In addition, one of the most important benefits will result from the enlightenment and stimulation of the Bureau's permanent staff through daily association with the talented visitors. It is believed that it would be both inappropriate and impracticable to attempt to establish this sort of relationship through personal service contracts.

As noted above, the Bureau has made extensive use of the authority contained in Public Law 600 for temporary and intermittent appointments of consultants and experts. However, this authority was not intended to cover employment situations of the sort proposed for visiting scientists and has deficiencies which seriously limit its usefulness in such cases. These are discussed in detail in the statement of purpose and need for the proposed legislation submitted for the record earlier. They may be summarized as follows:

(a) Public Law 600 consultants may be used only in an advisory capacity, and experts may participate in research activities only if they are outside the scope of current operating programs of the Bureau.

(b) Public Law 600 appointments cannot exceed 1 year in length and are not renewable.

(c) There is no provision for payment of travel costs of Public Law 600 appointees to and from the Bureau.

The CHAIRMAN. I don't want to hurry you Mr. Fulton—

Mr. FULTON. You are doing well.

The CHAIRMAN (continuing). But you have had the witness since 10 minutes to 12 and there are other people here—

Mr. FULTON. It is only 11:20 now.

The CHAIRMAN. Ten minutes to 11 then. I was being generous with you. But there are some other people here—

Mr. FULTON. I have a long way to go.

The CHAIRMAN. Knowing you to be a very generous person I know you won't hold me to an Irishman's mistakes.

Mr. FULTON. Being an Irishman, I respect you for your mistakes.

The CHAIRMAN. I think some of your colleagues may have questions.

Mr. FULTON. Just finishing this—the reason I have gone into it, I have been a corporation and banking attorney and have had many of these problems, so I did want to go into it, after some study.

The statement has been made that I was in Europe. Yes, I was asked by the Department of State, as was the chairman, to go to Geneva on the meetings with the United Nations Committee on the Peaceful Uses of Outer Space, as one of the advisers for our U.S. mission, and also to sit in as one of the advisers on the negotiations with the Russians following the correspondence between President Kennedy and Premier Khrushchev. I was on official duty through the State Department and was serving rather than just being there.

The CHAIRMAN. I would like the record to show I had not intended to imply in any way that Mr. Fulton was not in Europe on official business, because I too was invited to go on the same trip, but I chose to stay here. This does not mean that he was not there on official business.

Mr. FULTON. May I go into one thing, and I am through?

The CHAIRMAN. The minutes are creeping up.

Mr. FULTON. All right. The current hearings—

The CHAIRMAN. Mr. Waggonner had a question—

Mr. WAGGONNER. That is all right, Mr. Chairman. Thank you.

Mr. FULTON. I yield for the question.

The CHAIRMAN. He is gone.

Mr. FULTON. I would rather this be off the record.

The CHAIRMAN. It is on the record.

Mr. FULTON. I feel this bill is important enough that we ask these technical questions, but if the chairman wishes to shut off the questions, I will now object to the jurisdiction of this committee on the bill, which I had not intended to do. At present, hearings are in progress, have been for 2½ weeks, in the Post Office and Civil Service Committee, and they have 2 more weeks of hearings scheduled, with the windup set tentatively for July 16, 1962.

I would recommend to you, Dr. Astin, and the Department of Commerce, that you appear and ask for your separation of this policy before the Post Office and Civil Service Committee of the House and of the Senate, so that we can then get the clearance. This committee

has the jurisdiction and is not competing for it. But as the chairman wants me to stop, I now stop and will ask no further questions, but oppose the bill strongly.

Mr. MORRIS. A parliamentary inquiry—

The CHAIRMAN. Just a minute.

Mr. FULTON. You want opposition—

The CHAIRMAN. No, I don't want opposition.

Mr. FULTON. I was inquiring only for their foundation. If it is not wanted, if we can't distinguish it here, why, then I think it should be done someplace else.

The CHAIRMAN. I will overrule your statement that the committee has not jurisdiction over the bill. The bill was referred to this committee by the Parliamentarian and by the Speaker. It is not a bill fixing the status of salaries, which is the function of the Civil Service Committee. This is a bill having to do with the enrichment or proper operational development of the Bureau of Standards.

Mr. FULTON. I have not been satisfied as yet that there has been such a distinction and when I am shut off on my questions, I refer you respectfully to another committee, where you can be questioned.

The CHAIRMAN. I want the record to show that you started to question this witness at 10 minutes to 11 and it is now 11:28 and that other members of this committee have not had an opportunity to question the witness.

I have not invoked the 5-minute rule but I am now invoking the 5-minute rule. Hereafter we will adhere to it.

Are there any other questions?

Mr. MORRIS?

Mr. MORRIS. Mr. Chairman, I had a parliamentary inquiry. I have high regard for my friend from Pennsylvania, Mr. Fulton, but it seems to me that the committee has to make a decision.

He says that he will object to the bill if certain conditions are not met.

It seems to me that we must make a decision to go ahead, whether those conditions are met or not, if the bill has merit.

Mr. FULTON. Will you yield?

Mr. MORRIS. Yes.

Mr. FULTON. My position on the bill has been that I want to see that it is a clear exception from the regular, ordinary policy of the Classification Act of 1949, first. Secondly, I have opposed the bill so far on the basis that there was neither a limitation of time nor money nor number of people to be hired in the bill as originally submitted.

Mr. MORRIS. I think, if my friend will recall the bills that have come from this committee and the subcommittees, lots of times when we first consider a bill there are questions in many members of the committee's mind, but by the time we get through with the executive sessions, I think the gentleman from Pennsylvania and all members of the committee will agree, that we have, as a rule, come to some reasonable agreement.

I don't think the points that you have raised are in an area where this committee and the chairman and both the majority and minority members can't come to some reasonable agreement.

The CHAIRMAN. We have some amendments that were offered to the bill that came out of our last meeting. Now, if there is no one else with any questions—

Mr. RANDALL. Notwithstanding the reading into the record of the testimony of the Secretary of Commerce and these other matters, there is one question for Dr. Astin that maybe calls for a conclusion, I don't know—you say you were over there and after you heard all of that, and hearing the questions of Mr. Fulton, do you still believe that there is an area covered by this bill that is not included in those other bills before the other committee?

Dr. ASTIN. This deals with another problem, in my judgment.

Mr. RANDALL. That is all I wanted to ask.

Dr. ASTIN. Yes.

Mr. RANDALL. That is all.

The CHAIRMAN. Mr. Pelly.

Mr. PELLY. Could the record show the percentage of such supergrades you have now in the Bureau as against the total number of personnel?

I think you made reference to the fact that that ratio was rather low, and I think the record should show what it is.

Dr. ASTIN. We will be pleased to furnish it in the record.

(The information requested is as follows:)

U.S. DEPARTMENT OF COMMERCE—NATIONAL BUREAU OF STANDARDS

SUPERGRADE POSITIONS AT THE NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards currently has 19 supergrade positions. This number includes 4 positions in grades GS-16 through GS-18 and 15 positions of the Public Law 313 type.

Since the ratio of supergrades to regular positions may have been reported by other agencies in various ways for different purposes, the following table shows the number of NBS employees in several different employment categories to provide a basis for comparison. The figures in parentheses indicate the approximate ratio of supergrades to the total in each pertinent category.

*NBS staff as of May 31, 1962*

	Professional staff	Total staff
Full time.....	1,630 (1:86)	3,460 (1:182)
Part time and when actually employed.....	236	449
Total.....	1,866 (1:98)	3,909 (1:206)

The CHAIRMAN. No other questions?

Mr. FULTON. Will you yield?

The CHAIRMAN. Yes.

Mr. FULTON. Please show on the record it is now 11:30 and a half and that all questions of the committee have been asked.

The CHAIRMAN. No; they are not. We are going into further business. Mr. Yeager—

Mr. FULTON. I was shut off.

The CHAIRMAN. Will you please present the first amendment, Mr. Yeager?

Mr. YEAGER. The amendment proposed for consideration reads as follows:

Page 2, line 9, following the word "Act.", add the following:

"The number of visiting scientists employed at any one time pursuant to this section shall not exceed 25, of which not more than 12 may be individuals other

than citizens of the United States. No foreign national shall be appointed under this section who advocates world communism as defined in paragraphs (13) and (14) of section 3 of the Subversive Activities Control Act of 1950 (Public Law 831, 81st Congress, 50 U.S.C. 782)."

Dr. ASTIN. We would have no objection to the first sentence. I am quite agreeable to a limitation on the size of the program. I think the number proposed is one which we could live with. If it turns out to be inadequate, if the program indicates we need more, we can come back. So I would be quite agreeable to accepting that.

As to the second sentence, for reasons that I explained earlier, we would much prefer there be substituted for that sentence the amendment that I gave at the beginning of the hearing this morning.

The CHAIRMAN. Why do you feel that you cannot live very well with the language as proposed in the second sentence?

Dr. ASTIN. My primary reason is that we would have to set up procedures and establish clearance techniques which comply with the definitions given in that act which was not intended for personnel recruitment. It would require additional effort over and above what would be required if we followed the normal security clearance procedures in government—which we propose to do. It may be that this would not be a problem, but it would concern me a little bit in the interpretation of the definitions in that act.

The CHAIRMAN. Will you explain sections 13 and 14, Mr. Yeager?

Mr. YEAGER. Yes, sir. I have a statement here which may be distributed.

Mr. BELL. Mr. Chairman.

The CHAIRMAN. Yes, Mr. Bell.

Mr. BELL. I have a question of fact on one of these.

In your amendment, the number of visiting scientists employed at any one time, does that mean a year period, does that mean 1 year, or what?

"Any one time," what does that mean?

The CHAIRMAN. I assume if they wanted to bring, for the sake of the argument, 24 men in for 2 years and 1 man in for 1 year and 1 man in for the 2d year—as long as the number employed did not exceed 25 at one time—this is the way these limitations generally work in government—this would be it.

Mr. ROUDEBUSH. I would like to ask, if we struck the words "any one time," wouldn't this be clearer, Mr. Chairman?

Mr. YEAGER. I think that might be subject to the interpretation that you could never have more than 25, Mr. Roudebush. If you did it that way, after they had hired 25 and their terms were finished, the program would be through.

Mr. FULTON. I would agree with the counsel.

Mr. ROUDEBUSH. I merely asked. I think you are correct.

The CHAIRMAN. Yes. You have the matters of the section 13 and 14 before you.

Will you discuss it, please?

Mr. YEAGER. The second sentence there, you see, says that no foreign national shall be appointed under this section who advocates world communism as defined in paragraphs (13) and (14) of section 3 of the Subversive Activities Control Act of 1950. The words are "advocates" and "world communism."

These are drawn directly from the definitions set out in the Subversive Activities Control Act, which is the only statute we were able to find which attempts to define world communism in broad terms.

Section 13 I will read:

The term "advocates" includes advises, recommends, furthers by overt act, and admits belief in; and the giving, loaning, or promising of support or of money or anything of value to be used for advocating any doctrine shall be deemed to constitute the advocating of such doctrine.

(14) The term "world communism" means a revolutionary movement, the purpose of which is to establish eventually a Communist totalitarian dictatorship in any or all the countries of the world through the medium of an internationally coordinated Communist movement.

The CHAIRMAN. Mr. Roudebush, you raised this. Does this satisfy you?

Mr. ROUDEBUSH. That satisfies me, Mr. Chairman.

Mr. MOSHER. Mr. Chairman.

The CHAIRMAN. Mr. Mosher.

Mr. MOSHER. When you say "No foreign national shall be appointed," and so forth, you are not implying that a national of this country may be employed?

The CHAIRMAN. Oh, no.

Mr. MOSHER. I thought perhaps you would want to say just "No person" shall be employed.

Mr. YEAGER. There are other parts of the law, including title V of the United States Code, which prohibit these domestic appointments.

Mr. MOSHER. It just seems to me this is perhaps an unnecessary slap in the face to foreign nationals who are attempting to be employed. That might well be—just "No person shall be employed."

The CHAIRMAN. I don't know.

Mr. MORRIS. Would the gentleman yield? How could you construe that, sir?

Mr. MOSHER. You are singling out foreign nationals as having to meet this criterion.

Mr. MORRIS. This is not the only one. There are other sections of the law that apply that are more strict to American citizens. We are singling out foreign nationals for special consideration, passing a special act of Congress to let these people come over and make money.

Mr. MOSHER. The foreign national may not know about these other provisions of our law.

Mr. FULTON. Will you yield?

Mr. MOSHER. Yes.

Mr. FULTON. I do believe that there is a better reason for making it general and I see no objection to our recommendation.

The CHAIRMAN. Make it "No persons."

Mr. FULTON. Should "person" be singular?

The CHAIRMAN. "No person shall be appointed."

Mr. RANDALL. Where does that go in?

Mr. MOSHER. Instead of "No foreign national," "No person."

The CHAIRMAN. Mr. Ryan.

Mr. RYAN. May I ask Mr. Yeager, Mr. Chairman, who is going to determine whether or not this person advocates or does not advocate world communism as defined in the Subversive Activities Control Act?

The CHAIRMAN. That is the question that Dr. Astin asked.

Dr. ASTIN. This is one of the administrative procedures that bothers me in having this as an amendment because I am very skeptical that we would want to do it. I know we wouldn't in NBS. We would certainly bring in the Department of Commerce. Whether we would require the State Department, Civil Service Commission, or how many others, I don't know. It is the extension of Mr. Ryan's question in the implementation of this that bothers me a little bit.

The CHAIRMAN. Isn't it the function of the Civil Service Commission to clear all employees?

Dr. ASTIN. Yes. This is exactly why we suggest the alternative amendment. It makes it clear that we follow the presently established procedures for clearing people for employment.

Mr. RYAN. Is it not a fact that there are today laws which govern employment of aliens?

Mr. YEAGER. Yes.

Mr. RYAN. Could we have those spelled out?

If we talk about jurisdiction—it seems to me we are getting very far afield from the jurisdiction of this committee. I think this is a very complicated subject, the whole question of security clearance, it is one which properly belongs before a committee such as Judiciary. I think there are sufficient laws on the books today to take care of any problem that may arise. I would oppose this language because it is surplusage, I think it is injecting an issue which should not be injected.

If we believe it is important to bring into this country visiting scientists—and I am sure it is after listening to the testimony—I think we should say so and give the authority to the Bureau of Standards. I think there are laws on the books—if not, there, I suggest, Mr. Roubush, or anyone else, they bring forth a bill covering that subject as a separate matter so it goes to the committees that can give this the time and necessary study.

I hesitate to see us in 5 minutes adopt this kind of a broadly worded clause.

Mr. MORRIS. A parliamentary inquiry, Mr. Chairman.

Is the bill considered as read and open for amendment at this point?

The CHAIRMAN. Yes.

Mr. MORRIS. Was it the intention of the chairman to act on this bill this morning?

The CHAIRMAN. No; we are going to carry it over until tomorrow morning.

Mr. MORRIS. Yes, sir.

The CHAIRMAN. So we will have an opportunity to fully discuss it.

Mr. MORRIS. May I ask one question?

The CHAIRMAN. Yes.

Mr. MORRIS. Would your Department object to language that would just simply say that any persons employed under this act shall have a full field background investigation by the FBI?

Dr. ASTIN. That statement bothers me again in its interpretation because I am not sure how the FBI would make a full field investigation on an alien.

Mr. MORRIS. Like they make them for the Atomic Energy Commission and exactly like they make them for the National Security Administration and other agencies.

Dr. ASTIN. We must of necessity employ different investigative procedures on people abroad than in this country. There are techniques for doing this.

Mr. MORRIS. That is correct.

Dr. ASTIN. The statement that you make worries me because I am not sure who does it now. I doubt that it is the FBI. It may be.

Mr. MORRIS. The FBI doesn't do all of it. They enter into it.

Dr. ASTIN. Yes.

Mr. MORRIS. It wouldn't have to be. I am sure there is some language that could be worked out where these people could be cleared for security clearance.

Mr. PELLY. Will the gentleman yield?

Mr. MORRIS. I yield.

Mr. PELLY. You came in after, I think, the witness had indicated that the Department did have language which they preferred, and I think it is before you.

Mr. MORRIS. I read this language but I can't see that it means anything. They set up their own procedure but what does that mean?

The CHAIRMAN. Mr. Ryan.

Mr. RYAN. I have before me a memorandum from Mr. Yeager to the members of the committee dated June 22, Mr. Chairman, in which Mr. Yeager sets forth fully, I think, the Executive orders and the laws which now pertain to the hiring of aliens, and I do think it would be advisable for Mr. Yeager to really explain this. I believe the Executive orders which he referred to do now set up procedures which handle this whole question. I think we may be in an area which has already been settled, and why spend the time of the committee on it if has been.

The CHAIRMAN. Will you explain these then, Mr. Yeager?

Mr. YEAGER. The present laws, as I understand them, do limit the hiring of aliens in this regard: First, that aliens cannot be hired under current orders and regulations unless there is a shortage of the particular talent which the alien represents in this country. There has to be a finding to this effect by the Civil Service Commission. Secondly, under the General Government Matters—Appropriations Act of 1962, and earlier ones, the hiring is limited to those countries which are allied with the United States in the current defense effort. The countries so allied in this effect means primarily the NATO nations, although there appear to be several exceptions to this.

There have been changes from time to time in that list, as Dr. Astin testified.

The security procedures are spelled out through Executive order and through the administrative orders of the Department of Commerce, and they are going to apply in any case, whether we have this amendment in here or not.

As I understand, Mr. Ryan, the reason for putting this in here was not to try and set up any new standards or methods of checking the people, but to make sure nobody was hired under this program who did espouse communism and who might possibly make use of his time here as a platform for disseminating this view.

I don't want to put words in Mr. Roudebush's mouth. He advanced the notion. This was as close as we could come to finding an amendment which appeared to satisfy that objection.

I believe you are quite right, though current laws do exist which handle the alien situation and safeguards are in existence now for checking.

Mr. RYAN. You referred in your memo to administrative order 202-5.

Mr. YEAGER. Yes; of the Department of Commerce.

Mr. RYAN. Which requires no alien may be appointed except after a full background investigation has been completed.

Mr. YEAGER. That is correct.

Mr. RYAN. Satisfactory evaluation made by the Office of Investigations and Security.

Mr. YEAGER. Yes.

Mr. MORRIS. Will the gentleman from New York yield?<sup>2</sup>

Mr. RYAN. Yes.

Mr. MORRIS. The same question arises in my mind concerning the other amendment—who makes this determination?

Mr. RYAN. Apparently at this point there are already standards set up and there is an Office of Investigations and Security which is doing it today.

Mr. MORRIS. Is it set up?

Mr. YEAGER. Yes. For their normal employees. I would assume this same group would make the investigation of the visiting scientists, whether they were domestic or foreign.

Dr. ASTIN. That is correct.

The CHAIRMAN. Mr. Randall.

Mr. RANDALL. May we have the staff member give us the administrative order or the reference he made? Has it been furnished?

Mr. YEAGER. Yes; it has been furnished.

Mr. RANDALL. Thank you. May I ask a question of Dr. Astin? You are not certain about the terms of the memorandum; is that right, Doctor?

Dr. ASTIN. Well—

Mr. RANDALL. As to whether it is a Public Law provision or administrative order—or not certain it would apply to these amendments; is that right?

Dr. ASTIN. Which?

Mr. RANDALL. You said you were worried about something.

Dr. ASTIN. We now have procedures established within the Department of Commerce for background investigations of all employees, including aliens. These procedures we consider to be good and adequate and they are established under the general guidelines of the President and Civil Service Commission. These are what we would follow. If we are required to establish a procedure for determining, in addition, whether somebody advocates world communism according to the definitions here, then I am worried a little bit about what additional review procedures will be required, who will do it, and how many different agencies we have to deal with in order to make these appointments.

Mr. RANDALL. Thank you.

One question to our colleague, Mr. Roudebush: If we can find out who is to administer these amendments—the reason I ask this, we have discussed this, you feel that if these amendments could be adopted and we could also find out who was to interpret or enforce this, you would be satisfied with it?

MR. ROUDEBUSH. I would be perfectly satisfied with this legislation if this amendment is incorporated.

MR. CHAIRMAN, may I make a brief statement. I will stay within the 5-minute rule.

We have a piece of legislation before this committee that grants an exceptional privilege if I may put it that way, Dr. Astin, to your Bureau, and I think it is completely within the realm of this committee to want a little security written in.

This amendment may be redundant. As one member serving on the committee, I certainly would like to see it included, Mr. Chairman.

THE CHAIRMAN. Are there any other comments?

MR. RYAN. I feel strongly, Mr. Chairman, that we are getting far afield, that the subject matter is adequately covered. If it is not adequately covered we certainly have not found that out.

If necessary, let's bring in the people of the Department of Commerce to interpret these regulations and find out.

It seems to me there has been no showing before this committee that the procedures now followed are not sufficient.

I do not think we should tack onto a piece of legislation this other clause. It doesn't add anything to it and it would impose an almost impossible burden upon any administrator.

MR. ROUDEBUSH. Mr. Chairman, we are talking about 12 people. The impossible burden that would be included on our very fine director is 12 people.

MR. RYAN. Would the gentleman want to sit in judgment of a visiting scientist and determine according to this standard whether he had advocated a revolutionary movement in some country which might eventually lead to world Communist domination?

MR. ROUDEBUSH. The gentleman from Indiana would be perfectly delighted to sit in judgment if he were the Director of such Bureau.

THE CHAIRMAN. The Civil Service Commission automatically makes this investigation, doesn't it, Doctor?

DR. ASTIN. I am not sure at the moment whether the Civil Service Commission makes the examination. These are handled through the security control officer of the Department of Commerce, and I am not familiar with what contacts abroad he makes use of. Mr. Coates tells me it is done in cooperation with the Civil Service Commission.

My primary concern, as I said before, is that we have now, I think, an adequate set of standards for judging. We would have another set of standards for these appointments if the proposed amendment is enacted, and I can see possible conflicts and problems between the two. That is all.

THE CHAIRMAN. There may be possible conflicts. I can readily understand that some people are going to bring foreigners over here that although they may not be working on sensitive work, they will deal with people who are working on sensitive work. We do need some safeguards, I think, over and above those that are in force today.

I can't agree entirely with Mr. Ryan on this. I don't want to burden you, but I was looking for a way: Could we provide in here that these people be cleared by the Security Section of the Department of Commerce, and take that judgment from your shoulders and place it in the Security Section of the Department of Commerce?

Dr. ASTIN. This would be done anyway. I think that would be an unnecessary addition. I am sympathetic with the desires of the committee to impose safeguards in this matter and I certainly agree with the intent. My only concern is with the administration under what might be dual standards.

The CHAIRMAN. Is there any other information that you would like from Dr. Astin?

Tomorrow morning we will meet in executive session to discuss the bill further.

Mr. CORMAN. This is the only amendment.

The CHAIRMAN. Yes; this is the only amendment so far anticipated.

Mr. RYAN. Is it in order to make a motion to substitute the Department of Commerce as an amendment or should that be in executive session?

The CHAIRMAN. I think that should be in executive session. If there are no other questions of Dr. Astin, I want to thank you, Doctor, for coming here. The committee will stand adjourned until 10 o'clock tomorrow morning.

(Whereupon, at 12 noon, the committee recessed, to reconvene at 10 a.m. Wednesday, June 27, 1962.)

