up for this country's interests has been the exception rather than the rule in trade issues. All too often our country backs away and says, well, we don't want to ruffle any feathers here. I am just a little tired of that.

When China wants to buy airplanes, guess what? China is a huge market with 1.2 billion or so people, and they need to buy airplanes. So I am told that China comes to our country and says to us, ''Well, we need to buy some airplanes, and we don't manufacture airplanes. But instead of buying it from you, what we want you to do is bring your technology and produce it in China.''

I don't understand that either. This country ought not be interested in that. When we have a country with a $40 billion trade surplus with us, or we a deficit with them, and they need something we have, then they ought to buy it from us off the shelf. China ought to buy more wheat from us. They ought to buy airplanes from us produced in this country with U.S. employees and from U.S. companies.

We ought not to continue to allow our trading relationships to be foreign policy relationships. They ought to be economic relationships with tough, shrewd negotiators working out relationships where the rules are fair, where our employees and our producers can expect fair treatment and fair ability to compete.

So, in September when the President brings to this Congress a request for fast-track trading authority, I intend to be on the floor of the Senate saying no. I have no idea how many of my colleagues will join me. I know for sure as I stand here today that those of us who do say no will be branded as some sort of isolationists. Those who do that are wrong and thoughtless, but they will do it.

But I will insist that finally this country have the nerve and the will to stand up for itself and its interests. I believe that my children will inherit, just as they inherit the budget deficit, a trade deficit that means we will have a lower standard of living in this country unless we take action to deal with it and deal with it effectively.

Let me conclude where I began. This country can compete on any terms anywhere in this world as long as the rules are fair. But we have not been able to satisfactorily conclude trade negotiations in recent decades in any reasonable way that gives us the feeling—or at least gives me the feeling—that we have succeeded.

Time after time after time our trade negotiators celebrate after they have lost. They don't understand they have lost. I am not even sure they do when they see the red ink pile up and the growing, record merchandise trade deficit that now exists in this country.

I hope that one day we can have a thoughtful and interesting debate about trade policy. It should not be between camps who think trade is good or bad. Everyone ought to believe that expanded world trade, provided the circumstances and rules of trade are fair, is good for this world. But everyone also ought to believe that when this country is taken advantage of with markets that are closed, rules that are unfair, and countries that employ child labor and pollute this Earth's environment, that is not fair trade and is not something we ever ought to have to subscribe to.

Mr. President, once again, I expect September will be an interesting month and a challenging month on the issue of trade largely because of the debate on fast track. I intend to be back often to discuss this subject.

Mr. President, I yield the floor and make a point of order that a quorum is not present.

The PRESIDING OFFICER. The clerk will call the roll.

The bill clerk proceeded to call the roll.

Mr. SHELBY. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. KYL). Without objection, it is so ordered. The Senator has 10 minutes under morning business.

Mr. SHELBY. I thank the Chair.

(The remarks of Mr. SHELBY pertaining to the introduction of S. 1040 are located in today's RECORD under ''Statements on Introduced Bills and Joint Resolutions.'')

THE VERY BAD DEBT BOXSCORE

Mr. HELMS. Mr. President, at the close of business Friday, July 18, 1997, the Federal debt stood at $5,363,155,572,034.79. (Five trillion, three hundred sixty-three billion, one hundred fifty-five million, five hundred seventy-two thousand, thirty-four dollars and seventy-nine cents)

One year ago, July 18, 1996, the Federal debt stood at $5,168,794,000,000 (Five trillion, one hundred sixty-eight billion, seven hundred ninety-four million).

Twenty-five years ago, July 18, 1972, the Federal debt stood at $432,236,000,000 (Four hundred thirty-two billion, two hundred thirty-six million) which reflects a debt increase of nearly $5 trillion—$4,930,919,572,034.79 (Four trillion, nine hundred thirty billion, nine hundred nineteen million, five hundred seventy-two thousand, thirty-four dollars and seventy-nine cents) during the past 25 years.

Mr. SHELBY. I suggest the absence of a quorum.

The PRESIDING OFFICER (Ms. COLLINS). The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. BOND. Madam President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

DEPARTMENTS OF VETERANS AFFAIRS AND HOUSING AND URBAN DEVELOPMENT, AND INDEPENDENT AGENCIES APPROPRIATIONS ACT, 1998

The PRESIDING OFFICER. Under the previous order, the hour of 3 p.m. having arrived, the Senate will now proceed to the consideration of Senate bill 1034, which the clerk will report.

The assistant legislative clerk read as follows:

A bill (S. 1034) making appropriations for the Departments of Veterans Affairs and Housing and Urban Development, and for sundry independent agencies, commissions, corporations, and offices for fiscal year ending September 30, 1998, and for other purposes.

The Senate proceeded to consider the bill.

Mr. BOND addressed the Chair.

The PRESIDING OFFICER. The Senator from Missouri.

Mr. BOND. Madam President, I thank the Chair.

Madam President, with my distinguished ranking member, I am pleased to present to the Senate the fiscal year 1998 VA–HUD and Independent agencies appropriations bill. This bill is not perfect, as is usually the case with the measures that we present, and not everyone is fully satisfied, but, nevertheless, every attempt was made to achieve a balanced, fair bill which meets our highest priority.

While I am very grateful for the support of the appropriations chairman in the allocation process, it should be recognized that the allocation is slightly above the amount assumed in the budget agreement. Our job was made extremely difficult once again this year by an extraordinarily tight initial 602(b) allocation. I might add that we are awaiting final Budget Committee action, which I expect will be forthcoming shortly, to achieve the final allocation numbers.

The allocation represents a reduction of about $1.4 billion below the President's request in outlays. Clearly, fulfilling the President's request in many areas has been impossible under these numbers.

The bill totals approximately $69.4 billion in discretionary budget authority, plus an additional $21.5 billion in mandatory spending.

Our highest priority was adequately funding VA medical programs, which in the budget agreement took a $300 million cut. Protecting VA medical care meant that fulfilling the President's full request for EPA, for which a 12 percent or $850 million increase was requested, simply was not possible.

In addition, the subcommittee did not apply cuts totaling $230 million to the National Aeronautics and Space Administration or the National Science Foundation which were assumed in the budget agreement.

Finally, the budget agreement suggested that public housing, community development block grants, the HOME Program for local governments to assist in housing, and the McKinney

Homeless programs all be cut. Clearly, those cuts were unacceptable, and we did not include them.

For the Veterans Administration the committee recommendation totals $18.7 billion in discretionary funding, an increase of $92 million above the President's request and almost $400 million above the amount assumed in the budget agreement. Increases were provided to VA medical care, research, and the State home construction grant program, the latter of which demand far exceeds available Federal matching funds.

The recommendation for VA is predicated on enactment of reconciliation legislation giving VA authority to retain collections from third-party payers and copayments. Such collections are estimated to total $600 million next year, and together with the medical care appropriation will result in an increase over fiscal year 1997 of $617 million in available discretionary funding for VA medical care. The amount recommended will enable VA fully to continue on the path of improving the quality of health care services, increase the number of veterans served, and increase the provision of care in ambulatory and community-based settings.

The bill would also require VA to begin implementation of a number of preliminary recommendations of the National Academy of Public Administration report regarding the Veterans Benefits Administration. These recommendations are intended to improve and expedite the processing of veterans' claims for benefits. Addressing this problem is long overdue.

For the Department of Housing and Urban Development, the committee recommends $25.4 billion, including flat funding for most programs such as CDBG, HOME, public housing, and homeless assistance. The budget agreement assumes cuts in each of these programs. And as I indicated, the committee did not accept that budget agreement recommendation.

In addition, the mark restores the President's budget cut of $365 million to elderly and disabled housing, with a total of $839 million included in the recommendation for this program.

Furthermore, the bill provides $9.2 billion to fund section 8 contract renewals fully for which the budget resolution included a special reserve account.

For the Environmental Protection Agency, the committee recommendation totals almost $7 billion, an increase of $180 million over the fiscal year 1997 level. While this recommendation is $680 million less than the President's request, the reduction is attributable primarily to the decision not to fund a requested 50 percent increase for Superfund.

Given that the Superfund Program is sorely in need of reform and reauthorization, with the General Accounting Office designating it as a high-risk program subject to fraud, waste and abuse, coupled with our budget constraints previously described, a $700 million increase simply could not be justified. Senators CHAFEE and SMITH, chairman of the authorizing committee and subcommittee respectively, have indicated their opposition to a large boost in Superfund appropriations prior to reauthorization and reform badly needed in that program. Finally, there are serious questions as to whether EPA could even spend the full amount being requested.

In terms of operating programs, which are up almost $100 million over last year, the largest reduction—$122 million—below the request was taken from a laboratory construction project in Research Triangle Park, NC. Sufficient funds remain available to continue progress on the new building at this time.

In addition, all major operating program accounts in the Environmental Protection Agency will receive increases. Again, this year the committee made as its highest priority EPA funding for States for implementation of environmental requirements. A significant increase is recommended for State revolving funds.

The committee recommendation restores the President's proposed $275 million cut to clean water State revolving funds and fully funds the $175 million increase for drinking water State revolving funds, for a total of $2.075 billion. These funds are vitally needed, Madam President, with the EPA's estimate of drinking water and clean water infrastructure requirements nationally exceeding $200 billion. I believe every Member of this body, when she or he returns to their State, will find that these priority needs are there. They are critical and they are absolutely essential to maintaining the health of our populace as well as the quality of our environment.

In addition, the committee recommends a $50 million boost to State environmental assistance grants, in part for additional responsibilities in the area of air quality standards, for a total of $725 million. The leaking underground storage tank grants are increased $5 million, for a total of $65 million. This program is vital in protecting ground water resources.

To minimize controversy and expedite consideration of this bill, there are no EPA legislative provisions included in the committee recommendation. If Members wish to offer such amendments, we ask that you bring them forward. We will deal with those in the full body. We did not deal with them in committee.

For the National Aeronautics and Space Administration, the committee recommends $13.5 billion for NASA, the same as the President's request. The past few weeks in the news have exemplified NASA's situation, from the heady excitement of seeing the American robot Sojourner cruising the surface of Mars to the continued concerns over the safety of our American astronaut and his Russian companions on the Mir space station. We have supplied NASA with the President's request and will work with the agency to allow them the flexibility to continue their exciting research and development missions while at the same time working to control their costs.

For the National Science Foundation, the recommendation includes $3.377 billion for the National Science Foundation, $10 million above the President's request and $60 million above the budget agreement assumptions. This subcommittee believes that research and development is essential to our Nation's future and wants to give the NSF the necessary resources.

Included in the mark for NSF funding is the provision for a new plant genome initiative. An interagency working group convened by the President's science adviser has recently reported on the exciting prospects in genome research. Their report recommends expanding current studies of plant genomes to economically important crop species, including corn. We have supplied NSF with the resources to jump-start that effort and applaud the agency's interest and support in exploring the broader applications of the research they fund.

For the Federal Emergency Management Agency, the recommendation totals the President's request of $788 million exactly, including $320 million for disaster relief. A prohibition on spending is included in the recommendation, consistent with legislation FEMA recently proposed to reform the disaster relief account. This is an area I have long been interested in addressing, as the costs of this program are completely out of control. The limitation on spending included in this measure as recommended by FEMA would prohibit disaster relief funds from being spent on such projects as golf courses, stadiums, parks, and recreational facilities, trees and shrubs. While the limitation on spending is modest, it is at least a first step, long overdue, and an important one that we should take. I anticipate the authorizing committee will expedite its consideration of FEMA's proposed Stafford Act amendments in September.

Also in FEMA, the newly authorized dam safety program is fully funded at $2.9 million and State and local assistance grants are increased $3 million.

I might add that, as mentioned earlier, we are waiting final action from the Budget Committee to revise the 602(a) allocation, which is anticipated shortly, after which the subcommittee 602(b) allocation will be revised so that we may be in conformance with that allocation. The action is necessary owing to the budget resolution's special treatment of the HUD section 8 contract renewal accounts.

PRIVILEGE OF THE FLOOR

Mr. BOND. Madam President, I ask unanimous consent that Sarah Horrigan, who has worked on space and science issues on this bill, be allowed

the privilege of the floor during consideration on S. 1034, the VA–HUD appropriations bill and any votes therein.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. BOND. Madam President, it is now my pleasure to yield to my partner in this effort, the distinguished Senator from Maryland.

I yield the floor.

Ms. MIKULSKI addressed the Chair.

The PRESIDING OFFICER. The Senator from Maryland is recognized.

Ms. MIKULSKI. Madam President, thank you very much.

PRIVILEGE OF THE FLOOR

Ms. MIKULSKI. Madam President, I now ask unanimous consent that during the consideration of S. 1034, the VA–HUD appropriations bill for fiscal year 1998, Ms. Stacy Closson, a detailee from DOD serving with the VA–HUD Subcommittee be provided floor privileges during the consideration of this bill.

The PRESIDING OFFICER. Without objection, it is so ordered.

Ms. MIKULSKI. Thank you, very much, Madam President.

Today, I rise to join my distinguished colleague, the Senator from Missouri, to offer for floor debate and the consideration of the Senate the fiscal year 1998 appropriations bill for VA–HUD and independent agencies.

This is an extraordinary bill because it deals with 7 Cabinet-level Government agencies and 18 other agencies that are important to the United States of America. These agencies range from Veterans, Housing, the Environmental Protection Agency, the National Space Agency, the National Science Foundation, Federal Emergency Management Agency, as well as the National Corporation for Volunteer Services, and we go on to Selective Service.

People would be surprised to know that Arlington Cemetery is also funded in this bill. We stand sentry for consumers through the consumer product safety legislation. Those little pamphlets that taxpayers send for from Pueblo, CO, a big chunk of their funding comes out of this bill. So when we say veterans, housing, and independent agencies, this is probably, along with defense and the Labor-HHS bill, the most complex bill. Therefore, when we bring it to the Senate, sometimes our funding sounds like it is significant in terms of its dollar amount, but we really have worked very hard to get a dollar's worth of services for a dollar of taxes.

The bill before the Senate is a $90 billion bill that includes $21.5 billion in mandatory spending which is primarily directed at veterans, and appropriates a total of $69.4 billion in discretionary budget authority. This is almost equal to the House in total funding, and more than $90 million below what President Clinton requested. However, the allocation for the Senate, which is the total amount given to us to spend, was almost $800 million below that of the House.

Given the tight allocation, the chairman and I did the best we could to balance the needs of diverse groups of agencies funded within this subcommittee. With a better allocation, we could have funded all the agencies in this bill at higher levels. But we were ready to make tough choices and set priorities.

On the majority of the aspects of the bill, I want to say unequivocally I support Senator BOND, the chairman of the committee, the Republican, on his priorities. There are some yellow flashing lights related to President Clinton's agenda that I will address in my remarks, but we are very much in sync and in alignment with what we want to do. I am particularly grateful for Chairman BOND's efforts reflected in this bill to continue many of the initiatives voted by the subcommittee over the past several years when I chaired it.

As I said, I wholeheartedly agree with Chairman BOND's attempt also to avoid controversial riders this year and to keep out significant new legislative provisions not dealt with by this subcommittee. We have essentially said to Democrats and Republicans alike, don't play pin the tail on the donkey with this bill, adding controversial riders, and also, if you have new ideas for new initiatives, hey, why not try the authorizing committee for a change and see if we can move legislation that way.

There are several things, though, that I really approve of in this bill. Both Chairman BOND and myself consider veterans to be a very high priority and veterans medical programs to be of special priority. This bill restores $300 million worth of cuts assumed in the budget agreement and puts them in veterans medical care and also in veterans medical research. Veterans funding remains a key concern of mine, and I will continue to fight to ensure that promises made are promises kept. I will also stand sentry to make sure that the Veterans Administration meets its projections in third-party insurance collections that are designed to help increase medical care spending.

This bill also restores several cuts made to key programs at the Department of Housing and Urban Development. This was restored as the community development block grant funds so important to mayors and local communities, the project HOME, public housing and homeless assistance.

Also, something I am particularly pleased to work with Chairman BOND on is we restored the cuts in elderly and disabled housing. When the budget agreement was first proposed, there was a suggestion that this particular area of funding receive $400 million. Senator BOND and I agreed we should fully fund it at last year's level and have $839 million that will go to being able to build housing for the elderly and for the disabled.

The Senate bill has also added a modest increase to the Hope 6 revitalization program. This is a program that is very important because, hopefully, it ends public housing in the way we know it and says that public housing should not be a way of life, but be a way to a better life. Always where there is compelling need there is often sometimes sloppy administration. I concur with the report language offered by Senator BOND directing the Government Accounting Office to continue its analysis of Hope 6 to make sure that the effectiveness of the program is being monitored to ensure that for those receiving Hope 6 benefits in public housing, which was designed to community build and have work force readiness, the GAO will make sure that the work force readiness aspect is really doing what it should.

Then we move on to our very important science programs as well as Federal Emergency Management. Thanks to the efforts of this subcommittee, the national space agency, the National Science Foundation, and Federal Emergency Management are all funded at the President's request level. We, on this side of the aisle, say thank you, thank you to Chairman BOND for working with us to make sure that core science programs are funded and Federal Emergency Management continues to be fit for duty should other people around the United States have to dial 911. I think all of us who watched Hurricane Danny were glad it was downgraded to a tropical storm, but when it hits Alabama with over 25 inches of rain in a very short time and you see people carrying out their children and their most precious possessions, we know why FEMA exists.

Despite the tight allocation, I am pleased we were able to meet the President's request for these key agencies while protecting the funding in veterans medical care, disaster relief, critical science and space. I think America has to be incredibly thrilled with the breakthroughs NASA has made as Sojourner continues to roll across Mars. Scientific developments, such as the Sojourner, the Hubble telescope, Mission to Planet Earth, are truly special American projects, and show that we are No. 1 in space. FEMA is another agency that is doing a very good job, and this critical agency has shown steady improvement in recent years in responding to America's natural disasters.

Madam President, I also want to call to your attention the fact that the administration does have some serious concerns with the reductions in this bill. I call these yellow flashing lights. Given the tight allocation, I understand that not all the programs could be funded at the President's request. Measures had to be taken, protective measures, for several key programs. That meant that other important initiatives could not be adequately addressed. So, in looking out for veterans' medical care, that meant fulfilling the President's full request for an $850 million increase to the EPA budget

simply was not possible. As a result, the request for a 50-percent increase in the Superfund was not yet met.

As you know, the President is a strong advocate of the Superfund. This will be a key issue to resolve during the upcoming weeks while the House and Senate are in conference on this bill. I really encourage the authorizers, while we are in conference, to try to pass the authorizing bill so that the authorizing bill could match, perhaps, what we were able to do in conference.

Another yellow flashing light is the $146 million reduction to the President's request for the Corporation for National and Community Service. This request was to be used for the President's program called the America Reads Challenge. It is to be a national literacy campaign to ensure that every child can read, and read well and independently, by the third grade. The budget agreement called for funding in this program. However, it was not funded in either the House or the Senate bill.

Illiteracy in this country is of great concern for all, and all ages, but, really, if we could make sure every child was immunized by the time they were 2, could read by the time they were in third grade, had access and knew how to use a computer by the time they were 12, we would do a lot about empowering our children. I support the restoration of that funding.

A third flashing light to the administration is the elimination of funding for the community development financial institutions, something called CDFI, another program that was protected in the budget agreement, which helps to spur business activity and traditionally underserved communities, and is particularly focused on microenterprise endeavors that enable women of modest means to be able to move in terms of economic development in business. The House bill funded this at $125 million, and we hope this will be a restoration where there is some type of agreement. This is a high priority of mine during the conference.

It will be my intent to offer an amendment or perhaps work with Senator BOND as we go through the other amendments to see if we could not address the issues of empowerment zones, America Reads, and Federal emergency mitigation efforts to see if we could find some funds to be able to have a placemarker in this budget going to conference for these very important programs.

I do appreciate Chairman BOND's willingness to fund the EPA brownfields request and the inclusion of the report language allowing the HUD–CDBG money to be used for brownfield activities. A concern for the administration is the absence of the request of increase for the HUD brownfields program. The brownfields initiative can play a critical role in restoring urban areas. In my own home State of Maryland, in the Baltimore metropolitan area alone, we estimate that there are over 3,000 acres of brownfields in and around our port area which, if we could clean them up, would offer kind of a second version of an empowerment zoning.

Madam President, given these concerns, I will be offering an amendment, as I said, that will restore funding, some funding, modest funding, for the America Reads Program under the Corporation for National Service, empowerment zoning in the HUD budget and predisaster mitigation for FEMA. I will in no way make an effort to restore full funding for those programs, because it just is not fair. But I will be looking to see what we could do to have a placemarker to go to conference.

Madam President, there is mixed news in this bill for the administration. Like you, I am interested in producing a final bill that is agreeable and signable. I believe the bill that we have produced is a very good start. In fact, it is an excellent start to ensuring funding for many of this Nation's vital programs. I will work with my colleagues now on the floor to see how we could accommodate them. I will work with my chairman during conference and continue to try to address the administration's concern.

In closing, I want to thank Senator BOND again for his hard work and his willingness to listen to my side of the aisle's concerns and to honor many of the requests made by President Bill Clinton. I am pleased, when it came to funding like NASA, like the National Science Foundation, the funding for Federal Emergency Management, it knew no party, because when we are up there on Sojourner, when we might have to be part of the rescue operation for Mir, when we are doing so many very important things at the National Science Foundation and helping rescue Americans who have been hit by national disasters, this is not about party. I commend the cooperative nature in which this bill has been crafted. I believe we have produced a bill that can be signed into law with some of the appropriate amendments in conference consideration.

Madam President, before I yield the floor, I say to all of my colleagues from my side of the aisle, if you have amendments, please let us know them. We know that between now and 5:15 when we start voting on Treasury, Post Office, it would be enormously useful to Senator BOND and myself to know what any amendments are so that we could either work with you to accommodate you or be able to set the stage on how we can proceed with this bill. I believe it is Senator BOND's intention, and I will do my best to cooperate with him, that we will conclude this bill tomorrow at the earliest possible time.

Having said that, I look forward to the debate, as always, on this bill and, as always, have enjoyed working with my colleague, Senator BOND. I yield the floor.

Mr. BOND. Madam President, when major measures like this are considered on the floor, it is usually boilerplate for each side to say nice things about the counterpart. In the case of the VA–HUD bill—this is a very difficult bill—I say without reservation, and not as a matter of mere formality, that one of the great benefits I have in working through a very, very difficult bill is that I have the distinguished Senator from Maryland as my ranking member. She has helped me a great deal learn and understand many of the great challenges in this bill from her position as having chaired this committee. She has presented to us, in very workable fashion, a number of the concerns we have been able to meet in this bill, and I really could not be here with this difficult a bill in as good a shape as I believe it is without her support. It has been absolutely invaluable to me to have her assistance and that of her able staff.

She mentioned a modest amendment that I look forward to working with her to include.

I guess my whole concern over this bill—it was with a slight tear in my eye that I read the statement of administration policy from Budget Director Raines. He said some nice things about working with the committee. On the first page of his letter, he said, ''We urge the committee to reduce funding for lower priority programs or for programs that would be adequately funded at the requested level and to redirect funding of programs of higher priority.''

Unfortunately, we have looked at the programs. We have not funded the lower priority programs to the best of our ability. The priority funding that we have included in this bill does reflect the priorities of what I hope will be a bipartisan majority of this body. We do have the option when we go to conference, we hope, of increasing the overall allocation, so that there will be more funds available, and that we will be able to put some more money in the higher priority programs. But given the nature of the allocation and the many pressing needs, as my ranking member has outlined and as I have outlined, there are not low-priority programs funded in this bill.

I note that on the America Reads Program, it has not been authorized. We don't really have any details on it yet. So we were reluctant to go forward with the President's full request. When I first heard about it, I thought it would be a program that would be funded in Labor-HHS if it is a reading program. But I am certainly willing to work with my minority colleagues in trying to make some accommodation of the President's interests there.

With respect to the brownfields HUD program, I have said on this floor many times that HUD is a very troubled agency that is having a great deal of difficulty running the programs it is supposed to run. That is why I am reluctant to give it a new responsibility in the environmental area. EPA is handling that program. We have included

money for the EPA for the brownfields program. We made brownfields clean up an eligible activity for the community development block grants, so that communities without an undue benefit, Federal bureaucratic interference, might be able to clean up some of them themselves. So we feel that the brownfields program is not one that ought to be added to HUD's already too-full plate.

After speaking briefly with my ranking member, I join with her in urging our colleagues to bring forward the amendments. We hope to know by 10 o'clock tomorrow what amendments are pending. We want to be accommodating. We want to accommodate our colleagues if they do have amendments and, if possible, we would try to accommodate them. If we simply do not see the resources available, we would like to move expeditiously to a vote on it, if that is required. I am most encouraged by the optimistic thought that we could finish this very important bill by not too late tomorrow. I am from Missouri and it is the ''show me'' State. I will believe it when we have final passage. But I commit to working with the ranking member and all of my colleagues.

In the past, we have been swamped at the end with a large number of colloquies and senses of the Senate. I have found, through very painful experiences, that I need to read those and make sure that we have time to consider them fully on both sides. So if colloquies or other noncontroversial items are to be inserted, it would be of great help to me and I would appreciate it, as my ranking member would, if we could see those colloquies as soon as possible, so we will be able to give them full consideration.

Now, Madam President, I had hopes that one of our very distinguished colleagues would be able to be over this afternoon. We heard that Senator GLENN might wish to come and talk about the space station. We are open and we are ready to do business. We will be more than happy to entertain any measures. If any colleagues have an amendment that may need to go to a voice vote, we would like very much to lay it down today. We have both the time from now until 5:15 and then after the votes to do it. It is the request, I believe, of the leaders that we move forward. If there is an amendment that we can debate and set for a vote tomorrow morning, we would like very much to do so.

Madam President, I yield the floor.

Ms. MIKULSKI. Madam President, I, too, am looking forward to the statement on the space program of our distinguished colleague from Ohio. I have been advised by his staff that the distinguished Senator from Ohio is in a meeting and hopes to join us perhaps around 4. In the meantime, if any other Senators have statements they wish to make, they could do that, and this might be a good time to offer an amendment.

Madam President, I yield the floor.

Mr. BOND. Madam President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. GLENN. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER (Mr. HAGEL). Without objection, it is so ordered.

Mr. GLENN. Mr. President, if there is anything that sets this country apart from other nations around the world, it seems to me it would be our, almost our innate curiosity, our questing spirit that led people not only to explore geographically, but led them to explore in the laboratories of our Nation and express our curiosity in learning new things. That is at the heart of science, learning the new and putting it to use. We could run through a whole gamut of things in history. We could talk all night tonight about different things that have revolutionized our way of doing things on Earth.

The Wright brothers were curious about whether we could fly or not, whether you could get the air to react enough off an airfoil so you could fly—and they were ridiculed for it. Some people said, ''If God wanted us to fly, why, he would have made feathers on us so we could fly.'' Their curiosity led to airplanes and the aviation industry and changed the nature of the whole world. You can say the same thing about curiosity about the internal combustion engine and automobiles and communications and how we transmit sounds from one place to another—the telephone, the Bells—computers and plastics and TV and nuclear energy and agricultural research.

We never think of agriculture in this country as being such an example of basic research, yet, just in my own lifetime, the corn production in Ohio has gone from about 48 bushels per acre to something like 137 on the average and, in some places, going close to 240 bushels an acre in certain selected spots. That is just enormous. That did not occur because people are working three or four times as hard. It occurred because of basic, fundamental research, people curious about soil and about fertilizer and seeds and hybrids and so on. We can go on with antibiotics and anatomy and physiology and all the things we know in medicine these days. We could talk for many hours about where this questing, curious nature that we have in this country has led us.

Part of the bill before us here involves the NASA budget. An area where we, as a nation, are expressing our curious, questing nature, is in the area of space and space research. Every year we are asked why do we invest billions of taxpayer dollars for space exploration and research. There is one very short answer to it. In my view, we do it is to benefit people right here on Earth. This has been true for the whole program. It was true ever since I was involved in the space program many years ago, during Project Mercury and our first orbital flights. There are a number of examples of research connected just with the space program, and particularly with the space shuttle experiments, that I think everyone can relate to.

We will have applied science and scientific research going on through the years with the international space station project. Every year we debate this on the floor. Fortunately, to my way of thinking, we have continued to fund the space station. It is one of the greatest scientific engineering cooperative efforts in the history of this world. We have a number of things that are being looked into now on the shuttle that could be done better and longer term on the international space station when it comes along. Parts of it will start being put up at the end of next year. But a lot of things that have come out of the shuttle program so far are of very, very practical use right here on Earth.

One experiment that I find most intriguing is protein crystal growth. It is fascinating. It brings a whole new input to medicine, to the thousands of different proteins and combinations that make up our bodies and literally stands to transform the way medicine looks at itself and the way we treat disease and what we can do with regard to immunities.

Let me give just one example. We have a chart here I would like to have put up that shows what is going on with treating flu. A flu remedy is being developed with space-grown crystals, where you can better find out how the flu bug itself reacts. The loss of productivity due to flu is staggering. Its costs range as much as $20 billion a year. There are high-mutation rates of the flu virus. New data from the protein crystals grown in space and on Earth have unlocked the secret of the flu bug and revealed its Achilles heel. The secret lies in a small molecule which is attached to the host cell's surface and each flu virus, no matter what strain, must remove this small molecule to escape the host cell to spread infection.

But using data from space and Earth-grown crystals, researchers from the Center of Macromolecular Crystallography are designing drugs to bind with this protein's active site, in other words, the lock on this site. This lock-and-key reduces the spread of flu in the body by blocking its escape route.

In collaboration with its corporate partner, the CMC, the Center of Macromolecular Crystallography, has refined drug structure in preparation for clinical trials, and those clinical trials are starting. When tested and approved, relief is expected from flu epidemics by the year 2004. I give some detail on that because I think it is an example of the kinds of things that are underway that we can directly relate to the space program. We have some 20 to 40 million people every year that get

the flu, and it causes some 20,000 deaths a year in the United States alone. This new data of space-grown crystals has helped unlock a secret to let us treat flu in a different way. That is just one example.

Another example that can benefit from these same kinds of space-grown crystals is trauma from open-heart surgery, which often may lead to complications due to massive inflammation of heart tissue. Factor D is a protein which plays a key role in the biological steps that activate this immune response. Being able to block factor D's effects could enable heart surgery patients to recover more rapidly, and data from space-grown crystals allowed researchers to develop inhibitors which specifically block factor D. This drug is being readied for clinical trials.

We have a new antiparasite drug from space-grown crystals. It is estimated that over 1 billion people in this world are infected with a round worm known as ascarids. It is a tiny parasite that infects the intestinal tract of vertebrates and is often fatal. Ascarids are dependent on a substance called malic enzyme to function properly. A new drug, developed in part by Upjohn, with the benefit of crystals grown on the USML–1 Spacelab mission, should interfere with normal functioning of malic enzyme and, thus, prove deadly to ascarids.

Another example: Space crystals and the fight on AIDS. A new combination of drugs, which include protease inhibitors, have proven immensely successful in treating AIDS. In an ongoing experiment with DuPont Merck, NASA has crystallized HIV protease enzyme with an inhibitor to support structure-based drug design research, and the resulting drugs could represent the second generation of this successful approach to treating this disease.

This chart shows some of the details. I don't know whether the cameras will pick this up well enough to show the interaction. This is something that gives real hope in the treatment of AIDS in the future.

Another example on a different chart here indicates how diabetes patients may benefit from NASA's bioreactor research. The bioreactor is a tissue culturing instrument which allows microgravity researchers to grow tissues which are larger and more complex than other tissue culturing techniques. The bioreactor has the potential for changing disease treatment through tissue transplants.

Forthcoming experiments plan to grow human pancreatic islet cells in the bioreactor for possible transplantation into diabetic patients. Trial runs with this technique have proven successful. If the upcoming experiments are successful, diabetic patients will not need to rely as heavily on insulin injections and will have less complications from their disease.

Another chart: Modeling colon cancer with bioreactor. Mr. President, 166,000 cases of colon cancer are diagnosed each year in the United States, and it is a leading cause of death. Colon cancer tissue grown in a bioreactor develops remarkably similar to tumors extracted from humans. Studying these tissues outside the human body may allow researchers to understand how cancer spreads, as well as identifying new therapies which may prevent it.

This bioreactor is a fascinating thing. It lets tissues be cultured in the same way they occur in the human body. If you go into a laboratory and try to do experiments there, quite often the experiment becomes far more two-dimensional because it wants to settle to the bottom of the petri dish. A bioreactor in space, with all the right fluids that simulate the body, allows growth in a 3–D situation. They can be studied better so possible antidotes for them or possible treatments can be put into a culture there that is very similar to what is in the human body. It is not just something that is flattened out in the bottom of an experimental glass in the laboratory.

Growing cartilage with the bioreactor is another potential application. An application of the bioreactor is culturing cartilage tissue for replacement and transplantation. Experiments with the bioreactor and space indicates it can successfully culture cartilage tissue that is quite similar to human cartilage.

I use these few examples today just to illustrate that they are very, very practical and very, very useful for our future on Earth. The international space station will make it possible to continue some of the same experiments for longer periods of time. I know that every year when we have the budget battles on the floor, we have attempts made to cut out some of the money for the international space station, which would cut out some of the scientific inquiry that we otherwise would be able to perform. Let me talk about it very briefly.

NASA has already had some 1,000 or more proposals per year for ground-based and flight investigations involving the international space station project. Selection of principal investigators and commercial developers is beginning this year for flights starting in 1999, and this population will increase from 650 to 850 principal investigators and from 100 to 200 industrial affiliates by the time the station assembly is complete.

About 650 life and microgravity sciences principal investigators are now participating at over 100 institutions of higher learning around the country, and the number of investigators is expected to grow to over 850 before assembly is completed. These researchers, in turn, employ about 1,400 graduate students at present, with that number expected to grow.

What are they looking into? Well, a number of different areas, and I won't be able to go into all of them today. Biotechnology with an x ray diffraction system, for instance. Microgravity allows researchers to produce superior protein crystals, which I mentioned a moment ago, for drug development and to grow three-dimensional tissues, including cancer tumors, for research and cartilage for possible transplant.

The long-term benefits: to provide information to design a new class of drugs to target specific proteins and cure specific diseases; to culture tissue for use in cancer research and surgery in bone and cartilage injury.

Another area that can be looked into on the international space station also is in the area of materials science. Researchers use low gravity to advance our understanding of the relationships among the structure, the processing and the properties of physical materials.

The long-term benefits: We advance the understanding of processes for manufacturing semiconductors, metals, ceramics, polymers, and other materials. We also determine fundamental physical properties of molten metal, semiconductors, and other materials with precision impossible on Earth.

There are a number of people involved in this, people from the State University of New York, Rensselaer Polytechnic Institute, and MIT up in Boston. Researchers indicate great progress from this new research tool in having projects in space in microgravity.

Another area being looked into, and this one is a fascinating one, is combustion science, fluids and combustion facility, glove-box experiments, as they are called. Scientists are using low gravity to simplify the study of complex combustion processes, burning processes. Since combustion is used to produce 85 percent of Earth's energy, even small improvements in efficiency will have large environmental and economic benefits.

The long-term benefits: Improved control of combustion emissions and pollutants reduce risk from incineration of hazardous wastes and enhance efficiency of combustion processes.

These are only highlights of some of the prestation research that have already occurred. Dr. Robert Cheng and Dr. Larry Kostiuk, combustion science researchers at Lawrence Berkeley National Laboratory under contract to NASA, were awarded a patent for a ring flame stabilizer, which significantly reduces pollution from natural gas burners. Fitted into an off-the-shelf home heating surface, the device reduces nitrogen oxide emissions by a factor of 10 by increasing efficiency by 2 percent, and the device can be readily sized to industrial scales. That kind of experiment will continue on the space station.

''Almost every chapter in the combustion textbooks will be rewritten as a result of the microgravity work,'' said Prof. Howard Palmer, professor emeritus at Penn State University. And other statements by other scientists say the same thing.

Furthermore, the international space station will continue research into fundamental physics. Scientists use low gravity to test fundamental theories of physics with degrees of accuracy that far exceed the capacity of earthbound science. Physics and low gravity expand our understanding of changes in the state of matter, including those changes responsible for high-temperature superconductivity.

The long-term benefits will challenge and expand our theories of how matter organizes as it changes state, and that is especially important in understanding superconductivity and its advantages. We can also test the theory of relativity with precision beyond the capacity of earthbound science.

Scientists will study gravity's influence on the development, the growth and the internal processes of plants and animals, and their results expand fundamental knowledge to benefit medical, agricultural, and other industries.

The long-term benefits will improve the overall health of people of all ages. It can improve plants for agriculture and for forestry, and we will gain an advanced understanding of cell behavior.

Biomedical research in space will provide unique insights into such things as how the heart and lungs function, the growth and maintenance of muscle and bone, perception cognition, and balance, the whole area of neuroscience, and the regulation of the body's many systems, called regulatory physiology.

The long-term benefits will assist in developing methods to keep humans healthy in low-gravity environments for long, long periods of time; advance new fields of research in the treatment of diseases; enhance medical understanding of the role of force on bone in disease processes, including osteoporosis; advance fundamental understanding of the brain and nervous system and help develop new methods to prevent and treat various neurological disorders. These are the long-term benefits.

I quote a friend and one of the most respected surgeons in this country—as a matter of fact, in the world—Dr. Michael DeBakey, chancellor and chairman of the department of surgery, Baylor College of Medicine, who said:

> The space station is not a luxury any more than a medical research center at Baylor College of Medicine is a luxury. Present technology on the shuttle allows for stays in space of only about 2 weeks. We do not limit medical researchers to only few hours in the laboratory and expect cures for cancer. We need much longer missions in space—in months to years—to obtain research results that may lead to the development of new knowledge and breakthroughs.

We also can either look out into space or, from an observation point in space aboard a spacecraft, the international space station, look back toward Earth. That is planned with the Earth Observation and Space Science, the Alpha Magnetic Spectrometer, and SAGE to be deployed in 2001.

The space station will be a unique platform with multiple exterior attach points from which to observe the Earth and the universe.

Conceptualized by Nobel prize-winning scientist Dr. Sam Ting, of MIT, the alpha magnetic spectrometer experiment will search the universe for antimatter and ''dark'' matter in an attempt to prove cosmological theory with direct evidence.

Also, the stratospheric aerosol and gas experiment, SAGE–III, will also be delivered. It will obtain global profiles of aerosols, ozone, water vapor, and oxides in order to determine their role in climatological processes. It will allow cross-correlation of observations from SAGE's I and II at different latitudes and different time periods.

I cite these examples to briefly indicate what a wide variety of scientific effort will go on with the international space station.

Now, let me address these next remarks to two sets of people who may be watching or listening here today. How many of you are over 60 years of age? If you are not over 60 years of age I know that each of you hopes to live to be 60 or older. What I am about to say I believe is very relevant to you.

For several years now NASA and the National Institute on Aging, which is part of the National Institutes of Health, have been working on some projects looking at what happens to astronauts in space.

I became intrigued with this, and I have long been interested in issues associated with our aging population. In fact, when I first came to the Senate—I was sworn in in January 1975—I asked to be assigned to the Special Committee on Aging because I thought there was so much work needed to be done.

Today, we find an aging population sometimes referred to as the graying of nations. I conducted hearings years ago on the graying of nations, and then had additional Governmental Affairs Committee hearings in New York called the Graying of Nations II. Dr. Robert Butler assisted in putting together those hearings. He was the first Director of the National Institute on Aging and did a superb job in getting that whole agency started.

Nearly 45 million Americans today are 60 years of age or older. The demographic experts tell us that that is projected to grow to about 100 million over the next 50 years, by the year 2050. NASA has begun to formally explore the similarities between the aging process and what happens to astronauts in microgravity. There are physical changes that occur in space and the National Institute on Aging has been very interested in and has worked with NASA to review these changes. They are in the process now of coming up with very specific proposals as specific experiments.

But there is a great similarity between what happens to astronauts in the short term—it starts 3 to 5 days after they have been up there on current missions—and what happens to the elderly right here on Earth by the normal process of aging. This is fascinating because of the similarities in osteoporosis, for instance, changes in bone density, changes in orthostatic intolerance—in other words, the ability of the body to keep blood in the upper part of the body so you do not just black out—the vestibular and balance problems, sleep disturbances, decrease in muscle strength, the decrease in immune response, and similar changes in cardiac activity and blood glucose.

Now, these changes occur in the younger astronauts in space right when they go up today. They occur during the first 3 to 5 days, or are noticeable, as I understand them, in the tests that have been run. At the end of the flight when they come back to Earth, the younger astronauts return to normal, their bodies recover, their bone structure is basically reformed again. They recover from it.

Now, in the elderly here on Earth there is not that same kind of recovery. But what the National Institute on Aging and NIH is looking into with NASA is to propose experiments to see what happens if you did put an older person into space. What would happen? Would the changes that happen to the younger astronauts be additive to the older astronaut or would that person be semi-immune from those same changes?

Would the change be to the same degree? What happens when you come back to Earth again? With these changes, would the older astronaut recover as fast as the younger ones? If not, why not? In other words, the questions being asked are basically what triggers these different systems and why do they change? Why do they change in microgravity? Why do they change in orbit? Would they change the same for an older person as they do for the younger people? I think this is a fascinating field. I am very hopeful that NASA and NIA will formalize this program primarily for the potentially enormous benefit that may come from it for hundreds of millions of people, not just people in this country, but people literally all over the world, and also because I can think of no more powerful and essentially untapped constituency for human research in space than the elderly.

I will say a few words about the importance of international cooperation in space research, also.

If you had told me some 35 years ago when I made my flight back in 1962 that in June 1997, a U.S. astronaut would be beginning the 16th month of continuous U.S. presence on a Russian space station, I certainly would not have believed it.

As a veteran of the cold war and the space race, I guess I could not be more pleased to see this kind of progress. Obviously, there is tremendous symbolic value when former enemies work together cooperatively. But symbolism

isn't the most important reason we cooperate. Again, it gets back to basic research. The quality of research is going to improve if we have the best and the brightest from 15 nations working on a project.

The shuttle-Mir program, also called phase I of the international space station, is a perfect example of the benefits of such cooperation. As many of you know, this program consists of nine shuttle-Mir docking missions. The program is helping both the United States and Russia learn countless valuable lessons which will be put to use on the international space station.

Now, obviously, the Mir space station has been having problems. We are aware of those from the daily news. Some problems are due to aging components of the station; some may have been due to crew or ground control errors. We will see what NASA and the Russian space agency leadership will recommend.

Usually, for both the Russians and the Americans, space operations have been nearly flawless. For example, just a few days ago, the crew of STS–89 returned from a 16-day science mission which appears to have exceeded all expectations for scientific data.

I would like to remind people of two things. First, space travel and research is still a risky and technologically complex undertaking. Things do not always go right. We are dealing with new fields of power and speed. There are going to be times when things do not always go right. So it would be completely inappropriate for us at the first sign of serious trouble to cut and run.

Second, NASA emphasizes safety above all else. No one has ever intentionally put our astronauts in unsafe or hazardous conditions. Quite the opposite. I know from firsthand experience our astronauts are trained to handle emergencies of all sorts that can be foreseen.

Some have suggested that before we send another astronaut to Mir, NASA must certify to Congress that it has done everything possible to make it safe. I find that an insult to NASA, because that has been their primary objective all the way through the whole program. For Congress to require that NASA had to certify it has done everything possible to make it safe before we would have another astronaut sent to Mir was about as unnecessary as anything I have seen since I have been around here. I think such a certification would be an insult to the men and women who work on this program every day. No one at NASA intentionally ever takes risks with people's lives. But space flight is risky, and we have to accept that.

I do not know whether people realize the speeds involved up there. I meet with school groups quite often. I find them amazed when you say, well, we have to travel nearly 18,000 miles an hour just to stay in orbit up there. That is true. But that is such a large number, it does not mean much until you ask the same students, ''What is 5 miles from your school? Is the mall 5 miles from your home?'' It seems the mall has an attraction for a lot of the young people these days. To make that 5 miles trip in a spacecraft would take just 1 second. To stay in orbit you are traveling about 4.8 miles per second—per second. And when you come back in and start hitting the atmosphere again with the spacecraft, there is tremendous heat buildup just from the friction of the atmosphere, ionized layers out ahead that get up around 9,000 or 10,000 degrees Fahrenheit, and surface temperatures of, say, somewhere around 3,000 degrees Fahrenheit.

We confront many challenges we have come to take for granted almost that we can meet the challenge successfully. We have done it amazingly successfully throughout the history of the space program. It has not been perfect. So to think that it is going to be perfect is just a wish.

Even if we were forced to curtail the Mir activity, we have already learned a tremendous amount from the seven shuttle flights that have been made to that station.

Let me just enumerate a few of the accomplishments.

Most importantly, we have conducted countless joint science experiments in a variety of disciplines.

American astronauts have maintained a continuous presence in space for nearly 470 days.

We have successfully conducted six shuttle-Mir docking missions, with three more missions for the future.

Russian and American engineers, astronauts and cosmonauts, in performing joint operations, have developed mutual understanding in originally dissimilar design philosophies and established close rapport between counterparts of the two different cultures. That is important for the future.

We have learned to plan and execute a typical shuttle mission to a space station.

We have verified and developed rendezvous and docking procedures.

We have conducted joint ground and mission control operations.

We have learned to transport and exchange supplies.

We have developed joint extra-vehicular activities.

We are testing schedules for long-duration Mir and short-duration shuttle crew work rest cycles during the docked and undocked phases of missions.

We are jointly resolving safety and acceptance testing differences.

And we are developing in-flight training protocols.

Most importantly, we are working together on joint research projects.

These accomplishments place us in an excellent position for initiating and conducting the assembly and subsequent operation of the international space station with reduced risk, with greater confidence and reduced learning curve expenditures in time and costs. The only other way to gain this experience would be to wait until assembly of the ISS and then learn, and that is a little late.

Now all of this is leading up to construction and operation of the international space station. Let me show just a couple of charts here. This effort will be the largest peacetime international science collaboration in the history of this world. These international partners will include Canada, Japan, Russia, Britain, Italy, France, Germany, Belgium, the Netherlands, Norway, Denmark, Spain, Sweden, and Switzerland.

On-orbit weight will be 470 tons, and almost 20 percent of that, over 85 tons, of hardware has already been built.

This is an example of one piece of hardware now, one of the modules right here. When built it will have some 43,000 cubic feet of pressurized volume, which is the equivalent of a 747.

When you think about the number of scientific breakthroughs that can come from such an orbiting laboratory as this, it is sort of mind boggling.

I want to remind everyone of the critical importance of spreading the word about the benefits of human space flight. I hope staffs listening in the offices as well as Senators may go back to our communities in our States and find new outlets or organizations which may not have considered the significant impact which space research has had and could have and will have on their lives. If we can just invigorate and sustain such an effort I am very confident that the shuttle Mir and the international space station will merely be steppingstones to a much greater future.

I have asked NASA to put together, if they can, a compilation of the of the scientific research projects that have gone on on each one of those shuttle flights. I hope I can get that this evening so we can put that in the RECORD tomorrow because I think it will show the diverse nature of the scientific experiments, some of the breakthroughs that have occurred because of those experiments, and I think that is the best way to show what has happened in the shuttle program and the potential that gives for the international space station.

We have some other pictures of the space station that is already put together and is being worked on. This shows a technician working on this particular hatch. This shows two of the modules here that are already built, already tested out, and we have one unit that is undergoing tests down at the cape right now.

This shows another view of what is being done. This is not something that is theoretical into the future. It is being done right now.

This is a picture of some of the testing area where the hardware is being checked out. The hardware is roughly, as I said, almost 20 percent complete right now. Now, that 470 tons will be the final size of the vehicle once it is up there.

I see this as an extension of the best that our country has to offer in the way of science and research and the questing nature of our people that have given us a standard of civilization beyond anything the world has ever seen. We have been a Nation that did not just say we will live on the Atlantic shore on the coastal plain. We moved beyond that to the Ohio River, to the Mississippi and on to the Plains.

I read into the RECORD last year, and I may bring it to the floor again tomorrow, the statement by Daniel Webster, who for all his other brilliance was a skeptic, sometimes, and had a rather myopic vision. When they were considering buying lands west of the Mississippi from Spain or Mexico, Daniel Webster was against it and he rose and said words to the effect of ''What use can this area west of the Mississippi be, this area of cactus and prairie dogs, of blowing sand, of mountains with snow, impenetrable snow, to their base? Mr. President, I will not vote 1 cent from the public Treasury to move the Pacific coast 1 inch nearer Boston than it now is.''

That may show somewhat of a myopic view of even such a learned person as Daniel Webster, but it does. And that is repeated somewhat today by people who say, ''What is the possible value of this?'' The possible value is clear in just a few of the things I have mentioned here today. We have whole catalogs that have come out, things that have benefited science, research, medicine, and engineering in this country, and they are continuing. That is what this is about.

For the first time we will have some 15 nations involved in an international space station, working together instead of preparing to fight each other, working together using the best brains out of each of those countries to do research that is of benefit to people all over this Earth. That is the importance of it.

Some years ago when people would rise on this floor and say what possible benefit can it be, we now have a good story to tell them. It is a success story that every single American can be very, very proud of.

I am happy to be supporting the station. I presume we will have some amendments proposed on the floor that will change some of the program and the way it is outlined. I hope we will not approve those. I think the program has been revamped now. It is very well thought out. It is being done at about the cheapest we can possibly do it and still keep safety paramount, which is No. 1.

Mr. President, I ask unanimous consent to insert into the RECORD a paper, ''Microgravity Research and Exploration'' provided by the NASA Office of Life and Microgravity Sciences and Applications.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

MICROGRAVITY RESEARCH AND EXPLORATION

In the mid-20th Century human ventures into space have ushered in a new era of exploration and defined a new field of research using gravity as a variable. In turn, this research has led to exciting discoveries on how profoundly gravity affects all elements of life on this planet and beyond. Over the years unexpected connections have been made between the findings in microgravity and the many physical, chemical and biological processes here on Earth, opening new vistas for understanding ourselves and our world. These findings have wide-ranging applications from medicine to understanding weather patterns, contributing to economic growth and vitality here on Earth.

These findings also serve as a sound foundation for future human and robotic exploration and for settling new worlds in the 21st Century. The International Space Station is the first truly multinational effort by the people on Earth to conduct a final rehearsal in low Earth orbit before spreading into space on a new and exciting quest for the origins of life.

Gravity is a force that has profoundly shaped the evolution of all living things. Gravity and its effects drive or constrain the fundamental physical, chemical, and biological processes that surround us. It is the basic force against which every living organism on Earth must work. Gravity gives us our sense of balance, guides the development of our bones and muscles, and challenges our hearts to pump blood against its constant downward pull. Space flight gives humankind the ability to control gravity as an experimental variable for the first time in the history of science. With the control of gravity, we gain a whole new perspective on the physical world and on the world of living things.

HISTORICAL PERSPECTIVES

The human crew member has been an integral element of the U.S. and Russian space programs since their inception. The harsh environment of space has posed a number of critical challenges for the protection of humans, planning for missions, and the execution of experiments.[1,2,3] The role of the human has grown as space missions and programs have increased in duration and complexity. Initially, the goal was to demonstrate man's ability to survive in space. During the 1960s astronauts served mainly as observers and backup operators to ground control personnel. The Gemini and Vostok missions built on the achievements of Mercury and Voskhod, and provided a technical and biomedical foundation for the Apollo lunar landing and Salyut space station programs. The Apollo missions required a broad biomedical support program, including provisions for in-flight illness. Like Gemini, the Apollo millions yielded significant findings on human physiology in space, but few insights into the effects of the space environment on physical and chemical processes.

In the early 1970s Skylab provided the first opportunity to study human adaption to microgravity over extended periods of time, allowing researchers to identify those physiological changes that are self-limiting. For the first time in the history of space flight modest microgravity experiments were conducted—the role of astronaut was expanded to that of scientist/investigator. It is worth noting that during the 1970s many more experiments were executed in drop towers, parabolic aircraft and suborbital robotic missions.

Since 1981 the reusable Space Shuttle has provided routine access to Earth orbit, expanded the space program to include investigators from industry and academia, and for the first time in the history of experimentation provided an exceptional platform for microgravity research. In 1994 an agreement between NASA and the Russian Space Agency allowed for the deployment of US research hardware on the Russian MIR space station for experimentation by NASA astronauts. Similar experiments to Space Shuttle missions are conducted on this platform but in a more constrained fashion.

RESULTS TO DATE

Since 1981 an unprecedented amount of scientific data has been accumulated from space research that has revolutionized our understanding of the nature and action of gravity on physical and biological processes. To date the Space Shuttle has flown approximately 720 days in space, of which 120 days were dedicated to microgravity research. NASA astronauts have flown 970 days on MIR with a total of 160 days dedicated to microgravity experiments.

RESEARCH WITH BENEFITS TO INDUSTRIAL PROCESSES AND EARTH APPLICATIONS

Despite the relatively brief duration of actual research in the life and physical sciences on orbit to date, numerous applications have already been identified and acted on by the private sector. These have been based on both scientific findings as well as technological advances. Today, a significant fraction of NASA's microgravity research program is already conducted with substantial financial support from other agencies and from industry, and we expect that contribution to grow.

Scientists have successfully used the low gravity environment of space to understand and control gravity's influence on the formation of materials including metals, semiconductors, polymers and glasses. For example, space research has produced cadmium zinc telluride (CdZnTe) crystals that have 50 times lower levels of a key defect than the best commercially available crystals. These experiments help researchers to verify mathematical models for semiconductor crystal growth to improve semiconductor fabrication on Earth. There have been many theories and mathematical models developed to predict the formation and development of dendrites, the tree-like structures that are the building blocks of most metal products. On Earth, gravity's effects limit the power of experiments to validate these fundamental theories. The Isothermal Dendritic Growth Experiment flown aboard the Space Shuttle has become the scientific benchmark for testing our theoretical understanding of metal formation.[4]

Another field in which microgravity research continues to make major contributions is combustion science. Combustion is a highly complex process involving many factors, such as: the physical flow of fuel and oxygen; the chemical conversion of fuel and oxygen into heat and chemical products and the transfer of heat. In many cases, combustion processes are so complex that scientists have difficulty developing accurate, complete models for them. By significantly reducing gravity's effects, scientists are studying subtle aspects of combustion that are often hidden. Research to date has demonstrated that gravity has a profound effect on combustion phenomena, with microgravity conditions leading to behaviors never before observed. Because combustion is so widely used for energy production and transportation, our growing knowledge of gravity's role in combustion phenomena holds the promise of improving the efficiency of a wide range of everyday technology, with potentially far reaching economic effects. For example, a patented ring flame stabilizer device has been developed by Lawrence Berkeley National Laboratory

Endnotes at end of article.

based on the results of microgravity combustion research. This device—applicable to residential furnaces and water heaters—reduces emissions of nitrous oxides by a factor of five over existing devices, while increasing overall efficiency by 2%.

Closely related to combustion science is fluid physics, a field in which researchers study the behavior of liquids, gases and mixtures. In microgravity, scientists observe aspects of fluid behavior that are difficult or impossible to understand in normal gravity. Microgravity enables scientists to create physical models of important processes and make observations that would be impossible on Earth. For example, results from microgravity research have provided the only controlled experimental observations of the convective motions in physical models of planetary and stellar atmospheres, laying a foundation for scientific understanding of the nonlinear dynamics of planetary and stellar flows, and giving us new insights into the dynamics of the sun and gaseous planets.[5] A new technique for stereo imaging velocimetry to measure fluid flows in space experiments developed by Lewis Research Center has found application in the US industry, where it is being used to quantify fluid flows in the steel casting process.

Use of the microgravity environment has allowed researchers to design experiments that achieve a measurement accuracy not possible in the gravity environment of Earth. Areas of investigation include research on general relativity, critical phenomena, laser cooling for ultra-precise measurement of atomic electronic properties, as well as other thermophysical measurements of interest in condensed-matter physics. For example, space flight research has been used to confirm with unprecedented accuracy the validity of a Nobel prize-winning theory describing the conditions under which matter will change between different states, such as from liquid to gas or from conductor to superconductor.[6]

RESEARCH WITH BENEFITS TO HEALTH

Microgravity provides researchers with new tools to address two fundamental issues in biotechnology: the growth of high-quality crystals for X-ray diffraction studies of large proteins, and the growth of three-dimensional tissue samples in laboratory cultures. Gravity plays central roles in each of these processes and NASA research is providing access to new data and techniques to the broader biotechnology community.

NASA's bioreactor, developed to simulate low gravity, has proven dramatically successful as an advanced cell culturing technology. This success has led to an extensive collaboration with the National Institutes of Health (NIH). Work with NASA bioreactors at the NIH has already produced advanced cultures of lymph tissue for studying the infectivity of HIV. Other areas of outstanding success include cultures of cancer tumors and cartilage.[7] Initial results of tissue culture research on the MIR space station are very positive and suggest the possibility of major advances in tissue culturing once the International Space Station becomes available.

Biotechnology researchers also use microgravity to produce protein crystals for drug research that are superior to crystals that can be grown on Earth. Already researchers have produced crystal samples of proteins important to the study of AIDS, emphysema, influenza, diabetes and other diseases.[8] Recently, researchers using space grown crystals determined the highest resolution structure for insulin published to date. By studying the structure and function of insulin, scientists hope to produce improved drugs for diabetics.

Life is, of course, dependent on many of the same physical processes I have already discussed. Convection, sedimentation, and buoyancy are features of complex, living systems as well as nonliving systems. But life possesses additional properties—such as adaptation to maintain homeostasis, and evolutionary development in response to environmental factors—that are also affected by gravity.

We are now demonstrating that microgravity can be used as a model to study some aspects of the aging process here on Earth. Indeed, astronauts experience bone and muscle loss, inability to maintain balance, posture, gait, and blood pressure, and changes in the general metabolism that mimic some of the symptoms of aging. Thus, microgravity research offers an unusual opportunity for us to study in a laboratory setting this natural phenomena of the life cycle. The symptoms caused by space flight reverse themselves on return to normal gravity, presenting additional opportunities for insight into the aging process.

The accumulated data from experiments in the physical sciences has formed the basis for a multidisciplinary investigation of biological phenomena using the findings from fluid physics research. As a result, we are obtaining explanations for complex biological behavior at the cellular and molecular levels. We are able to formulate a new set of hypotheses regarding the behavior of complex ecological systems in relation to multigenerational adaptive responses to the pervasive effects of gravity.

We have found that even the tiny single-celled organisms suspended in water are equipped to respond to gravity. We have used the low gravity environment of space to research and establish the mechanisms individual cells use to translate physical force, like acceleration due to gravity, into chemical signals that drive adaptation and response. We have begun work to explore the process by which plants respond to gravity to produce lignin, the primary component of wood. We look forward to exploring the role that gravity has played on Earth, and possibly in other places, in the genesis and evolution of life. If a planetary gravitational environment necessary for the creation or continued existence of life, how would living systems evolve in a different gravitational environment?

RESEARCH WITH BENEFITS FOR SPACE FLIGHT

Research into the effects of gravity on fundamental physical, chemical, and biological processes is increasingly serving as the underpinning for our understanding of how to live and work in space. Space flight induces changes in virtually all body systems. Most appear to be benign adaptations to weightlessness, but if unchecked some physiological changes could become life threatening. It seems today that exposure to the low gravity environment produces a disassociation between the chronological and physiological ages. Thus, our task is to bridge this time gap by developing countermeasures such as exercise and pharmacokinetics.

The time course and extent of physiological changes in astronauts must be characterized, and appropriate countermeasures (compatible with the spacecraft design) developed for long-duration orbital and interplanetary space missions. This research promises to improve our general understanding of human physiology and a number of medical conditions. Similarly, the countermeasures that we devise may benefit health care on Earth.

To illustrate the breadth of the challenges we face, consider the digestive system. Relatively little work has been done on the effects of low gravity on the digestion, absorption and transport of drugs and nutrients in space. You might think that in a confined space like the human bowel there would be little role for gravity to play. But keep in mind that it is gravity that causes bubbles of gas to rise to the surface of a liquid and dispersed particles to settle out. We know that astronauts do not suffer from malnutrition, but how are digestion and pharmacokinetics affected?

Challenged by the need to monitor the health status and deliver health care services to astronauts in ever more remote and hostile environments, NASA is at the cutting edge of medical technology requiring autonomy. Space programs have pioneered the use of telecommunications, computer, and microelectronic and nanoelectronic technologies in health care. While critical for space flight and exploration, these technologies also yield considerable benefit for medical care here on Earth. The highly successful Spacebridge to Russia program—a joint effort between NASA and the Russian Space Agency—is an Internet-based telemedicine testbed that links academic and clinical sites in the US and Russia for clinical consultations and medical education. A predecessor project—Spacebridge to Armenia—was used to provide medical consultation services during the recovery from the Armenian earthquake in 1988. Pilot projects in telemedicine technology have also supported health care delivery in a wide variety of remote locations.

NASA has developed a range of technologies in medical informatics, sensors, diagnostic techniques, decision support systems, image compression, and advanced training to support health care delivery in space. These technologies include compact, solid state sensors that permit non-invasive monitoring of crew health and the spacecraft environment. NASA's Ames Research Center is adapting technology, originally developed for space-related scientific visualization, to stimulate complex surgery. This application enables surgeons to reconstruct a patient's face and skull from computerized tomographic (CT) scans, allowing doctors to virtually manipulate the bone tissue and visualize possible surgical procedures. Marshall Space Flight Center has worked cooperatively with industry to develop a Sensing and Force-Reflection Exoskeleton (SAFiRE) that senses hand and finger motion as human operator input and provides force-reflective feedback to the operator for both telerobotic and virtual environment applications. The SAFiRE project's technology base could be used to develop a biomechanically sound resistance exercise system.

FUTURE RESEARCH

Recent discoveries of life's adaptation to very extreme environments and the potential for past or even present existence of life on Mars or elsewhere in the Universe have raised a range of compelling questions. Life's complex processes are ubiquitous on Earth. Are they present on other worlds as well? What role has gravity itself played in the genesis and subsequent evolution of life on this planet and elsewhere? Humanity's fascination with life and the physical world propels our interest in the exploration of space.

As demonstrated by the success of the Mars Pathfinder mission, NASA has embarked on a promising path of technological innovation that is creating a ''virtual'' human presence on other worlds. Future missions of exploration will require crew members to live and work productively for extended periods in space and on planetary surfaces. As in the past, key biomedical, life support and human factors questions must be answered to ensure crew health, well-being, and productivity. To address these

challenges, NASA will apply innovative technology to the challenges of robotic and human space exploration, ranging from advances in telemedicine, telepresence, and life support to in situ materials utilization, nanotechnology, and bionics. In the coming decades, fundamental and applied research in gravity's effects will lay the foundation for humans to develop and use space, and to expand outward on missions of exploration.

PROTECTING CREW HEALTH

Our first priority is ensuring the health and safety of our crews. Long duration flights have demonstrated that it is possible to survive extended term exposure to low gravity. Yet, as I have described above, we must not forget that adjusting to microgravity and then back to normal gravity is a traumatic experience for the body. Many of our intuitive theories for explaining these processes have already failed in the light of hard data. Even some of our long-held theories about the gravity dependence of physiological processes for humans on Earth have been proven false by space research. We must remain cautious in drawing general conclusions from the small sample sizes currently available and we must develop a rigorous understanding of the mechanisms behind adaptation to microgravity as well as the dose-response relationship. If we do a thorough scientific job of understanding the mechanisms and dose-response relationships of adaptation of low gravity we will create a new storehouse of knowledge with innumerable applications to Earth-based medical care.

TELESCIENCE AND TELEMEDICINE

In the next few years, the International Space Station will serve as a platform for developing and testing systems that will permit future space explorers to respond autonomously to a wide variety of ongoing and emergency health care issues. Medical monitoring will take advantage of noninvasive microminiaturized sensors and advanced wireless communications technology as well as next generation systems for displaying and integrating the data stream. Emphasis on portability and noninvasiveness of medical monitoring will also pay large dividends by reducing the need for storage and transportation of specimens.

ADVANCED LIFE SUPPORT TECHNOLOGY

Future exploration missions will rely on advanced, lightweight, closed-loop life support systems to sustain life in the hostile space environment. Research on advanced life support systems include both ground based and flight components. We have already begun a series of closed tests using crews of up to four people in ground based facilities at the Johnson Space Center. Flight testing and validation for life support systems will take place on the International Space Station. Our goal is to demonstrate advanced life support system on ISS that would be suitable for a Mars transit vehicle by 2004, and validate system performance by 2008. Space Station environmental monitoring systems will incorporate new miniaturized sensor technology requiring greatly reduced resources to operate.

PHYSICAL SCIENCES

We cannot overlook the vital role that fundamental research in the physical sciences will play in the future of exploration. Materials science research will explore advanced radiation shielding materials vital to long-duration space missions. Research in the behavior of fluids in low gravity will help the designers of future space systems to move from an empirical approach to approaches based on valid mathematical models for such vital systems as thermal control, fuel storage, and delivery, and life support systems. Research on combustion phenomena will contribute to improved technology for detecting and extinguishing fires in spacecraft.

Fundamental physical research is also required to lay the foundation for efficient and safe operations on the surfaces of other bodies in the solar system. We must understand the behavior of materials in the novel environments found on other solar system bodies if we are to design efficient systems for in situ resource utilization for fuel, life support, radiation protection, fire detection, and construction. Microgravity researchers are now participating in planning for robotic missions to Mars in 2001 and 2003 that will include experiments designed to explore these issues.

The quest for understanding in space is a voyage into the unknown. We cannot accurately predict what we will find, or what we will produce. But if we are to control the risks of human space flight and extract the benefits of space development for future generations, we must continue our efforts to reduce our ignorance. We must focus our research both in the life sciences and the physical sciences, using robotic missions in parallel with crewed missions to reduce the risks of human space flight. As a result, we will extend human virtual and physical presence further into the solar system, paving the way for broad commercial and scientific development in space. Ultimately, we will learn to send astronauts on long duration missions of exploration. Their work will serve to extend our research to new worlds, and possibly to new forms of life.

ENDNOTES

[1] Nicogossian, Huntoon, and Pool, *Space Physiology and Medicine, 3rd Edition*, Lea and Febiger Publishing, 1994.

[2] Nicogossian, Mohler, Gazenko, Grigoryev, *Foundations of Space Biology and Medicine, Volume II: Life Support and Habitation*, American Institute of Aeronautics and Astronautics, 1993.

[3] Dehart, *Fundamentals of Space Medicine, 2nd Edition*, Williams and Wilkins Publishing, 1996.

[4] Glicksman, *et. al., Physical Review Letters*, Vol. 73, No. 4, 1993.

[5] Hart, *et. al., Science,* Volume 234, No., 61, 1986.

[6] Lipa, *et. al., Physical Review Letters*, Vol. 76, No. 6, 1996.

[7] The May 1997 journal published by The Society for *In Vitro* Biology contains over a dozen original research papers using the NASA bioreactor.

[8] McPherson, ''Macromolecular Crystal Growth in Microgravity'' in *Crystallography Reviews*, Vol. 6, No. 2, 1996, 157–308).

Ms. MIKULSKI. Mr. President, as the ranking member of the VA–HUD Committee, of which NASA is one of our key agencies, I thank the Senator from Ohio for his detailed speech about what NASA is doing, not only today, but what it will do tomorrow. I believe the Senator, by talking about the exciting projects that we have, many of which have originated from the work at the Johnson space station, in the Presiding Officer's home State, the work in the area of health care. I visited these programs, know the merit they have, particularly in cancer research, tumor research, the issues outlined by the Senator from Ohio.

Also, in 1992, NASA and NIH signed a joint memorandum of agreement on how they can work together to maximize the research being done by the space agency, along with NIH, on issues related particularly to cancer and to issues related to women's health. Issues like osteoporosis, the same kinds of problems that the astronauts face being in orbit, are what many face, particularly we women on Earth. We lose bone density.

There has been a lot of joint effort and a lot of joint agreement. I think the Senator made a very valuable contribution and I thank him for his remarks.

Sometimes for those of us who seek funding for NASA, it sounds self-serving, that we would tout, pull out an item or two. But when Senator JOHN GLENN, an astronaut-Senator, speaks to it, I think the whole world listens.

We thank him for his comments and his contribution to the Senate and to the American space program.

I yield the floor.

Mr. BOND. I join my distinguished colleague from Maryland in thanking our friend from Ohio. No one in this body speaks with more knowledge and expertise on space issues than Senator JOHN GLENN. To hear him talk about the exciting things that are happening in space, science and medical advances, it truly is remarkable. It gives one a sense of what we can accomplish with the investments we make.

This is extremely helpful, as we go into the debate, because these are very tight budget times. We have taken a step of assuring that money is available for space, for investment in our future by the exploration not just of space but of the scientific discoveries that can come from utilizing the space station.

I thank him first as one who is interested in science. I envy his background and his knowledge. I appreciate very much his description of the exciting things that can come from space exploration, not just for those of us who are worrying about the funny-named rocks on Mars but those who want to see concrete and specific medical advances here today.

Mr. GLENN. We have in room S. 211, for the information of Senators or their staffs, a panoramic view that has been put together by NASA of Mars as taken from the Pathfinder. A full-sized model is out there for people to look at. It is intriguing. It is so tiny you cannot believe it is sending all this information back to us on Earth.

We invite staffs or Senators when they come over for a vote which starts at 5:15 to stop in and look at it. It is very worthwhile and gives a different concept than just seeing the pictures on TV.

I yield the floor.

Mr. BOND. I had my picture taken with the Sojourner. I thought it was quite coincidental that the Sojourner model showed up today. Timing is everything.

I urge my colleagues who are interested in this space exploration to look at the panoramic view to see how the Sojourner operates.

I see my colleague from Texas is anxious to speak. I yield the floor.

The PRESIDING OFFICER (Mr. DEWINE). The Senator from Texas.

Mrs. HUTCHISON. Mr. President, I want to say it was a pleasure for me to hear the Senator from Ohio talk about this very important subject. I am

proud the Senator from Ohio was once my constituent when he made the historic trip into space—that was really the beginning of our space program—and made us all so proud that we really could conquer space. What we have learned and what we have done for quality of life and for health research since his first foray into space has been, perhaps, more than even he could have dreamed would happen.

I am very proud he is a supporter of the space station and the NASA Program and knows that what he did in the beginning is certainly not the end and certainly, I hope, we can continue the legacy that he has left for us.

Mr. BOND. Mr. President, I believe the leader is going to be here shortly to discuss the voting schedule for tonight. I know votes were scheduled to begin at 5:15, but pending the arrival of the majority leader, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. STEVENS. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

TREASURY AND GENERAL GOVERNMENT APPROPRIATIONS ACT, 1998

The Senate resumed consideration of the bill.

The PRESIDING OFFICER. The Senate will now resume consideration of S. 1023, the Treasury-Postal Service bill.

The clerk will state the bill by title.

The assistant legislative clerk read as follows:

A bill (S. 1023) making appropriations for the Treasury Department, the U.S. Postal Service, the Executive Office of the President, and certain Independent Agencies, for the fiscal year ending September 30, 1998, and for other purposes.

Pending:

Campbell (for DeWine) amendment No. 936, to prohibit the use of funds to pay for an abortion or pay for the administrative expenses in connection with certain health plans that provide coverage for abortions.

Kohl (for Bingaman) amendment No. 937, to strike provisions prohibiting the use of appropriated funds for the sole source procurement of energy conservation measures.

Campbell (for Coverdell-Feinstein) amendment No. 940, to provide that Federal employees convicted of certain bribery and drug-related crimes shall be separated from service.

Campbell (for Coverdell) amendment No. 941, to require a plan for the coordination and consolidation of the counterdrug intelligence centers and activities of the United States.

Campbell (for Hatch) amendment No. 942, to provide for a national media campaign focused on preventing youth drug abuse.

Hutchison amendment No. 943, to establish parity among the countries that are parties to the North American Free Trade Agreement with respect to the personal allowance for duty-free merchandise purchased abroad by returning residents.

UNANIMOUS CONSENT-AGREEMENT

Mr. STEVENS. Mr. President, I ask unanimous consent that the rollcalls not take place as ordered.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. STEVENS. For the information of all Senators, a number of votes were scheduled to occur beginning at 5:15 today. Over the weekend, and most of today, the managers of the Treasury appropriations bill have been working to resolve those outstanding amendments, and it now appears that the Campbell amendment offered on behalf of Senator DEWINE regarding abortion funds and passage are the only remaining votes that need to occur with respect to the Treasury Appropriations bill. There may also be a Bingaman amendment, but we are not clear about that yet.

As many Members are aware, the U.S.S. *Constitution* made its maiden voyage as a refurbished symbol of America's proud past today on the waters off Massachusetts. However, the ceremonies surrounding this event were delayed. Consequently, several of our Members will not be returning in time for the vote.

Therefore, on behalf of the majority leader, I ask unanimous consent that the rollcall votes scheduled to occur today now be postponed to begin at 10 a.m. on Tuesday, July 22. Obviously, needless to say, there will be no rollcall votes that will occur in today's session, but there will be some further matters.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. STEVENS. Mr. President, I yield the floor.

DATA ACCESS

Mr. NICKLES. Mr. President, before this body passes the Treasury and general government appropriation bill for fiscal year 1998, I would like to raise an important issue concerning how the Government develops policies and regulations. The issue is the public's right to have access to the data that is produced from Government funded studies and used to support regulatory rulemakings. As you may know, the Federal Government does not have a standardized process for making research data available for independent review. Often the public is forced to comply with costly regulations without the assurance that the data underlying the rules has been made available for independent scientific evaluation. If the Government is going to force the public to comply with its rules, the public must have confidence that the rules are based on sound science. Similarly, if the Government is going to provide funding for research, the public should be able to access the data that is produced from such research. Unfortunately, the Government does not have a disclosure policy on research data. I believe this undermines the scientific basis of our rulemaking and erodes the public's confidence in the Government's regulatory development process. I would like to ask my colleague from Colorado, the chairman of the Treasury and General Government Appropriations Subcommittee, if he would be willing to work with me to correct this problem.

Mr. CAMPBELL. I thank my colleague from Oklahoma for raising this important issue. The fact that this data is not now made available only adds to the public's mistrust of Government. I look forward to working with you to develop an appropriate solution.

Mr. NICKLES. I thank the Senator for his support on this issue.

NEWPORT, IRS HIRING WAIVER

Mr. LEAHY. Mr. President, I would like to seek clarification on report language which the subcommittee was good enough to include in the Treasury and general government appropriations bill. That report language urges the Internal Revenue Service to approve a waiver from internal hiring requirements for the Newport IRS office if a planned reduction in force [RIF] does not result in those positions being filled.

The Newport IRS office is one of two national centers that process SS 8 forms and has earned a high reputation for efficiency and excellence. To handle its increased responsibilities, the office has been trying to fill a number of lower level positions ranging from GS 3–5. Current IRS regulations require that these positions be filled internally. While Newport is a beautiful Vermont town, it is also extremely remote, and the office has been unable to fill such low-level positions from within the existing IRS personnel. These new personnel are needed to continue Newport's exemplary record in processing SS 8 forms.

The committee report also includes a provision, which I strongly support, directing the IRS to continue to delay its planned field reduction in force until it submits another report to Congress with a detailed plan on how the IRS will ensure adequate taxpayer service in the future, especially in rural areas. I share the concerns outlined in the committee report about how taxpayer service will be affected by the planned reorganization, especially in rural areas like Vermont. As a result of this language, the RIF which IRS had planned for July 7 will not be going forward. My understanding is that in the absence of this RIF, the committee intends for IRS to move forward immediately with its approval for the Newport hiring waiver. Is that correct?

Mr. CAMPBELL. Mr. President, the Senator from Vermont is correct. The Senate report clearly states that if the July RIF did not address the employment shortage at the Newport IRS office, that the Service should move forward with the waiver. Because that RIF will be delayed for some time, IRS should move forward immediately with the Newport hiring waiver.

Mr. LEAHY. I thank the Senator from Colorado, and I appreciate his clarification of this language.