Mr. LOTT. Madam President, I ask unanimous consent that the cloture vote scheduled to occur today now occur at a day and time to be determined by the majority leader after notification of the minority leader.

The PRESIDING OFFICER. Without

objection, it is so ordered.

Mr. LOTT. Madam President, I further ask unanimous consent that all first-degree amendments, as provided under rule XXII, now be filed up to 4 hours following the cloture vote and second-degree amendments to be filed within 24 hours after the cloture vote.

The PRESIDING OFFICER. Without

objection, it is so ordered.

Mr. LOTT. Now, to explain briefly just what we have done, and it is with the concurrence of the Democratic leader and the managers of the legislation. I do feel that we should get cloture. We should begin to move toward a defined list of amendments and try to bring this very important legislation to a conclusion.

But the biggest complicating factor we have right now is that the titles from the Banking Committee and Finance Committee have not been offered and have not been adopted. I hope now that the two chairmen of those committees will be prepared, later on today or tomorrow, to have those titles included and will give the managers more time to work with Senators who still have some questions that need to be answered. So it seemed, after talking with Senator DASCHLE, Senator BAUCUS, and Senator CHAFEE that it was the proper thing to do at this time.

But let me say, again, we need to begin to think about what are the important amendments; how do we bring this matter to a conclusion. I had indicated last week that it might be necessary, if we cannot find some way to begin to bring it to a close by Wednesday, for us to begin to think about Thursday, Friday, Saturday, and Sunday sessions. I know that a lot of Senators have conflicts and would prefer that we not do it that way. But we will need everybody's cooperation in order to avoid that.

This is Monday. I have faith that we are going to make progress this afternoon and tomorrow. And we will do another assessment then about exactly when we have this cloture vote. I remind Senators that we do have a recorded vote scheduled at 5:30, after 20 minutes of debate on the Intelligence Disclosure Act

I yield the floor, Madam President. Mr. BAUCUS addressed the Chair.

The PRESIDING OFFICER. The Sen-

ator from Montana.

Mr. BAUCUS. I thank the majority leader for his efforts in helping us move this bill very expeditiously. He very graciously decided to vitiate the cloture vote that was otherwise scheduled today in an effort to speed up the passage of a couple of the titles of the bill, particularly the Finance and the Banking Committee portions.

I pledge my cooperation—I know I speak for Senator CHAFEE—in trying to

work this bill through as quickly as we possibly can because we have to get this thing enacted into law—the current extension expires—so people—

Mr. LOTT. The first of May.

Mr. BAUCUS. Right—can get their dollars spent on the highway programs. I yield the floor and suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative 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. HAGEL). Without objection, it is so or-

dered.

Mr. SHELBY. Mr. President, what is the pending business?

# CLASSIFIED AND RELATED INFORMATION DISCLOSURE ACT

The PRESIDING OFFICER. Under the previous order, the Senate will now proceed to the consideration of S. 1668, which the clerk will report.

The legislative clerk read as follows:

A bill (S. 1668) to encourage the disclosure to Congress of certain classified and related information.

The Senate proceeded to consider the bill.

The PRESIDING OFFICER. There will now be 20 minutes of debate on the bill, equally divided, with no amendments or motions in order.

The Senator from Alabama is recognized.

Mr. SHELBY. Mr. President, I rise today to urge my colleagues to support the passage of S. 1668, the Disclosure to Congress Act of 1998.

This legislation directs the President to inform employees of the intelligence community that they may disclose information, including classified information, to an appropriate oversight committee of Congress when that information is evidence of misconduct, fraud, or gross mismanagement.

The committee is hopeful that this legislation will also encourage employees within the intelligence community to bring such information to an appropriate committee of Congress rather than unlawfully disclosing such information to the media, as happens from time to time.

It is imperative that individuals with sensitive or classified information about misconduct within the executive branch have a "safe harbor" for disclosure where they know the information will be properly safeguarded and thoroughly investigated.

Further, employees within the intelligence community must know that they may seek shelter in that "safe harbor" without fear of retribution.

It is not generally known that the Whistle Blower Protection Act does not cover employees of the agencies within the intelligence community.

The whistle blower statute also expressly proscribes the disclosure of in-

formation that is specifically required by Executive order to be kept secret in the interest of national defense or the conduct of foreign affairs.

In other words, classified information is not covered by the current whistle

blower statute.

Therefore, employees within the intelligence community are not protected from adverse personnel actions if they choose to disclose such information to Congress.

In fact, an employee who discloses classified information to Congress without prior approval is specifically subject to sanctions which may include reprimand, termination of a security clearance, suspension without pay, or removal.

Last year, the Senate Select Committee on Intelligence reported the Intelligence Authorization Act for Fiscal Year 1998 which included section 306, a provision with language similar to the bill before you.

Section 306, however, was much broader than the language in this bill because it directed the President to inform all executive branch employees that it would not be contrary to law, regulation, executive order, or public policy to disclose certain information, including classified information, to an appropriate committee or their own Member of Congress.

The Senate passed that bill by a vote

of 98 to 1.

Shortly after the Senate vote, the administration issued a Statement of Administration Policy claiming that section 306 was unconstitutional and that if it remained in the bill, in its present form, senior advisers would recommend that the President veto the bill.

Last year, in conference, members of the House Permanent Select Committee on Intelligence also expressed concern over the constitutional implications of section 306.

Our House colleagues were also mindful of the administration's veto threat as expressed in the Statement of Administration Policy.

In response to their concerns, the Senate offered an amendment that significantly narrowed the scope of the provision to cover only employees of agencies within the intelligence community, as does this bill.

The amendment offered in conference further narrowed the provision by allowing disclosure only to committees with primary jurisdiction over the agency involved.

In deference to our colleagues' concerns, however, our committee agreed to amend the provision to express a sense of the Congress that the Congress and executive branch have equal standing to receive this type of information.

In conference, members of both committees committed to hold hearings in the second session of the 105th Congress with the intent to fully examine the constitutional implications to such legislation and to pursue appropriate legislative remedy.

Our committee fulfilled our obligation by holding hearings on February 4

and 11.

The committee heard from constitutional scholars and legal experts on both sides of the issue.

An administration representative argued that section 306 and any similar language represents an unconstitutional infringement on the President's authority as Commander in Chief and Chief Executive.

The administration asserted the following:

The President as Commander in Chief, Chief Executive, and sole organ of the Nation in its external relations has ultimate and unimpeded authority over the collection, retention, and dissemination of intelligence and other national security information.

Therefore, any congressional enactment that may be interpreted to divest the President of his ultimate control over national security information is an unconstitutional usurpation of the exclusive authority of the Executive.

Finally, the Administration argues that the Senate's language vests lower-ranking personnel in the Executive Branch with a "right" to furnish such information to a Member of Congress without prior official authorization from the President or his designee. Section 306 and any similar provision is, therefore, unconstitutional.

The committee also heard from constitutional scholars that argued that the President's authority in this area is not exclusive.

Hence, Congress also has the authority to regulate the collection, retention, and dissemination of national security information.

Their argument was as follows:

A claim of exclusive authority must be substantiated by an explicit textual grant of such authority by the Constitution.

There is no express constitutional language regarding the regulation of national security information as it pertains to the President.

Therefore, the President's authority to regulate national security information is an implied authority flowing from his responsibilities as Commander in Chief and Chief Executive.

As the regulation of national security information is implicit in the command authority of the President, if is equally implicit in the broad array of national security authorities vested in the Congress by the Constitution. In fact, Congress has legislated extensively over a long period of time to require the President to provide such information to Congress.

Therefore, Congress may legislate in this area because the Executive and Legislative Branches share constitutional authority to regulate national security information.

This legislation is also constitutional because it does not prevent the President from accomplishing his constitutionally assigned functions and any intrusion upon his authority is justified by an overriding need to promote objectives within the constitutional authority of Congress.

The committee found the latter argument to be persuasive and determined that the Administration's intransigence on this issue compelled the committee to act.

The bill before you is a modified version of section 306, but still directs the President to inform employees and contractors of the covered agencies that it is not prohibited by law, executive order, or regulation to disclose to

the appropriate committee, information that the employee reasonably believes to provide direct and specific evidence of, one, a violation of any law, rule, or regulation; two, a false statement to Congress on an issue of material fact; three, gross mismanagement, a gross waste of funds, a flagrant abuse of authority, or a substantial and specific danger to public health or safety.

This bill is intended to ensure that members receive information only in their capacity as a member of the committee concerned.

The committee fully appreciates the need to protect national security information, particularly information that might reveal sensitive intelligence sources and methods.

Therefore, it is critical that classified information received by a member of one of the appropriate committees be protected in accordance with that particular committee's rules.

The Intelligence Committee, for example, must follow a very strict procedure before any classified information could be disclosed to the public.

Accordingly, a member is not free to accept classified information as a member of a committee unrestrained by such rules or to withhold knowledge of the information from the committee's leadership.

When individual Members are entrusted with classified information, they may not pick and choose what role they wish to play in an attempt to circumvent their responsibility to safeguard our nation's secrets. We cannot disregard our obligations, under Senate rules, in order to serve our own political interests.

If a Senator is not a member of one of the applicable committees and is approached by an employee from the intelligence community, it is the hope of the Intelligence Committee that the member would direct the employee to the appropriate committee so that the employee would enjoy the full protection of this legislation.

The various national security committees enjoy a long history of trust with the executive branch and this bill is intended to prevent a member or members from inadvertently or intentionally spoiling that record.

This bill further directs the President to inform such employees that members of the appropriate committees have a "need to know" and are authorized to receive such information.

This language is consistent with the argument propounded by the administration in a brief that it filed in the Supreme Court in 1989, namely that

... the president has uniformly limited access to classified information to persons who have a need to know the particular information, such as a congressional committee having specific jurisdiction over the subject matter.

There is no question that the appropriate committees need this type of information to effectively perform their oversight responsibilities and the administration seems to agree that these

committees have a "need to know." Our only disagreement is over the means by which this type of information is brought to the attention of Congress.

In accordance with Executive Order No. 12,958, classified information must remain under the control of the originating agency and it may not be disseminated without proper authorization.

Consequently, an executive branch employee may not disclose classified information to Congress without prior approval. In fact, employees are advised that the agency will provide "access as is necessary for Congress to perform its legislative functions. . ."

In other words, an executive agency will decide what Members of Congress may need to know to perform their constitutional oversight functions.

We believe that Members of Congress are best positioned to decide what they need to know.

If an employee must secure prior authorization before they can bring evidence of wrongdoing to an appropriate committee, we may never get the opportunity to make that assessment.

Therefore, this legislation is critical if we are to effectively discharge our constitutional obligations.

I urge my colleagues to support this bill as they did last year and send a clear message to the President that the United States Congress will not be subject to the whims of a Chief Executive that may wish to withhold evidence of wrongdoing in the name of national security.

Mr. President, before I yield the floor, I send to the desk a Congressional Budget Office cost estimate for S. 1668, and I ask unanimous consent that it be printed in the RECORD.

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

# S. 1668

A BILL TO ENCOURAGE THE DISCLOSURE TO CONGRESS OF CERTAIN CLASSIFIED AND RELATED INFORMATION—AS REPORTED BY THE SENATE SELECT COMMITTEE ON INTELLIGENCE ON FEBRUARY 23, 1998

The bill would require the President to inform certain federal employees and contract employees that they may disclose classified and unclassified information to Congressional oversight committees if they believe the information provides direct and specific evidence of wrongdoing. CBO estimates that the costs of implementing S. 1668 would not be significant because the number of employees covered by the bill would be small and the cost associated with each notice would be minimal. Because the legislation would not affect direct spending or receipts, pay-as-you-go procedures would not apply.

The bill contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act of 1995, and would not affect the budget of state, local, or tribal governments.

The CBO staff contact for this estimate is Dawn Sauter, who can be reached at 226–2840. This estimate was approved by Robert A. Sunshine, Deputy Assistant Director for Budget Analysis.

Mr. KERREY addressed the Chair.

The PRESIDING OFFICER. The Senator from Nebraska is recognized.

Mr. KERREY. Mr. President, I rise in strong support of S. 1668, a bill to require the President to inform Executive Branch employees it is legal for them to bring information to Congress regarding wrongdoing, even if the information has been classified by an Executive Branch official.

Some of my colleagues may be surprised that the Intelligence Committee, which reported this bill after long discussion and study, finds such legislation necessary. Members are aware that the principle of a government employee's right to directly inform Congress has been in statute for eighty six years, and was reinforced in this decade by the Whistleblower Protection Act. What may be less well known is that the Whistleblower Protection Act specifically exempts the principal agencies of the Intelligence Community from the requirements of that law. In addition, successive administrations have held that where classified information of wrongdoing is concerned, Executive Branch officials will decide what portion of the information will be shared with Congress, and how, when, and with whom in Congress it will be shared. The Administration believes the control of classified information lies solely with the President and his designees. They base this belief on the President's role as Commander in Chief

In current practice, an employee of the Executive Branch with classified information about wrongdoing has the option of informing his or her superior, or the inspector general of the department or agency. The employee also has the option of making a report to the Attorney General. In my view, this is insufficient. Members, especially those who have served on the Armed Services Committee or the Intelligence Committee, can visualize cases in which the classified information of wrongdoing is so sensitive that an employee will fear to take any of the avenues now available. He or she may fear for their career if they inform their boss or their Inspector General prior to informing Congress. In some rare circumstances they might even fear for their safety. Yet today such employees have no other legal recourse.

The ability of government employees to bring information to Congress should be our first concern in this matter. But we should also be concerned about the rights of Congress and the ability of Congress to do the job the Constitution requires. Congress also has important national security re-

sponsibilities.

Congress, not the President, raises armies and maintains navies. Congress, not the President, calls out the militia. Congress, not the President, declares war. Congress therefore has the right to national security information, and in fact Congressional committees in the national security and foreign policy fields have been successfully work-

ing with and storing this information for many years. In addition, Congress' annual responsibility to authorize and appropriate funds for national security and foreign policy purposes, and its continuing responsibility to oversee how those funds are spent, gives Congress a need to know which justifies its access to information. For these reasons, the Administration's arguments for their exclusive control over classified information ring hollow. I should add that according to CIA Director Tenet, Congress does a better job keeping the secrets entrusted to it than does the Executive Branch. So an argument that Congress should not be trusted with sensitive information is haseless

Mr. President, I recognize the Administration argument is based on a requirement, as they see it, to defend Presidential prerogatives. In fact, the Clinton Administration has been more open in informing Congress on intelligence matters, including instances of wrongdoing, than any of its predecessors. Some Administration of the future might classify a report to deny Congress the facts, but not this one. So my support for this legislation is not based on concern about a particular Administration. It is based on my concern for the ability of government employees to inform Congress, and on the ability of Congress to play its role in keeping America safe. Given the responsibilities of Congress and its record in keeping classified information secure, there is no reason why whistleblower protection statutes should not also apply to classified information. In voting for this bill, my colleagues are voting for their own right to do their job.

Mr. President, I yield such time as is necessary to the Senator from New Jersey.

The PRESIDING OFFICER. The Senator from New Jersey is recognized.

Mr. TORRICELLI. Mr. President, I thank the Senator from Nebraska for

yielding.

Mr. President, there is nothing more fundamental to a democratic government than the oversight of executive responsibility by the Congress. It is, indeed, the essence of an accountability of power that this Congress has access to information and the people who hold it. That exercise of congressional power requires the truthful testimony of personnel in the executive branch of the Government. In no area is this more important than in issues of national security, because, ultimately, it is this Congress that holds the power of war and peace and the responsibility to raise funds for the national defense. But in recent decades, the intelligence agencies of this Government have become the exception in this accountability of power—an exception by statute in the Whistle Blower Protection Act and, perhaps more fundamentally, by the culture of governance in the Government itself

Tragically, one of the best examples was a former assistant in the Latin American Bureau of the State Department, Richard Nuccio, who came to me, as a Member of the House of Representatives, to report what he believed to be illegal activity. At the time, I served as a member of the Intelligence Committee of the House of Representatives. What Mr. Nuccio imparted to me was criminal conduct. Information that, by statute, was to be reported to the Intelligence Committee had been omitted. In the months and years that followed, the President of the United States expressed outrage. The Central Intelligence Agency conducted an investigation and the rules were changed. Mr. Nuccio paid a price with his intelligence clearance, and ultimately with his career. It appeared that no real lesson had been learned at

Last year Senator SHELBY and Senator KERREY provided real protection to executive employees if they come to this Congress with the truth. I have rarely been prouder of two Members of this institution, nor more disappointed in the President of the United States. He threatened to veto the change.

Mr. President, I rise because I am extremely grateful to Senator SHELBY and Senator KERREY for their leadership. Indeed, they were joined by all 19 members of the committee. As a result. I believe that the intelligence community not only will not be weakened, but it will be strengthened. The best protection against abuse of their authority or, indeed, violations of the law, is the knowledge that Federal employees will be protected if they come to this Congress to report such activities.

The occurrence of illegal acts will not be concealed by classifying them or by carefully omitting them in a notification requirement of this Congress.

The best means I know is assuring the intelligence community that it retains the confidence of this Congress and our people.

This legislation is a real contribution to this Congress. Mostly it is a real contribution to the accountability of power that is so important in our democratic system.

Mr. President, I yield the floor.

Mr. SHELBY. Mr. President, how much time remains on our side?

The PRESIDING OFFICER. The Senator from Alabama has 3 minutes 30 seconds.

Mr. SHELBY. How much time remains for the other side?

The PRESIDING OFFICER. The Senator from Nebraska has 1 minute 8 sec-

Mr. SHELBY. Mr. President, I yield our time, and I understand the Senator from Nebraska does also.

Mr. KERREY. Mr. President, I ask unanimous consent to yield the remainder of my time.

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

Mr. SHELBY. Mr. President, I ask for the yeas and navs.

The PRESIDING OFFICER. Is there a sufficient second?

There is a sufficient second.

The yeas and nays were ordered.

The PRESIDING OFFICER. The question is on the engrossment and third reading of the bill.

The bill was ordered to be engrossed for a third reading and was read the third time.

The PRESIDING OFFICER. The bill having been read the third time, the question is, Shall the bill pass? On this question, the yeas and nays have been ordered, and the clerk will call the roll.

The assistant legislative clerk called the role

Mr. NICKLES. I announce that the Senator from Indiana (Mr. COATS) is necessarily absent.

Mr. FORD. I announce that the Senator from California (Mrs. BOXER), the Senator from Illinois (Mr. DURBIN), the Senator from Ohio (Mr. GLENN), and the Senator from Oregon (Mr. WYDEN) are necessarily absent.

I further announce that the Senator from Vermont (Mr. Leahy) is absent on official business.

The PRESIDING OFFICER. Are there any other Senators in the Chamber who desire to vote?

The result was announced—yeas 93, nays 1, as follows:

#### [Rollcall Vote No. 24 Leg.]

#### YEAS-93

| Abraham   | Feinstein  | Lugar         |
|-----------|------------|---------------|
| Akaka     | Ford       | Mack          |
| Allard    | Frist      | McCain        |
| Ashcroft  | Gorton     | McConnell     |
| Baucus    | Graham     | Mikulski      |
| Bennett   | Gramm      | Moseley-Braur |
| Biden     | Grams      | Moynihan      |
| Bingaman  | Grassley   | Murkowski     |
| Bond      | Gregg      | Murray        |
| Breaux    | Hagel      | Nickles       |
| Brownback | Harkin     | Reed          |
| Bryan     | Hatch      | Reid          |
| Bumpers   | Helms      | Robb          |
| Burns     | Hollings   | Roberts       |
| Byrd      | Hutchinson | Rockefeller   |
| Campbell  | Hutchison  | Roth          |
| Chafee    | Inhofe     | Santorum      |
| Cochran   | Inouye     | Sarbanes      |
| Collins   | Jeffords   | Sessions      |
| Conrad    | Johnson    | Shelby        |
| Coverdell | Kempthorne | Smith (NH)    |
| Craig     | Kennedy    | Smith (OR)    |
| D'Amato   | Kerrey     | Snowe         |
| Daschle   | Kerry      | Specter       |
| DeWine    | Kohl       | Stevens       |
| Dodd      | Kyl        | Thomas        |
| Domenici  | Landrieu   | Thompson      |
| Dorgan    | Lautenberg | Thurmond      |
| Enzi      | Levin      | Torricelli    |
| Faircloth | Lieberman  | Warner        |
| Feingold  | Lott       | Wellstone     |

## NAYS-1

Cleland

### NOT VOTING-6

Boxer Durbin Leahy Coats Glenn Wyden

The bill (S. 1668) was passed, as follows:

#### S. 1668

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

# SECTION 1. ENCOURAGEMENT OF DISCLOSURE OF CERTAIN INFORMATION TO CONGRESS.

(a) ENCOURAGEMENT.-

(1) IN GENERAL.—Not later than 30 days after the date of enactment of this Act, the President shall take appropriate actions to inform the employees of the covered agen-

cies, and employees of contractors carrying out activities under classified contracts with covered agencies, that—

(A) except as provided in paragraph (4), the disclosure of information described in paragraph (2) to the individuals referred to in paragraph (3) is not prohibited by law, executive order, or regulation or otherwise contrary to public policy;

(B) the individuals referred to in paragraph (3) are presumed to have a need to know and to be authorized to receive such information; and

- (C) the individuals referred to in paragraph (3) may receive information so disclosed only in their capacity as members of the committees concerned.
- (2) COVERED INFORMATION.—Paragraph (1) applies to information, including classified information, that an employee reasonably believes to provide direct and specific evidence of—
- (A) a violation of any law, rule, or regulation;
- (B) a false statement to Congress on an issue of material fact; or
- (C) gross mismanagement, a gross waste of funds, a flagrant abuse of authority, or a substantial and specific danger to public health or safety.
- (3) COVERED INDIVIDUALS.—The individuals to whom information described in paragraph (2) may be disclosed are the members of a committee of Congress having as its primary responsibility the oversight of a department, agency, or element of the Federal Government to which such information relates.
- (4) SCOPE.—Paragraph (1)(A) does not apply to information otherwise described in paragraph (2) if the disclosure of the information is prohibited by Rule 6(e) of the Federal Rules of Criminal Procedure.
- (b) REPORT.—Not later than 60 days after the date of enactment of this Act, the President shall submit to Congress a report on the actions taken under subsection (a).
- (c) CONSTRUCTION WITH OTHER REPORTING REQUIREMENTS.—Nothing in this section may be construed to modify, alter, or otherwise affect any reporting requirement relating to intelligence activities that arises under the National Security Act of 1947 (50 U.S.C. 401 et seq.) or any other provision of law.
- (d) COVERED AGENCIES DEFINED.—In this section, the term ''covered agencies'' means the following:
- (1) The Central Intelligence Agency.
- (2) The Defense Intelligence Agency.
- (3) The National Imagery and Mapping Agency.
- (4) The National Security Agency.
- (5) The Federal Bureau of Investigation.
- (6) Any other Executive agency, or element or unit thereof, determined by the President under section 2302(a)(2)(C)(ii) of title 5, United States Code, to have as its principal function the conduct of foreign intelligence or counterintelligence activities.

Mr. SHELBY. Mr. President, I move to reconsider the vote.

Mr. LOTT. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

Mr. DOMENICI addressed the Chair.

The PRESIDING OFFICER. The Senator from New Mexico.

Mr. DOMENICI. Is it in order for me to proceed for 2 minutes as in morning business?

The PRESIDING OFFICER (Mrs. HUTCHISON). Without objection, it is so ordered.

CONGRATULATING DR. BILL FELD-MAN, THE NASA TEAM AND LOS ALAMOS NATIONAL LABORA-TORY

Mr. DOMENICI. Madam President. last Friday, the front page of the Washington Post discussed solid new evidence for water at the poles of the Moon. That news may have great implications for future lunar colonies. With costs around \$10,000 per pound just to put material in orbit around the earth, this discovery could tremendously reduce costs for future manned lunar bases. Future lunar camps may be able to extract their water supplies, rather than hauling water with them. The whole NASA team deserves many compliments for their efforts leading up to this exciting news.

I want to commend to your attention the role that New Mexico's Los Alamos National Laboratory, in partnership with the Southwest Research Institute, played in this momentous announcement. Los Alamos designed the neutron spectrometer aboard the Lunar Prospector that enabled these exciting measurements.

The neutrons studied by the instrument come from natural cosmic rays that constantly bathe the moon. The neutrons are then slowed by interactions with hydrogen in water. The spectrometer detects the energy of neutrons leaving the lunar surface.

The complexity of designing instrumentation and actually obtaining the data for a mission like this is immense. For Lunar Prospector, the instrumentation not only had to survive launch, but also the four and a half day trip to the moon, and the insertion into lunar orbit

Bill Feldman is the Los Alamos project leader for the Los Alamos instrumentation package. Feldman has experienced both the ecstasy of a successful mission and the agony of a failed one. He had instrumentation for mapping Martian water on the failed Mars Observer mission in 1993.

The neutron spectrometer used for this mission builds on a 35 year history at Los Alamos of designing instruments for non-proliferation programs. Feldman's work on neutron spectrometers in space traces back to the Army Background Experiment, that he helped conduct in 1990, that measured the energies of neutrons encountered in orbit.

For events like the Mars Observer or the Lunar Prospector, the team has to find ways to carefully check out their instruments. Sometimes those approaches are almost as daunting as the actual mission. For example, Feldman and his colleagues traveled to Antarctica where they took more than a ton of dirt and a detection package about 19 miles high on a balloon to see how cosmic rays would interact with the materials to provide practice for later real observations.

Secretary of Energy Peña sent a nice note to Dr. Feldman and his team that I will read: