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109TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
1st Session } { 109–158

GEORGE E. BROWN, JR. NEAR-EARTH OBJECT SURVEY ACT

JUNE 27, 2005.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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Mr. BOEHLERT, from the Committee on Science, submitted the following

R E P O R T

[To accompany H.R. 1022]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, to whom was referred the bill (H.R. 1022) to provide for a Near-Earth Object Survey program to detect, track, catalogue, and characterize certain near-earth asteroids and comets, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

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I. Purpose of the Bill

The purpose of the bill is to authorize the Administrator of the National Space and Aeronautics Administration (NASA) to establish a Near-Earth Object Survey Program to detect, track, catalogue, and characterize certain near-Earth asteroids and comets.

II. Background and Need for the Legislation

Near-Earth objects pose a serious and credible threat. Recent press accounts of asteroids passing close to the Earth have raised public awareness of the possibility that a near-Earth object could one day hit the Earth with potentially catastrophic consequences. The monitoring and tracking of near-Earth objects will provide advanced warning of potential threats to the Earth, as well as promote advances in the field of astronomy.

III. Summary of Hearings

On October 3, 2002, the Subcommittee on Space and Aeronautics held a hearing to examine the status of nearby and potentially hazardous asteroids and comets known as near-Earth objects ("NEOs"). Witnesses included: Dr. Edward Weiler, NASA Associate Administrator for Space Science; Dr. David Morrison, Senior Scientist, NASA Ames Research Center; Brigadier General Simon "Pete" Worden, U.S. Air Force; Dr. Brian Marsden, Director, Minor Planet Center, Smithsonian Astrophysical Observatory; and Dr. Joseph Burns, Irving Porter Church Professor of Engineering and Astronomy, Cornell University.

The hearing addressed the risks posed by NEOs, the status of the current U.S. survey effort for NEOs, recommendations for extending current survey goals to include smaller, more numerous objects, and the challenges of data management. The hearing also examined NASA's current goal of identifying and tracking 90 percent of near-Earth asteroids larger than one kilometer in size by 2008. In addition, the hearing explored the question of next steps beyond this survey goal, including the costs, benefits, and technical challenges of extending the survey to include smaller, yet still potentially very hazardous, objects. Agency roles and interagency cooperation in the NEO survey effort were discussed, as well. Finally, the hearing addressed the role of amateur astronomers in this effort.

Dr. Morrison testified on the threat of collisions with asteroids and comets. He stated that the greatest risk today is not from objects large enough to cause global extinctions (such as is believed to have caused the extinction of the dinosaurs), but rather from objects large enough to perturb the Earth's climate on a global scale by injecting large quantities of dust into the stratosphere. Objects of about one kilometer in size pose such a threat and are thus the target of the current survey for NEOs. He stated that the next logical goal is to search for objects that could kill millions of people upon impact. Objects 200–300 meters in diameter, for example, pose the greatest tsunami danger. Dr. Morrison emphasized that the goal of the current survey is not to find objects on their final plunge toward Earth, but rather to identify objects in nearby orbits for future monitoring.

Dr. Ed Weiler testified about progress of NASA's current ground-based survey for NEOs, given the current goal of identifying 90 percent of near-Earth asteroids larger than one kilometer in size by 2008. Dr. Weiler stated that there are estimated to be about 1,000 such asteroids, and that the six groups currently funded by NASA for such research have together discovered over 600 objects and are ahead of the predicted schedule. Thus, it is likely that the 2008 goal will be reached. As for extending the survey goal to comprehensively include objects smaller than one kilometer in size, Dr. Weiler felt that to pursue such a goal would be premature. Dr. Weiler stated that if such an extended survey effort were conducted from the ground, then NASA should not play a part in the survey effort because NASA is primarily an agency for space-based missions. He stated that NASA's role is better suited for detailed study of particular asteroids and comets, such as the NEAR-Shoemaker mission and the upcoming DAWN, Deep Impact, and Stardust missions. He also stated that new technology from the Nuclear Systems Initiative and the In-Space Propulsion Initiative should benefit future missions for detailed studies of asteroids and comets.

Dr. Joseph Burns testified on the recommendations regarding NEOs from the recent National Research Council report entitled "New Frontiers in the Solar System." One of the primary recommendations in the report calls for NASA and the National Science Foundation to contribute equally to the construction and operation of a Large-aperture Synoptic Survey Telescope (LSST), a 6.5-meter-effective-diameter, very wide field telescope that could produce a digital map of the visible sky every week. Dr. Burns stated that the LSST could locate 90 percent of all NEOs down to 300 meters in size, enable computations of their orbits, and permit assessment of their threat to Earth. Dr. Burns testified that NASA should continue to be involved in ground-based NEO surveys even if the survey goals were extended, because of NASA's experience with ground-based telescopes.

Dr. Brian Marsden testified on the management of the data reported daily to the Minor Planet Center of the Smithsonian Astrophysical Observatory regarding asteroids and comets. NEOs comprise less than one percent of the observations of asteroids. Dr. Marsden testified that the Minor Planet Center collects reports from around the world regarding detections of NEOs, other asteroids, and comets, and publishes confirmed detections electronically in the Minor Planet Electronic Circular. Dr. Marsden stated that augmentation of the Minor Planet Center staff is essential if the number of asteroid discoveries continues to increase, as would be expected with an extension of the NEO survey goals to include objects of smaller sizes. Dr. Marsden testified that most follow-up tracking observations of NEOs are made by amateur astronomers. He stated that amateurs also need ready access to electronic equipment to make their work possible. Dr. Marsden testified that attention should also be given to long-period comets, which could pose an even greater risk than asteroids because they are less predictable.

Brig. General Worden testified that the U.S. military is developing sensitive surveillance technologies that could serve in a "dual-use" capacity by contributing to the detection of NEOs. Such technology would augment the current efforts of U.S. military tele-

scopes used by NASA in NEO projects such as LINEAR. Gen. Worden stated that while developing mitigation strategies should be a high priority, the "command and control" structure is even more important, providing timely coordination of mitigation plans. Gen. Worden stated that the U.S. military could serve in such a coordination role. Gen. Worden testified that asteroids explode in the atmosphere roughly once a month (as detected by military surveillance equipment), and that such explosions could be mistaken for a nuclear detonation, sparking an unwarranted international response. He recommended a "clearinghouse" structure for quick worldwide notification when the U.S. military detects such an asteroid impact in the atmosphere.

IV. Committee Actions

On June 9, 2004, Rep. Rohrabacher introduced H.R. 4544, the George E. Brown Near-Earth Object Survey Act, a bill to provide for a NEO Survey program to detect, track, catalogue, and characterize certain near-Earth asteroids and comets. The bill was referred to the Subcommittee on Space and Aeronautics. No further action was taken on the bill during the 108th Congress.

On March 1, 2005, Rep. Rohrabacher introduced H.R. 1022, a bill with the same short title and stated purposes as H.R. 4544. The bill was referred to the Subcommittee on Space and Aeronautics. On May 16, 2005, the Subcommittee on Space and Aeronautics discharged the bill. On May 17, 2005, the Committee on Science considered H.R. 1022. The motion to adopt the bill without amendment was agreed to by voice vote. Ranking Member Gordon moved that the Committee favorably report the bill, H.R. 1022, to the House with the recommendation that the bill as amended do pass and that staff be instructed to make technical and conforming changes to the bill as amended and prepare the legislative report and that the Chairman take all necessary steps to bring the bill before the House for consideration. With a quorum vote present, the motion was agreed to by a voice vote.

V. Summary of Major Provisions of the Amendment

The bill directs the Administrator of NASA to plan, develop, and implement a Near-Earth Object Survey program to detect, track, catalogue, and characterize the physical characteristics of near-Earth asteroids and comets equal to or greater than 100 meters in diameter in order to assess the threat of such near-Earth objects in striking the Earth. The bill amends the National Aeronautics and Space Act of 1958 to include a Congressional declaration that the general welfare and security of the United States require that the unique competence of NASA in science and engineering systems be directed to detecting, tracking, cataloguing, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects impacting the Earth. The bill authorizes to be appropriated $20,000,000 for each of fiscal years 2006 and 2007.

VI. Section-by-Section Analysis

Sec. 1. Short Title. George E. Brown, Jr. Near-Earth Object Survey Act.

Sec. 2. Findings. NEOs pose a serious and credible threat to mankind. The efforts taken to date by NASA for detecting and characterizing the hazards of NEOs are not sufficient to the threat posed by such objects, which can cause widespread destruction and loss of life.

Sec. 3. Definitions.

Sec. 4. Near-Earth Object Survey. Directs the Administrator of NASA to establish a NEO Survey program to detect, track, catalogue, and characterize the physical characteristics of NEOs equal to or greater than 100 meters in diameter in order to assess the threat of such NEOs to the Earth. Amends the National Aeronautics and Space Act of 1958 to include a Congressional declaration that the general welfare and security of the United States require that the unique competence of NASA in science and engineering systems be directed to detecting, tracking, cataloguing, and characterizing NEOs in order to provide warning and mitigation of the potential hazard of such NEOs to the Earth. Requires the Administrator to submit each year for the next five years a report summarizing the activities the Administrator takes with regard to the NEO Survey program and a summary of expenditures, and a plan and budget request for the program. Authorizes $20,000,000 for each of fiscal years 2006 and 2007.

VII. Committee Views

NASA's current NEO survey effort focuses on identifying and tracking near-Earth asteroids larger than one kilometer in size. However, it appears that a credible threat is posed by NEOs of a smaller size. The Committee believes that NASA must begin to track asteroids and comets equal to or greater than 100 meters in diameter that pose a threat to the Earth. The goal of the NEO Survey program is not to find objects on their final plunge toward Earth, but rather to identify objects in nearby orbits for on-going monitoring.

The Committee believes that the term "near-Earth object" should mean an asteroid or comet with a perihelion distance of less than 1.3 Astronomical Units from the Sun.

The Committee believes that it should be the goal of the NEO Survey program to achieve 90 percent completion of its NEO catalogue (based on statistically predicted populations of NEOs) within 15 years of the date of enactment of this Act.

The Committee expects the Administrator to transmit to the Congress within 180 days of the date of enactment of this Act, an initial report that provides the following: (a) an analysis of possible alternatives that the agency may employ to carry out the Survey program, including ground-based and space-based alternatives; and (b) a recommended option; and (c) a proposed budget to carry out the Survey program pursuant to the recommended option.

VIII. Cost Estimate

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the Congressional Budget Act of 1974 has been timely submitted to the Committee on Science prior to the filing of this report and is included in Section X of this report pursuant to House Rule XIII, clause 3(c)(3).

H.R. 1022 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 1022 authorizes additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section X of this report.

IX. Congressional Budget Office Cost Estimate

H.R. 1022—George E. Brown, Jr. Near-Earth Object Survey Act

Summary: H.R. 1022 would authorize the appropriation of $20 million for each of years 2006 and 2007 for the National Aeronautics and Space Administration (NASA) to establish a Near-Earth Object Survey program to detect and track asteroids and comets of 100 meters or greater in diameter that are close to Earth. In addition, the bill would require NASA to summarize the program's activities and to submit a report to the Congress annually over the first five years of the program.

Assuming appropriation of the authorized amounts, CBO estimates that implementing this bill would cost $40 million over the 2006–2010 period. Enacting H.R. 1022 would have no effect on direct spending or revenues.

H.R. 1022 contains no intergovernmental or private-sector mandates as defined by the Unfunded Mandates Reform Act (UMRA) and would not affect the budgets of state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of H.R. 1022 is shown in the following table. For this estimate, CBO assumes that the amounts authorized will be appropriated near the beginning of each fiscal year and that outlays will follow historical patterns for such activities. The costs of this legislation fall within budget function 250 (general science, space, and technology).

	By fiscal year, in millions of dollars—				
	2006	2007	2008	2009	2010
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Authorization Level	20	20	0	0	0
Estimated Outlays	10	19	9	1	1

Intergovernmental and private-sector impact: H.R. 1022 contains no intergovernmental or private-sector mandates as defined by UMRA and would not affect the budgets of state, local, or tribal governments.

Estimate prepared by: Federal Costs: Mike Waters. Impact on State, Local, and Tribal governments: Lisa Ramirez-Branum. Impact on the Private Sector: Craig Cammarata.

Estimate approved by: Peter H. Fontaine, Deputy Assistant Director for Budget Analysis.

X. Compliance With Public Law 104–4

H.R. 1022 contains no unfunded mandates.

XI. Committee Oversight Findings and Recommendations

The Committee on Science's oversight findings and recommendations are reflected in the body of this report.

XII. Statement on General Performance Goals and Objectives

Pursuant to clause 3(c) of House rule XIII, the goals of H.R. 1022 are to establish a NEO Survey program to detect, track, catalogue, and characterize the physical characteristics of NEOs equal to or greater than 100 meters in diameter in order to assess the threat of such NEOs to the Earth.

XIII. Constitutional Authority Statement

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 1022.

XIV. Federal Advisory Committee Statement

H.R. 1022 does not establish or authorize the establishment of any advisory committee.

XV. Congressional Accountability Act

The Committee finds that H.R. 1022 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

XVI. Statement on Preemption of State, Local, or Tribal Law

This legislation is not intended to preempt any state, local, or tribal law.

XVII. Changes in Existing Law Made by the Bill, as Reported

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

SECTION 102 OF THE NATIONAL AERONAUTICS AND SPACE ACT OF 1958

DECLARATION OF POLICY AND PURPOSE

SEC. 102. (a) * * *

* * * * * * *

(g) The Congress declares that the general welfare and security of the United States require that the unique competence of the National Aeronautics and Space Administration in science and engineering systems be directed to detecting, tracking, cataloging, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects impacting the Earth.

[(g)**]** *(h)* It is the purpose of this Act to carry out and effectuate the policies declared in subsections (a), (b), (c), (d), (e), **[**and (f)**]** *(f), and (g)*.

XVIII. COMMITTEE RECOMMENDATIONS

On May 17, 2005, a quorum being present, the Committee on Science favorably reported H.R. 1022, the George E. Brown, Jr. Near-Earth Object Survey Act, by a voice vote, and recommended its enactment.

XIX. PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 1022, GEORGE E. BROWN, JR. NEAR-EARTH OBJECT SURVEY ACT

TUESDAY, MAY 17, 2005

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE,
Washington, DC.

The Committee met, pursuant to call, at 10:08 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Sherwood L. Boehlert [Chairman of the Committee] presiding.

Chairman BOEHLERT. I want to welcome everyone here today for this markup of bills concerning the heavens and the Earth and to the agencies that explore them, NOAA and NASA.

Now let me just say this before I give you the rest of this wonderful statement.

The Committee on Science will come to order. Pursuant to notice, the Committee on Science meets to consider the following measures: H.R. 50, *National Oceanic and Atmospheric Administration Act;* H.R. 2363, *To establish a Science and Technology Scholarship Program to award scholarships to recruit and prepare students for careers in the National Weather Service and in the National Oceanic and Atmospheric Administration marine research, atmospheric research, and satellite programs;* H.R. 426, *Remote Sensing Applications Act of 2005,* and H.R. 1022, the *George E. Brown, Jr. Near-Earth Object Survey Act.*

I ask unanimous consent for the authority to recess the Committee at any point during consideration of these matters, and without objection, it is so ordered.

We will now proceed with the markup beginning with the opening statements, and I will continue mine.

The main bill before us today is the *NOAA Organic Act* introduced by Dr. Ehlers, which we had initially planned to markup last week. This bill will give NOAA a firm legislative grounding, something that was called for by the Ocean Commission, among others. The Administration has also called for an Organic Act for NOAA.

But our bill will do more than merely found NOAA into law. It will raise the profile of science at NOAA and improve its management. The bill also will greatly improve oversight of the agency by ensuring that Congress and the public get the information needed to evaluate NOAA's organizational structure, facilities plans, budgeting, and satellite programs. This is a solid bill that will strengthen the agency.

And now we look forward to working with the Resources Committee, which shares jurisdiction over portions of NOAA, to get this

bill to the Floor. Also related to NOAA, we will take up Congressman Rohrabacher's bill to create a Scholarship for Service Program at NOAA. And he is a real leader on that effort, and we applaud that. We have done the same thing with NASA and the Department of Energy. Service scholarships are a great way to entice students into science, math, and engineering while also helping the Federal Government develop the workforce it will need. These scholarships have been championed tirelessly by Congressman Rohrabacher, and I congratulate him for that.

We are running the scholarship program through as a separate bill, because specific program authorizations generally are not part of agency Organic Acts. We will also take up two bills related to space today. These were last-minute additions to today's roster, which is something we have generally avoided on this committee. But this seemed like an opportune time to move these bills, and we continue to work on them through manager's amendments on the Floor.

Mr. Udall's bill, which the Committee also passed last Congress, concerns remote sensing. Mr. Udall will offer an amendment that will take care of concerns raised by companies in the remote sensing data business, concerns that have stymied progress on this bill in the past. I know that Mr. Bonner and I, perhaps some others, have some further ideas for perfecting the bill, and we will work on those as the bill moves forward.

Mr. Rohrabacher's bill focuses on near-Earth objects, a subject that has long concerned him and has gotten quite a bit of publicity lately. Congressman Rohrabacher has helped us all understand that asteroids may present a real threat to Earth and that we need to pay greater attention to them. All of these bills will improve our lives through increasing our understanding of the Earth, how it works, and what may threaten it.

As usual, these bills represent a bipartisan effort, and I take pride in that. I look forward to their passage.

The Chair recognizes Mr. Gordon.

Mr. Gordon.

[The prepared statement of Chairman Boehlert follows:]

PREPARED STATEMENT OF CHAIRMAN SHERWOOD L. BOEHLERT

I want to welcome everyone here today for this markup of bills concerning the heavens and the Earth—and to the agencies that explore them, NOAA and NASA.

The main bill before us today is the *NOAA Organic Act,* introduced by Dr. Ehlers, which we had initially planned to mark up last week. This bill will give NOAA a firm legislative grounding, something that was called for by the Ocean Commission among others. The Administration has also called for an Organic Act for NOAA.

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And now we look forward to working with the Resources Committee, which shares jurisdiction over portions of NOAA, to get this bill to the Floor.

Also related to NOAA, we will take up Congressman Rohrabacher's bill to create a scholarship for service program at NOAA, as we have at NASA and the Department of Energy. Service scholarships are a great way to entice students into science, math and engineering while also helping the Federal Government develop the workforce it will need. These scholarships have been championed tirelessly by Congressman Rohrabacher, and I congratulate him for that.

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All of these bills will improve our lives through increasing our understanding of the Earth, how it works and what may threaten it. As usual, these bills represent a bipartisan effort. I look forward to their passage.

Mr. Gordon.

Mr. GORDON. Thank you, Mr. Chairman. You have summed up what we are going to do this morning very well. I just want to concur that it is a good idea, I think, to take up these additional three bills today, and I want to give my thanks to the staff on both sides for the good cooperative work that they have done over the last week in trying to bring NOAA together as well as these three bills, and I look forward to the markup.

And I yield my time back.

[The prepared statement of Mr. Gordon follows:]

PREPARED STATEMENT OF REPRESENTATIVE BART GORDON

I want to thank the Chairman for scheduling this markup.

Originally we were to just take up H.R. 50 today, but I think it is to the advantage of our Members that we will expeditiously take up three other bills, all of which can probably move on suspension on the Floor.

In addition to the NOAA organic act, I am especially pleased to see the Remote Sensing Act move through Committee. We have dealt with this in past Congresses and I am happy the Chairman agrees that we can move that bill forward today.

I don't want to delay the process here this morning with an extensive preliminary statement, but let me take a moment to thank staff on both sides of the aisle for their work to handle these bills. I think the Members have been well served through their efforts.

With that, I yield back, Mr. Chairman.

Chairman BOEHLERT. Thank you very much.

Without objection, Members may place statements in the record at this point.

We will now consider H.R. 1022, *George E. Brown, Jr. Near-Earth Object Survey Act.*

I recognize Mr. Rohrabacher to introduce the bill.

Mr. ROHRABACHER. I would ask permission to submit my opening statement for the record.

Chairman BOEHLERT. Without objection.

[The prepared statement of Mr. Rohrabacher follows:]

PREPARED STATEMENT OF REPRESENTATIVE DANA ROHRABACHER

Mr. Chairman, last December, an asteroid 350 yards in diameter named "2004 MN4" was discovered to have an orbit that will take it less than one-tenth of the distance to the Moon (in the region of our artificial satellites) in the year 2029.

According to NASA JPL and the Minor Planet Center at the Smithsonian Astrophysical Observatory, several additional close encounters are possible in the next decade or two that follow. The hazard associated with such an asteroid hitting this

planet is fairly well known: it could flatten an area the size of Texas and/or cause enormous tsunami damage.

The potential catastrophe of an asteroid hitting Earth should no longer be ignored. We need to know what is out there. Accounts of asteroids passing close to Earth with almost no prior warning should be enough to get our attention. The first step is to assess the threat. Given the vast number of asteroids and comets that inhabit the Earth's neighborhood, greater efforts for tracking and monitoring these objects are critical. This bill would direct NASA to expand their current program to track and detect potential threats and would provide a funding authorization.

The current program at NASA searches for near-Earth objects with a diameter greater than 1,000 meters. It is vital to find and track these, but smaller objects like "MN4 2004" can also have a devastating effect on humankind. My bill directs NASA to extend that search to include objects with a diameter greater than 100 meters. Any threat that would wreak havoc on our world should be studied and prevented if possible. We have the technology, we need the direction—this bill provides that.

Ironically, if we look at asteroids from the perspective of our national goals in space, they also offer us not just a threat but also unique opportunities. In terms of pure science, asteroids are geological time capsules from the era when our solar system was formed. Even better, they are orbiting mines of metals, of minerals, and other resources that can be possibly used to build large structures in space without having to carry up the material to build those structures from Earth. So far, NASA has surveyed approximately 650 asteroids, but this is a fraction of the projected total population of asteroids and near-Earth objects. What needs to be done now is to fully understand near-Earth objects and both the potential threat they could pose to the world and the potential good they could bring for the world.

In closing, asteroids deserve a lot more attention from the scientific community and from the American people. One of the first steps is through tracking all sizable near-Earth objects, and H.R. 1022 will help to further this endeavor to secure our future.

I would like to thank the Chairman and the Members of the Science Committee for their support and I look forward to moving H.R. 1022 to the House Floor.

Chairman BOEHLERT. I recognize Mr. Gordon to present any remarks.

Mr. GORDON. It is a good bill, and I want to thank Mr. Rohrabacher for also giving it a good name.

Chairman BOEHLERT. I ask unanimous—yeah, that is right, and we look to George Brown daily in this committee.

I ask unanimous consent that the bill is considered as read and open to amendment at any point and that Members proceed with the amendments in the order of the roster. Without objection, so ordered.

Are there any amendments? Hearing none, the vote is on the bill H.R. 1022, *George E. Brown, Jr. Near-Earth Object Survey Act.* All of those in favor will say aye. All of those opposed, no. In the opinion of the Chair, the ayes have it.

I recognize Mr. Gordon to offer a motion.

Mr. GORDON. Mr. Chairman, I move that the Committee favorably report H.R. 1022 to the House with the recommendation that the bill do pass. Furthermore, I move that the staff be instructed to prepare the legislative report and make necessary technical and conforming changes and that the Chairman take all necessary steps to bring the bill before the House for consideration.

Chairman BOEHLERT. The question is on the motion to report the bill favorably. Those in favor of the motion will signify by saying aye. Opposed, no. The ayes have it, and the bill is favorably reported.

Without objection, the motion to reconsider is laid upon the table.

I move that Members have two subsequent calendar days in which to submit supplemental, minority, or additional views on the

measure. I move pursuant to Clause 1 of Rule 22 of the Rules of the House of Representatives that the Committee authorize the Chairman to offer such motions as may be necessary in the House to adopt and pass H.R. 1022, *George E. Brown, Jr. Near-Earth Object Survey Act*. Without objection, so ordered.

I want to thank everybody for participating and for your attendance and indulgence.

This concludes our Committee markup.

[Whereupon, at 11:15 a.m., the Committee was adjourned.]

Appendix:

H.R. 1022, SECTION-BY-SECTION ANALYSIS, SUMMARY OF H.R. 1022

I

109TH CONGRESS
1ST SESSION

H. R. 1022

To provide for a Near-Earth Object Survey program to detect, track, catalogue, and characterize certain near-earth asteroids and comets.

IN THE HOUSE OF REPRESENTATIVES

MARCH 1, 2005

Mr. ROHRABACHER (for himself, Mr. NADLER, and Mr. WEINER) introduced the following bill; which was referred to the Committee on Science

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A BILL

To provide for a Near-Earth Object Survey program to detect, track, catalogue, and characterize certain near-earth asteroids and comets.

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

SECTION 1. SHORT TITLE.

This Act may be cited as the "George E. Brown, Jr. Near-Earth Object Survey Act".

SEC. 2. FINDINGS.

The Congress makes the following findings:

(1) Near-Earth objects pose a serious and credible threat to humankind, as scientists are certain that a major asteroid or comet was responsible for

the mass extinction of the majority of the Earth's species, including the dinosaurs, nearly 65,000,000 years ago.

(2) Similar objects have struck the Earth or passed through the Earth's atmosphere several times in the Earth's history and pose a similar threat in the future.

(3) Several such near-Earth objects have only been discovered within days of the objects' closest approach to Earth, and recent discoveries of such large objects indicate that many large near-Earth objects remain undiscovered.

(4) The efforts taken to date by the National Aeronautics and Space Administration for detecting and characterizing the hazards of Earth orbit-crossing asteroids and comets are not sufficient to the threat posed by such objects to cause widespread destruction and loss of life.

SEC. 3. DEFINITION.

For purposes of this Act, the term "Administrator" means the Administrator of the National Aeronautics and Space Administration.

SEC. 4. NEAR-EARTH OBJECT SURVEY.

(a) SURVEY PROGRAM.—The Administrator shall plan, develop, and implement a Near-Earth Object Survey

program to detect, track, catalogue, and characterize the physical characteristics of near-Earth asteroids and comets equal to or greater than 100 meters in diameter in order to assess the threat of such near-Earth objects in striking the Earth.

(b) AMENDMENTS.—Section 102 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2451) is amended—

(1) by redesignating subsection (g) as subsection (h);

(2) by inserting after subsection (f) the following new subsection:

"(g) The Congress declares that the general welfare and security of the United States require that the unique competence of the National Aeronautics and Space Administration in science and engineering systems be directed to detecting, tracking, cataloguing, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects impacting the Earth."; and

(3) in subsection (h), as so redesignated by paragraph (1) of this subsection, by striking "and (f)" and inserting "(f), and (g)".

(c) ANNUAL REPORT.—The Administrator shall transmit to the Congress, not later than February 28 of

each of the next 5 years beginning after the date of enactment of this Act, a report that provides the following:

(1) A summary of all activities taken pursuant to subsection (a) for the previous fiscal year.

(2) A summary of expenditures for all activities pursuant to subsection (a) for the previous fiscal year.

(3) A detailed plan and budget request for all activities pursuant to subsection (a) for the next five fiscal years from the year that the annual report is submitted.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Aeronautics and Space Administration for the Near-Earth Object Survey program described in subsection (a) $20,000,000 for each of the fiscal years 2006 and 2007. Amounts appropriated under this subsection shall remain available for 2 fiscal years.

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SECTION-BY-SECTION ANALYSIS OF H.R. 1022,
GEORGE E. BROWN, JR. NEAR-EARTH OBJECT SURVEY ACT

Sec. 1. Short Title.

George E. Brown, Jr. Near-Earth Object Survey Act.

Sec. 2. Findings.

Sec. 3. Definitions.

Sec. 4. Near-Earth Object Survey.

Directs the Administrator of the National Aeronautics and Space Administration (NASA) to establish a program to detect, track, catalogue, and characterize the physical characteristics of near-Earth asteroids and comets equal to or greater than 100 meters in diameter in order to assess the threat of such near-Earth objects in striking the Earth.

Amends the *National Aeronautics and Space Act of 1958* to include a Congressional declaration that the general welfare and security of the United States require that the unique competence of NASA in science and engineering systems be directed to detecting, tracking, cataloguing, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects impacting the Earth.

Requires the Administrator to submit each year for the next five years a report summarizing the activities the Administrator takes with regard to the Near-Earth Object program and a summary of expenditures, and a plan and budget request for the program.

Authorizes $20,000,000 for each of fiscal years 2006 and 2007 for the program.

SUMMARY OF H.R. 1022,
GEORGE E. BROWN, JR. NEAR-EARTH OBJECT SURVEY ACT

The bill directs the Administrator of the National Aeronautics and Space Administration (NASA) to establish a program to detect, track, catalogue, and characterize the physical characteristics of near-Earth asteroids and comets equal to or greater than 100 meters in diameter in order to assess the threat of such near-Earth objects in striking the Earth.

It amends the *National Aeronautics and Space Act of 1958* to include a Congressional declaration that the general welfare and security of the United States require that the unique competence of NASA in science and engineering systems be directed to detecting, tracking, cataloguing, and characterizing near-Earth asteroids and comets in order to provide warning and mitigation of the potential hazard of such near-Earth objects impacting the Earth.

The bill authorizes $20,000,000 for each of fiscal years 2006 and 2007 for the program.

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