Sires	Tonko	Weber (TX)
Slaughter	Torres	Webster (FL)
Smith (MO)	Trott	Wenstrup
Smith (NE)	Turner	Westerman
Smith (NJ)	Upton	Westmoreland
Smith (TX)	Valadao	Whitfield
Smith (WA)	Van Hollen	Williams
Speier	Vargas	Wilson (FL)
Stefanik	Veasey	Wilson (SC)
Stewart	Vela	Wittman
Stivers	Velázquez	Womack
Stutzman	Wagner	Woodall
Swalwell (CA)	Walberg	Yarmuth
Takai	Walden	Yoder
Takano	Walker	Yoho
Thompson (CA)	Walorski	Young (AK)
Thompson (MS)	Walters, Mimi	Young (IA)
Thompson (PA)	Walz	Young (IN)
Thornberry	Wasserman Schultz	Zeldin
Tiberi	Waters, Maxine	Zinke
Tipton	Watson Coleman	
Titus		

NOES—35

Amash	Duffy	Renacci
Becerra	Duncan (SC)	Ribble
Bridenstine	Jordan	Rice (NY)
Carney	Kildee	Richmond
Clawson (FL)	Kind	Roskam
Cleaver	Larson (CT)	Salmon
Clyburn	Maloney, Sean	Sánchez, Linda T.
Courtney	Moulton	Schrader
Crowley	Mulvaney	Sensenbrenner
DeGette	Pascrell	Visclosky
DeLauro	Perlmutter	Welch
DeSaulnier	Polis	

ANSWERED ''PRESENT''—1

Amodei

NOT VOTING—9

Brady (PA)	Donovan	Rice (SC)
Capps	Fattah	Sanchez, Loretta
Chaffetz	Moore	Tsongas

□ 1731

So the bill was passed.

The result of the vote was announced as above recorded.

A motion to reconsider was laid on the table.

PERSONAL EXPLANATION

Mrs. CAPPS. Mr. Speaker, I was not able to be present for the following rollcall votes on May 19, 2015 and would like the record to reflect that I would have voted as follows: rollcall No. 243: ''no,'' rollcall No. 244: ''yes,'' rollcall No. 245: ''no,'' rollcall No. 246: ''no,'' rollcall No. 247: ''yes,'' rollcall No. 248: ''yes,'' rollcall No. 249: ''yes.''

REMOVAL OF NAMES OF MEMBERS AS COSPONSORS OF H.R. 1909

Mr. CULBERSON. Mr. Speaker, I ask unanimous consent that the following Members be removed as cosponsors of the bill, H.R. 1909: Mr. FARENTHOLD of Texas, Mr. HENSARLING of Texas, Mr. HUELSKAMP of Kansas, and Mr. THORNBERRY of Texas.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

ANNOUNCEMENT BY THE SPEAKER PRO TEMPORE

The SPEAKER pro tempore. Pursuant to clause 8 of rule XX, the Chair will postpone further proceedings today on motions to suspend the rules on which a recorded vote or the yeas and nays are ordered, or on which the vote incurs objection under clause 6 of rule XX.

Record votes on postponed questions will be taken later.

AMERICAN SUPER COMPUTING LEADERSHIP ACT

Mr. SMITH of Texas. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 874) to amend the Department of Energy High-End Computing Revitalization Act of 2004 to improve the high-end computing research and development program of the Department of Energy, and for other purposes.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 874

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 ''American Super Computing Leadership Act''.

SEC. 2. DEFINITIONS.

Section 2 of the Department of Energy High-End Computing Revitalization Act of 2004 (15 U.S.C. 5541) is amended by striking paragraphs (1) through (5) and inserting the following:

''(1) CO-DESIGN.—The term 'co-design' means the joint development of application algorithms, models, and codes with computer technology architectures and operating systems to maximize effective use of high-end computing systems.

''(2) DEPARTMENT.—The term 'Department' means the Department of Energy.

''(3) EXASCALE.—The term 'exascale' means computing system performance at or near 10 to the 18th power floating point operations per second.

''(4) HIGH-END COMPUTING SYSTEM.—The term 'high-end computing system' means a computing system with performance that substantially exceeds that of systems that are commonly available for advanced scientific and engineering applications.

''(5) INSTITUTION OF HIGHER EDUCATION.—The term 'institution of higher education' has the meaning given the term in section 2 of the Energy Policy Act of 2005 (42 U.S.C. 15801).

''(6) LEADERSHIP SYSTEM.—The term 'leadership system' means a high-end computing system that is among the most advanced in the world in terms of performance in solving scientific and engineering problems.

''(7) NATIONAL LABORATORY.—The term 'National Laboratory' means any one of the seventeen laboratories owned by the Department.

''(8) SECRETARY.—The term 'Secretary' means the Secretary of Energy.

''(9) SOFTWARE TECHNOLOGY.—The term 'software technology' includes optimal algorithms, programming environments, tools, languages, and operating systems for high-end computing systems.''.

SEC. 3. DEPARTMENT OF ENERGY HIGH-END COMPUTING RESEARCH AND DEVELOPMENT PROGRAM.

Section 3 of the Department of Energy High-End Computing Revitalization Act of 2004 (15 U.S.C. 5542) is amended—

(1) in subsection (a)—

(A) in paragraph (1), by striking ''program'' and inserting ''coordinated program across the Department'';

(B) by striking ''and'' at the end of paragraph (1);

(C) by striking the period at the end of paragraph (2) and inserting ''; and''; and

(D) by adding at the end the following new paragraph:

''(3) partner with universities, National Laboratories, and industry to ensure the broadest possible application of the technology developed in this program to other challenges in science, engineering, medicine, and industry.'';

(2) in subsection (b)(2), by striking ''vector'' and all that follows through ''architectures'' and inserting ''computer technologies that show promise of substantial reductions in power requirements and substantial gains in parallelism of multicore processors, concurrency, memory and storage, bandwidth, and reliability''; and

(3) by striking subsection (d) and inserting the following:

''(d) EXASCALE COMPUTING PROGRAM.—

''(1) IN GENERAL.—The Secretary shall conduct a coordinated research program to develop exascale computing systems to advance the missions of the Department.

''(2) EXECUTION.—The Secretary shall, through competitive merit review, establish two or more National Laboratory-industry-university partnerships to conduct integrated research, development, and engineering of multiple exascale architectures, and—

''(A) conduct mission-related co-design activities in developing such exascale platforms;

''(B) develop those advancements in hardware and software technology required to fully realize the potential of an exascale production system in addressing Department target applications and solving scientific problems involving predictive modeling and simulation and large-scale data analytics and management; and

''(C) explore the use of exascale computing technologies to advance a broad range of science and engineering.

''(3) ADMINISTRATION.—In carrying out this program, the Secretary shall—

''(A) provide, on a competitive, merit-reviewed basis, access for researchers in United States industry, institutions of higher education, National Laboratories, and other Federal agencies to these exascale systems, as appropriate; and

''(B) conduct outreach programs to increase the readiness for the use of such platforms by domestic industries, including manufacturers.

''(4) REPORTS.—

''(A) INTEGRATED STRATEGY AND PROGRAM MANAGEMENT PLAN.—The Secretary shall submit to Congress, not later than 90 days after the date of enactment of the American Super Computing Leadership Act, a report outlining an integrated strategy and program management plan, including target dates for prototypical and production exascale platforms, interim milestones to reaching these targets, functional requirements, roles and responsibilities of National Laboratories and industry, acquisition strategy, and estimated resources required, to achieve this exascale system capability. The report shall include the Secretary's plan for Departmental organization to manage and execute the Exascale Computing Program, including definition of the roles and responsibilities within the Department to ensure an integrated program across the Department. The report shall also include a plan for ensuring balance and prioritizing across ASCR subprograms in a flat or slow-growth budget environment.

''(B) STATUS REPORTS.—At the time of the budget submission of the Department for each fiscal year, the Secretary shall submit a report to Congress that describes the status of milestones and costs in achieving the objectives of the exascale computing program.

''(C) EXASCALE MERIT REPORT.—At least 18 months prior to the initiation of construction or installation of any exascale-class computing facility, the Secretary shall transmit a plan to the Congress detailing—

''(i) the proposed facility's cost projections and capabilities to significantly accelerate the development of new energy technologies;

''(ii) technical risks and challenges that must be overcome to achieve successful completion and operation of the facility; and

''(iii) an independent assessment of the scientific and technological advances expected from such a facility relative to those expected from a comparable investment in expanded research and applications at terascale-class and petascale-class computing facilities, including an evaluation of where investments should be made in the system software and algorithms to enable these advances.''.

The SPEAKER pro tempore (Mr. LUCAS). Pursuant to the rule, the gentleman from Texas (Mr. SMITH) and the gentleman from Illinois (Mr. LIPINSKI) each will control 20 minutes.

The Chair recognizes the gentleman from Texas.

GENERAL LEAVE

Mr. SMITH of Texas. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days to revise and extend their remarks and to include extraneous material on H.R. 874, the bill now under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

Mr. SMITH of Texas. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, H.R. 874, the American Super Computing Leadership Act, requires the Department of Energy to develop a plan to bring the United States into the next generation of supercomputing, also known as exascale computing. I want to thank the gentleman from Illinois (Mr. HULTGREN) for taking the initiative on this issue.

DOE's Advanced Scientific Computing Research program is the primary Federal research and development program for innovation in computing technology. High-performance computing has paved the way for breakthroughs in medical imaging, genetics research, manufacturing, engineering, and weapons development.

Faster computing speeds have revolutionized the energy sector, improved the efficiency of energy production, and aided in distribution technologies. Advances in computer modeling offer opportunities for scientific discovery in fields where experiments are too difficult, costly, or dangerous to conduct. These advances reduce costs and open the door to more innovative discoveries.

The country with the strongest computing capability will host the world's next scientific breakthroughs. Unfortunately, China currently holds the world's fastest computer, not the United States. This bill should reverse this trend and help advance American competitiveness.

Again, I want to thank the gentleman from Illinois (Mr. HULTGREN), as well as the gentleman from California (Mr. SWALWELL), the gentleman from Illinois (Mr. LIPINSKI), the gentlewoman from Connecticut (Ms. ESTY), and the gentlewoman from Oregon (Ms. BONAMICI) for their initiative on this issue.

Mr. Speaker, I urge my colleagues to support the bill, and I reserve the balance of my time.

Mr. LIPINSKI. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I am pleased to cosponsor H.R. 874, the American Super Computing Leadership Act. This is bipartisan legislation that I have had the pleasure of working on with my colleague, Mr. HULTGREN, as well as others from both sides of the aisle in developing, including, as the chairman said, Mr. SWALWELL, Ms. BONAMICI, and Ms. ESTY. This bill would authorize an exascale computing program to ensure that the fastest computers in the world, as well as their software and algorithms, which will help us use these machines to the maximum efficiency, are developed here in the United States.

The term ''exascale'' is often used to refer to the next generation of supercomputers in general and is used interchangeably with ''extreme scale.'' This term is often applied to computing systems that are capable of carrying out a million trillion operations per second. That rate is approximately 50 times faster than the current fastest computer in the world.

Through this legislation, the Secretary of Energy would be empowered to significantly increase the computing power that is accessible to scientists from Federal agencies as well as industry and academia. These investments would have a wide range of impacts by giving the Nation's best scientists the resources and support they need to flourish.

Mr. Speaker, there are numerous fields of research in both the academic and industrial areas that would be greatly aided by this increased computing power. Fields such as pharmaceutical development, aerodynamic modeling for aircraft and vehicle design, advanced nuclear reactor design and fusion plasma modeling, combustion simulation to assist in the design of fuel-efficient clean engines, and high temperature superconductivity to significantly reduce energy losses while transmitting electricity.

As a result of this legislation, the Department of Energy would be required to submit regular reports as well as a management plan to Congress describing how DOE intends to institute this program and its current projects. Lemont, Illinois' Argonne National Laboratory is a world leader in developing this new capability, so I am happy that just last month the Department of Energy announced a major award to support and significantly upgrade Argonne's advanced computing research and facilities. This bill will ensure that these investments are part of a transparent, long-term, coordinated strategy to keep the United States on top in this field. I also anticipate that the benefits that we will see from this legislation may well surpass the impacts that we can even imagine today.

Mr. Speaker, I urge my colleagues to join me in supporting H.R. 874, and I reserve the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield such time as he may consume to the gentleman from Illinois (Mr. HULTGREN), who is a sponsor of this legislation.

Mr. HULTGREN. Mr. Speaker, I also would like to thank my good friend and distinguished chairman of the Science, Space, and Technology Committee, Chairman SMITH from Texas, as well as my good friend, Congressman LIPINSKI from Illinois, as well as my other good friend, the gentleman from California (Mr. SWALWELL) all for helping to bring this legislation to the floor.

Mr. Speaker, H.R. 874 will help ensure that America stays at the forefront of supercomputing technology by getting to the exascale level of computing—close to the speed of the human brain. These capabilities are vital for our national security, the economy, and, more broadly, the research capabilities of our Nation.

While America and American companies are still leading the way for much of this current technology, it is important to point out that the National University of Defense Technology in China now houses the world's fastest computer.

One of the Department of Energy's primary responsibilities within the National Nuclear Security Administration is the maintenance of our current nuclear stockpile. This stockpile stewardship responsibility is carried out with increasingly complex simulations as our stockpile ages. The need for improved parallelism capabilities and decreased energy requirements are spelled out in this legislation to ensure the Department carries out a targeted basic research program to overcome the most pressing needs.

I would like to point out, however, that I believe, in agreement with the Secretary, that exascale is not the end point. It is just a step towards the greater goal of American leadership in this field.

This legislation will ensure that the broader scientific community has access to these facilities on a competitive merit review basis. The scientific drivers and the national security responsibilities should be the primary focus for computing research, but we must also make sure that the crosscutting benefits of this research are not left at the wayside.

H.R. 874 would create partnerships with universities, industry, and the national labs to conduct this research, ensuring that the Nation, as a whole, benefits from this research more quickly and efficiently. With all parties at the table, businesses will be better able

to utilize the new technologies and algorithms that will result.

Having the pleasure to represent the great State of Illinois, I have been able to witness how an ecosystem of innovation can best be fostered. For our Nation to reap the greatest yields from our research, our research facilities must be open to the public when it makes sense and does not interfere with the core missions of our Federal agencies and the labs.

The user facilities in our national labs already serve over 30,000 researchers every year, with university researchers taking precedence over others. And other user facilities, such as the Advanced Photon Source at Argonne, Illinois, have given a tremendous research capability to industry partners, such as pharmaceutical companies, where research that once took weeks is now done in hours, with samples spending more time in overnight mail.

Mr. Speaker, the computing capabilities this legislation will help bring about will similarly have tremendous application in health care and drug development. We are just now getting to the point where computer simulations are giving us higher resolution images at the molecular level than we can get with microscopes when trying to understand how diseases, our bodies, and new treatments interact. And the modeling simulations these systems make available also allow manufacturers to build better prototypes that have already been tested thousands of times virtually before they come off the line.

But perhaps most importantly, these capabilities will keep America competitive on the global scale. And the graduate students and postdocs that learn on these machines will take what they know wherever they decide to go, whether it be business or the Department of Defense.

□ 1745

He said the best form of technology transfer wears shoes. That is why I thank my colleagues for helping me bring this similar legislation to the floor again this Congress, and I recommend all my colleagues support this bill.

Mr. LIPINSKI. Mr. Speaker, may I inquire, does the gentleman from Texas have any more speakers on this bill?

Mr. SMITH of Texas. Mr. Speaker, I have no more speakers on this side, so I am prepared to yield back the balance of my time after the gentleman from Illinois.

Mr. LIPINSKI. Mr. Speaker, I yield myself such time as I may consume to close here.

I want to thank Mr. HULTGREN again. He represents Fermilab. I represent part of Argonne National Laboratory. It is good to work with him on this legislation and others to advance science in the United States. Even though there are few people who really understand what this means, we will all see the results of it.

I thank the chairman for moving this bill forward. I urge my colleagues to support it, and I yield back the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield back the remainder of my time as well.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Texas (Mr. SMITH) that the House suspend the rules and pass the bill, H.R. 874.

The question was taken; and (two-thirds being in the affirmative) the rules were suspended and the bill was passed.

A motion to reconsider was laid on the table.

SCIENCE PRIZE COMPETITIONS ACT

Mr. SMITH of Texas. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 1162) to make technical changes to provisions authorizing prize competitions under the Stevenson-Wydler Technology Innovation Act of 1980, as amended.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 1162

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 ''Science Prize Competitions Act''.

SEC. 2. AMENDMENTS TO PRIZE COMPETITIONS.

Section 24 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3719) is amended—

(1) in subsection (c)—

(A) by inserting ''competition'' after ''section, a prize'';

(B) by inserting ''types'' after ''following''; and

(C) in paragraph (4), by striking ''prizes'' and inserting ''prize competitions'';

(2) in subsection (f)—

(A) by striking ''in the Federal Register'' and inserting ''on a publicly accessible Government website, such as www.challenge.gov,''; and

(B) in paragraph (4), by striking ''prize'' and inserting ''cash prize purse'';

(3) in subsection (g), by striking ''prize'' and inserting ''cash prize purse'';

(4) in subsection (h), by inserting ''prize'' before ''competition'' both places it appears;

(5) in subsection (i)—

(A) in paragraph (1)(B), by inserting ''prize'' before ''competition'';

(B) in paragraph (2)(A), by inserting ''prize'' before ''competition'' both places it appears;

(C) by redesignating paragraph (3) as paragraph (4); and

(D) by inserting after paragraph (2) the following new paragraph:

''(3) WAIVER.—An agency may waive the requirement under paragraph (2). The annual report under subsection (p) shall include a list of such waivers granted during the preceding fiscal year, along with a detailed explanation of the reasons for granting the waivers.'';

(6) in subsection (k)—

(A) in paragraph (2)(A), by inserting ''prize'' before ''competition''; and

(B) in paragraph (3), by inserting ''prize'' before ''competitions'' both places it appears;

(7) in subsection (l), by striking all after ''may enter into'' and inserting ''a grant, contract, cooperative agreement, or other agreement with a private sector for-profit or nonprofit entity to administer the prize competition, subject to the provisions of this section.'';

(8) in subsection (m)—

(A) by amending paragraph (1) to read as follows:

''(1) IN GENERAL.—Support for a prize competition under this section, including financial support for the design and administration of a prize competition or funds for a cash prize purse, may consist of Federal appropriated funds and funds provided by private sector for-profit and nonprofit entities. The head of an agency may accept funds from other Federal agencies, private sector for-profit entities, and nonprofit entities, to be available to the extent provided by appropriations Acts, to support such prize competitions. The head of an agency may not give any special consideration to any private sector for-profit or nonprofit entity in return for a donation.'';

(B) in paragraph (2), by striking ''prize awards'' and inserting ''cash prize purses'';

(C) in paragraph (3)(A)—

(i) by striking ''No prize'' and inserting ''No prize competition''; and

(ii) by striking ''the prize'' and inserting ''the cash prize purse'';

(D) in paragraph (3)(B), by striking ''a prize'' and inserting ''a cash prize purse'';

(E) in paragraph (3)(B)(i), by inserting ''competition'' after ''prize'';

(F) in paragraph (4)(A), by striking ''a prize'' and inserting ''a cash prize purse''; and

(G) in paragraph (4)(B), by striking ''cash prizes'' and inserting ''cash prize purses'';

(9) in subsection (n), by inserting ''for both for-profit and nonprofit entities,'' after ''contract vehicle'';

(10) in subsection (o)(1), by striking ''or providing a prize'' and insert ''a prize competition or providing a cash prize purse''; and

(11) in subsection (p)(2)—

(A) in subparagraph (C), by striking ''cash prizes'' both places it occurs and inserting ''cash prize purses''; and

(B) by adding at the end the following new subparagraph:

''(G) PLAN.—A description of crosscutting topical areas and agency-specific mission needs that may be the strongest opportunities for prize competitions during the upcoming 2 fiscal years.''.

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from Texas (Mr. SMITH) and the gentleman from Virginia (Mr. BEYER) each will control 20 minutes.

The Chair recognizes the gentleman from Texas.

GENERAL LEAVE

Mr. SMITH of Texas. Mr. Speaker, I ask unanimous consent that all Members have 5 legislative days to revise and extend their remarks and to include extraneous material on H.R. 1162, the bill now under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

Mr. SMITH of Texas. Mr. Speaker, I yield myself such time as I may consume.

H.R. 1162, the Science Prize Competitions Act, promotes increased utilization of prize competitions within the Federal Government.