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SMART MANUFACTURING LEADERSHIP ACT

SEPTEMBER 10, 2019.—Ordered to be printed

Ms. MURKOWSKI, from the Committee on Energy and Natural Resources, submitted the following

R E P O R T

[To accompany S. 715]

[Including cost estimate of the Congressional Budget Office]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 715) to improve the productivity and energy efficiency of the manufacturing sector by directing the Secretary of Energy, in coordination with the National Academies and other appropriate Federal agencies, to develop a national smart manufacturing plan and to provide assistance to small- and medium-sized manufacturers in implementing smart manufacturing programs, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

PURPOSE

The purpose of S. 715 is to improve the productivity and energy efficiency of the manufacturing sector by directing the Secretary of Energy, in coordination with the National Academies and other appropriate Federal agencies, to develop a national smart manufacturing plan and to provide assistance to small- and medium-sized manufacturers in implementing smart manufacturing programs.

BACKGROUND AND NEED

Smart manufacturing uses technology to integrate all aspects of manufacturing, allowing for real-time management of energy, productivity and costs across factories and companies. The industrial sector represents roughly 20 percent of the U.S. economy and accounts for one-third of domestic energy consumption. In a 2012 re-

port by General Electric, improvements in automation and control through smart manufacturing are estimated to add $10 to $15 trillion to global gross domestic product over the next 20 years. According to a 2013 analysis from the American Council for an Energy-Efficient Economy, this includes $5 to $25 billion annually in energy savings for electricity alone.

An effective strategy for smart manufacturing is necessary in order for the U.S. to retain global economic competitiveness. The adoption of smart manufacturing technologies is currently limited to a small fraction of the manufacturing sector due to the high cost and complexity of technologies. Lack of staff resources, capital constraints, and a dearth of expert information on energy efficiency opportunities makes adoption particularly challenging to small- and medium-sized manufacturers.

The legislation aims to remove barriers to smart manufacturing for small- and medium-sized manufacturers, thereby improving energy efficiency, creating jobs, and securing a more competitive position in the market place for American manufacturers.

LEGISLATIVE HISTORY

S. 715 was introduced by Senators Shaheen and Alexander on March 7, 2019. Senator Hassan was added as a cosponsor on April 11, 2019.

Companion legislation, H.R. 1633, was introduced in the House of Representatives by Representatives Welch and Reed on March 7, 2019, and referred to the Energy and Commerce Committee and the Science, Space, and Technology Committee.

In the 115th Congress, a similar bill, S. 768, was introduced by Senator Shaheen on March 29, 2017. Parts of the measure were included as sections 1302 and 1303 in S. 1460, the Energy and Natural Resources Act of 2017 (Cal. 162).

Companion legislation, H.R. 3240, was introduced in the House of Representatives by Representatives Welch and Reed on July 13, 2017, and referred to the Energy and Commerce Committee and the Science, Space, and Technology Committee.

In the 114th Congress, a similar bill, S. 1054, was introduced by Senator Shaheen on April 22, 2015. Senator Alexander was added as a cosponsor on June 10, 2015. The Committee on Energy and Natural Resources held a hearing on S. 1054 on June 9, 2015 (S. Hrg. 114–344). The measure was also included in Amendment No. 2968, which the Senate agreed to on January 27, 2016, as an amendment to S. 2012, the Energy Policy Modernization Act of 2016, which the Senate passed, as amended, on April 20, 2016.

Companion legislation, H.R. 3266, was introduced in the House of Representatives by Representatives Welch and Reed on July 28, 2015, and referred to the Energy and Commerce Committee and the Science, Space, and Technology Committee.

The Senate Committee on Energy and Natural Resources met in open business session on July 16, 2019, and ordered S. 715 favorably reported.

COMMITTEE RECOMMENDATION

The Senate Committee on Energy and Natural Resources, in open business session on July 16, 2019, by a majority voice vote of

a quorum present, recommends that the Senate pass S. 715. Senator Lee asked to be recorded as voting no.

SECTION-BY-SECTION ANALYSIS

Section. 1. Short title

Section 1 provides a short title for the bill.

Sec. 2. Findings

Section 2 sets forth Congressional findings.

Sec. 3. Definitions

Section 3 defines relevant terms.

Sec. 4. Development of national smart manufacturing plan

Subsection (a) requires the Secretary, in consultation with the National Academies, to develop and complete a national plan for the development and deployment of smart manufacturing to improve efficiency within three years of enactment.

Subsection (b) describes the content to be included in the national plan.

Subsection (c) directs the Secretary of Energy (Secretary) to revise the national plan biennially to account for advancements in information and communication technology and manufacturing needs.

Subsection (d) requires the Secretary to submit an annual report to Congress on the progress of plan development until its completion.

Subsection (e) directs the Secretary to use unobligated Department of Energy (DOE) funds to carry out this section.

Sec. 5. Leveraging existing agency programs to assist small and medium manufacturers

Subsection (a) sets forth Congressional findings.

Subsection (b) directs the Secretary to expand the scope of these technical assistance programs to help advance smart manufacturing technologies.

Subsection (c) directs the Secretary to use unobligated DOE funds to carry out this section.

Sec. 6. Leveraging smart manufacturing infrastructure at national laboratories

Subsection (a) directs the Secretary to conduct a study on how DOE can increase access to high-performance computing resources for small and medium manufacturers within 180 days of enactment. This subsection further requires the Secretary to submit a report to Congress within one year of the measure's enactment describing the results of the study.

Subsection (b) directs the Secretary to facilitate access to the national laboratories studied under subsection (a) for small and medium manufacturers.

Sec. 7. State leadership grants

Subsection (a) sets forth Congressional findings.

Subsection (b) authorizes the Secretary to make competitive grants to states to establish programs to be used as models for supporting the implementation of smart manufacturing technologies.

Subsection (c) describes the eligibility criteria for receiving a grant, and directs the Secretary to evaluate grant applications on the basis of merit using said criteria.

Subsection (d) limits a grant's term to not more than three years; caps a grant to not more than $3 million; and requires a 30 percent matching requirement from each state receiving a grant.

Subsection (e) specifies the permissible uses of awarded grant funds by a state.

Subsection (f) directs the Secretary to conduct biannual evaluations of each awarded grant.

Subsection (g) authorizes $10 million for each of fiscal years 2020 through 2023 to carry out this legislation.

Sec. 8. Report

Section 8 requires the Secretary to submit to Congress and make publicly available an annual report on the progress made in advancing smart manufacturing technologies in the United States.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of the costs of this measure has been provided by the Congressional Budget Office:

At a Glance

S. 715, Smart Manufacturing Leadership Act

As ordered reported by the Senate Committee on Energy and Natural Resources on July 16, 2019

By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	0	1	1
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	1	1
Spending Subject to Appropriation (Outlays)	0	33	40

Statutory pay-as-you-go procedures apply?	Yes	**Mandate Effects**	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No

The bill would

- Authorize the appropriation of $10 million annually over the 2020-2023 period for the Department of Energy (DOE) to provide grants to states to develop programs to implement smart manufacturing technologies
- Direct DOE to use unobligated funds to complete a national plan to develop and deploy smart manufacturing technology and to expand a DOE technical assistance program

Estimated budgetary effects would primarily stem from

- Spending of future appropriations authorized for DOE
- Spending of previously appropriated but unobligated funds for activities required under the bill

Detailed estimate begins on the next page.

Bill summary: S. 715 would authorize the appropriation of $10 million annually over the 2020–2023 period for the Department of Energy to provide grants to states to develop programs for the implementation of smart manufacturing technologies. The bill also would direct the department to use unobligated funds to complete a national plan for smart manufacturing technology development and deployment, and to expand the scope of an existing DOE technical assistance program to include smart manufacturing practices.

Estimated Federal cost: The estimated budgetary effect of S. 715 is shown in Table 1. The costs of the legislation fall primarily within budget function 270 (energy).

TABLE 1.—ESTIMATED BUDGETARY EFFECTS Of S. 715

	By fiscal year, millions of dollars—						
	2019	2020	2021	2022	2023	2024	2019–2024
INCREASES IN SPENDING SUBJECT TO APPROPRIATION [a]							
Authorization	0	10	10	10	10	0	40
Estimated Outlays	0	2	5	8	10	8	33

[a] Enacting S. 715 also would increase direct spending by $1 million over the 2020–2024 period.

Basis of estimate: For this estimate, CBO assumes that the legislation will be enacted in late 2019 and that the authorized and necessary amounts will be provided in each year.

Spending subject to appropriation: Section 7 would authorize the appropriation of $10 million annually over the 2020–2023 period for the Department of Energy to provide grants to states to develop programs to implement smart manufacturing technologies. Based on historical spending patterns for similar activities, CBO estimates that implementing section 7 would cost $33 million over the 2020–2024 period.

Section 6 would require DOE to facilitate access by small and midsize manufacturers to high-performance computing resources at the National Laboratories. Because DOE already carries out several programs to facilitate use of such resources by industry, CBO estimates that implementing section 6 would have no significant effect on the federal budget.

Finally, Section 8 would direct DOE to develop and make publicly available annual reports on the progress made in advancing smart manufacturing. Based on the costs of similar tasks, CBO estimates that any costs to implement the reporting requirement would be insignificant; such spending would be subject to the availability of appropriated funds.

Direct spending: Section 4 would direct DOE to develop, in consultation with the National Academies, a national plan to develop and implement smart manufacturing technology to improve the productivity and energy efficiency of the manufacturing sector. Section 5 would direct DOE to expand the scope of an existing DOE technical assistance program to include smart manufacturing practices. S. 715 would authorize DOE to use unobligated funds to implement those activities. CBO considers such spending to be direct spending because it would occur without further appropriation. In addition, we expect that DOE would use unobligated funds that otherwise would not be spent. Based on the costs of similar tasks,

CBO estimates enacting sections 4 and 5 would increase direct spending by $1 million over the 2020–2024 period.

Pay-As-You-Go considerations: The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. The net changes in outlays that are subject to those pay-as-you-go procedures are shown in Table 2.

TABLE 2.—CBO'S ESTIMATE OF PAY-AS-YOU-GO EFFECTS OF S. 715

	By fiscal year, millions of dollars—												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2019–2024	2019–2029
NET INCREASE IN THE DEFICIT													
Statutory Pay-As-You-Go Effect	0	0	0	0	0	0	0	0	0	0	0	1	1

Increase in Long-Term deficits: None.

Mandates: None.

Estimate prepared by: Federal costs: Janani Shankaran, Mandates: Brandon Lever.

Estimate reviewed by: Kim P. Cawley, Chief, Natural and Physical Resources Cost Estimates Unit; H. Samuel Papenfuss, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 715. The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 715, as ordered reported.

CONGRESSIONALLY DIRECTED SPENDING

S. 715, as ordered reported, does not contain any congressionally directed spending items, limited tax benefits, or limited tariff benefits as defined in rule XLIV of the Standing Rules of the Senate.

EXECUTIVE COMMUNICATIONS

The Committee did not request executive views for S. 715.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee notes that no changes in existing law are made by S. 715 as ordered reported.

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