

[12/23/2016 Became Public Law No: 114-328]

Conference Report 114-840 contains several key manufacturing related Sections:

SEC. 215. MANUFACTURING ENGINEERING EDUCATION GRANT PROGRAM.

Section 2196 of title 10, United States Code, is amended to read as follows:

``Sec. 2196. Manufacturing engineering education program

``(a) Establishment of Manufacturing Engineering Education Program.--(1) The Secretary of Defense shall establish a program under which the Secretary makes grants or other awards to support--

``(A) the enhancement of existing programs in manufacturing engineering education to further a mission of the department; or

``(B) the establishment of new programs in manufacturing engineering education that meet such requirements.

``(2) Grants and awards under this section may be made to industry, not-for-profit institutions, institutions of higher education, or to consortia of such institutions or industry.

``(3) The Secretary shall establish the program in consultation with the Secretary of Education, the Director of the National Science Foundation, the Director of the Office of Science and Technology Policy, and the secretaries of such other relevant Federal agencies as the Secretary considers appropriate.

``(4) The Secretary shall ensure that the program is coordinated with Department programs associated with advanced manufacturing.

``(5) The program shall be known as the 'Manufacturing Engineering Education Program'.

``(b) Geographical Distribution of Grants and Awards.--In awarding grants and other awards under this subsection, the Secretary shall, to the maximum extent practicable, avoid geographical concentration of awards.

``(c) Covered Programs.--A program of engineering education supported pursuant to this section shall meet the requirements of this section.

``(d) Components of Program.--The program of education for which such a grant is made shall be a consolidated and integrated multidisciplinary program of education with an emphasis on the following components:

``(1) Multidisciplinary instruction that

encompasses the total manufacturing engineering enterprise and that may include--

``(A) manufacturing engineering education and training through classroom activities, laboratory activities, thesis projects, individual or team projects, internships, cooperative work-study programs, and interactions with industrial facilities, consortia, or such other activities and organizations in the United States and foreign countries as the Secretary considers appropriate;

``(B) faculty development programs;

``(C) recruitment of educators highly qualified in manufacturing engineering to teach or develop manufacturing engineering courses;

``(D) presentation of seminars, workshops, and training for the development of specific manufacturing engineering skills;

``(E) activities involving interaction between students and industry, including programs for visiting scholars, personnel exchange, or industry executives;

``(F) development of new, or updating and modification of existing, manufacturing curriculum, course offerings, and education programs;

``(G) establishment of programs in manufacturing workforce training;

``(H) establishment of joint manufacturing engineering programs with defense laboratories and depots; and

``(I) expansion of manufacturing training and education programs and outreach for members of the armed forces, dependents and children of such members, veterans, and employees of the Department of Defense.

``(2) Opportunities for students to obtain work experience in manufacturing through such activities as internships, summer job placements, or cooperative work-study programs.

``(3) Faculty and student engagement with industry that is directly related to, and supportive of, the education of students in manufacturing engineering because of--

``(A) the increased understanding of manufacturing engineering challenges and potential solutions; and

``(B) the enhanced quality and effectiveness of the instruction that result from that increased understanding.

``(e) Proposals.--The Secretary of Defense shall solicit

proposals for grants and other awards to be made pursuant to this section for the support of programs of manufacturing engineering education that are consistent with the purposes of this section.

``(f) Merit Competition.--Applications for awards shall be evaluated on the basis of merit pursuant to competitive procedures prescribed by the Secretary.

``(g) Selection Criteria.--The Secretary may select a proposal for an award pursuant to this section if the proposal, at a minimum, does each of the following:

``(1) Contains innovative approaches for improving engineering education in manufacturing technology.

``(2) Demonstrates a strong commitment by the proponents to apply the resources necessary to achieve the objectives for which the award is to be made.

``(3) Provides for effective engagement with industry or government organizations that supports the instruction to be provided in the proposed program and is likely to improve manufacturing engineering and technology.

``(4) Demonstrates a significant level of involvement of United States industry in the proposed instructional and research activities.

``(5) Is likely to attract superior students and promote careers in manufacturing engineering.

``(6) Proposes to involve fully qualified personnel who are experienced in manufacturing engineering education and technology.

``(7) Proposes a program that, within three years after the award is made, is likely to attract from sources other than the Federal Government the financial and other support necessary to sustain such program.

``(8) Proposes to achieve a significant level of participation by women, members of minority groups, and individuals with disabilities through active recruitment of students from among such persons.

``(9) Trains students in advanced manufacturing and in relevant emerging technologies and production processes.

``(h) Institution of Higher Education Defined.--In this section, the term 'institution of higher education' has the meaning given such term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).''.

SEC. 238. B-21 BOMBER DEVELOPMENT PROGRAM ACCOUNTABILITY MATRICES

(a) Submittal of Matrices.--Concurrent with the President's annual budget request submitted to Congress under section 1105 of title 31, United States Code, for fiscal year 2018, the

Secretary of the Air Forces shall submit to the congressional defense committees and the Comptroller General of the United States the matrices described in subsection (b) relating to the B-21 bomber aircraft program.

(b) Matrices Described.--The matrices described in this subsection are the following:

(1) EMD goals.--A matrix that identifies, in six month increments, key milestones, development events, and specific performance goals for the EMD phase of the B-21 bomber aircraft program, which shall be subdivided, at a minimum, according to the following:

(A) Technology readiness levels of major components and key demonstration events.

(B) Design maturity.

(C) Software maturity.

(D) Manufacturing readiness levels for critical manufacturing operations and key demonstration events.

(E) Manufacturing operations.

(F) System verification and key flight test events.

(G) Reliability.

(2) Cost.--A matrix expressing, in six month increments, the total cost for the Air Force service cost position for the EMD phase and low initial rate of production lots of the B-21 bomber aircraft and a matrix expressing the total cost for the prime contractor's estimate for such EMD phase and production lots, both of which shall be phased over the entire EMD period and subdivided according to the costs of the following:

(A) Air vehicle.

(B) Propulsion.

(C) Mission systems.

(D) Vehicle subsystems.

(E) Air vehicle software.

(F) Systems engineering.

(G) Program management.

(H) System test and evaluation.

(I) Support and training systems.

(J) Contract fee.

(K) Engineering changes.

(L) Direct mission support, including Congressional General Reductions.

(M) Government testing.

(c) Semiannual Update of Matrices.--

(1) In general.--Not later than 180 days after the date on which the Secretary of the Air Force submits the matrices required by subsection (a), concurrent with the submittal of each annual budget request to Congress under section 1105 of title 31, United States Code, thereafter, and not later than 180 days after

each such submittal, the Secretary of the Air Force shall submit to the congressional defense committees and the Comptroller General of the United States updates to the matrices described in subsection (b).

(2) Elements.--Each update submitted under paragraph (1) shall detail progress made toward the goals identified in the matrix described in subsection (b)(1) and provide updated cost estimates.

(3) Treatment of initial matrices as baseline.--The matrices submitted pursuant to subsection (a) shall be treated as the baseline for the full EMD phase and low rate initial production of the B-21 bomber aircraft program for purposes of the updates submitted pursuant to paragraph (1) of this subsection.

(d) Assessment by Comptroller General of the United States.--Not later than the date that is 45 days after the date on which the Comptroller General of the United States receives an update to a matrix under subsection (d)(1), the Comptroller General shall review the sufficiency of such matrix and submit to the congressional defense committees an assessment of such matrix, including by identifying cost, schedule, or performance trends.

SEC. 807. COST, SCHEDULE, AND PERFORMANCE OF MAJOR DEFENSE ACQUISITION PROGRAMS.

(a) Cost, Schedule, and Performance of Major Defense Acquisition Programs.--

(1) In general.--Chapter 144B of title 10, United States Code, as added by section 805, is amended by adding at the end the following new subchapter:

``SUBCHAPTER III--COST, SCHEDULE, AND PERFORMANCE OF MAJOR DEFENSE ACQUISITION PROGRAMS

``Sec.

``2448a. Program cost, fielding, and performance goals in planning major

defense acquisition programs.

``2448b. Independent technical risk assessments.

``Sec. 2448a. Program cost, fielding, and performance goals in planning

major defense acquisition programs

``(a) Program Cost and Fielding Targets.--(1) Before funds are obligated for technology development, systems development, or production of a major defense acquisition program, the Secretary of Defense shall ensure, by establishing the goals described in paragraph (2), that the milestone decision authority for the major defense acquisition program approves a

program that will--

``(A) be affordable;

``(B) incorporate program planning that anticipates the evolution of capabilities to meet changing threats, technology insertion, and interoperability; and

``(C) be fielded when needed.

``(2) The goals described in this paragraph are goals for--

``(A) the procurement unit cost and sustainment cost (referred to in this section as the `program cost targets');

``(B) the date for initial operational capability (referred to in this section as the `fielding target');

and
``(C) technology maturation, prototyping, and a modular open system approach to evolve system capabilities and improve interoperability.

``(b) Delegation.--The responsibilities of the Secretary of Defense in subsection (a) may be delegated only to the Deputy Secretary of Defense.

``(c) Definitions.--In this section:

``(1) The term `procurement unit cost' has the meaning provided in section 2432(a)(2) of this title.

``(2) The term `initial capabilities document' has the meaning provided in section 2366a(d)(2) of this title.

``Sec. 2448b. Independent technical risk assessments

``(a) In General.--With respect to a major defense acquisition program, the Secretary of Defense shall ensure that an independent technical risk assessment is conducted--

``(1) before any decision to grant Milestone A approval for the program pursuant to section 2366a of this title, that identifies critical technologies and manufacturing processes that need to be matured; and

``(2) before any decision to grant Milestone B approval for the program pursuant to section 2366b of this title, any decision to enter into low-rate initial production or full-rate production, or at any other time considered appropriate by the Secretary, that includes the identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

``(b) Categorization of Technical Risk Levels.--The Secretary shall issue guidance and a framework for categorizing the degree of technical and manufacturing risk in a major defense acquisition program.''.

(2) Effective date.--Subchapter III of chapter 144B of title 10, United States Code, as added by paragraph (1), shall apply with respect to major defense acquisition programs that reach Milestone A after

October 1, 2017.

(b) Modification of Milestone Decision Authority.-- Effective January 1, 2017, subsection (d) of section 2430 of title 10, United States Code, as added by section 825(a) of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92; 129 Stat. 907), is amended--

(1) in paragraph (2)(A), by inserting ``subject to paragraph (5),'' before ``the Secretary determines''; and

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

``(5) The authority of the Secretary of Defense to designate an alternative milestone decision authority for a program with respect to which the Secretary determines that the program is addressing a joint requirement, as set forth in paragraph (2)(A), shall apply only for a major defense acquisition program that reaches Milestone A after October 1, 2016, and before October 1, 2019.''

(c) Adherence to Requirements in Major Defense Acquisition Programs.--Section 2547 of title 10, United States Code, is amended--

(1) by redesignating subsections (b) and (c) as subsections (c) and (d), respectively;

(2) by inserting after subsection (a) the following new subsection (b):

``(b) Adherence to Requirements in Major Defense Acquisition Programs.--The Secretary of the military department concerned shall ensure that the program capability document supporting a Milestone B or subsequent decision for a major defense acquisition program may not be approved until the chief of the armed force concerned determines in writing that the requirements in the document are necessary and realistic in relation to the program cost and fielding targets established under section 2448a(a) of this title.''; and

(3) by adding at the end of subsection (d), as so redesignated, the following new paragraph:

``(3) The term `program capability document' has the meaning provided in section 2446a(b)(5) of this title.''

(d) Amendment Relating to Determination Required Before Milestone A Approval.--Section 2366a(b)(4) of title 10, United States Code, is amended by inserting after ``areas of risk'' the following: ``, including risks determined by the identification of critical technologies required under section 2448b(a)(1) of this title or any other risk assessment''.

(e) Amendment Relating to Certification Required Before Milestone B Approval.--Section 2366b(a) of title 10, United States Code, is amended--

(1) in paragraph (2), by striking ``assessment by the Assistant Secretary'' and all that follows through ``Test and Evaluation'' and inserting ``technical risk assessment conducted under section 2448b of this

title''; and

(2) in paragraph (3), as amended by section 805(a)(3)(B)--

(A) by striking ``and'' at the end of subparagraph (C);

(B) by redesignating subparagraphs (D) through (M) as subparagraphs (E) through (N), respectively; and

(C) by inserting after subparagraph (C) the following new subparagraph (D):

``(D) the estimated procurement unit cost for the program and the estimated date for initial operational capability for the baseline description for the program (established under section 2435) do not exceed the program cost and fielding targets established under section 2448a(a) of this title, or, if such estimated cost is higher than the program cost targets or if such estimated date is later than the fielding target, the program cost targets have been increased or the fielding target has been delayed by the Secretary of Defense after a request for such increase or delay by the milestone decision authority;''.

SEC. 808. TRANSPARENCY IN MAJOR DEFENSE ACQUISITION PROGRAMS.

(a) Milestone A Report.--

(1) In general.--Section 2366a(c) of title 10, United States Code, is amended to read as follows:

``(c) Submissions to Congress on Milestone A.--

``(1) Brief summary report.--Not later than 15 days after granting Milestone A approval for a major defense acquisition program, the milestone decision authority for the program shall provide to the congressional defense committees and, in the case of intelligence or intelligence-related activities, the congressional intelligence committees a brief summary report that contains the following elements:

``(A) The program cost and fielding targets established by the Secretary of Defense under section 2448a(a) of this title.

``(B) The estimated cost and schedule for the program established by the military department concerned, including--

``(i) the dollar values estimated for the program acquisition unit cost and total life-cycle cost; and

``(ii) the planned dates for each program milestone and initial operational capability.

``(C) The independent estimated cost for the program established pursuant to section 2334(a)(6) of this title, and any independent estimated schedule for the program, including--

``(i) as assessment of the major contributors to the program acquisition unit cost and total life-cycle cost; and

``(ii) the planned dates for each program milestone and initial operational capability.

``(D) A summary of the technical or manufacturing risks associated with the program, as determined by the military department concerned, including identification of any critical technologies or manufacturing processes that need to be matured.

``(E) A summary of the independent technical risk assessment conducted or approved under section 2448b of this title, including identification of any critical technologies or manufacturing processes that need to be matured.

``(F) A summary of any sufficiency review conducted by the Director of Cost Assessment and Program Evaluation of the analysis of alternatives performed for the program (as referred to in section 2366a(b)(6) of this title).

``(G) Any other information the milestone decision authority considers relevant.

``(2) Additional information.--(A) At the request of any of the congressional defense committees or, in the case of intelligence or intelligence-related activities, the congressional intelligence committees, the milestone decision authority shall submit to the committee an explanation of the basis for a determination made under subsection (b) with respect to a major defense acquisition program, together with a copy of the written determination, or further information or underlying documentation for the information in a brief summary report submitted under paragraph (1), including the independent cost and schedule estimates and the independent technical risk assessments referred to in that paragraph.

``(B) The explanation or information shall be submitted in unclassified form, but may include a classified annex.''.

(2) Definitions.--Section 2366a(d) of such title is amended by adding at the end the following new paragraphs:

``(8) The term `fielding target' has the meaning

given that term in section 2448a(a) of this title.

``(9) The term `major system component' has the meaning given that term in section 2446a(b) (3) of this title.

``(10) The term `congressional intelligence committees' has the meaning given that term in section 437(c) of this title.''.

(b) **Milestone B Report.--**

(1) In general.--Section 2366b(c) of title 10, United States Code, is amended to read as follows:

``(c) Submissions to Congress on Milestone B.--

``(1) Brief summary report.--Not later than 15 days after granting Milestone B approval for a major defense acquisition program, the milestone decision authority for the program shall provide to the congressional defense committees and, in the case of intelligence or intelligence-related activities, the congressional intelligence committees a brief summary report that contains the following elements:

``(A) The program cost and fielding targets established by the Secretary of Defense under section 2448a(a) of this title.

``(B) The estimated cost and schedule for the program established by the military department concerned, including--

``(i) the dollar values estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost; and

``(ii) the planned dates for each program milestone, initial operational test and evaluation, and initial operational capability.

``(C) The independent estimated cost for the program established pursuant to section 2334(a) (6) of this title, and any independent estimated schedule for the program, including--

``(i) the dollar values and ranges estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost; and

``(ii) the planned dates for each program milestone, initial operational test and evaluation, and initial operational capability.

``(D) A summary of the technical and manufacturing risks associated with the program, as determined by the military department concerned, including identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

``(E) A summary of the independent technical risk assessment conducted or approved under section 2448b of this title, including identification of any critical technologies or manufacturing processes that have not been successfully demonstrated in a relevant environment.

``(F) A statement of whether a modular open system approach is being used for the program.

``(G) Any other information the milestone decision authority considers relevant.

``(2) Certifications and determinations.--(A) The certifications and determination under subsection (a) with respect to a major defense acquisition program shall be submitted to the congressional defense committees with the first Selected Acquisition Report submitted under section 2432 of this title after completion of the certification.

``(B) The milestone decision authority shall retain records of the basis for the certifications and determination under paragraphs (1), (2), and (3) of subsection (a).

``(3) Additional information.--(A) At the request of any of the congressional defense committees or, in the case of intelligence or intelligence-related activities, the congressional intelligence committees, the milestone decision authority shall submit to the committee an explanation of the basis for the certifications and determination under paragraphs (1), (2), and (3) of subsection (a) with respect to a major defense acquisition program or further information or underlying documentation for the information in a brief summary report submitted under paragraph (1), including the independent cost and schedule estimates and the independent technical risk assessments referred to in that paragraph.

``(B) The explanation or information shall be submitted in unclassified form, but may include a classified annex.''.

(2) Definitions.--Section 2366b(g) of such title is amended by adding at the end the following new paragraphs:

``(6) The term `fielding target' has the meaning given that term in section 2448a(a) of this title.

``(7) The term `major system component' has the meaning given that term in section 2446a(b)(3) of this title.

``(8) The term `congressional intelligence committees' has the meaning given that term in section 437(c) of this title.''.

(c) Milestone C Report.--

(1) In general.--Chapter 139 of such title is

amended by inserting after section 2366b the following new section:

``Sec. 2366c. Major defense acquisition programs: submissions to Congress on Milestone C

``(a) Brief Summary Report.--Not later than 15 days after granting Milestone C approval for a major defense acquisition program, the milestone decision authority for the program shall provide to the congressional defense committees and, in the case of intelligence or intelligence-related activities, the congressional intelligence committees a brief summary report that contains the following:

``(1) The estimated cost and schedule for the program established by the military department concerned, including--

``(A) the dollar values estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost; and

``(B) the planned dates for initial operational test and evaluation and initial operational capability.

``(2) The independent estimated cost for the program established pursuant to section 2334(a)(6) of this title, and any independent estimated schedule for the program, including--

``(A) the dollar values estimated for the program acquisition unit cost, average procurement unit cost, and total life-cycle cost; and

``(B) the planned dates for initial operational test and evaluation and initial operational capability.

``(3) A summary of any production, manufacturing, and fielding risks associated with the program.

``(b) Additional Information.--At the request of any of the congressional defense committees or, in the case of intelligence or intelligence-related activities, the congressional intelligence committees, the milestone decision authority shall submit to the committee further information or underlying documentation for the information in a brief summary report submitted under subsection (a), including the independent cost and schedule estimates and the independent technical risk assessments referred to in that subsection.

``(c) Congressional Intelligence Committees Defined.--In this section, the term 'congressional intelligence committees' has the meaning given that term in section 437(c) of this title.''

(2) Clerical amendment.--The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2366b the following

new item:

``2366c. Major defense acquisition programs: submissions to Congress
on

Milestone C.''.