SEC. ___. AMENDMENT TO DEFENSE PRODUCTION ACT OF 1950 RELATING TO CRITICAL INDUSTRIAL RESOURCE SHORTFALLS.

Section 303(a) of the Defense Production Act of 1950 (50 USC 4533(a)) is amended by adding at the end the following new paragraphs:

"(8) EXCEPTION FOR CERTAIN SHORTFALL CATEGORIES.—

"(A) IN GENERAL.—

(i) The requirements of paragraph (6)(B) do not apply to industrial resources shortfalls in the categories listed in subparagraph (B).

(ii) Notwithstanding the limitation under paragraph (6)(C), the aggregate amount of all actions for each industrial resources shortfall in the categories listed in subparagraph (B) may not exceed $350,000,000, unless such action or actions are authorized to exceed such amount by an Act of Congress.

"(B) CATEGORIES.—The categories listed in this subparagraph are as follows:

"(i) Light rare earth separation and processing.

"(ii) Heavy rare earth separation and processing.

"(ii) Rare earth metal and alloys production.

"(iv) Neodymium Iron Boron rare earth permanent magnets production.

"(v) Samarium Cobalt rare earth permanent magnets production.

"(vi) Precursor materials for critical chemicals for missiles and munitions.

"(vii) Inert materials for critical chemicals for missiles and munitions.

"(viii) Energetic materials for critical chemicals for missiles and munitions.

"(ix) Advanced manufacturing techniques for critical chemicals for missiles and munitions.

"(x) Radiation-hardened electronics.

"(9) The requirements of paragraph (6)(B) and (6)(C) do not apply to shortfalls for any industrial resources, material, or critical technology item used in furthering hypersonic systems and strategic systems.

[Please note: The "Changes to Existing Law" section below sets out in red-line format how the legislative text would amend existing law.]

Section-by-Section Analysis

This proposal would amend the Defense Production Act (DPA) to ensure that the DPA Title III program is postured to successfully mitigate critical resource shortfalls in the supply chains for rare earth elements, critical chemicals for Department of Defense (DoD) missiles and munitions, hypersonic and strategic systems, and radiation hardened electronics.

Section 303 of the Defense Production Act (50 USC 4533) provides authority for the President to make provisions to create, maintain, protect, expand, or restore domestic industrial base capabilities essential for the national defense. That authority, however, requires that if the taking of any action under section 303 to correct a domestic industrial base shortfall would cause the aggregate outstanding amount of all such action for such shortfall to exceed $50,000,000, the action or actions may be taken only after the 30-day period following the date on which designated Congressional committees have been notified in writing of the proposed action (section 303(a)(6)(B) (50 USC 4533(a)(6)(B)). Furthermore, it limits the aggregate outstanding amount of all action to correct an industrial resource shortfall under the section to $50,000,000 unless such action or actions are authorized to exceed such amount by an Act of Congress (section 303(a)(6)(C) (50 USC 4533(a)(6)(C)).

(a) Rare Earths Supply Chain: The proposed modifications to add clauses (i) through (v) in new paragraph (8)(B) of section 303(a) to the Defense Production Act of 1950 will aid in more effectively addressing critical, capital-intensive industrial base shortfalls in the rare earths supply chain. As highlighted in the report on Executive (EO) 13806, *Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States*, "China represents a significant and growing risk to the supply of materials

deemed strategic and critical to U.S. national security." China is dominating upstream sources of supply (e.g., mining) and aggressively moving up the value chain to dominate value-added materials processing and associated manufacturing supply chains. The report in response to EO 13806 emphasizes particular areas of concern to the United States industrial base in "widely used and specialized metals, alloys, and other materials, including rare earths and permanent magnets." In response to the report, in July 2019, President Donald Trump signed five Presidential Determinations (PDs), authorizing the use of DPA Title III authorities to address resource shortfalls in the rare earth elements supply chain, including (1) light rare earth elements separation and processing, (2) heavy rare earth separation and processing, (3) production of rare earth metals and alloys, (4) production of Neodymium Iron Boron (NdFeB) rare earth permanent magnets, and (5) the production of Samarium Cobalt (SmCo) rare earth permanent magnets.

The U.S. industry for production of REEs was once robust. From the 1960s through the 1990s, the U.S. and Japan led much of the early development of rare earth applications. However, China has taken a dominant position of world markets in rare earth materials. The Chinese government further strengthened its market dominance through anticompetitive means, including quotas and regulation of the volume of domestic production. In 2015, the World Trade Organization (WTO) ruled in favor of the U.S. that Chinese quotas and other restrictive policies were in violation of WTO rules.[1] However, China's dominant position in rare earth materials production has not significantly changed since this ruling.

The significant cost and environmental considerations placed upon U.S. domestic companies, the challenge posed by a strategic competitor using predatory economic practices, and the desire of U.S. companies to avoid risky investments make the current environment one that is nearly impossible for timely establishment of a domestic capability. To counteract this unfavorable climate, the government will need to provide expedient and sustained long-term investments in each of the five areas identified in the PDs that have been signed covering this industrial category. It is anticipated that each of these shortfalls will require multiple capital-intensive projects, and the projected investments required to establish the capabilities and increase the capacities necessary for national defense far exceed the $50,000,000 limit for each of the identified supply chain areas. Raising the spending limits on each of the individual PDs to $350,000,000 will allow the DPA Title III program office to expend up to $1,750,000,000 in total to mitigate the identified rare earth elements supply chain shortfalls as have heretofore been identified. The proposed legislation would also alleviate the constraint of notifying Congress and waiting 30 days thereafter to take actions exceeding $50,000,000, given this pre-existing approval to spend up to $350,000,000 on each of the shortfalls already identified in PDs and appropriately reported to Congress.

(b) Critical Chemicals for DoD Missiles and Munitions: The proposed modifications to add clauses (vi) through (ix) in new paragraph (8)(B) of section 303(a) to the Defense Production Act of 1950 will aid in more effectively addressing critical, capital-intensive industrial base shortfalls for critical chemicals for DoD missiles and munitions. The report in response to EO 13806 highlights domestic industrial base shortfalls in chemical production for those chemicals critical for DoD missiles and munitions as a significant risk to the United States. The report further describes risks posed by a dependence upon foreign sources of supply and sole sources

[1] World Trade Organization. "DS431: China — Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum." https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds431_e.htm

for some chemicals, with reliance upon China being a leading concern driving prioritization of projects against this line of effort. In response to the report, in January of 2019, President Donald Trump signed four PDs authorizing the use of DPA Title III authorities to address resource shortfalls in the critical chemicals for Department of Defense Missiles and Munitions, including- (1) precursor materials, (2) inert materials, (3) energetic materials, and (4) advanced manufacturing techniques for such products.

China is currently the sole source or primary supplier for many chemicals required to make ingredients in missiles and munitions end items. In many cases, there is no other source for these foreign sourced materials and no drop-in alternatives are available. A sudden and catastrophic loss of supply due to restrictions from foreign suppliers, industrial accidents, natural disasters, or wartime damages would impact critical DoD programs for many years and severely disrupt DoD munitions, satellites, space launches, and other defense manufacturing programs. Even in instances where replacements exist, the time and cost to test and qualify a new material could be prohibitive—especially for larger systems where the costs could amount to hundreds of millions of dollars for each individual component. Due to the small demand for materials used in many weapons systems compared to materials used for commercial products, domestic companies have stopped making these necessary materials in the quantities required to support the national defense and the warfighter. Unfavorable business cases to continue production for weapon systems discourage domestic investment in this sector. This lack of investment has led to many costly obsolescence issues for the DoD, increasing the risk of being unable to procure the necessary materials for the weapon systems and negatively affecting Defense readiness.

To mitigate the risks associated the above described shortfalls, the government will need to provide expedient and sustained long-term investments in the areas of the supply chain identified in the PDs. It is anticipated that each of the identified shortfalls will require multiple projects, and the projected investments required to establish the capabilities and increase the capacities necessary for national defense far exceed the $50,000,000 limit for each area. Raising the limits on each of the individual PDs to $350,000,000 will allow the DPA Title III program office to expend up to $1,400,000,000 in total to mitigate the identified critical chemicals for DoD missiles and munitions shortfalls.

(c) Radiation-Hardened Electronics. The proposed modifications to add clause (x) in new paragraph (8)(B) of section 303(a) to the Defense Production Act of 1950 will aid in more effectively addressing critical, capital-intensive industrial base shortfalls for radiation-hardened electronics. In December of 2001, USD(AT&L) Edward Aldridge signed a PD for Advanced Radiation Hardened Microelectronics. At that time there was a $50,000,000 limitation (much like that now in effect); however, in section 3 of the Defense Production Act Reauthorization of 2003 (Public Law 108-195, December 2003)[2] Congress permitted an aggregate amount of $200,000,000 for the effort (increasing a previously approved exception that permitted an aggregate of $106,000,000). To date, efforts under this PD have expended $163,477,000 against the $200,000,000 limitation, leaving an available amount of just $26,523,000. Raising the limit

[2] PUBLIC LAW 108-195, SEC. 3. RESOURCE SHORTFALL FOR RADIATION HARDENED ELECTRONICS.

(a) IN GENERAL.—Notwithstanding the limitation contained in section 303(a)(6)(C) of the Defense Production Act of 1950 (50 U.S.C 4533(a)(6)(C), the President may take actions under section 303 of the Defense Production Act of 1950 to correct the industrial resource shortfall for radiation-hardened electronics, to the extent that such Presidential actions do not cause the aggregate outstanding amount of all such actions to exceed $200,000,000.

to $350,000,000 for this industrial base shortfall will provide sufficient funds to continue mitigation efforts and address emergent requirements as DoD modernizes its strategic systems which rely upon advanced radiation-hardened electronics.

The additional funds provided by raising the spending cap will ensure the only remaining on-shore, Defense Microelectronics Activity (DMEA)-accredited trusted producer of Radiation Hardened Microelectronics components, is available for strategic nuclear weapons systems. Section 1670 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91, Dec. 12, 2017) requires: "Not later than December 31, 2020, the Secretary of Defense shall submit to the congressional defense committees a certification that an assured capability to produce or acquire strategic radiation hardened trusted microelectronics, consistent with Department of Defense Instruction 5200.44, is operational and available to supply necessary microelectronic components for necessary radiation environments involved with the acquisition of delivery systems for nuclear weapons." The additional funding requested will aid in ensuring the expressed intent of Congress is met.

(d) Hypersonic and Strategic Systems. The proposed modifications to add new paragraph (9) to section 303(a) of the Defense Production Act of 1950 will aid in more effectively addressing critical, capital-intensive industrial base shortfalls in hypersonic and strategic systems. Hypersonic strike has been identified as a game changing capability as it enables the warfighter to prosecute high value, time critical targets from standoff ranges. The U.S. has invested in hypersonic capabilities as far back as 1961; however, investments in hypersonic systems, including materials capable of withstanding the high temperature demands of hypersonics, have been sparse and intermittent since the cancellation of the National Aero-Space Plan (NASP). This has led the hypersonic engineering and industrial base to survive by relying on minimal exploratory R&D, and, where possible, industry has attempted to sustain human capital by leveraging them against tangential markets. Many DoD senior leaders believe the U.S. has lost its pre-eminence in this critical technology capability based on observed capabilities from our potential near-peer adversaries. In response, the DoD has rapidly accelerated funding for the development of operational prototypes and manufacturing technologies across the spectrum of hypersonic systems. The unique requirements demanded by these intense missions cannot be readily met by other industries, and the current industrial base is only suited to develop prototype level production to support these systems. In some cases the industrial base is failing to even meet the demand to fulfill these prototype programs.

This demand risk is compounded as the DoD is working to recapitalize its strategic systems that rely on the same fragile industrial base. For example, the Air Force Nuclear Weapons Center (AFNWC) Ground Based Strategic Deterrence (GBSD) system requires similar materials to those required for hypersonic systems for re-entry vehicle thermal protection systems and solid rocket motor nozzle throats. In addition to these applications, DoD, NASA, and National Security customers rely on this industrial base for rocket nozzle throats and nozzle extensions. Production demand for these materials and components is expected to grow dramatically and existing domestic production capacity will be completely subscribed as early as 2021.

Proactively eliminating the spending limit on hypersonic-related investments of section 303(a)(6) (C) and removing the 30-day notification requirement of 303(a)(6)(B) will greatly improve the ability of the DPA Title III program to assist the transition of technologies from research and development prototypes to the production capacities required to meet the DoD's

needs. It is anticipated that PDs to address shortfalls in the hypersonic and strategic systems industrial base will be executed soon, including ultra-high and high temperature composites (U/HTC) which are used for leading edges, aeroshells, and windows, as well as critical components for the strategic systems that are being concurrently recapitalized. For this one industrial base shortfall alone, it is highly likely that multiple projects will be required to ensure there is not a shortage of the various parts that all require U/HTC materials. Investment costs will be driven by the need to directly scale all of these components from prototype volumes to full rate production in short periods of time to meet their schedule targets.

Budget Implications: The proposal is a proactive measure to remove the spending limits as the program anticipates needing to expend more than $50M in each of the identified areas in upcoming years. The table below is illustrative in nature, and the numbers provided depict the funds obligated and/or planned utilizing fiscal year 2020 and prior year funds, as well as estimated funding requirements for continued mitigation efforts in industrial resource shortfalls.

RESOURCE IMPACT ($MILLIONS)										
Program	**FY 2020 & Prior Years**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**Appropriation**	**Budget Activity**	**BLI/ SAG**	**Program Element (for all RDT&E programs)**
DPA Title III Rare Earth Elements	125.00	37.00	37.00	10.00	18.00	30.00	Defense Production Act Purchases	01	Title III	0902199D8Z
DPA Title III Critical Chemicals	5.50	39.30	31.42	44.08	21.53	14.56	Defense Production Act Purchases	01	Title III	0902199D8Z
DPA Title III Radiation Hardened Electronics	200.00	20.68	20.68	20.69	20.69	20.69	Defense Production Act Purchases	01	Title III	0902199D8Z
DPA Title III Hypersonics	-	40.00	50.00	40.00	60.00	50.00	Defense Production Act Purchases	01	Title III	0902199D8Z
Total	255.50	136.98	139.10	114.77	120.22	115.25				

Changes to Existing Law: This proposal would make the following changes to section 303 of the Defense Production Act (10 U.S.C. 4533):

§4533. Other presidential action authorized

(a) In general

(1) In general

To create, maintain, protect, expand, or restore domestic industrial base capabilities essential for the national defense, the President may make provision-

(A) for purchases of or commitments to purchase an industrial resource or a critical technology item, for Government use or resale;

(B) for the encouragement of exploration, development, and mining of critical and strategic materials, and other materials;

(C) for the development of production capabilities; and

(D) for the increased use of emerging technologies in security program applications and the rapid transition of emerging technologies-

(i) from Government-sponsored research and development to commercial applications; and

(ii) from commercial research and development to national defense applications.

(2) Treatment of certain agricultural commodities

A purchase for resale under this subsection shall not include that part of the supply of an agricultural commodity which is domestically produced, except to the extent that such domestically produced supply may be purchased for resale for industrial use or stockpiling.

(3) Terms of sales

No commodity purchased under this subsection shall be sold at less than-

(A) the established ceiling price for such commodity, except that minerals, metals, and materials shall not be sold at less than the established ceiling price, or the current domestic market price, whichever is lower; or

(B) if no ceiling price has been established, the higher of-

(i) the current domestic market price for such commodity; or

(ii) the minimum sale price established for agricultural commodities owned or controlled by the Commodity Credit Corporation, as provided in section 1427 of title 7.

(4) Delivery dates

No purchase or commitment to purchase any imported agricultural commodity shall specify a delivery date which is more than 1 year after the date of termination of this section.

(5) Presidential determinations

Except as provided in paragraph (7), the President may not execute a contract under this subsection unless the President, on a non-delegable basis, determines, with appropriate explanatory material and in writing, that-

(A) the industrial resource, material, or critical technology item is essential to the national defense;

(B) without Presidential action under this section, United States industry cannot reasonably be expected to provide the capability for the needed industrial resource, material, or critical technology item in a timely manner; and

(C) purchases, purchase commitments, or other action pursuant to this section are the most cost effective, expedient, and practical alternative method for meeting the need.

(6) Notification to Congress of shortfall

(A) In general

Except as provided in paragraph (7), the President shall provide written notice to the Committee on Banking, Housing, and Urban Affairs of the Senate and the Committee on Financial Services of the House of Representatives of a domestic industrial base shortfall prior to taking action under this subsection to remedy the shortfall. The notice shall include the determinations made by the President under paragraph (5).

(B) Aggregate amounts

If the taking of any action under this subsection to correct a domestic industrial base shortfall would cause the aggregate outstanding amount of all such actions for such shortfall to exceed $50,000,000, the action or actions may be taken only after the 30-day period following the date on which the Committee on Banking, Housing, and Urban Affairs of the Senate and the Committee on Financial Services of the House of Representatives have been notified in writing of the proposed action.

(C) Limitation

If the taking of any action or actions under this section to correct an industrial resource shortfall would cause the aggregate outstanding amount of all such actions for such industrial resource shortfall to exceed $50,000,000, no such action or actions may be taken, unless such action or actions are authorized to exceed such amount by an Act of Congress.

(7) Waivers authorized

The requirements of paragraphs (1) through (6) may be waived-

(A) during a period of national emergency declared by the Congress or the President; or

(B) upon a determination by the President, on a nondelegable basis, that action is necessary to avert an industrial resource or critical technology item shortfall that would severely impair national defense capability.

(8) Exception for certain shortfall categories.—

(A) In general.—

(i) The requirements of paragraph (6)(B) do not apply industrial resources shortfalls in the categories listed in subparagraph (B).

(ii) Notwithstanding the limitation under paragraph (6)(C), the aggregate amount of all actions for each industrial resources shortfall in the categories listed in subparagraph (B) may not exceed $350,000,000, unless such action or actions are authorized to exceed such amount by an Act of Congress.

(B) Categories.—The categories listed in this subparagraph are as follows:

(i) Light rare earth separation and processing.

(ii) Heavy rare earth separation and processing.

(ii) Rare earth metal and alloys production.

(iv) Neodymium Iron Boron rare earth permanent magnets production.

(v) Samarium Cobalt rare earth permanent magnets production.

(vi) Precursor materials for critical chemicals for missiles and munitions.

(vii) Inert materials for critical chemicals for missiles and munitions.

(viii) Energetic materials for critical chemicals for missiles and munitions.

(ix) Advanced manufacturing techniques for critical chemicals for missiles and munitions.

(x) Radiation-hardened electronics.

(9) The requirements of paragraph (6)(B) and (6)(C) do not apply to shortfalls for any industrial resources, material, or critical technology item used in furthering hypersonic systems and strategic systems.

(b) Exemption for certain limitations

Subject to the limitations in subsection (a), purchases and commitments to purchase and sales under subsection (a) may be made without regard to the limitations of existing law (other than section 1341 of title 31), for such quantities, and on such terms and conditions, including advance payments, and for such periods, but not extending beyond a date that is not more than 10 years from the date on which such purchase, purchase commitment, or sale was initially made, as the President deems necessary, except that purchases or commitments to purchase involving higher than established ceiling prices (or if no such established ceiling prices exist, currently prevailing market prices) or anticipated loss on resale shall not be made, unless it is

determined that supply of the materials could not be effectively increased at lower prices or on terms more favorable to the Government, or that such purchases are necessary to assure the availability to the United States of overseas supplies.

(c) Presidential findings

(1) In general

The President may take the actions described in paragraph (2), if the President finds that-

(A) under generally fair and equitable ceiling prices, for any raw or nonprocessed material, there will result a decrease in supplies from high-cost sources of such material, and that the continuation of such supplies is necessary to carry out the objectives of this subchapter; or

(B) an increase in cost of transportation is temporary in character and threatens to impair maximum production or supply in any area at stable prices of any materials.

(2) Subsidy payments authorized

Upon a finding under paragraph (1), the President may make provision for subsidy payments on any such domestically produced material, other than an agricultural commodity, in such amounts and in such manner (including purchases of such material and its resale at a loss), and on such terms and conditions, as the President determines to be necessary to ensure that supplies from such high-cost sources are continued, or that maximum production or supply in such area at stable prices of such materials is maintained, as the case may be.

(d) Incidental authority

The procurement power granted to the President by this section shall include the power to transport and store and have processed and refined any materials procured under this section.

(e) Installation of equipment in industrial facilities

(1) Installation authorized

If the President determines that such action will aid the national defense, the President is authorized-

(A) to procure and install additional equipment, facilities, processes or improvements to plants, factories, and other industrial facilities owned by the Federal Government;

(B) to procure and install equipment owned by the Federal Government in plants, factories, and other industrial facilities owned by private persons;

(C) to provide for the modification or expansion of privately owned facilities, including the modification or improvement of production processes, when taking actions under section 4531 of this title, 4532 of this title, or this section; and

(D) to sell or otherwise transfer equipment owned by the Federal Government and installed under this subsection to the owners of such plants, factories, or other industrial facilities.

(2) Indemnification

The owner of any plant, factory, or other industrial facility that receives equipment owned by the Federal Government under this section shall agree-

(A) to waive any claim against the United States under section 9607 or 9613 of title 42; and

(B) to indemnify the United States against any claim described in paragraph (1) made by a third party that arises out of the presence or use of equipment owned by the Federal Government.

(f) Excess metals, minerals, and materials

(1) In general

Notwithstanding any other provision of law to the contrary, metals, minerals, and materials acquired pursuant to this section which, in the judgment of the President, are excess to the needs of programs under this chapter, shall be transferred to the National Defense Stockpile established by the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98 et seq.), when the President deems such action to be in the public interest.

(2) Transfers at no charge

Transfers made pursuant to this subsection shall be made without charge against or reimbursement from funds appropriated for the purposes of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98 et seq.), except that costs incident to such transfer, other than acquisition costs, shall be paid or reimbursed from such funds.

(g) Substitutes

When, in the judgement of the President, it will aid the national defense, the President may make provision for the development of substitutes for strategic and critical materials, critical components, critical technology items, and other industrial resources.