



U.S. Air Force Staff Sgt. Kenyah Smith, 25th Fighter Generation Squadron weapons load crew member, inspects munitions during a weapons load crew competition at Osan Air Base, Republic of Korea, June 9, 2023. Smith was one of three members representing the A-10C Thunderbolt II team during the competition, where the event consisted of building and loading weapons onto an F-16 Fighting Falcon and A-10 aircraft. (U.S. Air Force photo by Senior Airman Thomas Sjoberg)

Reimagining U.S. Industrial Mobilization

By Alexis Johnson

Arthur Herman, in *Freedom's Forge*, observed: “Business leaders discovered that in a crisis their most valuable assets were not just factories and capital, but their own knowledge, skills, and ideas.”¹ This insight captures the essence of how the United States

emerged as a global industrial powerhouse during and after World War II through the rapid expansion and mobilization of a formidable defense industrial base (DIB). However, the scale, agility, and integration of today’s DIB no longer mirror the wartime capacities of that era. As a result,

the United States now faces a strategic vulnerability not encountered since the Second World War—an emerging challenge posed by a near-peer competitor with growing military and industrial capabilities. This vulnerability is particularly acute in the Pacific region, where the ability to sustain joint force operations during a large-scale mobilization or peer conflict is increasingly at risk. The current defense logistics system, while effective in steady-state operations, is not optimized for the scale, distribution, and

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surge demands required in a contested Pacific environment. The United States has not had a formalized mechanism for integration during crisis since the War Production Board, established in 1942 to coordinate and direct war-related industrial production.²

Today, while the Organic Industrial Base (OIB) remains vital for depot-level sustainment, it is increasingly strained by aging infrastructure, workforce shortages, and limited surge capacity. The OIB is the Department of War–maintained “network of industrial facilities that produce certain kinds of equipment (mainly conventional ammunition) and conduct repair, maintenance, and overhaul activities for various weapons systems.”³ To prepare for the possibility of a high-end conflict in the Pacific between 2027 and 2030, the United States must implement a modern counterpart to that wartime framework, one that ensures sustainment readiness across a distributed and contested logistics environment. In this article, the author proposes the establishment of a Civil Reserve Sustainment Readiness Program (CRSRP), a public-private logistics framework modeled on successful initiatives such as the Civil Reserve Air Fleet. The CRSRP would formalize and mobilize commercial sustainment infrastructure during crisis or mobilization, leveraging maintenance, repair, and overhaul (MRO) capacity, skilled labor, and commercial facilities to augment military sustainment through Federal incentives, pre-negotiated contracts, and strategic alignment with national defense objectives.

The Case for a Civil Reserve Sustainment Readiness Program

Today, the only existing authority that closely resembles the intent and function of the CRSRP is the Defense Production Act (DPA). The DPA provides the President with a number of authorizations that the President may use to influence domestic industry in the interest of national defense.⁴ However, although the DPA plays a vital role in expanding industrial production and accelerating the manufacturing and delivery of critical components, it does

not offer a structured mechanism for pre-integrating commercial sustainment services—such as MRO, warehousing, or forward logistics—into military operations. In contrast, the Civil Reserve Air Fleet and the Voluntary Intermodal Sealift Agreement serve as long-standing public-private partnerships that provide the Department of War (DOW) with access to commercial air and sealift capacity during times of crisis or large-scale mobilization.⁵ Though both programs are indispensable for strategic transportation, they are limited in scope and do not address the broader array of sustainment functions required to support contested logistics environments and prolonged joint operations.

The author’s firsthand observations at major OIB depots across the military Services further underscore the urgent need for a CRSRP. Although these depots play an essential role in sustaining combat power, they face a number of common challenges: chronic understaffing amid an aging workforce, deteriorating infrastructure with limited prospects for military construction (MILCON) funding, persistent supply chain vulnerabilities amplified by recent global disruption such as the COVID-19 pandemic, and a bureaucratic environment that hinders timely action.⁶ These structural vulnerabilities highlight the difficulty the OIB would face in meeting surge demands, sustaining forward operations, and preserving readiness in a contested logistics environment. A CRSRP would not only fill this gap but also serve as a strategic force multiplier. It would transform the industrial base from just a builder of war to a sustainer of combat power.

Integrating Commercial Industry into U.S. Defense Sustainment

Throughout the author’s OIB seminar studies and visit to the Republic of Korea, one point came up repeatedly: if a crisis happens in theater, it will take weeks or months for the follow-on forces and weapon systems to arrive.⁷ The Regional Sustainment Framework—DOW’s strategic approach to building a globally integrated, resilient, and collaborative

sustainment ecosystem that aligns the United States, allies, and industry to deliver MRO capabilities near the fight—is supposed to be the answer to address MRO concerns in theater.⁸ However, a future war with a near peer may present a need for a surge of MRO capacity and capability for weapon systems in the United States to get to the theater quickly to replenish the joint forces.

To ensure strategic sustained readiness and MRO of weapons systems during crisis and military mobilization, the United States should establish a CRSRP. With this article, the author proposes a public-private partnership framework designed to enhance the U.S. military’s sustainment capacity by formally integrating commercial logistics and maintenance capabilities into contingency planning and wartime operations. The CRSRP would establish Federal incentives, subsidies, and pre-negotiated agreements with industry partners across the sustainment enterprise, including MRO workforce capacity, facilities, and expertise to augment military sustainment operations. The program’s primary objective would be to ensure that, in the event of a large-scale mobilization or peer conflict, DOW can rapidly activate and scale commercial sustainment resources to augment the OIB and maintain force readiness in contested or degraded environments.

While traditional defense contractors such as Boeing and Northrop Grumman would be expected to play a central role in the CRSRP, the program must expand beyond conventional industry participants. A forward-leaning, strategically adaptive approach requires leveraging nontraditional commercial companies with large-scale maintenance operations, infrastructure, and supply chains that either mirror or can be modified to support military MRO needs. Given the scale and complexity of a potential conflict with a near-peer adversary—something that the United States has not faced since World War II—the sustainment enterprise must adopt an innovative and expansive mindset. In short, we must think beyond the defense-industrial complex to build a robust and flexible sustainment network.



U.S. Airmen assigned to the 509th Bomber Generation Squadron weapons section prepare to load AGM-158 joint air-to-surface standoff missiles into a B-2 Spirit weapons trainer at Whiteman Air Force Base, Missouri, August 8, 2025. The Airmen participated in a weapons load competition that tested them on various components of loading munitions. (U.S. Air Force photo by Staff Sgt. Joshua Hastings)

Several commercial sectors and companies offer promising potential for integration into the CRSRP, particularly those with large-scale, high-readiness maintenance and logistics operations. In the maritime sector, companies like Carnival Corporation and Royal Caribbean Group manage complex global fleets and maintain contracts with international shipyards, offering scalable port logistics and ship maintenance capabilities.⁹ BAE Systems Ship Repair provides significant commercial ship repair services across key U.S. ports, such as San Diego and Jacksonville.¹⁰

In the aviation sector, firms like Delta TechOps (the MRO division of Delta Air Lines) and American Airlines maintain large commercial fleets with extensive depot-level repairs and global logistics capability, already serving both the military and the civilian market.¹¹ For ground transportation, Ryder Systems operates thousands of

maintenance and logistics centers across the country, while WM (formerly Waste Management) maintains a fleet of heavy-duty vehicles supported by a highly distributed maintenance network.¹²

The heavy equipment and industrial machinery sector also presents valuable opportunities. Caterpillar offers global sustainment infrastructure, field repair capabilities, and a robust network ideal for combat engineering platforms.¹³ Similarly, the John Deere Defense Division provides direct support to military engineering and sustainment units.¹⁴ Lastly, nontraditional enterprises such as amusement parks and resorts possess surprising relevance. Disney Theme Parks and Six Flags maintain sophisticated and security-critical systems that all require round-the-clock maintenance by highly skilled technical teams.¹⁵

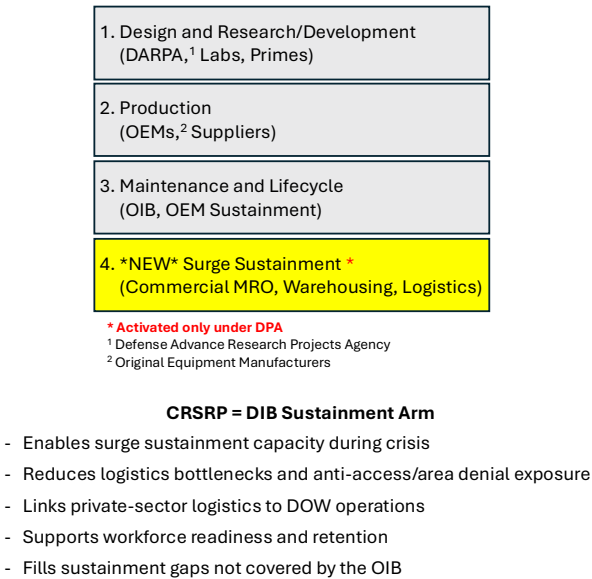
These sectors collectively represent a diverse and capable industrial base that, when aligned with the CRSRP, could

significantly bolster the nation's sustainment readiness in a future contested environment. As proposed, the CRSRP would offer Federal incentives, subsidies, and contractual agreements to these companies in exchange for pre-committed access to a portion of their workforce capacity, technical expertise, infrastructure, and supply networks. This approach would not only enhance surge readiness but also strengthen national resilience by expanding the sustainment base beyond traditional military-industrial actors.

Bridging Production and Endurance

To operate the CRSRP as a formal and durable component of the national defense strategy, a new title should be added to the Defense Production Act (DPA), complementing existing authorities under Titles I and III, which focus primarily on production prioritization and industrial capacity expansion.¹⁶ Although the DPA supports

Figure 1. Defense Industrial Base Layers



Source: Author.

manufacturing surge and resource allocation, it lacks a structured mechanism for sustaining military operations through a commercial logistics partnership. Therefore, the proposed new title—Title VIII: Civil Sustainment and Mobilization Readiness—would provide the statutory foundation to organize, incentivize, and coordinate civilian MRO and logistics partners under a unified national mobilization framework. By structuring the CRSRP within the DPA, the new title would directly expand the scope of the DIB to include sustainment surge capability, bridging the gap between production readiness and operational endurance in future conflicts (see figure 1).

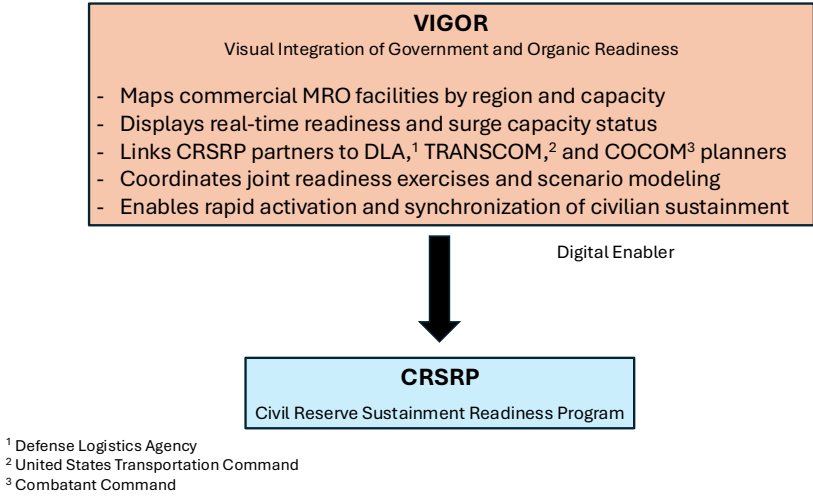
This addition would align the CRSRP with broader resilience efforts for the industrial base, establish readiness reporting and activation protocols, and enable annual exercises to validate commercial sustainment integration in support of joint operations. To support these objectives, the author proposes Visualized Integration of Government and Organic Readiness (VIGOR), which would provide the operational interface needed to manage CRSRP participation, sustainment visibility, and surge activation across the commercial industrial base. In DOW’s evolving logistics architecture,

Global Enterprise Network for Universal Sustainment (GENUS) is to the Regional Sustainment Framework (RSF) what VIGOR would be to the CRSRP, with each serving as the digital backbone for its respective strategic framework. The RSF outlines DOW’s vision for aligning U.S., allied, and industry sustainment capabilities in a globally distributed and contested logistics environment.¹⁷ To operationalize that vision, one of

GENUS’s capabilities is providing a data-driven platform that connects depots, commercial MRO facilities, and forward logistics nodes, enabling real-time sustainment coordination and predictive decision-making.¹⁸ Similarly, the CRSRP seeks to integrate commercial sustainment capacity into wartime logistics operations. Its digital enabler, VIGOR, would serve as the readiness management and coordination tool, mapping commercial MRO capabilities, tracking surge readiness, and coordinating activation plans and exercises (see figure 2).

VIGOR is envisioned as the operational control system for the CRSRP. Designed to provide visibility, coordination, and readiness management of commercial sustainment partners, VIGOR would function as a digital dashboard enabling real-time insight into available MRO capacity across the commercial sector. It would allow DOW and its logistics agencies to track which commercial facilities are surge-ready, what services they offer, and how quickly they can be activated. VIGOR would integrate sustainment planning with scenario modeling, track facility readiness status (for example, workforce, parts inventory, and certifications), and coordinate exercises with CRSRP participants. Much like GENUS provides decision support for global logistics under the RSF, VIGOR

Figure 2. How VIGOR Would Enable the CRSRP



Source: Author.

would enable scalable activation and synchronization of sustainment capacity across a distributed commercial network, ensuring that the joint force has the logistical depth it needs in crisis or conflict.

Analytical Framework of the CRSRP

Theory of Constraints

Applying the Theory of Constraints to the CRSRP provides a crucial framework for maximizing its effectiveness. This theory suggests that a small number of constraints limit any system's performance.¹⁹ For the CRSRP, the primary constraint appears to be a lack of governance and readiness visibility. Without clear legal authority, such as the proposed Title VIII under the Defense Production Act, and a digital tool like VIGOR to track and manage commercial partners, the program would lack essential structure. Therefore, the initial focus should be on exploiting existing public-private models like the Civil Reserve Air Fleet and the Voluntary

Intermodal Sealift Agreement, along with current tools like GENUS, as interim solutions until legislation is passed to finalize the CRSRP. All other activities, including acquisition, outreach, and policy development, should be subordinated to support establishing this governance and visibility. Elevating the constraint requires structuring the CRSRP with proper funding and authority and fully developing VIGOR. Following implementation, the process should be repeated to identify and address subsequent constraints, such as activation speed, supply chain resilience, or transportation challenges. This continuous application of the Theory of Constraints will ensure that the CRSRP remains adaptable and ready to meet evolving defense sustainment needs.

Supply and Demand

The CRSRP can be analyzed through the lens of supply and demand. On the demand side, DOW faces increasing sustainment needs because of

geopolitical factors, aging infrastructure, and a shrinking workforce. This creates a demand for surge repair capacity, rapid MRO turnaround, and flexible warehousing and transportation—a demand the OIB struggles to meet alone. Conversely, the commercial sector possesses a significant MRO and logistics capacity, representing a substantial supply. However, this supply remains inaccessible to DOW during crises because of the lack of legal frameworks, readiness visibility, and economic incentives. The CRSRP would bridge this gap by acting as a market alignment mechanism. It would leverage pre-negotiated contracts, incentives, and predictable demand signals to encourage commercial participation while employing tools like VIGOR to provide real-time visibility into available resources. This would effectively shift the supply curve to the right, increasing availability and lowering costs during emergencies. Essentially, the CRSRP would transform unstructured commercial capacity into a



U.S. Air Force Airman 1st Class Cameron Dunlap, 509th Bomber Generation Squadron weapons load crew member, adjusts a strap during a weapons load competition at Whiteman Air Force Base, Missouri, August 8, 2025. Airmen were tasked with loading AGM-158 joint air-to-surface standoff missiles into a B-2 Spirit weapons trainer during the competition. (U.S. Air Force photo by Staff Sgt. Joshua Hastings)

managed, reliable surge supply, ensuring that DOW can meet spiking demand during crises.

The CRSRP's Relevance to Key Strategic Goals

The CRSRP would directly support three key strategic objectives: reimagining the OIB of the future, supporting the RSF, and bolstering MRO readiness for potential peer conflict. First, the CRSRP would augment the OIB's future operating model by expanding capacity beyond government-owned depots through pre-arranged public-private sustainment partnerships. This would provide scalable, distributed surge capacity, enhancing readiness in high-demand scenarios and transitioning the OIB from a centralized model focused on the contiguous United States to a hybrid network integrating organic and commercial capabilities. Second, the CRSRP would bolster the RSF by providing surge capacity, strategic backhaul, and repair services, enhancing global logistics chain resilience and extending joint force endurance. Finally, the CRSRP would enhance MRO readiness by formally structuring commercial industrial base participation to provide on-demand repair, warehousing, and transportation support during crises or conflicts. This capability is essential for countering near-peer adversaries, where rapid force regeneration and logistic resilience will be decisive factors in determining operational outcomes.

The Challenges of the CRSRP

Current DOW policy, as stipulated by the "50-50 rule" (10 U.S.C. § 2466), mandates the allocation of at least 50 percent of depot-level maintenance workload to the OIB, composed of DOW-operated depots.²⁰ While this apportionment safeguards OIB viability during peacetime, it may introduce limitations during large-scale mobilization scenarios. The CRSRP, a surge mobilization framework activated under national emergency authorities such as the DPA, should therefore be exempt from this restriction. Applying peacetime workload limitations to the CRSRP during a major conflict would undermine its core purpose: the rapid

mobilization of commercial MRO and logistics capacity to augment joint force readiness. Consequently, upon activation of the DPA, waiving the 50-50 rule would be crucial to ensure the CRSRP's full potential is realized, providing the necessary agility, scalability, and sustainment depth for effective operation in contested environments.

Another key challenge in implementing the CRSRP hinges on effectively addressing the complex challenge of sharing technical data and maintenance documentation with commercial partners. Unlike transportation-focused programs like the Civil Reserve Air Fleet and the Voluntary Intermodal Sealift Agreement, the CRSRP necessitates access to sensitive information, including technical orders, proprietary specifications, and diagnostic software, often controlled by original equipment manufacturers or the Federal Government for intellectual property (IP) protection and security reasons. This creates obstacles related to IP and licensing constraints, as well as cybersecurity and operational security concerns regarding potential exposure of system vulnerabilities. A robust legal and technical framework encompassing data rights, nondisclosure agreements, cybersecurity protocols, and stringent contractor vetting is essential. Furthermore, preemptive acquisition of sufficient Government Purpose Rights in technical data during procurement is vital to ensure DOW's ability to delegate sustainment tasks during national emergencies. Failure to resolve these data-sharing issues will impede effective repairs and diagnostics by CRSRP partners, ultimately undermining the program's surge sustainment capabilities.

Policy Recommendations to Activate the CRSRP

To make the CRSRP a fully operational and enduring component of national defense strategy, the following recommended actions must be implemented across the domains:

1. **Add Title VIII to the Defense Production Act (legislative authority):** A proposed DPA Title VIII

would authorize the government to pre-identify, contract, and incentivize commercial sustainment providers, waive peacetime restrictions, secure data rights, and mandate interagency coordination for crisis mobilization.

2. **CRSRP Office within the Office of the Secretary of War (program governance):** An Office of the CRSRP, under the Assistant Secretary of War for Sustainment, would manage a partner registry, coordinate CRSRP integration with military Services and interagency logistics planning, and oversee VIGOR platform development.
3. **Multiyear Funding and Incentive Authority (budget mechanism):** Congress should appropriate funds under the CRSRP account that would authorize multiyear funding agreements, support exercises and training, fund readiness incentives and facility upgrades, and enable rapid disbursement during crises.
4. **Public-Private Sustainment Agreements (legal framework):** CRSRP contracts should predefine activation criteria, mandate readiness standards including cybersecurity and IP protection, and specify participation levels during surge periods.
5. **Develop and Deploy the VIGOR Platform (digital infrastructure):** VIGOR will map CRSRP facilities, model surge activations, integrate with RSF data systems, and enable interagency tasking of commercial partners.

From Industrial Agility to Strategic Endurance

In today's era of Great Power competition, the ability to sustain the joint force in contested environments is no longer a logistic detail; it is a strategic imperative. The CRSRP offers a modern solution to a modern problem: how to rapidly expand sustainment capacity and resilience through pre-integrated commercial partnerships. Building on the lessons of World War II, the CRSRP would formalize access to commercial MRO, logistics, and infrastructure, ensuring that DOW can surge capabilities during a crisis when organic resources fall short. As this article



U.S. Air Force Staff Sgt. Peter Bryant, 8th Aircraft Maintenance Unit weapons load crew chief, assists in loading a GBU-38 bomb onto a F-16 Fighting Falcon during the 4th Quarter Load and Maintenance Competition at Holloman Air Force Base, New Mexico, January 30, 2026. Airmen participating in the competition were evaluated on job ability and efficiency while working as a cohesive unit to simulate preparing mission-ready aircraft. (U.S. Air Force photo by Airman 1st Class Ryan Witkop)

has argued, the CRSRP would support the strategic goals of reimagining the OIB of the future, supporting the RSF, and ensuring MRO readiness for peer conflict. By structuring the CRSRP under a new Title VIII of the DPA, the United States can build a sustainment enterprise capable of withstanding the rigors of future war. In doing so, the nation will not only restore industrial agility but will also reassert a foundational truth: victory in conflict depends not only on who can build faster but also on who can sustain longer. The CRSRP would ensure that the United States is prepared to do both. JFQ

Notes

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