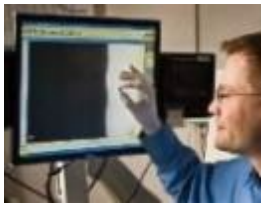
Defense Programs Supply Chain 2030

… a Vision for the Future Defense Programs Supply Chain

National Nuclear Security Administration

DEFENSEPROGRAMS

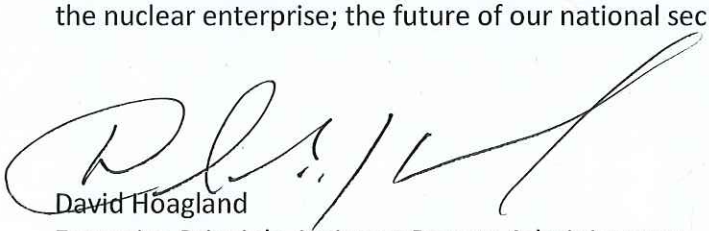


Foreword

The next decade will offer Defense Programs (DP), in partnership with our laboratories, plants, and sites (LPS), many opportunities to improve our efficiency and effectiveness in our efforts to support the National Nuclear Security Administration's (NNSA) Vision "*to anticipate tomorrow's nuclear and national security challenges and deliver timely, innovative solutions*." The resurgence of great power competition, and its potential implications for defense and deterrence, have renewed interest in recapitalization and growth in the United States' Nuclear Security Enterprise (NSE). This has driven new and increased demands on the NNSA as we, along with our contractor and vendor partners that make up the NSE Industrial Base (NIB), continue to support that recapitalization and growth in future years. We must continue to find solutions to enable a resilient, responsive, and environmentally conscious NSE. Added to these demands, the COVID-19 pandemic and resulting impacts on the world's supply chains created challenges that drew attention to some of DP's commercial supply chain operations that merit special attention and improvement.

DP needs a long-term, strategic vision to drive significant changes to our supply chain network activities to continue supporting NNSA's mission. During the pandemic, we saw the President issue Executive Order 14017 on America's Supply Chains in 2021. In a 2022 response, the Secretary of Energy called for the enhancement of supply chain knowledge and decision-making within the department. I must ensure the vision set forth here answers that call and correctly positions us in the coming years for success. To that end, I am naming this document "Defense Programs Supply Chain 2030 (DPSC 2030)." To quote the 2024 Stockpile Stewardship and Management Plan (SSMP), "the Department of Energy's National Nuclear Security Administration's (DOE/NNSA) largest mission is to design, produce, deliver, and certify the Nation's nuclear stockpile while advancing the scientific, technological, and engineering skills that underpin it." This effort can only be supported with a modern, flexible, and resilient commercial supply chain with the agility to be cost effective and risk responsive across activities in support of the NIB's four pillars (supply chain, operations, logistics, and workforce).

Improving and modifying DP's commercial supply chain practices will push our offices and sites to reach across organizational lines to strengthen existing relationships and form new partnerships grounded in trust. This will drive us to think about enterprise process improvements leading to innovative investment decisions in our people and effective use of limited resources. Based on efforts already underway, I am confident we will meet and exceed the vision of DPSC 2030. Our nation has entrusted us with giving our best as we reinvigorate the nuclear enterprise; the future of our national security demands it.



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Executive Summary

The National Nuclear Security Administration's (NNSA's) mission "*to protect the Nation, our allies, and our partners by providing a resilient and responsive Nuclear Security Enterprise*" requires healthy, effective, and secure supply chains. DP has already begun to make improvements in commercial supply chain risk management and other supply chain activities through the efforts of the Supply Chain Risk Management Team (SCRMT), the Nuclear Security Enterprise Industrial Base Monitoring Program, the Commercial Supply Chain Sustainment (CSCS) Focused Working Group (FWG), the Energy Facility Contractors Group (EFCOG), as well as other working groups. However, to successfully drive supply chain risk management toward a desired end state of an integrated, cost-effective, and resilient commercial supply chain that is assured, DP requires a clear, strategic vision.

Defense Programs Supply Chain 2030 (DPSC 2030) represents a multiyear vision in the pursuit of improving the Labs, Plants, and Sites' (LPS) commercial supply chain operations by laying out ten desired attributes of the future supply chain. These attributes include procurement, logistics, and sustainment activities throughout DP. The DPSC 2030 vision serves as the "North Star" for guiding leadership prioritization of forward-thinking and innovative supply chain improvements over the next six to ten years. The ten DPSC 2030 attributes will serve as guideposts to divide the LPS' commercial supply chain environment into manageable initiatives to transform DP's people, processes, resources, and capabilities. The DPSC 2030 is a phased approach that relies upon the incremental identification of organizational and technology requirements, constraints, and solutions. This approach ensures the appropriate investments for the future are made today, so the needed technologies, infrastructure, training, and processes are mature and incorporated into supply chain processes for the future. This will position DP to execute its production and sustainment commitments more effectively for the nation.

DPSC 2030 aligns with the President's 2021 Executive Order 14017 on America's Supply Chains and the Secretary of Energy's 2022 response calling on the department to enhance supply chain knowledge and decision-making. The mission of DPSC 2030 is to implement an enterprise commercial supply chain that will optimize DP's ability to deliver integrated, cost-effective, increasingly carbon-neutral, and intelligent supply chain (ISC) activities in support of nuclear deterrence and nuclear power production. The vision of DPSC 2030 cannot be achieved without an environment that promotes integration, teamwork, information sharing, respect, transparency, credibility, engagement, and accountability across the spectrum of stakeholders and leadership. This effort rests on the innovation and commitment of NNSA's backbone, its people.

Innovate. Collaborate. Deliver.

Introduction

DPSC 2030 is a vision of the future DP enterprise achieving the right results on schedule while meeting quality parameters in a cost-effective manner. This will support the NNSA's Strategic Vision, "*To anticipate tomorrow's nuclear and national security challenges and deliver timely innovative solutions.*" Logistics and supply chain are enabling (supporting) functions to the design, testing, and production work of DP. In the past, logistics and supply chain activities were not a major area of concern for the Nuclear Security Enterprise. Commercial industry recognized the potential for optimizing supply chain and logistics operations years ago, making a science of maximizing profitability while increasing customer satisfaction. To increase efficiency, reliability, and assurance in an era of great power competition, DP must learn from commercial industry and incorporate applicable lessons where it can. DPSC 2030 seeks to move DP toward an optimized and resilient supply chain. This will enable the operational work of DP and shore up its operating principles. Furthermore, DPSC 2030 will promote an environment where DP can drive toward a more sustainable and carbon-neutral supply chain. DP will standardize these common logistics and supply chain activities to best support the unique work that the LPS perform as a system for our nation. For this system to work efficiently, DP must coordinate and integrate its procurement, logistics, and sustainment activities.

Current State

Recent events in the U.S. and abroad (e.g., COVID-19 pandemic, Ukraine war, Israel-Hamas conflict, inflation, physical and cyber supply chain disruptions, increased demand, decreased suppliers, government-directed reshoring of manufacturing, extended lead times, and increased workforce shortages) have exposed critical shortcomings in the supply chain, forcing DP to closely examine how it conducts supply chain activities. DP can no longer solely rely on a just-in-time ordering or make-to-order procurement model of waiting on the customer to place an order to meet supply chain needs. Critically, these challenges are occurring against the backdrop of major production modernization efforts while NNSA's supply chains are increasingly exposed to, or are dependent on, commercial-off-the-shelf (COTS) vendors and associated risks. As an example, a recent report from the Government Accountability Office estimated that 65% of the Kansas City National Security Campus's (KCNSC's) supply chain is externally supplied. This dependency on external supplies also increases risk by providing adversarial access to critical items sourced through NNSA's supply chains.

DP must take action to thrive and excel in the future. The LPS' commercial supply chain needs an integrated, long-term vision to help guide enterprise efforts and initiatives toward a North Star of what "right" looks like, ensuring it meets the expectations of the NNSA's Strategic Vision. Without an overarching logistics and supply chain governance structure and supporting policy in place, DP portfolios and sites have developed individualized solutions. These individualized solutions introduced enterprise-wide risks, often by resolving specific supply chain challenges rather than integrating the solution across DP stakeholders. These silos of information have resulted in challenges for DP leadership, which is under constant pressure to increase current DP supply chain resilience and anticipate future supply chain interruptions. For example, a seemingly simple task of generating a list of all the commercial vendors and

what they have supplied in support of NNSA/DP in FY 2023 is currently not possible. This information is known at each individual site, and a consolidated list would help DP leadership manage and respond to supply chain challenges. A new, strategic, and long-term vision would help move the enterprise toward that capability. Lack of coordination among DP portfolios and sites can exacerbate supply chain interruptions by placing non-prioritized demands on capacity-constrained vendors.

Historically, the focus of DP was on supplying materiel for specific weapon system programs to ensure production met or exceeded Department of Defense (DOD) requirements. As a result, solutions were tactical and often narrow in scope, addressing a specific program or site rather than the larger enterprise. This resulted in silos of excellence disconnected from an enterprise solution. A lack of integration and collaboration between NSE partners regarding commercial supply chain interactions and management negatively impacts the effectiveness, efficiency, agility, resiliency, and assurance of the supply chain. Currently, a tailored, enterprise-wide methodology for use and sustainment of the retail supply chain does not exist, and current approaches are largely isolated among enterprise partners. Additionally, transition from primarily procuring materials from external sources to procuring finished goods and equipment increases the need for coordination among programs and sites. Opportunities for the NSE to reduce risk exist in the following areas:

- **A common taxonomy and standardized part number assignment across DP:** The CSCS FWG has identified the need for a common taxonomy (how the NSE identifies an item across multiple supply chain information technology (IT) systems) for items purchased, as critical to support the CSCS's other initiatives' success. Currently, descriptions of items are not standardized and often insufficient. Different suppliers and resellers may identify the same product differently. Supply chain IT systems all use different taxonomies between sites and often within a single site. As a result, DP must take this opportunity to evolve its supply chain systems to be able to reliably identify items across the enterprise or even within a single site. A common item taxonomy will aid pursuing multisite contracts and enable the identification and sharing of approved suppliers for the same item. It will also support enterprise asset visibility, support, and assurance. Furthermore, a common taxonomy will improve the efficiency of inventory management/accuracy, classification of products to enable spending and forecasting analysis, and overall supply chain effectiveness.
- **Supply chain information sharing between LPS:** LPS partners are sometimes reluctant to share information or collaborate. Information sharing is limited when LPS cite business sensitive information or competition, classification concerns, or other justifications. This may require new policies to address proprietary concerns and to clarify (1) how LPS treat their supplier lists, (2) how data needs to be organized and sanitized to allow shareability, and (3) changes to make that information shareable.
- **Partnership between Design Agencies and Production Agencies:** Cooperation and consideration of designing for manufacturing and long-term supplier sourcing is a true

opportunity for improvement. Instances where the Design Agencies (DA) and Production Agencies (PA) collaborate closely exist however, but should be expanded and fostered across the NSE to promote efficiency and cost effectiveness.

- **The "make-versus-buy" decision making process:** Each program evaluates its own make-or-buy decisions. This can create inefficiencies and the potential for one program to make decisions that create second-order effects on other programs when competing for capacity in a limited vendor pool. Also, these decisions are not consistently informed by Nuclear Enterprise Assurance (NEA) considerations that address adversarial subversion capabilities.
- **Greater asset visibility:** Since there are currently no common, standardized, or integrated supply chain IT systems, each site uses its own system for procurement, sustainment, and inventory management activities. Even within the same site, procurement and inventory management systems do not always communicate in a manner that ensures procurement of the right parts in the right quantities at the right time. This issue also affects make-versus-buy decisions at the site level. It is currently unrealistic to ask a site how many items are on the site, where the items are, and what condition they are in, and expect accurate answers.
- **Centralizing DP authority for logistics and supply chain policy and process management:** Sites continue to ask for this enabler. DP needs a designated office with the authority to write enterprise supply chain policy, drive supply chain process standardization, and champion cost effectiveness across DP supply chain activities and stakeholders to include assurance from adversarial access.
- **Funding to the sites for logistics and sustainment activities comes directly from specific programs:** This narrowly defines how the money can be used. Potential enterprise supply chain solutions (e.g., capital investment in a vendor capability, investment in raw material) are unable to be realized or acted upon under the current resourcing construct. The sites have the desire but lack the non-program-specific resources to make the necessary enterprise decisions and investments to benefit all programs, not just one.
- **LPS stovepipes of procurement**: Sites often execute procurement actions individually for direct material buys and usually for a single program. This leads to low-volume, high-mix/high-tech (e.g., producing a wide variety of high-tech products in small quantities) requirements contracts that many potential vendors choose not to bid on because they cannot build a positive business case to make the bid. It is not worth spending their time or resources on the arduous process of becoming qualified or developing a new production line, especially for a small quantity. For those vendors that accept these contracts, DP ends up paying a premium price. Additionally, DP may not be getting the best-qualified vendor, which may lead to quality problems, delays,

and issues, such as having an equally hard time contracting their sub-tier suppliers. Furthermore, forecasting at sites is difficult due to changing DOD requirements and program-focused requirements over enterprise-focused requirements. This inability to inform the enterprise supply base of future requirements will continue to cause capacity issues on direct material, especially when these technologies are procured from one vendor by two or more sites.

DP must invest in better governance, processes, technologies, and financial management to ensure a robust commercial supply chain that is efficient, reliable, and secure in the future. The current supply chain design is a make-to-order design, individually executed by LPS, creating unnecessary risk in both in-house production and vendor capacity, capability, and overall supply chain variability. This design is driven by how supply chain funding is sourced and executed in an extremely decentralized way through each program. In part to address and monitor these risks, and in accordance with the National Defense Authorization Act of 2021 and 2022, DP established the NSE Industrial Base (NIB), as described in the SSMP and organized by the primary pillars shown in Figure 1. The pillars provide structure, integration, and focus, and highlight the unique relevance and importance of the supply network.

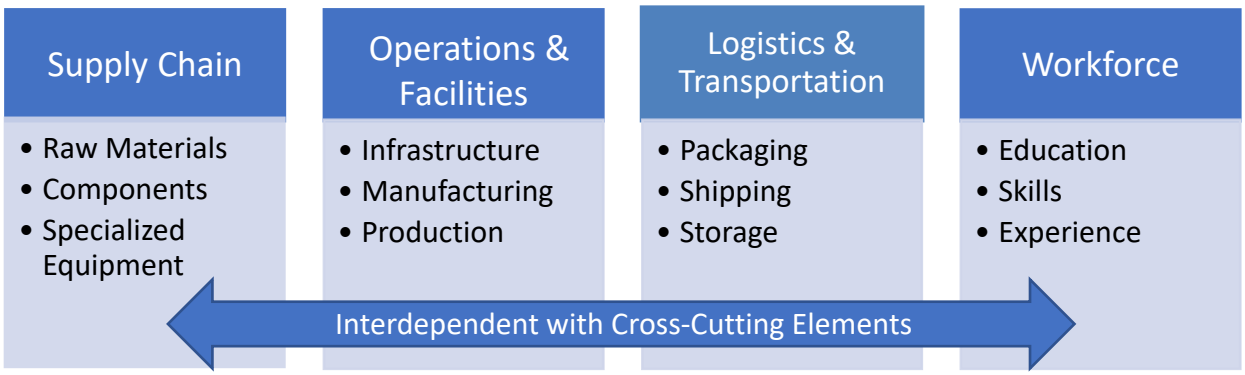


Figure 1: NIB Pillars

Assumptions

1. The DPSC 2030 strategic vision encompasses a six-to-ten-year horizon.
2. Software support, cybersecurity, and integration will continue to be increasingly important in our stockpile and processes.
3. Demand for advanced and specialized materials from reliable and resilient sources will continue to increase.
4. Key metrics for success will continue to be schedule, performance, quality, cost, and safety.
5. Sites, programs, and offices will work in a cooperative and collaborative manner in support of the DPSC 2030 Vision.

6. Real transformation is not the result of a one-time improvement; it is a sustained and determined effort.
7. DPSC 2030 is a dynamic plan that will be reviewed updated as needed to remain relevant.
8. Economic competition with the People's Republic of China will continue to strain resources and introduce risk into defense production activities.
9. NEA will have an increasingly important role as adversaries improve their capabilities to subvert NNSA programs through vulnerable supply chains.

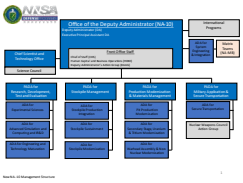
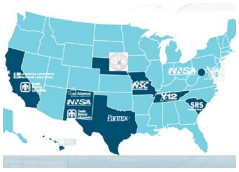
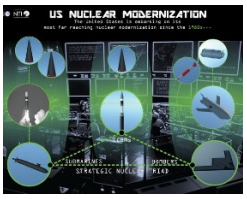
Attributes of DPSC 2030

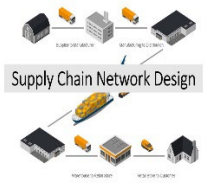
Using these assumptions, DP will pursue greater efficiency and resilience in our supply chain through distinct but interdependent efforts. DP will standardize how items are identified in our systems, standardize the systems interface we use, and improve the efficiency of how it qualifies and monitors vendors in a collaborative manner. There are already supply chain forums where collaborative work has begun, and DP will sustain those efforts as we optimize our procurement, logistics, and sustainment activities across the enterprise.

To accomplish these goals, DPSC 2030 hinges on the ten attributes, shown in Table 1 along with their success characteristics. These attributes will enable and support operations, addressing gaps, constraints, and technology needs currently facing the DP enterprise. Resolving these challenges will improve the efficiency, agility, and effectiveness of DP's processes, people, resources, and the NSE. Most importantly, the success of these initiatives rests on the foundation of an environment of integration, teamwork, respect, transparency, engagement, credibility, and accountability across all stakeholders.

Table 1: Defense Programs Supply Chain 2030 Attributes

Attribute		Major Success Characteristics	Attribute Owner/Co-Owner	Execution Office
	**1. Logistics/Supply Chain Data Integration and Availability**	Supply Chain Data Integration/Sharing, Enterprise Data Gathering and Analysis, Enterprise Access to Vendor Lists/Metrics	NA-18, SCMC, LPS (CSCS)	SCMC, KCNSC

Attribute		Major Success Characteristics	Attribute Owner/Co-Owner	Execution Office
000111110000101 001110011100110 010101010101000 101010101010101 101010000011111 101010100011100 101010101001010	**2. Multisystem Part Identification**	Part identification is mutually intelligible across site systems.	NA-18, SCMC, LPS (CSCS)	CSCS
	**3. Logistics/Supply Chain Governance**	Clear policy and requirements for LPS' commercial supply chain management	NA-10	NA-18
	**4. Multisite Contracts/Agreements Across Full Spectrum**	Increase in leveraging of multisite vendor contracts and purchasing for common items or materials.	SCMC, LPS (CSCS)	CSCS, SCMC
	**5. Development-to-Production Contracts**	Design Agencies and Production Agencies Partnering to Award Development-to-Production Contracts with Common Vendors for Design and Production	LPS (CSCS)	LPS (CSCS)
	**6. Enterprise Commercial Sustainment Funding Account**	A New Centralized, Program Agnostic Funding Account for Enterprise Commercial Supply Chain Investments Resourced and Managed by NNSA Headquarters	NA-10	NA-10
	**7. 100% Items/Parts Visibility**	100% Unclassified Inventory Visibility, Assurance, and Accountability Across Defense Programs Activities	LPS (CSCS)	LPS (CSCS)

Attribute		Major Success Characteristics	Attribute Owner/Co-Owner	Execution Office
	**8. Shared Approach to Procurement/Sourcing**	Enterprise Use of and Contribution to the Supply Menu, Master Supply Listing, and Standardized Quality Audits/Surveillance/Approvals	NA-18, NA-PAS, NA-12, SCMC, LPS (CSCS)	SCMC, LPS
	**9. Effective Workforce**	Enterprise Leverage of Standardized Procurement, Logistics, and Sustainment Workforce Training	NA-18, SCMC	NA-18, SCMC
	**10. Supply Chain Design (Philosophy)**	Optimizing from Make-to-Order (reactive) to Make-to-Stock (proactive)	NA-18, SCMC, LPS (CSCS)	NA-18, LPS

Organization for DPSC Operations

Codifying and managing these improvements over time will require establishing a coordinating entity with the appropriate authority and scope. Logistics and supply chain functions are enabling activities that ensure the operators (test and surveillance engineers, production technicians, etc.) have what they need to execute the mission in the right place, right time, and right tempo to enable continuous operations. This coordinating entity will be in DP and will be designated as the logistics and supply chain authority for standardizing commercial supply chain processes and policy across DP, enabling and supporting LPS locations in their operational activities. Although it will be a cultural shift, through steady cooperation and collaboration, DP will continue to find commonality, drive towards standardized processes, and sustain them through an entity designated and empowered for that role. This enabling function will ensure support to the sites (as the operators) and ensure execution agility with consistent support from procurement, logistics, and sustainment activities.

Operational Concepts for DPSC Operations

The DPSC 2030 attributes will drive down costs and allow allocation of additional critical activities over the next decade. The attributes will help reduce or preserve program schedules and production activities, enabling DP to meet and potentially exceed customers' demands. Standardized quality management system audits (based on the newly updated NAP 401.1A, Weapon Quality Policy) will not only accelerate procurement actions but will also widen the

aperture of potential vendors as DP eases the administrative burden necessary to bid on our requirements. In turn, a larger vendor pool will help enable development-to-production contracts for Mark Quality weapon products, potentially cutting schedule timelines and building up a stable of qualified and ready vendors. More accessible vendors and larger multisite procurements will drive increased resiliency into the supply chain and make the supply chain more agile in response to emerging requirements.

Mutually identifiable part identification across procurement and inventory entities will enable total asset visibility and allow design and production activities to manage and leverage inventory across the enterprise, ensuring continuity and resiliency in operations and avoiding unnecessary excesses. Improved part identification will also allow quick and consistent identification and selection of qualified and potential vendors for procurement actions. Integration and standardization of supply chain systems (both procurement and inventory management) will enable enterprise procurement activities to be predictive instead of reactive in procurement forecasting, which will buy procurement trade space for unexpected demands. Implementation of all these concepts will drive better, standardized, and consistent training and development for the DPSC workforce. Consistent, standardized processes enable productive, steady, and measurable application of workforce performance and safety standards.

Technology for DPSC Operations

The concepts above may sound very aspirational, but they are achievable. Critical to realizing these concepts will be a slow but steady transition to common or integrated supply chain IT systems to foster ISC. Supply chain information exchange is the backbone that these concepts will depend upon to be successful. It starts with how we identify items in our supply chain systems and across labs, plants, and sites. In line with NSE Digital Transformation efforts, success requires us to be able to gather, exchange, integrate, analyze, and make strategic decisions based on data across the NSE. Embracing a culture of supply chain data sharing will enable full utilization of new and emerging technologies. Data must become democratized, where all of DP can use it to fully realize digital transformation. Decision-making is increasingly informed by artificial intelligence, data fusion, machine learning, and other innovative technologies that put data (shared data to enable big data) to work for us. Big data will allow sites and programs to leverage technology to become increasingly predictive (versus historically being reactive) in supply chain risk and management. But it all starts with shared, compatible data. This will require some sites to modify their existing systems or, in some cases, transition to a new supply chain IT system to enable support for a common taxonomy and data exchange. This will require time, investment, and commitment to move toward common ground and purpose. Some sites are already taking the first steps, while it may be years before others start on the journey. But as more activities become part of the enterprise data exchange, the advantages and efficiencies will become glaringly apparent to those who are still waiting. Eventually, to remain current, all supply chain activities will have to move toward this cooperative and collaborative environment.

Conclusion

As DP looks toward a future likely characterized by continued turbulence and rapid change, we must make difficult decisions in advance of potential disruptions. Confronted by increasing competition for budget dollars within DP, growing uncertainty, and emerging existential national threats, we must prioritize supply chain issues now to meet the challenges ahead. By focusing on the ten attributes with a consistent and sustained effort, the mission of DPSC 2030 to provide the LPS' commercial supply chain agility to optimize the NIB and our support to the DOD can be realized. To quote the NNSA's 2022 Strategic Vision, "*Collaboration is vital to solving the issues we face today*." The vision of DPSC 2030 cannot be achieved without an environment that promotes integration, teamwork, information sharing, respect, transparency, credibility, and engagement across the spectrum of stakeholders and leadership. This effort rests on the innovation and commitment of NNSA's backbone, the federal workforce, contractors, and LPS at each DP location. Together we accomplish more.

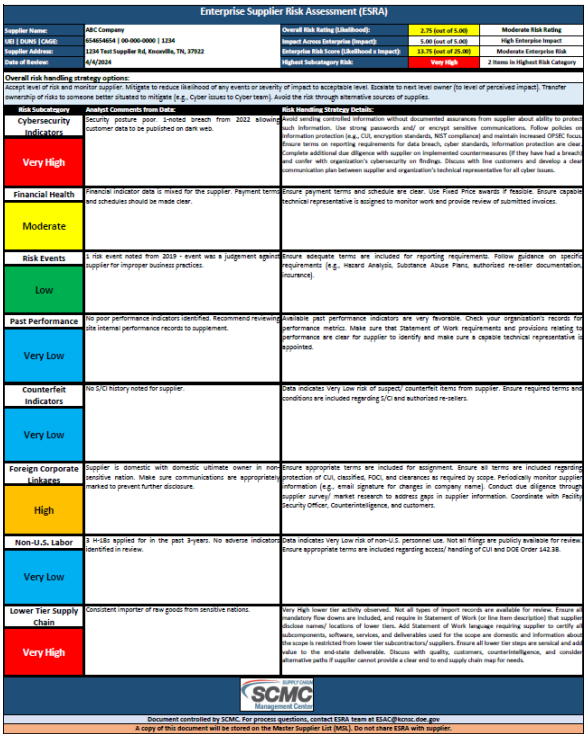
Appendix A: Existing Efforts Supporting DPSC 2030

The Commercial Supply Chain Sustainment (CSCS) Focused Working Group (FWG) is the first forum where the sites have hesitantly, but steadily, begun to share supply chain information, collaborate, and work together towards commonality and standardization. The Supply Menu project pioneered by KCNSC will allow a sharing of approved sources and vendor performance data to potentially save time in advertising, bidding, and qualifying. First, as sites begin to access, use, and contribute to this list of vendors, over time they will slowly build an enterprise stable of approved dependable vendors creating more supply chain resiliency and agility. This will drive two key supply chain improvements. While sites will still have the option of looking for and qualifying vendors on their own, the Supply Menu will provide a ready resource for sites to quickly find available vendors for a family of items and select one based on performance and capacity, not just one that is qualified. This advantage will expand as a standardized taxonomy and part numbering system is developed and implemented. Additionally, its use will move the enterprise to common vendor performance metrics such as using the Total Cost of Ownership model KCNSC adopted from commercial best practices. This model evaluates all elements of the supplier health score and uses this score as the basis to analyze supplier Requests for Proposal. This methodology will help ensure proper source selection, and it incentivizes suppliers to improve their supplier health score, increasing their opportunities for future business. This acquisition process transformation increases agility and cost effectiveness, helps ensure safe and secure supply chains, strengthens the supply base, enhances supplier collaboration, information flow, and trust, and helps pave the way to build an improved supply chain.

The Supply Menu is now linked to the Master Supply Listing (MSL), allowing leverage of existing quality audits of approved vendors while also saving time and money in how we evaluate, select, and monitor suppliers of weapon products. NNSA updated NAP 401.1A, Weapon Quality Policy, to drive standardization of these quality audits to the commercial standards of AS9100 (Requirements for Aviation, Space and Defense Organizations) and ISO 9001 (an international standard specifying requirements for a quality management system) when assessing potential vendors. It will encourage DAs and PAs to rely on assessments previously completed by other sites to reduce the administrative burden that has historically been applied to the DP supply base and shorten the time for contract award.

The CSCS is currently piloting a multisite, collaborative Direct Material contract to boost the volume of the contract, drive prices down, and attract more bidders, while also creating better resiliency in the supply chain. The same group is also piloting a development-to-production contract between the DA and PA to demonstrate the capability and significantly reduce time from design to production. Both efforts will scale up once proven out.

Enterprise implementation of a common item taxonomy is foundational to the success of both efforts. After rigorous study, the site members of the CSCS determined the taxonomy to adopt is the United Nations Standard Products and Services Code (UNSPSC). An implementation team is already formed and working on a phased implementation process across the enterprise. Within the SCRMT, the team has had several accomplishments and continues to drive cooperation and collaboration. The team has already produced a supply chain mapping study, provided advice on how and why to use safety stock, and provided a guide on how to rigorously evaluate and select a commercial supply chain risk management software tool. Additionally, the team executes an enterprise supply chain risk framework providing a quarterly enterprise view of supply chain risks and trends across both sites and programs. Most recently, the team finalized agreement across sites, programs, and HQ NNSA supply chain risk managers on eight core lenses through which supply chain risks for existing and potential vendors can be assessed. These eight lenses are being applied to a risk assessment available to anyone in the enterprise and accessible in the MSL. This assessment also leverages information from the Intelligence and Counterintelligence community to help assess cybersecurity and foreign influence risks as well. Ultimately, the assessment fosters not just finding the best performing vendor, but also the one that can operate in a safe, secure manner. Once again, this will standardize how DP is assessing supply chain risk through a common set of values while saving sites and programs valuable time in making procurement and sourcing decisions.



Enterprise Supplier Risk Assessment (ESRA)

Supplier Name:	ABC Company	Overall Risk Rating (Likelihood):	2.75 (out of 5.00)	Moderate Risk Rating
UEI | DUNS | CAGE:	654654654 | 00-000-0000 | 1234	Impact Across Enterprise (Impact):	5.00 (out of 5.00)	High Enterprise Impact
Supplier Address:	1234 Test Supplier Rd, Knoxville, TN, 37922	Enterprise Risk Score ([Likelihood x Impact])	13.75 (out of 25.00)	Moderate Enterprise Risk
Date of Review:	4/4/2024	Highest Subcategory Risk:	Very High	2 Items in Highest Risk Category

Overall risk handling strategy options:

Accept level of risk and monitor supplier. Mitigate to reduce likelihood of any events or severity of impact to acceptable level. Escalate to next level owner (to level of perceived impact). Transfer ownership of risks to someone better situated to mitigate (e.g., Cyber issues to Cyber team). Avoid the risk through alternative sources of supplies.

Risk Subcategory	Analyst Comments from Data	Risk Handling Strategy Details:
Cybersecurity Indicators Very High	Security posture poor. 1-noted breach from 2022 allowing customer data to be published on dark web.	Avoid sending controlled information without documented assurances from supplier about ability to protect such information. Use strong passwords and/ or encrypt sensitive communications. Follow policies on information protection (e.g., CUI, encryption standards, NIST compliance) and maintain increased OPSEC focus. Ensure terms on reporting requirements for data breach, cyber standards, information protection are clear. Complete additional due diligence with supplier on implemented countermeasures (if they have had a breach) and confer with organization's cybersecurity on findings. Discuss with line customers and develop a clear communication plan between supplier and organization's technical representative for all cyber issues.
Financial Health Moderate	Financial indicator data is mixed for the supplier. Payment terms and schedules should be made clear.	Ensure payment terms and schedule are clear. Use Fixed Price awards if feasible. Ensure capable technical representative is assigned to monitor work and provide review of submitted invoices.
Risk Events Low	1 risk event noted from 2019 - event was a judgement against supplier for improper business practices.	Ensure adequate terms are included for reporting requirements. Follow guidance on specific requirements (e.g., Hazard Analysis, Substance Abuse Plans, authorized re-seller documentation, insurance).
Past Performance Very Low	No poor performance indicators identified. Recommend reviewing site internal performance records to supplement.	Available past performance indicators are very favorable. Check your organization's records for performance metrics. Make sure that Statement of Work requirements and provisions relating to performance are clear for supplier to identify and make sure a capable technical representative is appointed.
Counterfeit Indicators Very Low	No S/CI history noted for supplier.	Data indicates Very Low risk of suspect/ counterfeit items from supplier. Ensure required terms and conditions are included regarding S/CI and authorized re-sellers.
Foreign Corporate Linkages High	Supplier is domestic with domestic ultimate owner in non-sensitive nation. Make sure communications are appropriately marked to prevent further disclosure.	Ensure appropriate terms are included for assignment. Ensure all terms are included regarding protection of CUI, classified, FOCI, and clearances as required by scope. Periodically monitor supplier information (e.g., email signature for changes in company name). Conduct due diligence through supplier survey/ market research to address gaps in supplier information. Coordinate with Facility Security Officer, Counterintelligence, and customers.
Non-U.S. Labor Very Low	9 H-1Bs applied for in the past 3-years. No adverse indicators identified in review.	Data indicates Very Low risk of non-U.S. personnel use. Not all filings are publicly available for review. Ensure appropriate terms are included regarding access/ handling of CUI and DOE Order 142.3B.
Lower Tier Supply Chain Very High	Consistent importer of raw goods from sensitive nations.	Very High lower tier activity observed. Not all types of import records are available for review. Ensure all mandatory flow downs are included, and require in Statement of Work (or line item description) that supplier disclose names/ locations of lower tiers. Add Statement of Work language requiring supplier to certify all subcomponents, software, services, and deliverables used for the scope are domestic and information about the scope is restricted from lower tier subcontractors/ suppliers. Ensure all lower tier steps are sensical and add value to the end-state deliverable. Discuss with quality, customers, counterintelligence, and consider alternative paths if supplier cannot provide a clear end to end supply chain map for needs.

SCMC Supply Chain Management Center

Document controlled by SCMC. For process questions, contact ESRA team at ESAC@scmc.doe.gov

A copy of this document will be stored on the Master Supplier List (MSL). Do not share ESRA with supplier.

The Energy Facility Contractors Group (EFCOG) has reinvigorated its Supply Chain Working Group. It leverages supply chain experts across the DOE to come together and find common areas for improvement. The team will stay engaged to bring lessons learned and innovations back to DP as well as contribute to the overall EFCOG effort.

In all three forums, PA supply chain experts have recognized and voiced the need for a centrally managed line of funding agnostic of a particular program to enable supply chain risk mitigation investments for the good of the enterprise (affecting multiple programs). Taking a lesson from the Defense Logistics Agency's Warstopper Program, DP plans to resource and create a central account to be able to invest in vendor capability, capacity, and material when it makes sense for the good of DP. No one program is postured to do this, but an account of pooled, set-aside resources, managed from DP Headquarters, will allow leadership to properly address enterprise supply chain risks and issues without significantly affecting any one program or site when the need arises. DPSC 2030 will put this in place with the appropriate management and execution authority.

The Supply Chain Management Center (SCMC), operated out of KCNSC, has proven itself as *the* go-to entity for Indirect Material (enabling/mission support items: e.g., office equipment, lights, bulk materials, etc.) sourcing and procurement options as well as services contracts and procurement training. DP will look at incrementally expanding the roles and authorities of the SCMC to make it the dominant execution arm of supply chain sourcing and procurement for both Indirect and common Direct Materials. DPSC 2030 will look to centralize management and oversight of the audits, qualification, and surveillance housed in the MSL within the SCMC. This will ensure the standards are executed consistently, correctly, and more efficiently, while being available to all the enterprise to leverage as needed, as we drive to a common vendor quality auditing standard using AS9100 and ISO 9001. This will not take away those quality management resources from the sites, but rather it will centralize management and oversight of the execution of these activities to best ensure consistency, efficiency, and cost effectiveness. For any commercial supply chain initiative or policy where standardization and/or centralization within Defense Programs is an element, the SCMC should be considered for the actual execution and management of the effort. DP will leverage the SCMC's Contractor Acquisition University (CAU) to develop and improve the DPSC workforce across the enterprise as we standardize and find more commonality, creating a Life Cycle Logistics (LCL)-certified workforce with a common baseline of supply chain expertise as it makes and executes DPSC decisions. The team will continue to look for opportunities to expand and enhance the execution role and scope of the SCMC and Integrated Enterprise Management & Operations.

To further enhance the DPSC workforce, DP will foster a formalized program to enable crossflow of LPS personnel, which will not only create developmental opportunities for the

workforce, but also foster cross-pollination of talent and best practices. This program will preserve the individual's time of service from one site to another. This mobility will help sites retain talent rather than lose it to the commercial industry when the individual doesn't see a pathway for career development in the current construct. This will also allow senior leadership to identify high-potential individuals, collectively provide career management and mentorship, and grow the next generation of senior supply chain leaders from within.

Finally, as these initiatives grow and take shape, DP should look for the opportunity to move from the current make-to-order supply chain design to a make-to-stock design. This change requires accepting the paradigm that supply chain activities are an enabling function to operational activities (the programs). Once that concept is truly accepted, the need to make that enabling function as efficient and effective as possible emerges quickly. This will be a major muscle movement for sites and programs. It will require re-imagining how supply chain funding is structured, moving from individual programs for sustainment funding to a centralized supply chain funding stream, and enabling and supporting enterprise supply chain activities. This design will reduce risk in capacity, capability, and overall supply chain resiliency. It will facilitate maintaining the proper capacity, capability, and inventory across the enterprise. Programs would then buy from this inventory on an as-needed basis. The DOD has used this model for decades, and it allows each service to make truly enterprise-level funding decisions to best support the overall mission and preserve agility within the Fiscal Year Defense Plan. Again, this will take time, commitment, and collaboration.