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Dissolving the fence: Improving utility privatization for defense installations' resiliency

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US military installations' electricity systems are vulnerable to growing threats. A renewed commitment to resiliency, however, can ensure future mission success.

Introduction

The global projection of US military power begins at home. From military installations across the Continental United States (CONUS), the US military exerts command and control, projects global strike capabilities, generates forces for global deployment, accesses the space domain and cyber domains, and provides key logistic support. Reliable electric power is crucial to ensure that these bases can fulfill their missions—electric power is a key component of military power, and energy resilience is not just a technical necessity, but a security imperative.[1]

Congress, the Department of Defense (DOD), and the military services recognized the need for operable, reliable, and resilient installations. Congress directed that, by 2030, the secretary of defense will ensure that electric power is available 99.9 percent of the time for critical mission systems on US bases.[2] Yet, the DOD is falling short of that goal. As of 2024, the average system reliability is falling short of that target by approximately 40 basis points.[3]

Aging infrastructure, extreme weather, and malicious attacks "outside the fence" are increasingly challenging the reliability and resiliency of defense installations.[4] Simultaneously, a lack of prioritization of resources and a disjointed resource allocation process are straining the assets "inside the fence."

The DOD has taken essential steps to improve the reliability and resiliency of ins-

1. HQDA G-4, "Energy Resilience: Sustain the Mission – Secure the Future," U.S. Army, October 24, 2022, https://www.army.mil/article/261396/energy_resilience_sustain_the_mission_secure_the_future.
2. 10 U.S.C. § 2801 (2024), https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title10-section2801&num=0&edition=prelim.
3. Assistant Secretary of Defense for Energy, Installations, and Environment, *Energy Resilience and Conservation Report*, U.S. Department of Defense, April 2024, https://www.acq.osd.mil/eie/ero/oe/docs/reports/2024/2024-Energy-Resilience-and-Conservation-Report.pdf.
4. Anna Ribeiro, "NERC 2025 RISC Report Finds Cybersecurity, Supply Chain, Critical Infrastructure Interdependencies among Top Reliability Risks," Industrial Cyber, August 21, 2025, https://industrialcyber.co/reports/nerc-2025-risc-report-finds-cybersecurity-supply-chain-critical-infrastructure-interdependencies-among-top-reliability-risks/.

For the past year, several Army installations have conducted energy-resiliency exercises to identify faults in their power-grid or back-up power infrastructure. *(Credit: US Army)*

tallation energy systems “inside the fence.”[5] Unfortunately, a fundamentally misaligned incentive structure for resource allocations is routinely subject to the tyranny of the urgent. Subsequently, decision-makers can defer system maintenance and resiliency projects, which in turn leads to reactive and emergent corrective actions that disrupt warfighting capacity and further diverts resources. Conversely, electric utilities’ primary mission is the reliability and resiliency of energy systems—it is their core competency. The investment incentives for regulated utilities are entirely aligned with the deployment of capital to proactively improve the capacity, reliability, and resiliency of the electric grid.

“Dissolving the fence”—separating responsibility and ownership of electrical systems and electric utilities through utility privatization—has proven to be an effective tool for aligning incentives, bypassing defense procurement bureaucracy, and delivering measurable improvements in cost and reliability. However, only by challenging long-held assumptions about the rigidity of the regulated energy framework can we make the changes necessary to unlock the true potential of this program. The DOD, utilities, and regulators must change how they work together to transform installation energy from a persistent vulnerability into a strategic asset.

Energy systems under strain: A threat to warfighting capability

The CONUS US military installations rely on the civilian power grid as their primary source of electrical energy—a reliance that inextricably links the resilience of military installations to the grid.[6] This significant dependence means that any vulnerabilities or disruptions within the grid can have direct and immediate consequences on operational readiness and security at these installations. Meanwhile, the grid itself is facing historic challenges, from aging infrastructure to external threats. As the

5. David Vergun, “Official Describes Steps DOD Taking for Energy, Environmental Resilience,” DOD News, April 17, 2023, https://www.defense.gov/News/News-Stories/Article/Article/3365277/official-describes-steps-dod-taking-for-energy-environmental-resilience/.
6. American Security Project, “Fact Sheet: DOD Installation Energy,” July 25, 2013, https://www.americansecurityproject.org/fact-sheet-dod-installation-energy.

Fig. 1: Defense installations' infrastructure

'Outside the fence' infrastructure	'Inside the fence' infrastructure
Centralized generation	Installation distribution system
Transmission grid	Distributed generation systems
Transformers	Backup generation systems
Distribution grid	Energy management systems
	Mission critical functions

reliability of the bulk electric grid declines, it will increasingly expose critical defense operations to service disruptions.

The DOD has aligned the measurement of electric power reliability with private industry standards—but performance against these metrics has been mixed. The Navy, for example, set a goal of no more than 120 minutes or two hours of outages per year, but in 2021 suffered nearly fourteen hours of outages.[7]

Outside the fence: A dynamic system under increasing threats

The civilian power grid is facing multiple challenges, including aging infrastructure, an increasingly dynamic generation mix, explosive electricity demand, and external threats from severe weather and cyberattacks.

Aging infrastructure

The US grid is aging, with most of the significant components, including transmission lines and large power transformers, approaching the end of their useful lives. Approximately 90 percent of US electricity flows through these aging components, and replacing failed components could take three to five years, potentially threatening the grid's ability to respond effectively after a significant event.[8]

Dynamic generation mix

The rapid growth of intermittent renewables, coupled with the premature retirement of firm power generation resources, is reducing precious capacity margins and threatening the reliability of the electric grid.[9] The increasing saturation of renewable resources is challenging the economics of new firm energy resources, such as natural gas, and increasing the demands on an aging fleet of firm power plants, further exacerbating the risks.

Explosive demand

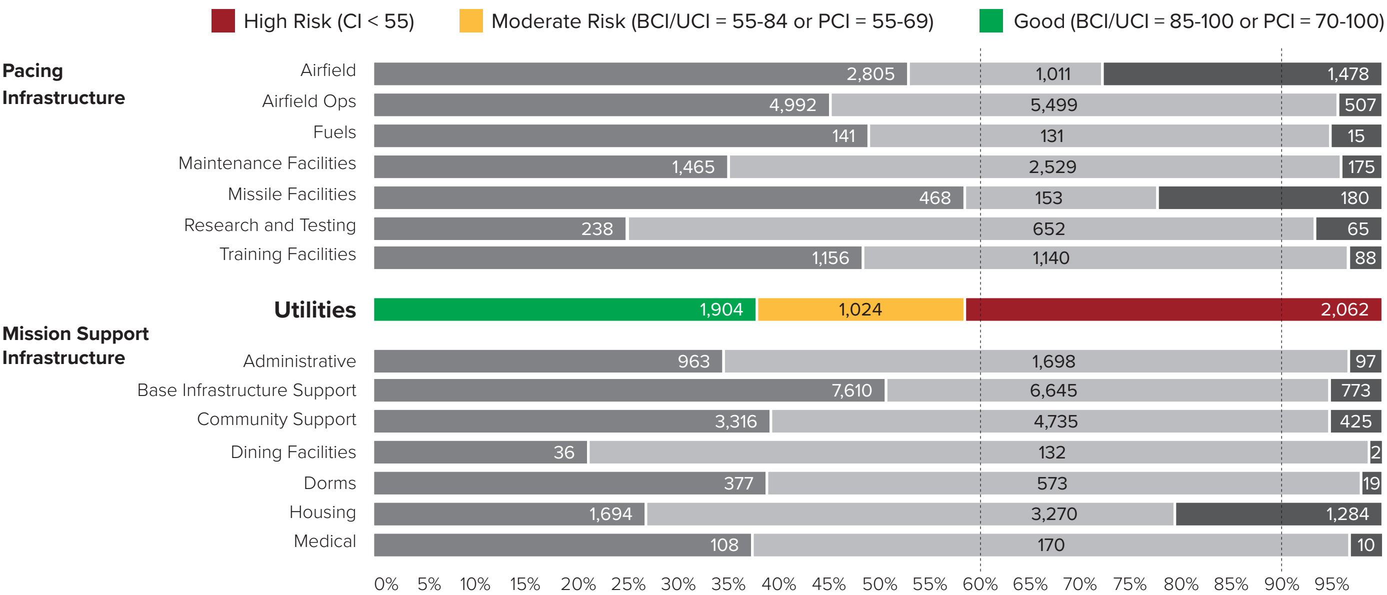
The electric sector is experiencing significant growth in demand driven by artificial intelligence (AI). The International Energy Agency expects electricity consumption from data-center operations to double to around 945 TWh by 2030.[10] In the United States alone, data centers account for half of the electricity growth between now and 2030.

Growing external threats

Extreme weather events are becoming both more frequent and more threatening to an aging power grid. In 2024, for example, Hurricane Idalia swept across the American Southeast, forcing temporary closures of military installations in Florida and Georgia, not solely due to structural damage, but also because off-base power lines and substations failed.[11] Cyberattacks, which surged 70 percent in 2024, exposed some of the vulnerabilities installations face when interacting with local grid operators.[12] Although utilities restored power quickly—a testament to the installation's grid resiliency—the incident re-

7. Naval Facilities Engineering Systems Command, *P-602: 3 Pillars of Energy Security (Reliability, Resilience, & Efficiency)*, January 2021, https://www.wbdg.org/NAVFAC/PPUBB/P-602_rev2.pdf.
8. Clark Savage, "The Transformer Shortage Crisis in the United States: Approaching Critical Mass and the Path Forward," *Energy News Beat*, June 6, 2025, https://energynewsbeat.co/the-transformer-shortage-crisis-in-the-united-states-approaching-critical-mass-and-the-path-forward/.
9. Madeline Geocaris, "Assessing Power System Reliability in a Changing Grid, Environment," National Renewable Energy Laboratory, August 10, 2022, https://www.nrel.gov/news/detail/program/2022/assessing-power-system-reliability-in-a-changing-grid-environment.
10. International Energy Agency, "Energy and AI: Executive Summary," April 10, 2025, *https://www.iea.org/reports/energy-and-ai/executive-summary.*
11. Greg Hadley, "Hurricane Idalia Battered Florida Bases, But Damage Is Contained," *Air & Space Forces Magazine*, August 31, 2023, https://www.airandspaceforces.com/air-force-bases-minimal-damage-hurricane-idalia/.
12. Seher Dareen and Vallari Srivastava, "Cyberattacks on US Utilities Surged 70% This Year, Says Check Point," Reuters, September 11, 2024, updated February 6, 2025, https://www.reuters.com/technology/cybersecurity/cyberattacks-us-utilities-surged-70-this-year-says-check-point-2024-09-11/.

Fig. 2: Infrastructure readiness



The infrastructure readiness chart categorizes core infrastructure sectors—such as utilities, transportation, communications, and energy supply—by their relative risk levels, clearly identifying utilities as the highest risk category.

Source: Russ Weniger and Brian Dolan, "Installations Portfolio & Deferred Maintenance" (PowerPoint presentation, Air Force Installation & Mission Support Center, January 10, 2024), https://acrobat.adobe.com/id/urn:aaid:sc:US:6677c5f6-3dc7-4fb8-9a76-5031662b6a84.

vealed that military installations depend on the utility for their continuity.

Inside the fence: A fractured bureaucracy

In 2021, winter storm Uri severely impacted Fort Hood, Fort Sill, Fort Polk, and Fort Riley. At a House Armed Services Committee Readiness subcommittee hearing on "Installation Resiliency: Lessons Learned from Winter Storm Uri and Beyond," Army Installation Management Command Army Lt. Gen. Douglas M. Gabram stated, "Our aging facilities and systems failed first and suffered the most damage. Over time, our infrastructure has felt the effects of high use and limited funding."[13]

Decreasing reliability on the systems "outside the fence" puts more pressure on the energy systems "inside the fence." Data for fiscal year (FY) 2021 shows there were over 6,000 energy outages—equating to more than 3,000 days of lost power—at DOD installations across the United States.[14]

On a single base, these resources could include thousands of miles of conductors and thousands of electrical poles and transformers, as well as the infrastructure responsible for mission-critical resiliency, including backup generators, uninterruptible power systems, and the internal power distribution networks. The comparative risk scoring shown in Figure 2 clearly indicates that utilities require the greatest urgency for investment, collaborative partnerships, and targeted innovation to reinforce these essential systems.

Maintaining these assets requires resources in the form of preventive and corrective maintenance, replacement components, and a proactive capital improvement plant that replaces aging infrastructure. However, these resources are often diverted or constrained, and a default "run to failure" strategy sets up a vicious cycle of chasing failures instead of assuring reliability.

13. *Installation Resiliency: Lessons Learned from Winter Storm Uri and Beyond*, Subcommittee on Readiness, Committee on Armed Services, House of Representatives, 117th Cong. (2021), https://www.govinfo.gov/content/pkg/CHRG-117hhrg48485/html/CHRG-117hhrg48485.htm.
14. Robert Walton, "As US Defense Facilities Face Rising Outage Risks, Regional Transmission Could Help: ACORE Panel," Utility Dive, December 6, 2023, https://www.utilitydive.com/news/grid-reliability-issues-threaten-national-defense/701674/.

Fig. 3: Energy project authorities

Program type	Authorizing statute
Enhance Use Lease	10 USC § 2667
Energy Service Performance Contract (ESPC)	42 USC § 8287
Utility Energy Service Contract (UESC)	10 USC § 2913
Power Purchase Agreement (PPA)	10 USC § 2922a, 40 USC § 501, FAR Part 41
Utility Service Contract (USC)	40 USC § 501, FAR Part 41
Energy Resilience and Conservation Investment Program (ERCIP)	10 USC § 2914
Utilities Privatization	10 USC § 2688
Intragovernmental Support Agreements	10 USC § 2679

Source: Authors' research

There are several funding mechanisms for infrastructure maintenance, including the Energy Resilience and Conservation Investment Program (ERCIP) and Facilities Sustainment, Restoration, and Modernization (FSRM). However, due to the fractured nature of these programs and the results they yield, they are often insufficient and frequently get reprioritized when budgets tighten.[15]

See Figure 3 for a breakdown of statutory authorities governing various types of energy projects.

ERCIP is the primary mechanism used to execute DOD high-priority, high-value projects that enhance energy resilience and mission readiness. In FY 2023, Congress added $100 million to ERCIP, increasing the FY 2023 appropriations to just over $ 653 million.[16] In FY 2024, Congress appropriated only $548 million of the requested $634 million for ERCIP, which in turn performed projects on just ten US installations, with a bulk of the funding (~$320M) allocated to microgrids and backup power.

Having a single entity focused on installation resiliency across the DOD with resources that the broader DOD cannot redistribute would be beneficial, and yet, the DOD does not conceptualize, operationalize, or contract in this manner. The opposite is, in fact, the more common mode of operation, with a diversity of agencies and authorities responsible for funding allocation.

A consequence of this fractured bureaucracy is the DOD's diminished appeal as a customer. Most installations do not have substantial energy demand and, as a result, represent relatively minor opportunities for private capital investment. The relative bureaucratic hurdles a potential supplier would have to jump through, and the likely major capital requirements, puts the DOD in an awkward position of not being a competitive player for private capital dollars.

15. Ravi I. Chaudhary, interview with the author, March 3, 2025.

16. House Committee on Appropriations, "Appropriations Committee Releases Fiscal Year 2023 Military Construction, Veterans Affairs, and Related Agencies Funding Bill," press release, June 14, 2022, https://democrats-appropriations.house.gov/news/press-releases/appropriations-committee-releases-fiscal-year-2023-military-construction.

Army engineers help restore power to Hurricane Sandy victims. (*Credit: US Army*)

Current state of military installation resiliency programs

A review of the existing resiliency strategies within the Department of Defense indicates a maturing understanding and implementation of reliability and resiliency programs. The Office of the Deputy Assistant Secretary of Defense for Energy Resiliency and Optimization (ODASD(ER&O)) oversees the DOD programs related to the installation energy, water, and the cybersecurity of facility-related control systems.[17] The ODASD has laid out several strategies to improve resiliency, including:

1. Reducing the demand for installation energy and water through efficiency
2. Expanding the supply distributed (on-site) energy for mission assurance
3. Improving the energy grid and storage resilience of [its] installations
4. Leveraging advanced technology for energy resource efficiencies and security

An example of the increasing energy resiliency maturity is the execution of Black Start Exercises (BSE). A BSE simulates the loss of utility power by disconnecting a base from off-installation energy sources.[18] These exercises engage the base systems and highlight potential issues including inadequate load management, supervisory control systems, fueling systems, and automatic transfer switch performance. Through these exercises, possible problems are identified and prioritized for future mitigation strategies.

17. "Installation Energy," Energy Resilience & Optimization (ODASD(ER&O)), U.S. Department of Defense, accessed September 4, 2025, https://www.acq.osd.mil/eie/ero/ier/index.html.
18. Ariel Castillo, Nicholas Judson, Sanjay Bose, and Jonathon Monken, "Information Paper: DoD and Industry Black Start Exercises," https://convergestrategies.com/wp-content/uploads/2024/03/Castillo-et-al.-2020-Black-Start-Exercises-Information-Paper-1.pdf.

By the numbers: **369** Army, **174** Air Force, and **58** Navy utilities have undergone utility privatization.

Source: Utility Privatization Partners, last accessed September 16, 2025, utilityprivatization.org.

Leveraging the utility sector to address resiliency

Maintaining and improving infrastructure assets requires resources. Operations and maintenance (O&M) budgets are necessary to perform maintenance, capital budgets are required to purchase replacements, and personnel are needed to maintain equipment, assess risks to mission readiness, prioritize enhancements, and execute projects. Utilities possess the expertise, scale, and access to capital markets needed to maintain, operate, and modernize complex electrical systems. All parties, including defense, regulators, and utilities, must work to strengthen the relationship between electric power utilities and the DOD. Utility privatization (UP) is one means for deepening these partnerships, though they remain underutilized.

Utility privatization

In 1997, Congress granted to the DOD, through statutory authority, the ability to transfer installation electrical systems to a utility.[19] Under this framework, private-sector experts are responsible for managing the systems, and utility services contracts become a "must pay bill." This mandates that designated funds be used exclusively for maintaining and operating utility systems without requiring additional funding that is set aside for military construction.[20]

In 1998, Defense Reform Initiative Directive #49 instituted a requirement that military departments develop utility privatization plans on military bases.[21] While the DOD has privatized hundreds of systems over the past twenty years, a consistent focus and overly narrow application that prioritizes basic reliability over advanced resiliency limits the program's potential.

To date, utility privatization has failed to deliver on its full potential, primarily because:

1. The sector is highly regulated but in a very fractured way, creating perceived barriers to engagement and oftentimes excluding key stakeholders from the discussion.
2. A limited understanding of stakeholder incentivization structures may be constraining development of innovative solutions.

US electric energy and utility regulation primer

The US electric power industry is highly regulated at the international, national, regional, state, and local levels. This degree of regulation, along with the sector's diversity and heterogeneity, means that there is no "one size fits all" approach to electric power generation and infrastructure, a challenge for an organization like the DOD that has operations across the CONUS.

International, national, and regional regulators

International regulations include the North American Electric Reliability Corporation (NERC), a not-for-profit international regulatory authority focused on reducing risks to the reliability and security of the grid. Nationally, the Federal Energy Regulatory Commission (FERC) oversees wholesale energy markets and transmission energy rules. Regionally, independent system operators (ISOs) operate the wholesale energy markets, provide transmission planning, and ensure resource adequacy.

State-level regulations

At the state level, utility service commissions oversee rate-regulated utilities in each state. Utilities trade the right to exist as a regulated monopoly for rate regulation. In the United States, utilities are further categorized as regulated and deregulated

19. National Defense Authorization Act for Fiscal Year 1998, Pub. L. No.105–85, 111 Stat. 1629 (1997), https://www.congress.gov/105/plaws/publ85/PLAW-105publ85.pdf.
20. Utility Privatization Partners, "Benefits of UP," accessed September 4, 2025, https://utilityprivatization.org/up-101/.
21. United States Government Accountability Office, "DOD Utilities Privatization: Improved Data Collection and Lessons Learned Archive Could Help Reduce Time to Award Contracts," April 2020, https://www.gao.gov/assets/710/706716.pdf.

markets. In regulated markets, utilities can own and operate their own generation. In deregulated markets, except in niche cases, the utilities are not allowed to own power generation equipment.

Contrary to common knowledge, utilities do not generate earnings from the sale of electricity; instead, utilities are allowed to recover their costs of operations and a reasonable rate of return on the capital invested.[22] This last part is the most important for the sake of aligning interests for a utility because utilities only make money for their shareholders when they prudently invest capital dollars and receive a return on that investment. Unlocking and increasing the leverage of this incentive mechanism is the key to unlocking the benefits of utility privatization.

Working with utilities

For defense installations seeking to collaborate with utilities and engage with public service commissions (PSCs), it would be beneficial to understand the regulatory frameworks governing utilities in their respective state or region. This includes an understanding of how utilities propose and are approved for infrastructure projects, how regulators set rates, and how business models incentivize resilience investments.

It would also be beneficial for defense installations to be aware of any existing or potential regulatory incentives for resilience projects, such as cost recovery mechanisms, performance-based ratemaking, or state-level grants. Additionally, having a clear understanding of how to participate in the regulatory process—such as providing input during rate cases, attending PSC hearings, or partnering on grid modernization initiatives—would empower installations to advocate for their needs effectively.

Finally, emphasizing the mutual benefits—such as enhanced grid resilience, improved national security, and potential cost savings—would help both parties see the value in collaboration and foster a more productive relationship.

Utility regulators are willing to participate

The National Association of Regulatory Utility Commissioners (NARUC) published *Regulatory Considerations for Utility Investments in Defense Energy Resilience*,[23] a report highlighting collaborative initiatives, such as the Military Installation Resilience program, and successful partnerships between the US Army and utility companies. NARUC created this report to guide state utility regulators in supporting energy resilience at DOD installations. The context for the report stems from the DOD's reliance on commercial electricity grids, which leaves military installations vulnerable to outages from natural disasters, cyberattacks, and other threats.

A path forward: Recommendations to enhance regulated utility engagement

Unlocking the full value of utility privatization can only be accomplished by a coordinated, aligned, and reciprocal engagement by the Department of Defense, the public service commissions, and the regulated utilities.

1. **Re-regulate the ability for de-regulated utilities to own generation assets on defense installations.**

   The privatization process includes the conveyance of existing assets. The bulk of these systems consists of electrical distribution-related components, including poles, wires, transformers, and circuit breakers. For this equipment, there are no regulatory impediments to utility ownership.

   Regulatory hurdles do appear regarding utility ownership of power generation equipment, including backup generation or cogeneration facilities. In deregulated energy markets, regulators prohibit utilities from owning power generation equipment by state statute or regulatory order.

   However, even in deregulated markets, there are examples of utilities being granted limited rights to ownership, typically related to small-scale solar power projects, like those in Massachusetts where Eversource and National Grid are permitted to develop, own, operate, and recover the costs of distributed solar generation. Those examples could serve as a road map for similar small-scale generation in the context of on-base consumption.

   For this to happen might require a change in legislation; however, changes could be minor and open more potential for more installations.[24]

22. Andrew G. Campbell, "Getting Utility Profits to Align with Public Benefits," *Energy Institute at Haas* (blog), March 17, 2025, https://energyathaas.wordpress.com/2025/03/17/getting-utility-profits-to-align-with-public-benefits/.
23. Wilson Rickerson et al., *Regulatory Considerations for Utility Investments in Defense Energy Resilience*, National Association of Regulatory Utility Commissioners, October 2021, https://pubs.naruc.org/pub/9931AF59-1866-DAAC-99FB-17BF932AECF5.
24. Massachusetts Department of Public Utilities, Electric Power Division, "Solar facilities owned by the electric and gas companies," accessed September 4, 2025, https://www.mass.gov/info-details/solar-facilities-owned-by-the-electric-and-gas-companies#:~:text=The%20Green%20Communities%20Act%20of,and%20operate%20solar%20generation%20facilities.

2. **Reclassify the Department of Defense as a different class of customer.**

   Rather than viewing the DOD as a commercial customer with service demands similar to those of a big-box shopping center or a midsize industrial customer, utilities and public service commissions could establish a new customer class, recognizing the unique value and requirements of defense installations.

   Through this classification, public service commissions could subsequently grant more flexibility in rate-making design, allowing for increased flexibility when working with the DOD and thereby increasing the DOD's desirability as a customer. Examples of this increased flexibility could include the ability to execute energy-as-a-service contracts that allow for "on-bill financing" or "lease" service. It could also involve rethinking how utilities and regulators could expand traditional capacity charges currently used to fund interconnection infrastructure. Utilities could expand these charges to include resiliency charges that encompass broader definitions of infrastructure.

   Separating defense installations as a separate class of customers can provide a path to introduce performance-based rate-making, where the key metrics of resiliency and reliability of energy systems tied to critical functions are tracked and reported on and allowing for higher earning potential with exceptional performance. This further aligns incentives and helps ensure the results of utility privatization are being tracked and reported.

3. **Open the aperture on installations systems as grid assets.**

   Another way to improve the value of utility partnerships is to enhance the value of the assets under management by the utility that are based on the grid itself. To illustrate, the US Army Engineer Research and Development Center's Information Technology Lab is an innovative partnership with the local utility Entergy through which the Army Corps was able to locate a utility-owned, gas-powered, on-site generator to provide backup power. Entergy can dispatch generators as needed to relieve strain on the grid.

   Microgrids further augment this capability by enabling installations to operate independently or in coordination with the main utility grid during peak demand or emergencies. For instance, Camp Pendleton's advanced microgrid allows the base to supply its own electricity during outages or periods of high grid stress, contributing excess power back to the larger network when capacity permits. In the civilian sector, the Borrego Springs microgrid in California has demonstrated how localized energy systems can sustain community operations during wildfires and blackouts, easing the burden on traditional grid infrastructure. These examples highlight the diverse benefits of microgrid adoption as a means of opening the aperture—not only fortifying resilience for critical missions but also supporting broader grid stability and reliability.

   Increasing the aperture in this way could also address challenges the DOD faces with sourcing competitive bids for projects. Building infrastructure on the installation that provides benefits beyond the base will help make the case to regulators that the investments are worthwhile and in the best interest of all customers.

   The design of electric power infrastructure that primarily serves a DOD installation while secondarily serving the surrounding community is not new; it has been a regular component of this policy area going back years. Here, again, there is a relatively fractured and "installation-first/service-first" approach versus a systemic approach integrated with an overall strategy.[25]

4. **Engage utilities in regulatory dockets.**

   Utilities are ultimately beholden to their regulators to ensure they are acting in the interest of their respective stakeholders. Customers have a voice in the regulatory process, and the DOD should amplify their voice to ensure representation in these regulatory proceedings.

   This approach is not unheard of. Take, for example, the DOD's involvement in Dominion Energy Virginia's 2024 integrated resource plan (IRP) proceeding. In this proceeding, the regulator directed Dominion to provide additional modeling and information to better understand the impact on resource planning—with particular emphasis on the needs of critical infrastructure like military installations.

25. Sandy Kline, "Announcing the Navy Installation Energy Resilience Strategy," Knowledge Online for Defense Communities, last modified February 24, 2020, https://oldcc.gov/news-resources#tab-ir-studies; https://knowledge-online-defense-communities.knowledgeowl.com/help/announcing-the-navy-installation-energy-resilience-strategy.

5. **Pursue cost allocation for resiliency initiatives that can positively impact the region.**

   Regulators are examining key questions, including how to allocate costs for these resilience investments, how to ensure that ratepayers also benefit from the improvements, and how to quantify the value of resilience. These efforts reflect a growing recognition of the unique energy needs of military installations and the potential benefits of a more resilient community.

   Quantifying the value of resiliency is challenging. However, qualifying how investments in resiliency can benefit the community and region could unlock additional cost recovery, equating to further investment. This could entail broadening the scope of potential microgrids to include local schools, base housing, and vital shopping centers, all of which can improve the community's resiliency in responding to disasters.

6. **Consolidate procurement and regulatory engagement across the federal government and the Department of Defense to ensure a unified approach.**

   Boosting military installations' resiliency is unlikely to happen without statutory reform, and any improvement will be limited without changes in law. In the absence of adequate statutory reform, the DOD and military services need to adopt a two-pronged approach to attract large energy companies with deep balance sheets to the sector. Large energy companies are not traditional prime contractors in the defense sector, so they require a reduction in friction by cutting through the complexity outlined above and encouraging investment through attractive returns.

7. **Develop alternative third-party ownership structures for installation energy infrastructure.**

   While Congress has mandated privatization of installation utility infrastructure, sale and transfer of that infrastructure may prove difficult or impossible if there are no willing buyers. One potential approach could be a "spin out" of a package of the utility infrastructure into a nonprofit entity, essentially creating a purpose-built, bespoke municipal or cooperative utility platform for asset ownership.

   Modelled after a Rural Power Cooperative or utilizing a Tribal Utility framework—as demonstrated by the Paskenta Tribe in northern California earlier this year—a military installation can adopt a custom third-party structure to develop energy infrastructure that fits its mission needs and resiliency goals. With a transfer of the physical infrastructure, the DOD would put in place a contract that could, in turn, form the basis of raising capital to fund maintenance and upgrades from private capital markets.

Conclusion: Call to action

The energy industry is experiencing a period where risks are significant but opportunities abound. The DOD should take this opportunity to rationalize its approach to installation energy resilience to ensure future mission success.

The Department of Defense has aging electric infrastructure on its bases and limited capital to maintain and upgrade it. In response, the DOD must better leverage rate-regulated utilities to access expertise and capital markets.

Mechanisms exist today for the DOD to engage with utilities and privatize infrastructure, but executing on that objective is slow and uneven. Committing to focusing and accelerating these programs will unlock talent and capital to support base infrastructure.

This is the moment when the DOD must make a step change in addressing challenges to installation electric power resilience. Improvement does not depend on the availability of new technology—but rather a willingness to do business in new ways and leverage the expertise of willing partners.

About the authors

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He also brings extensive experience in commercial nuclear plant operations, maintenance, engineering, and leadership, following eight years of service in the US Navy's nuclear submarine force. Byboth earned a BS in nuclear engineering technologies from Thomas Edison State University, studied chemical engineering at the University of New Hampshire, and holds an MBA from Tulane University's Freeman School of Business.

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Coreth's passion for helping active-duty military, veterans, and veteran family members transition to civilian life is shown through her effort and dedication in spearheading and leading WSP's first-ever DOD SkillBridge Program, "Return the Salute." Coreth is a US Naval Academy graduate and served eight years active-duty in the US Navy as a Nuclear Surface Warfare Officer. She served onboard the USS *San Diego* (LPD-22) and more recently on the USS *Theodore Roosevelt* (CVN-71) as a reactor division officer.

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Nels formerly served as chief financial officer for AES's business incubation unit. He also founded AES Vets, the company's veteran employee resource group. Prior to working at AES, Nels was a regional business manager at NextEra Energy, where he oversaw renewable energy projects across North America. He began his career as an officer in the US Air Force, where he held key operational roles, including serving as an air battle manager with NATO and as a liaison officer with the US Army's 10th Mountain Division.

Nels holds an MBA from Harvard Business School, an MA in international relations from the University of Oklahoma, and a BA in international relations and economics from the College of William and Mary. He, his wife, and their two children live in northern Virginia.

About the center

The Atlantic Council Global Energy Center develops and promotes pragmatic and nonpartisan policy solutions designed to advance global energy security, drive economic opportunity, and foster a sustainable energy future.

Atlantic Council

The Atlantic Council is a nonpartisan organization that promotes constructive US leadership and engagement in international affairs based on the central role of the Atlantic community in meeting today's global challenges.

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