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A Critical Skills Investment Fund for the Department of Defense

When I served as Deputy Chief Management Officer of the Department of Defense in 2015 and 2016, I had a monthly breakfast with the senior executives who worked for me. At one of those breakfasts, one division director who worked for me complained that her workforce was fixed in its ways and found it difficult to adapt to new technologies and innovative business practices. I asked a second director whether she had the same problem. No, she said. Her workforce was young and engaged, and brought new technologies and new approaches to their work without even being asked.

After further discussion, the reason for the difference emerged: the second director headed an acquisition division, which had the advantage of direct hiring authority supported by money from the Defense Acquisition Workforce Development Fund. Equipped with money and authority, acquisition hiring managers could be proactive in their hiring practices, make on-the-spot offers to top students, and back them up with recruiting bonuses and promises of state-of-the-art (for the Department of Defense, anyway) training and career development programs.

Enacted in 2009 with strong bipartisan support in both Houses of Congress, the acquisition fund provided more than five billion dollars for workforce recruiting, hiring, training, and development activities over a ten-year period. In recent interviews with working-level defense officials, I was told over and over again that the acquisition fund had made a night-and-day difference in the quality and proficiency of the Department's acquisition professionals. Just a few years after being characterized as "understaffed, overworked, under-trained, under-supported and, most important, under-valued," the acquisition workforce had become a model that leaders in other career fields in the Department sought to emulate.

It is time for the Department to learn from this success and establish a similar tool to build desperately needed skills in its science and technology workforce. The Department should work with Congress to establish a critical skills investment fund that is at least equal to the acquisition fund in its magnitude and impact.

Over the last five years, any number of reports have been issued decrying the state of the Department's science, technology, engineering and mathematics workforce, with a special concern about the cyber, artificial intelligence, software,

data science, and digital engineering skills. Most recently, the 2021 final report of the National Security Commission on Artificial Intelligence found that "The human talent deficit is the government's most conspicuous AI deficit and the single greatest inhibitor to buying, building, and fielding AI-enabled technologies for national security purposes."

Likewise, the 2020 report of the Cyberspace Solarium Commission identified a troubling deficit in the cyber workforce of the Department of Defense and other federal agencies, noting "a need for personnel that have specific cybersecurity skills and experience" that is "complicated by government hiring, training, and development pathways that are not well-suited to recruit and retain" such highly skilled personnel. The Defense Innovation Board's Software Acquisition and Practices task force, the National Commission on Military, National, and Public Service, the National Academy of Public Administration, and the Volcker Alliance for public service all have reached similar conclusions within the last four years.

Congress has been duly responsive, enacting multiple reform packages in recent National Defense Authorization Acts that provide new and overlapping authorities for the Department's digital workforce, software workforce, cyber workforce, and artificial intelligence workforce. In 2015, for example, Congress authorized flexible new personnel authorities for the Department's cyber workforce. In 2016, new provisions authorized non-competitive term appointments to meet critical hiring needs, higher pay for critical research and technology positions in the defense laboratories, and on-the-spot hiring authority for college students and recent graduates.

The National Defense Authorization Act for FY 2020 included provisions that authorized the establishment of a new Defense Civilian Training Corps to target critical skills gaps, required a new policy on talent management of digital expertise and software professionals, required an artificial intelligence education strategy, and directed the creation of new software development and software acquisition training and management programs. The same bill included a separate subtitle on cyberspace matters, which required a report on cybersecurity training programs, a zero-based review of the Department's cyber and information technology personnel, and a study of Navy cyber career paths.

Last year, the FY 2021 Authorization Act included a new subtitle on the education and development of the Department's science and technology

workforce. The provisions address ways to measure and incentivize programming proficiency, change scholarship and fellowship programs, require training for human resources personnel on the authorities available for the science and technology workforce, establish a pilot program on self-directed training in advanced technologies, and provide for part-time employment of university faculty and students in science and technology. The act also calls for a new study on mechanisms to attract and retain high-quality talent in the Department.

These provisions provide several important new tools that should assist the Department in its efforts to recruit, hire and train employees with critical science and engineering skills. Taken individually, most appear to be more beneficial than not. Taken cumulatively, however, the legislation is likely to overwhelm the Department's limited implementation capacity with a confusing morass of overlapping directives that require a multiplicity of reports, strategies, programs and actions without establishing priorities or providing coherent direction.

More importantly, the provisions result in a huge unfunded mandate – a series of requirements that would be expensive to fully implement, and for which no budget is provided. The likely outcome is that many of the provisions will be implemented partially and haphazardly if at all, the Department will continue to fall short in its search for science and engineering talent, and Congress will enact more laws to try to address the problem.

Even before the enactment of this new raft of legislation, the Department had scholarship and fellowship programs that served as an effective pipeline for needed scientific and technical talent – but it lacked sufficient funding to meet the demand, so opportunities had to be rationed. The Department already had direct hiring authority, but the hiring of key civilian personnel remained a "pick-up game" handled by scientists and engineers in their spare time because the Department had no dedicated source of funding for professional recruiting and outreach. It had effective programs to integrate training with rotational career assignments and team-building experiences to attract quality talent – but again, limited funding meant that rationing was required. It had authority to pay recruiting and retention bonuses, but in most career fields, there simply was not enough civilian personnel money available to take advantage of the authority.

For the last decade, the acquisition fund was a singular ray of sunshine in the funding darkness. The fund provided one part of the defense civilian workforce with the budgetary authority it needed to take advantage of recruiting authorities,

pay for recruiting bonuses and other incentives, and institute cohort hiring programs and other special training and job rotation programs to build expertise. The result was a rebirth of acquisition expertise in the Department. An aging workforce has given way to younger and more technologically agile replacements, training and certification requirements are almost universally met or exceeded, and leaders have been able to shift their focus from a struggle to achieve basic competence to the need to build business sense and specialty skills.

Over the last two years, the Department determined that the acquisition fund had done its job and robust funding was no longer needed. Accordingly, deep cuts were made in an effort to reduce overhead spending and make more money available for the purchase of weapon systems. I leave it to others to assess the wisdom of this decision and the impact that the cuts may have on the recruiting, training, and development programs that were instrumental to rebuilding the acquisition workforce over the last decade.

But if Congress and the Department want to build a robust, highly skilled science and engineering workforce, the experience of the acquisition fund shows that nothing helps like a dedicated source of funding. The Department can make major progress toward addressing its critical skills gaps and building up its digital, software, data science, artificial intelligence, and cyber workforces. The model is there; it has only to be expanded or replicated. Budgets are about priorities. Congress can enact all of the legislation on critical skills that it wants, but if it isn't willing to put up money, the real message is that it isn't a priority.

A critical skills investment fund would enable the Department to build a professional outreach and recruiting program directed at accessing critical science and engineering talent. Such a fund would enable the Department to pay for more scholarships and fellowships and to build a stronger pipeline to talent pools in academia. It would enable the Department to provide recruiting bonuses and other forms of incentive pay needed to attract the best and the brightest. The fund would enable the Department to bring on-board more highly qualified experts and other temporary and term employees to fill gaps in critical skills. It would enable the Department to build and scale the employee training programs, job rotation programs, and team-building experiences needed upskill its existing workforce and bring new hires up to speed.

If Congress really wants to help the Department address its gap in critical science and engineering skills, it should stop enacting the same legislation over and

over again in slightly different forms, and instead focus on providing robust funding to implement the legislation that is already in the books. It is time for Congress and the Department to work together to establish a critical skills investment fund.

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