

Report on the Termination of Military Technician as a Distinct Personnel Management Category

Final Report to Congress and the Secretary of Defense

Volume I: Main Report

Michelle A. Dolfini-Reed • Charles H. Porter • Diana S. Lien
James E. Grefer
with
Brandon R. Deland • David Gregory • Laura J. Kelley
Kletus S. Lawler • Jessica S. Oi • Christopher J. Petrillo
David L. Reese • Robert W. Shuford • Darlene E. Stafford
Lauri D. Wells



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Photo credit line: Staff Sgt. Roger A. Iversen, a crew chief with the 436th Maintenance Squadron, inspects the landing gear on a C-5M as part of the Isochronal Inspection process. The 436th MXS is an active duty detachment assigned to Westover. Sergeant Iversen said being active duty at a Reserve base has given him a new understanding of the total force concept. "It's basically a whole new environment to me," he said. "It's a whole new set of rules and it gives a neat perspective to see the active duty working alongside Reservists, Air Reserve Technicians, Active Guard and Reserve personnel and civilians." Sergeant Iversen also noted the camaraderie he sees at Westover is like nothing he's seen elsewhere on active duty. "I think it comes from people working together for so long. People know each other better. They know each other's strengths and weaknesses," he said.

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Henry Griffis, Director
Defense Workforce Analyses Team
Resource Analysis Division

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Executive summary

In this report, we provide Congress with an independent study of the feasibility and advisability of terminating the military technician (MilTech) as a distinct personnel management category within the Department of Defense (DOD). Specifically, we examine the Army National Guard (ARNG), U.S. Army Reserve (USAR), Air National Guard (ANG), and U.S. Air Force Reserve (USAFR) MilTech programs. We compare each service's MilTech program with congressional intent, highlighting where programs are consistent with and different from that intent and discussing how inconsistencies contribute to concerns about the MilTech program.

To frame our analysis, we focus on three MilTech program characteristics: complexity, compatibility, and continuity and deployability. We also consider and evaluate alternatives to the MilTech program in terms of compensation costs and provide a comparative analysis of the benefits and challenges associated with potentially converting MilTechs to active-duty personnel—either active component (AC) or active Guard/Reserve (AGR)—state civilian employees, or Title 5 federal civilian employees. Maintaining unit readiness is a major consideration. To conduct our analysis, we use a combination of service-level MilTech and reserve personnel data, compensation data, and input provided by dual-status (DS) MilTechs via a survey.

Converting MilTechs to AC or AGR personnel

We find that it is feasible to replace MilTechs with AC or AGR personnel with no harm to unit readiness: using AC or AGR personnel would erase the complexity of the MilTech program while providing functional compatibility and continuity to units when they deploy. However, doing so would increase compensation costs. Assuming a direct conversion to DS MilTechs' paygrade structure, we estimate that the aggregate cost of DS MilTechs' compensation is lower than that of their AGR/AC counterparts. Basic pay and basic allowance for

housing (BAH) compensation estimates of a conversion from DS MilTechs to military full-time support (FTS) range from a \$140-million to a \$379-million annual increase over the DS MilTechs' civilian earnings and Selected Reserve (SelRes) pay. Our estimates, however, show that AGR/AC compensation is not higher for all DS MilTech categories. Assuming a direct grade conversion based on military rank, the ANG and USAFR federal wage grade system DS MilTechs would receive slightly less pay, on average, if they were converted to AGR/AC.

So far, these compensation comparisons do not include retirement. For DS MilTechs under the general schedule pay system, the cost to DOD of AGR/AC retirement is 34 percent higher than DS MilTech retirement. The DS MilTech retiree receives two pensions, and the sum of the two net present values (NPVs) is greater than the NPV of the active-duty retirement. Nonetheless, the annual cost to DOD of providing the retirement benefit to the AC is greater because those in the AC have an earlier retirement age.

Converting MilTechs to state civilian employees

Converting MilTechs to state civilian employees presents legal issues that introduce new complexities to the National Guard's FTS program. State employees might support some aspects of unit readiness, but we assume that they would not also be members of the National Guard. The ability of FTS personnel to support compatible functions that enable the seamless continuity to units when they deploy would be lost and readiness would be impaired. Shifting the responsibility of paying for National Guard MilTechs to the states would save the federal government money, but states are not likely to be receptive to this option because of their own fiscal constraints. States' governors and adjutants general would probably pressure their congressional representatives to oppose it. For these reasons, we do not view converting MilTechs to state civilian employees as a viable option.

Converting MilTechs to Title 5 federal civilian employees

Converting MilTechs to Title 5 federal civilians would erase the administrative complexities of the program, but we cannot assume

that federal civilian FTS would also be National Guard or Reserve members. Consequently, unit readiness would be degraded in terms of supporting compatible functions that provide seamless continuity to units when they deploy. Compensation costs are neutral because DS MilTech civilian compensation tends to be similar to their federal civilian counterparts. We assume that National Guard and Reserve authorized endstrength levels would remain the same, so those who maintained their SelRes affiliation would continue to receive their reserve military compensation, but the services would incur replacement costs for those MilTechs who did not continue to be drilling SelRes members. DS MilTechs fall under the same federal civilian employee and military retirement rules as individuals who are not DS MilTechs; thus, DS MilTechs legitimately earn their “dual retirement.”

Maintaining the MilTech program

The MilTech program is a complex program in three main ways: its program administration, understanding how it works, and its dual-compensation systems. Effective personnel management of the MilTech program is hampered by these complexities and contributes to misconceptions about the program.

Lack of centralized data that clearly identify MilTechs, whether DS or non-dual-status (NDS), is a fundamental problem. MilTechs are not identified accurately in the Defense Civilian Personnel Data System (DCPDS) or the Reserve Component Common Personnel Data System (RCCPDS). This problem limits oversight at two levels: the Office of the Secretary of Defense (OSD) and the services. For example, neither currently has adequate management oversight of the MilTech program in terms of characteristics and behavior, such as retention. These complexities lead to a lack of information about the program and how it is working. OSD and the military services need to work together to ensure the maintenance of reliable MilTech information in the DCPDS and RCCPDS.

In judging the MilTech share of the workforce mix, we find that DS MilTechs largely appear to be both inherently governmental and military essential. However, if the function that a MilTech supports is

inherently governmental but not military essential, we recommend that the services determine whether it is more appropriate to use military FTS for other reasons (such as currency in military operations and training and augmentation), DS MilTechs, NDS technicians, or Title 5 federal civilian employees.

Based on survey input from DS MilTechs, we find that nearly 90 percent of all survey respondents indicate that their military and civilian training and duty requirements are compatible. ANG and USAFR DS MilTechs indicated the greatest level of compatibility, while ARNG and USAR DS MilTechs indicated lower levels of compatibility and higher levels of incompatibility. We also found that 21 percent of all DS MilTech positions are general administration, clerical, and office services occupations. Positions that provide FTS but have limited military compatibility, such as administrative jobs, may be good candidates to convert to FTS Title 5 civilian positions. This would require congressional action to authorize the National Guard to hire Title 5 federal civilian FTS positions. If Congress chooses to do so, we recommend that it give affected MilTechs the option of converting to a Title 5 civilian position or keeping their DS MilTech status until they choose to retire or switch their civilian employment to another job.

Survey input suggests that, for the most part, the DS MilTech programs are functioning as intended with regard to providing an experienced workforce of FTS DS MilTechs that is readily available to augment AC forces when their National Guard and Reserve units are activated.

Recommendation

Based on our analysis of the MilTech program, we recommend that Congress continue the program, although limited conversions to Title 5 civilian employees may be appropriate for positions that are inherently governmental but not military essential. Although the MilTech program is complex, its complexity tends to manifest in terms of program management and we have recommended steps in this report that OSD and the services can take to address these issues.

Introduction

The Assistant Secretary of Defense, Reserve Affairs (ASD/RA) serves as the principal staff assistant and advisor to the Secretary of Defense on all matters involving the reserve components. In this capacity, the ASD/RA asked CNA to examine the military technician (MilTech) program and determine the feasibility and advisability of maintaining, modifying, or terminating the MilTech program as a distinct personnel management category, as required by section 519 of Public Law 112-81 (also known as the National Defense Authorization Act (NDAA) for FY 2012).¹

The MilTech category is one of several personnel categories that provide full-time support (FTS) to the reserve components. Each reserve component (RC) maintains “a cadre of FTS personnel who are responsible for assisting in the organization, administration, recruitment, instruction, training, maintenance, and supply support to the RCs” in order to “optimize consistency and stability for each RC to achieve its assigned missions” [1].

In this report, we examine current MilTech program requirements and how the services use their MilTechs. We describe each service’s MilTech program, highlighting where programs are consistent with and different from congressional intent and discussing how inconsistencies contribute to concerns about the MilTech program. We consider and evaluate alternatives to the MilTech program and provide a comparative analysis of the benefits and challenges associated with maintaining, modifying, or terminating the program and transitioning to a different FTS approach. In conducting our analysis, we assume that current FTS requirements are correct and the work MilTechs do remains an FTS requirement.

1. See appendix A for specific congressional language requesting the MilTech study.

Background

The six reserve components of the Department of Defense (DOD) are the Army National Guard (ARNG), the U.S. Army Reserve (USAR), the U.S. Naval Reserve (USNR), the U.S. Marine Corps Reserve (USMCR), the Air National Guard (ANG), and the U.S. Air Force Reserve (USAFR). The National Guard components are unique to the Army and the Air Force, each having state/homeland missions under Title 32 status and federal missions under Title 10 status. The seventh RC—the Coast Guard Reserve (CGR)—is the smallest and falls under the Department of Homeland Security, although it works closely with DOD.²

As defined under Title 10 of the United States Code, the purpose of each reserve component is as follows:

to provide trained units and qualified persons available for active duty in the armed forces, in time of war or national emergency, and at such other times as the national security may require, to fill the needs of the armed forces whenever more units and persons are needed than are in the regular components. [3]

The Ready Reserve is the armed forces' primary source of personnel to augment the active forces for military contingency operations and wartime.³ It has three subcategories: the Selected Reserve (SelRes), the Individual Ready Reserve (IRR), and the Inactive National Guard. Among these, DOD tends to rely mostly on the SelRes to meet reserve requirements augmenting active component (AC) forces. The SelRes's total authorized endstrength in FY 2013 was 850,880⁴ [4].

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2. The CGR operates as a service in the Navy “upon the declaration of war if Congress so directs in the declaration or when the President directs” [2].
 3. The reserve components also have two other organizational categories: the Standby Reserve and the Retired Reserve.
 4. This total includes the CGR. Excluding the CGR, the total SelRes authorization in FY 2013 was 841,880.

Congress authorizes the armed services to man their SelRes forces by employing a combination of drilling members and AGR personnel. Most SelRes personnel are drilling, paid reservists who work part-time.⁵ In addition, the services employ full-time personnel who are responsible for the day-to-day administration and maintenance of the SelRes. Broadly defined, FTS includes Active Guard and Reserve (AGR) members, MilTechs, AC personnel in support of the National Guard and Reserves, and federal government civilians.⁶ Under Title 10 of the United States Code (10 U.S.C.), Congress authorizes the active-duty personnel category, AGR, to support the integration of the AC and the RCs [6]. Their purpose is to organize, administer, recruit, instruct, or train the reserves on a full-time basis.

Likewise, MilTechs are federal civilian employees who provide full-time support to National Guard and Reserve units. Dual-status (DS) MilTechs must maintain membership in the SelRes as a condition of their employment [7]. The program's intent is to provide skilled technicians to administer and train National Guard and Reserve members, or maintain and repair supplies and equipment in support of National Guard and Reserve units during the week, and then perform similar duties as a drilling SelRes member during drill periods and mobilization. Some MilTechs, however, are not members of the SelRes; these technicians are referred to as non-dual-status (NDS) MilTechs [8]. Among the RCs, only the ARNG, USAR, ANG, and USAFR have MilTechs.

5. At a minimum, part-time members perform drill duty 2 days per month and conduct 14 days of annual training (12 days for individual mobilization augmentees) each year, although a large percentage of part-time members have devoted more time to their reserve responsibilities since September 2001. Congress defines the SelRes's minimum training requirements in [5].

6. The ARNG, Army, ANG, and Air Force use the AGR nomenclature to reference this category of military personnel. The Navy refers to these personnel as FTS; the Marine Corps denotes them as active reserve (AR).

Research issues

In this study, our focus is on the MilTech program with an emphasis on DS MilTechs. Specifically, we are examining the MilTech program to determine the feasibility and advisability of maintaining, modifying, or terminating the MilTech as a distinct personnel management category, as required by section 519 of Public Law 112-81. We consider the following issues:

- What are the current requirements for the MilTech program, and how do the ARNG, USAR, ANG, and USAFR use their MilTechs to support their National Guard and Reserve missions? How does the MilTech program work? What are the management and personnel accounting rules for MilTechs? What are the unique needs of the National Guard in managing and using MilTechs? Are the services' MilTech programs consistent with Congress's intent?
- What are the benefits, challenges, and costs associated with the MilTech program for the ARNG, USAR, ANG, and USAFR? Are there any portions of the current MilTech program that cannot be duplicated by other programs, or that are uniquely cost-effective?
- What other options than MilTechs might the National Guard, Army, and Air Force use to meet the FTS mission without harming unit readiness? Namely, what other combinations of active, reserve, state civilian, and federal civilian employees might be used?
- What are the relative personnel costs of alternative manning options and what are the cost implications—pro or con—of transitioning to an alternative manpower solution, to include any long-term mandatory entitlement costs associated with military and civil service retirement obligations?
- Should it be feasible and advisable to modify or terminate the MilTech program as a distinct personnel category, what administrative actions would DOD need to take, and what legislative actions would be required by Congress?

- By what means might DOD manage the transition of the MilTech program to one that relies on some combination of active, reserve, and civilian personnel? In what ways can DOD manage, mitigate, and potentially avoid any effects of a proposed transition on the pay and benefits of current MilTechs?

Approach

Although the FY 2012 NDAA language specifies determining the advisability and feasibility of terminating the MilTech program, we adopt a broader view. We assess the advisability and feasibility of maintaining the existing program, modifying the existing program, or terminating the existing MilTech program.

We focus on three major MilTech program characteristics to frame our discussion of program issues and their benefits, challenges and concerns: complexity, compatibility, and continuity and deployability. Program complexity derives from varied statutory, OSD, and service-level MilTech policies, whereas the notions of compatibility and continuity/deployability derive from the statutory requirement that DS MilTechs are also members of the SelRes and a service practice that a DS MilTech's civilian position is the same as or similar to his/her SelRes position.

Our approach includes a review of the existing literature, interviews with subject matter experts (SMEs), survey input from DS MilTechs, and analysis of OSD and service-provided MilTech data. We use information gleaned from these sources to speak to the potential costs, mission readiness implications, and administrative feasibility of modifying or replacing the MilTech program with alternative personnel categories.

Each service can fill the requirements with any of the following types of personnel: AGRs, AC personnel, DS MilTechs, NDS technicians, or state or federal civilian employees. Note that these alternatives are not mutually exclusive; the dual-status MilTechs could be replaced by a mix of these alternatives. We specifically focus on AGRs, AC personnel, DS MilTechs, or regular Title 5 federal civilian employees.

We do not consider state civilian employees as an option for several reasons. First, converting MilTechs to state civilian employees presents legal issues regarding the use of state employees to support federal functions, introducing new complexities to the National Guard's FTS program. Second, state employees might support some aspects of unit readiness, but they would not necessarily also be members of the National Guard. As a result, the ability of FTS personnel to activate and deploy would be lost, and readiness would be harmed. Third, although shifting the responsibility of paying for National Guard MilTechs to the states would represent a cost savings to the federal government, state fiscal constraints make it unlikely that they would be receptive to this option. Finally, it is likely that the states' governors and adjutants general would pressure their congressional representatives to oppose such a measure. For these reasons, we do not include conversion of DS MilTechs to state civilian employees as a potential alternative.

Data

For this report, we use the following data sources:

1. Historical literature on the MilTech program including statutory materials, previous congressionally directed MilTech program reviews, and DOD and service-level policy documents
2. Interviews with DOD and military service-level subject matter experts
3. Data from DOD's annual Defense Manpower Requirements Report, FY 1988 through FY 2010
4. Data from service-level Defense Civilian Personnel Data System (DCPDS) personnel files, the Reserve Components Common Personnel Data System (RCCPDS), and the Contingency Tracking System (CTS)⁷

7. The authors thank Gina M. Kraper, Legislative and Strategic Plans Analyst, National Guard Bureau, for coordinating our data requests to the services.

5. Input from current DS MilTechs that we collected via an online survey questionnaire. We developed and fielded the survey in late April to mid-May 2013.⁸ We used service-level data compiled by the services in February 2013 from the DCPDS to identify the current DS MilTech population. In volume 2 of this report, we provide a copy of the survey questionnaire (appendix B) and describe our survey design (appendix C).

This report

In this report, we first describe each reserve component's FTS approach, with a specific focus on the ARNG's, USAR's, ANG's, and USAFR's MilTech programs with regard to their program design and personnel management and accounting rules.

Second, we consider the benefits, challenges, and costs associated with the MilTech program in terms of complexity, compatibility, and continuity and deployability.

Third, we identify other FTS options that the National Guard, Army, and Air Force might use to meet the FTS mission without harming readiness. As part of this undertaking, we determine, the relative personnel costs of alternative manning options and what the cost implications are—pro or con—of transitioning to an alternative manpower solution, to include any long-term mandatory entitlement costs associated with military and civil service retirement obligations.

Finally, based on our analysis, we provide our recommendations regarding the future of the MilTech program. As part of our recommendations, we discuss what administrative actions DOD would need to take and what changes Congress would have to make to Titles 10 and 32 of the United States Code to modify or terminate the MilTech program.

8. The authors thank Jennifer Atkins for her assistance and insights on the Washington Headquarters Service (WHS) process for survey licensing. We also thank Mr. Tom Liuzzo, LtCol Patrick Zimmerman, and LTC Ned Reilly at OSD-RA for their assistance in developing the survey instrument and facilitating the WHS approval process.

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Service-specific FTS approaches

In this section, we provide an overview of each reserve component's FTS approach. Next, we discuss what a MilTech is and review the program's historical highlights. We then discuss how each service manages and uses its MilTech programs.

Service-specific FTS approaches

Each reserve component's FTS approach reflects a combination of service culture, organization, and mission sets, evolving over their respective histories. The combined effect of these factors is apparent in each service's FTS workforce mix, in terms of (a) whether its FTS is military or civilian and (b) whether its FTS is also a member of the Selected Reserve or not (see figure 1). We note that some FTS personnel are members of the SelRes—namely, AGRs and DS MilTechs—while others are not.

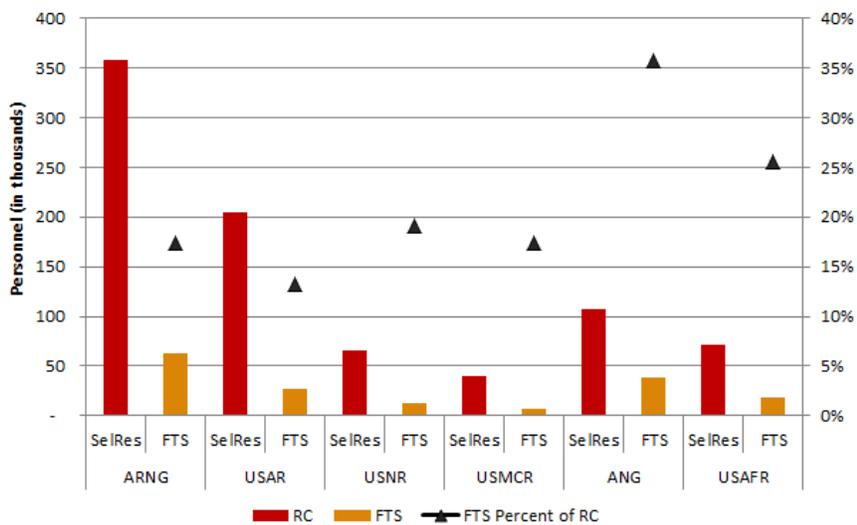
Figure 1. FTS personnel categories distinguished by military/civilian and SelRes/not SelRes

Reserve status	Military	Civilian
SelRes	AGRs	DS MilTechs
Not SelRes	Active component	NDS MilTech Federal civilian

Figure 2 shows by reserve component the number and percentage of SelRes that are FTS relative to each service's total FY 2012 authorized SelRes levels. The red bar in figure 2 indicates each RC's authorized

drilling SelRes levels, and the orange bar indicates the number of FTS. The relative level of FTS compared with total SelRes is indicated by the black triangle. Comparatively, the USAR has the lowest relative FTS level compared with its total SelRes, the ARNG, the USNR, and USMCR FTS levels are in the middle of the spectrum, and the ANG and USAFR have the highest FTS levels.

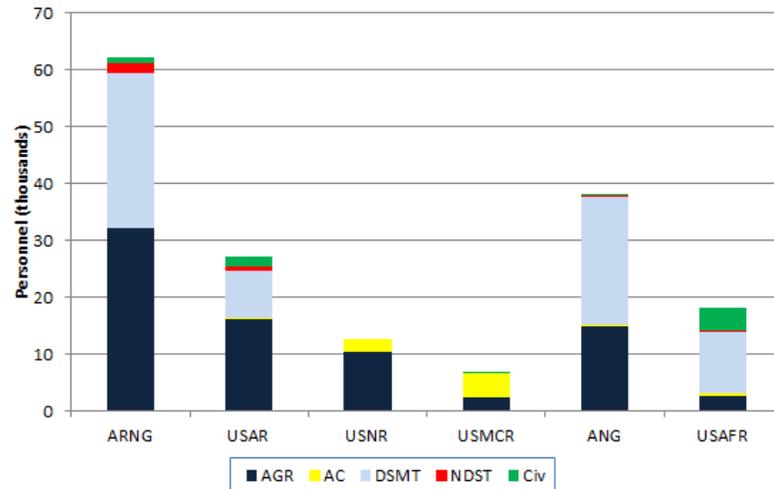
Figure 2. Reserve component FTS levels relative to total SelRes authorizations for FY 2012^a



a. Source: Total RC SelRes authorizations are from the FY 2012 National Defense Authorization Act. We calculate FTS levels using FY 2012 authorization levels for AGRs/FTS/ARs, DS MilTechs, and NDS technicians, and estimated AC and federal civilian employee figures for FY 2012 using estimates from DOD's annual *Defense Manpower Requirements Report, FY 2012*.

Figure 3 shows the number of authorized FTS in each personnel category, by RC for FY 2012, and table 1 shows the percentage of FTS in each personnel category, by RC for FY 2012. Note that, in the case of MilTechs, Congress authorizes *minimum* endstrength levels for DS MilTechs while it *limits* NDS technicians *not to exceed a set maximum*. We see that the ARNG, USAR, USNR, and USMCR rely mostly on military FTS, while the ANG and USAFR rely mostly on civilian FTS. Furthermore, the majority of FTS in the ARNG, USAR, and USNR are AGR, although the ARNG and USAR predominantly rely on a mix of AGRs and DS MilTechs for their FTS.

Figure 3. Authorized FTS levels by personnel category, by reserve component, for FY 2012^a



a. Source: Endstrength levels authorized in Public Law 112-81, the FY 2012 National Defense Authorization Act. For Title 5 civilians, we use FY 2012 estimates from DOD's annual *Defense Manpower Requirements Report, FY 2012*.

Table 1. Percentage of FTS in each personnel category, by reserve component, for FY 2012^a

	ARNG	USAR	USNR	USMCR	ANG	USAFR
Military						
Active component	0%	0%	17%	65%	1%	4%
AGR/FTS/AR	52%	61%	83%	32%	39%	16%
Civilian						
DS MilTech	44%	32%	N/A	N/A	59%	55%
NDS MilTech	3%	2%	N/A	N/A	1%	0% ^b
Title 5 civilian	1%	6%	0%	3%	1%	24%

a. Source: Endstrength levels authorized in Public Law 112-81, the FY 2012 National Defense Authorization Act. For Title 5 civilians, we use FY 2012 estimates from DOD's annual *Defense Manpower Requirements Report, FY 2012*.

b. Less than 1 percent.

The USNR and USMCR approaches strongly favor the use of military as FTS personnel. The Navy heavily concentrates its FTS among its SelRes FTS, while the Marine Corps' FTS is nearly two-thirds AC personnel and one-third AR Marines. Finally, the majority of FTS in the

ANG and USAFR are DS MilTechs. However, the ANG and USAFR are like the ARNG and USAR in that they mostly staff their FTS with AGRs and DS MilTechs.⁹

DS and NDS technicians

The goal of the MilTech program, in conjunction with other FTS programs, is to ensure the readiness and effectiveness of their National Guard and Reserve units. MilTechs are federal civilian employees, hired under Titles 5 and 32 of the U.S.C., who provide support to SelRes units [7, 8]. As full-time employees, MilTechs organize, administer, instruct, or train the SelRes, or they maintain and repair SelRes unit supplies and equipment. MilTechs are either dual status (DS) or non-dual status (NDS) and, as noted earlier, are a personnel category congressionally authorized only for the ARNG, USAR, ANG, and USAFR.

Unless exempt by federal law, DS MilTechs must maintain affiliation with a National Guard or Reserve unit as a condition of their employment, either in the same unit in which they are employed as a MilTech or in a SelRes unit that the person is employed as a MilTech to support [7]. The intent of this requirement is to guarantee that, when a National Guard or Reserve unit is activated to support military operations, its DS MilTechs will be activated as well, providing continuity to the unit. Under this construct, civilian DS MilTechs are similar to military FTS: they provide the day-to-day unit functions that are required to conduct monthly drill activities, prepare for predeployment activation and training, and support operations. The dual-status requirement ensures that their skills and experience will be available continuously during peacetime, wartime, and national emergencies.

9. Although the FTS personnel category distributions vary slightly by service over the past 20 or so years, their basic FTS approaches as described here remain the same. See appendix D for recent force endstrength trends by service.

NDS technicians are federal civilian employees who are not required to maintain SelRes membership. MilTechs derive NDS designation under the following four conditions, as defined by [7 and 8]:

If a MilTech was hired as a technician before November 18, 1997, and as of that date was not a member of the SelRes or after such date ceased his or her SelRes membership

If the MilTech was hired to fill a non-dual-status position in the National Guard—as designated under [9]—and was not required to maintain SelRes membership when hired

If the person was hired as a temporary employee—for a period not to exceed two years—to fill a vacancy created by the activation of a dual status technician. We note that Congress rescinded the services’ authority to hire NDS temporary employees effective January 7, 2013 [see 8].

If the DS MilTech loses such status as the result of a combat-related disability as defined by [10], he/she may be retained as a NDS technician “so long as (A) the combat-related disability does not prevent the person from performing the non-dual status functions or position; and (B) the person, while a non-dual status technician, is not disqualified from performing the non-dual status functions or position because of performance, medical, or other reasons.” [7]

In the next section, we take a closer look at how each reserve component currently uses its MilTech programs.

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The MilTech programs

In this section, we provide an overview of each MilTech program, including its legal and regulatory authorities, and how the service manages its MilTechs in terms of its DS MilTech civilian and military paygrade mix.¹⁰

National Guard MilTech programs¹¹

Keep in mind that the National Guard has a state and a federal military role. State governors and state adjutants general regularly look to the National Guard to support state functions and tend to view the state mission as paramount. However, the National Guard also is inherently military—a condition that extends to DS MilTechs when they are in SelRes status or supporting military missions bringing them under the federal umbrella. Aiming to achieve balance between these competing interests, Congress crafted and approved legislation that carefully maintained the state and military nature of the National Guard technician program in 1968. The 1968 act created a unique hybrid military-civilian employee status.

National Guard DS MilTechs are hired under federal excepted service provisions and do not fall under the competitive service rules. In comparison, the National Guard's NDS technicians are exempt from the DS employment conditions and are categorized as competitive civil service employees. By law, DS MilTechs have no Merit System Protection Board or Veterans' Preference rights and limited Federal Labor Relations Acts rights. National Guard technicians fall under the authority of The Adjutant General (TAG) of each state. The TAG has

10. We provide a more detailed history of each reserve component's MilTech program in appendix E of volume 2.

11. Unless otherwise noted, we derive the information in this section from [9, 11, and 12].

broad hiring and termination authority with respect to technicians: he/she may separate a technician from employment for cause at any time, and the technician's right of appeal does not extend beyond the jurisdiction of the TAG. DS MilTechs are viewed as state employees with regard to the Uniform Services Employment and Reemployment Rights Act. As prescribed by 32 U.S.C. 709, National Guard technicians may be employed for the following purposes:

- To organize, administer, instruct, or train the National Guard
- To maintain and repair supplies issued to the National Guard or armed forces
- To perform additional duties, such as support operations or missions by the technician's unit, support of federal training operations or missions by the technician's unit, and instructing or training active-duty members, foreign military forces, DOD contractor personnel, or DOD civilian employees

In addition, persons employed as DS MilTechs, as defined under 10 U.S.C. 10216(a), also must be members of the National Guard, must hold the military grade required for the Guard position, and, while performing duties as a DS technician, must wear the military uniform appropriate for the member's grade and component. National Guard headquarters representatives indicate that most of the time a DS technician position is the same as or similar to the person's military position, but there are some cases in which the DS MilTech's civilian job is not the same as his/her job when in military status.

The National Guard does not link a DS MilTech's civilian and SelRes promotions. If a person is promoted as a drilling SelRes member, he or she is not promoted automatically as a DS MilTech and vice versa. If promoted, the DS MilTech must find and apply for a new civilian position if his/her current MilTech position is not compatible with his/her military promotion. If unable to do so, DS MilTechs can be faced with turning down their military promotion in order to continue in their civilian MilTech position.

Furthermore, federal law restricts the National Guard from paying its MilTechs for overtime or irregular work hours. In lieu of overtime

pay, Title 32 technicians are eligible for "compensatory time off" (see [9]).

In table 2, we show the distribution of ARNG DS MilTech force by civilian and military paygrades using service-provided data for September 2011.¹² Nearly half of the ARNG's DS MilTechs are wage grade (WG) civilians (43 percent), and 7 percent are wage leaders (WL) or supervisors (WS). The remaining 50 percent are general schedule (GS) civilians. With regard to their military paygrades, the majority of the ARNG DS MilTech force are enlisted personnel (78 percent), with officers and warrant officers representing 12 percent and 9 percent, respectively. MilTechs who are enlisted mostly hold the ranks of E5 or E6. Those who are officers tend to be mostly warrant officers or to hold the field grades. We find that DS MilTechs also may attain the rank of general officer in their military capacity: in September 2011, ARNG DS MilTechs who were general officers numbered 22.

In table 3, we show the distribution of the ANG DS MilTech force by their civilian and military paygrades as of September 2011. The data show that slightly over half of the ANG's DS MilTechs are WG civilians (43 percent), and 8 percent are WL or WS civilian. The remaining 49 percent are GS civilians. With regard to their military paygrades, the majority of the ANG DS MilTech force are enlisted personnel (88 percent), and only 12 percent are commissioned officers. MilTechs who are enlisted mostly hold the ranks of E6 or E7. Those who are officers tend to hold the field grades. Like the ARNG, we also find that ANG DS MilTechs also may attain the rank of general officer in their military capacity: in September 2011, ANG DS MilTechs who were general officers numbered 19.

12. Table 2 does not include data for the ARNG's reimbursable MilTechs. Reimbursable MilTechs are persons who are hired to do work funded under working capital fund agreements with the Army.

Table 2. Distribution of ARNG DS MilTechs by civilian and military paygrades^a

MilTech civilian paygrade ^b	Enlisted and officer paygrade										Total
	E1-4	E5	E6	E7	E8 to E9	Warrant officers to O3	O4 to O6	O7 and above	Total		
WG/WU 1-5 (helpers)	130	67	36	9	0	0	0	0	0	0	242 (0.8%)
WG/WU 6-8 (workers)	1,204	1,483	749	272	57	5	1	0	0	0	3,771 (12.2%)
WG/WU 9 and above (journeyman)	928	3,134	2,810	1,690	545	229	2	0	0	0	9,338 (30.2%)
WLMWR	1	31	77	183	143	38	0	0	0	0	473 (1.5%)
WSWQ	0	18	91	292	533	799	73	52	0	0	1,858 (6.0%)
GS 1-8 (entry)	1,229	1,942	1,378	511	170	94	24	0	0	0	5,348 (17.3%)
GS 9-12 (journeyman)	262	953	1,190	1,030	853	1,306	1,642	1,191	1	1	8,428 (27.3%)
GS 13-15 (expert)	0	0	0	0	4	491	103	808	21	21	1,427 (4.6%)
Total	3,754 (12.2%)	7,628 (24.7%)	6,331 (20.5%)	3,987 (12.9%)	2,305 (7.5%)	2,962 (9.6%)	1,845 (6.0%)	2,051 (6.6%)	22 (0.1%)	22 (0.1%)	30,885 (100.0%)

a. Source: National Guard Bureau provided MilTech data combined with RCCPDS data for September 2011.

b. WU, WR, and WQ are the respective paygrade equivalents for WG, WL, and WS in Puerto Rico.

Table 3. Distribution of ANG DS MilTechs by civilian and military paygrades^a

MilTech civilian paygrade ^b	Enlisted and officer paygrades										Total
	E1-4	E5	E6	E7	E8 to E9	Warrant officers	O1 to O3	O4 to O6	O7 and above	Total	
WG/WU 1-5 (helpers)	31	5	2	2	0	0	0	0	0	0	40 (0.2%)
WG/WU 6-8 (workers)	122	297	274	139	3	0	0	0	0	0	835 (3.5%)
WG/WU 9 and above (journeyman)	653	2,677	3,662	2,140	141	0	2	0	0	0	9,275 (38.8%)
WL/WR	0	7	64	214	23	0	0	0	0	0	308 (1.3%)
WSWQ	1	1	29	482	1,121	0	0	1	0	0	1,635 (6.8%)
GS 1-8 (entry)	376	508	633	421	28	0	6	0	0	0	1,972 (8.3%)
GS 9-12 (journeyman)	246	686	1,527	2,590	1,868	1	633	779	0	0	8,330 (34.9%)
GS 13-15 (expert)	0	0	0	0	1	0	157	1,317	19	0	1,494 (6.3%)
Total	1,429 (6.0%)	4,181 (17.5%)	6,191 (25.9%)	5,988 (25.1%)	3,185 (13.3%)	1 (0.0%)	798 (3.3%)	2,097 (8.8%)	19 (0.1%)	19 (0.1%)	23,889 (100.0%)

a. Source: National Guard Bureau provided MilTech data combined with RCCPDS data for September 2011.

b. WU, WR, and WQ are the respective paygrade equivalents for WG, WL, and WS in Puerto Rico.

In tables 2 and 3, we highlight in yellow the cells that represent the majority of the MilTech inventory for each military paygrade category. In the ARNG and ANG, MilTechs who are enlisted tend to hold civilian WG/WL/WS positions or entry-level or journeyman GS positions. MilTechs who were warrant or commissioned officers mostly had journeyman or expert GS positions. MilTechs who were junior enlisted (E1 to E4) mostly had either mid-level WG or entry-level GS civilian positions. MilTechs holding more senior military rank (E5 and above) tended to be in the higher WG/WL/WS paygrades; this pattern holds but is somewhat less distinct for GS-level MilTechs who are enlisted. Among officers, warrant officers are viewed as specialists/experts/leaders in their military capacity. ARNG MilTechs who were warrant officers also had civilian jobs that were of the journeyman, leadership/supervisor, or expert level. MilTechs who were commissioned officers likewise had civilian GS positions at the journeyman or expert level. For these officers, as military rank increases, so does the civilian MilTech paygrade.

The USAR MilTech program¹³

The USAR administratively established its MilTech program under the federal civil service laws in 1960 through a Memorandum of Understanding with the Civil Service Commission.¹⁴ Congress legislatively codified both the Army and Air Force Reserves' technician programs in 1996 when it enacted 10 U.S.C. 10216.

As noted earlier, in the USAR, FTS is provided by the following FTS personnel categories:

- DS MilTechs (referred to as *DSMTs* by the USAR) employed as civilians under Title 5 U.S.C., while maintaining membership in the SelRes

13. Unless otherwise noted, we derive material in this section from [13 and 14].

14. The Civil Service Commission is now the Office of Personnel Management.

- NDS technicians (referred to as *NDSTs*, *technicians*, and *CRI-NDSTs* by the USAR) employed as civilians under Title 5 U.S.C.¹⁵
- Department of the Army Civilians (DACs) who were hired under 5 U.S.C. 101 but are not part of the MilTech program
- AGR personnel
- Active component personnel

As FTS personnel, their mission is to (a) organize, administer, instruct, recruit, and train, (b) maintain supplies, equipment, and aircraft, and (c) perform other functions required on a daily basis in the execution of operational readiness preparation.

The USAR MilTech program tends to strive for skill compatibility between the MilTech's civilian and SelRes positions rather than having the exact same skill requirements. In most cases, the DS MilTech must either be a MilTech in the same unit in which he or she is a drilling member or in a unit that supports the drilling unit.¹⁶ However, DS MilTechs employed in maintenance facilities are unique in that they are authorized military assignment anywhere in the SelRes, to include as individual mobilization augmentees (IMAs). DS MilTechs are assigned only to USAR units and organizations, but can be assigned at all levels of command.

The USAR also does not directly link the DS MilTech's civilian grade to his or her SelRes paygrade. Likewise, it does not link DS MilTech's civilian and SelRes promotions: if a person is promoted as a drilling SelRes member, he or she is not promoted automatically as a DS MilTech, and DS MilTechs do not receive preference for reserve promotions or assignments. The promotion and assignment

15. *NDSTs* are technicians hired before November 18, 1997, who have ceased to be SelRes members through involuntary action. *Technicians* are those hired after November 17, 1997, who subsequently lose dual status through involuntary action and must be removed from civil service not later than 12 months after loss of SelRes membership. *CRI-NDSTs* are DS MilTechs who lose dual status as a result of a combat-related disability.

16. In the Army, this is known as the "down trace."

philosophy is to treat all soldiers equally. As reservists, DS MilTechs compete equally for promotion and reserve billet assignments with regular drilling SelRes soldiers. If promoted, it is incumbent on the USAR MilTech to find and apply for a new civilian position if his/her current MilTech position is not compatible with his/her military promotion. Furthermore, a reservist who goes before the General Officer Assignment Advisory Board must complete the Military Technician Statement of Understanding indicating that he or she may have to revert to a non-general-officer grade after completion of his or her general officer tenure if he or she chooses to remain in the MilTech program.

In table 4, we show the distribution of USAR DS MilTech force by their civilian and military paygrades as of April 2012. The data show that slightly over one-third of the USAR's DS MilTechs are WG civilians (29 percent), or WL or WS civilians (6 percent). The remaining two-thirds are GS civilians. With regard to their military paygrades, the majority of the USAR DS MilTech force are enlisted personnel (82 percent), while only 12 percent are commissioned officers and 6 percent are warrant officers, MilTechs who are enlisted mostly hold the ranks of E5, E6, and E7. Those who are officers tend to be in the company grades. Like the ARNG and ANG, we also find that USAR DS MilTechs also may attain the rank of general officer in their military capacity: in April 2012, USAR DS MilTechs who were general officers numbered four.

In the USAR, DS MilTechs who are enlisted tend to hold civilian WG positions at the worker and journeyman levels or GS-positions at the entry level and journeyman level. MilTechs who are warrant or commissioned officers mostly have journeyman GS positions, with smaller numbers at the GS entry- or expert levels. MilTechs who were junior enlisted (E1 to E4) mostly had either mid-level WG or entry-level GS civilian positions. MilTechs holding more senior military rank (E5 and above) and warrant officers tend to be in the higher journeyman WG or GS paygrades. MilTechs who are commissioned officers likewise had civilian GS positions at the journeyman or expert levels.

Table 4. Distribution of USAR DS MilTechs by civilian and military paygrades^a

MilTech civilian paygrade ^b	Enlisted and officer paygrades										Total
	E1-4	E5	E6	E7	E8 to E9	Warrant officers	O1 to O3	O4 to O6	O7 and above		
WG/WU 1-5 (helpers)	1	2	2	2	0	1	0	0	0	0	8 (0.1%)
WG/WU 6-8 (workers)	215	299	259	133	50	33	3	2	0	0	994 (12.5%)
WG/WU 9 and above (journeyman)	142	272	403	278	126	105	7	2	0	0	1,335 (16.8%)
WLWR	7	25	61	55	59	22	4	0	0	0	233 (2.9%)
WSWQ	3	11	31	51	64	45	1	3	0	0	209 (2.6%)
GS 1-8 (entry)	240	636	924	515	252	65	194	32	0	0	2,858 (36.0%)
GS 9-12 (journeyman)	28	122	339	382	527	167	312	291	0	0	2,168 (27.3%)
GS 13-15 (expert)	0	0	0	2	13	50	4	51	4	4	124 (1.6%)
Total	636 (8.0%)	1,367 (17.2%)	2,019 (25.5%)	1,418 (17.9%)	1,091 (13.8%)	488 (6.2%)	525 (6.6%)	381 (4.8%)	4 (0.1%)	4	7,929 (100.0%)

a. Source: USAR provided MilTech data combined with RCCPDS data for Apr. 2012.

b. WU, WR, and WQ are the respective paygrade equivalents for WG, WL, and WS in Puerto Rico.

The USAFR MilTech program¹⁷

Like the Army Reserve, the USAFR gains its FTS from five personnel categories: DS MilTechs who are both Title 5 U.S.C. civilians and SelRes (known as Air Reserve technicians or ARTs), Title 5 U.S.C. non-dual-status technicians, Title 5 U.S.C. Department of the Air Force civilians, AGRs, and AC airmen.

The USAFR tends to assign AGRs to headquarters billets, whereas ARTs mostly are found at reserve units. The USAFR links ART civilian and military positions so that the person has the same military/civilian duties whether acting in his/her ART or SelRes capacity. The USAFR has designed its force development program to achieve parallel career ladders between the ART program and the drilling units. ARTs progress through their civilian and SelRes career levels in tandem. USAFR headquarters representatives indicate that being an ART tends to enhance a SelRes member's competitiveness for promotion, particularly at the most senior leadership levels of the USAFR. Specifically, all of the most senior field command positions in the Air Force Reserve—Group Command (Lieutenant Colonel) and Wing Command (Colonel or Brigadier General)—are ART positions.

In table 5, we show the distribution of the USAFR DS MilTech force by their civilian and military paygrades as of January 2012. The data show that slightly over half of the USAFR's DS MilTechs are wage grade (WG) civilians (42 percent), and 11 percent are wage leaders (WL) or supervisors (WS). The remaining 49 percent are GS civilians (47 percent), executive service (only 0.02 percent), or defense intelligence activity employees (IA paygrades, only 1 percent). With regard to their military paygrades, the majority of the USAFR DS MilTech force are enlisted personnel (85 percent), with commissioned officers representing the remaining 15 percent. MilTechs who are enlisted mostly hold the ranks of E6 or E7. Those who are officers tend to hold the field grades, and finally, USAFR DS MilTechs also may attain the rank of general officer in their military capacity: in January 2012, USAFR DS MilTechs who were general officers numbered 15.

17. Unless otherwise noted, we derive material in this section from [15, 16, and 17].

Table 5. Distribution of USAFR DS MilTechs by civilian and military paygrades^a

MilTech civilian paygrade ^b	Enlisted and officer paygrades										Total
	E1-4	E5	E6	E7	E8 to E9	O1 to O3	O4 to O6	O7 and above	Total		
WG/WU 1-5 (helpers)	0	0	0	0	0	0	0	0	0	0	0 (0.0%)
WG/WU 6-8 (workers)	8	14	22	9	0	0	0	0	0	0	53 (0.6%)
WG/WU 9 and above (journeyman)	200	914	1,924	868	22	0	0	0	0	0	3,928 (41.0%)
WLWR	0	0	0	0	1	0	0	0	0	0	1 (0.01%)
WSWQ	0	2	63	394	571	0	0	0	0	0	1,030 (10.7%)
GS 1-8 (entry)	61	143	345	203	22	0	0	0	0	0	774 (8.1%)
GS 9-12 (journeyman)	24	92	456	931	800	164	332	0	0	0	2,799 (29.2%)
GS 13-15 (expert)	0	0	0	0	0	37	849	13	0	0	899 (9.4%)
ES 00	0	0	0	0	0	0	0	2	0	0	2 (0.02%)
IA 1-4	1	5	10	15	14	18	33	0	0	0	96 (1.0%)
Total	294 (3.1%)	1,170 (12.2%)	2,820 (29.4%)	2,420 (25.3%)	1,430 (14.9%)	219 (2.3%)	1,214 (12.7%)	15 (0.2%)	15 (0.2%)	15 (0.2%)	9,582 (100.0%)

a. Source: USAFR provided MilTech data combined with RCCPDS data for Jan. 2012.

b. WU, WR, and WQ are the respective paygrade equivalents for WG, WL, and WS in Puerto Rico.

In the USAFR, DS MilTechs who are enlisted tend to hold civilian WG positions at the journeyman levels or GS positions at the entry and journeyman levels. They also have good representation in the WS paygrades. MilTechs who are warrant officers mostly have WS positions or GS positions at the journeyman levels. MilTechs who are commissioned officers in the company grades tend to hold civilian GS journeyman positions, while those in the field grades and general officer levels mostly have civilian expert-level GS positions. The USAFR is the only reserve component to have DS MilTechs at the executive-service (ES) level or working in intelligence activity positions.

Comparative summary of MilTech program characteristics

With respect to NDS technicians, the National Guard is restricted in the ways that it can hire federal civilians. Unlike the USAR and USAFR, the National Guard does not have the authority to hire Title 5 federal civilians as MilTechs; it can hire MilTechs only under the authority of Title 32. Figures 4 and 5 compare key characteristics of DS and NDS MilTech programs by reserve component.

Figure 4. Comparison of DS MilTech program characteristics

DS MilTechs	ARNG	USAR	ANG	USAFR
Competitive service		✓		✓
Excepted service	✓		✓	
Civilian position directly linked to military position				✓
Compensatory time in lieu of overtime	✓		✓	
TAG is ultimate decision authority for employment	✓		✓	
Able to request Merit System Protections Board (MSPB) review		✓		✓

Figure 5. Comparison of NDS MilTech program characteristics

NDS MilTechs	ARNG	USAR	ANG	USAFR
Competitive service	✓	✓	✓	✓
Excepted service				
Compensatory time in lieu of overtime	✓		✓	
TAG is ultimate decision authority for employment	✓		✓	
Able to request Merit System Protections Board (MSPB) review		✓		✓

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MilTech program issues: benefits, challenges, and concerns

In this section, we focus on three major MilTech program characteristics to frame our discussion of program issues and their benefits, challenges, and concerns. As mentioned in the previous section, they are complexity, compatibility, and continuity and deployability. We will highlight benefits and challenges with regard to these characteristics in terms of the possible effects on the reserve components' ability to fulfill their mission requirements. We assess these characteristics and issues with respect to implied costs on readiness as well as implications for accession, training, and retention.

When appropriate, we frame our discussion of these issues using both service-provided MilTech personnel data and input from current dual-status MilTechs that we collected via an online survey questionnaire. Our analysis of compensation issues is in a later section.

The DS MilTech survey

The Military Technician survey used a quantitative design to collect information from current dual-status (DS) MilTechs regarding their perceptions about the military technician program. Our target population included all current DS MilTechs.

Our final data file included 25,350 survey responses—a 39-percent response rate, which exceeded our anticipated overall response rate of 20 percent. Table 6 provides a breakdown of response rates by RC.¹⁸

18. Appendix B presents the survey questionnaire, and appendix C describes our survey design. Appendixes F and G contain responses to each survey question by RC and DS MilTech paygrade, respectively.

Table 6. DS MilTech survey response rates by RC^a

Reserve component	Master list population	Survey response	Response rate
ARNG	26,408	10,067	38.1%
USAR	7,808	2,923	37.4%
ANG	20,800	9,650	46.4%
USAFR	9,477	2,626	27.7%
Unknown	211	84	39.8%
Total	64,704	25,350	39.2%

a. Source: Master list population represents the number of DS MilTechs by service in Feb. 2013 as provided by each service in their respective master email list.

Complexity

Although the MilTech program features are straightforward in terms of the basic definition of DS and NDS technicians, the program is complex. Each reserve component’s program management is driven by myriad of statutory authorities, as well as OSD and service-level processes and policies. The ARNG and ANG derive their MilTech program statutory authorities from a combination of Titles 10 and 32 of the U.S.C, whereas Title 10 and 5 authorities apply to the USAR and USAFR. Service culture and the states’ unique homeland defense and emergency response missions contribute additional dimensions to each RC’s program design. Union-negotiated terms and working conditions provide another dynamic that introduces challenges to the day-to-day work lives of DS MilTechs—whose positions are both inherently governmental and military essential—and other FTS personnel. These factors combine to produce three effects:

- Complicate management oversight due to the application of multiple personnel systems.
- Introduce questions regarding the determination of workforce mix requirements.
- Foster divisive attitudes between DS MilTechs and military FTS due to different working terms.

Management oversight

Because DS MilTechs are both federal civilian employees and members of the SelRes, their personnel information resides on at least two personnel systems: the Defense Civilian Personnel Data System and service-based reserve personnel systems. Furthermore, neither the Army nor the Air Force has total force military personnel systems, so, when activated to support contingency and wartime operations, the services track their active-duty time on their AC personnel systems.

To understand the dynamics of MilTech personnel management based on objective longitudinal data ideally requires the ability to reliably identify and connect information about DS MilTechs across two to three stand-alone personnel systems for each RC. At the time we requested DS MilTech data from the OSD Civilian Personnel Policy/Defense Civilian Personnel Advisory Services (CPP/DCPAS) office and then from the services to support this study, these ideal data did not exist. Although OSD's central DCPDS data repository includes a field to identify MilTechs, it did not accurately identify MilTechs or distinguish between DS and NDS. In addition, although the RCCPDS does include a field to identify DS MilTechs, it also is not reliable. OSD and the services need to determine how to accurately identify MilTechs in both the DCPDS and the RCCPDS. Without fixing this problem, OSD does not have objective data-driven information to support its management oversight of the MilTech programs.

The complexity of working with up to three personnel systems to gain insights into the dynamics of MilTech employment severely hampers the ability of OSD and the services to use data to understand how the MilTech system is working and its impact on RC readiness.¹⁹ Historically, OSD and the services have invested considerably in studying AC manpower behavior and have used this information to inform personnel policy decisions. Comparatively less has been invested in studying RC manpower behavior, and, other than past congressionally mandated reports, there is nothing that addresses the MilTech

19. For example, OSD and the services cannot determine (a) DS MilTech accession patterns with regard to SelRes affiliation or (b) SelRes continuation trends and how DS MilTech employment relates to these trends.

program. Although the services do have the ability to identify MilTechs in their data, they use it mainly to provide congressionally required statistics. We are not aware of service-initiated efforts to investigate MilTech personnel management issues using objective longitudinal data analysis to inform force management decisions. These personnel management complexities hold implied costs in terms of administrative efficiency, effective informed management oversight, and understanding the nuanced readiness implications associated with the use of DS MilTechs as FTS.

Workforce mix

OSD policy directs that workforce mix requirements be determined based on whether the required function is inherently governmental and, if so, whether it is military essential [see 18 and 19]. How each service addresses these questions has import for its FTS workforce mix. Earlier in this report, we highlighted all the services' FTS approaches, including those of the Navy and Marine Corps. The ARNG, USAR, ANG, and USAFR rely mostly on AGRs and DS MilTechs for their full-time support. In comparison, the Navy and Marine Corps rely on a combination of military FTS and AC personnel.

We do not know if the military services formally incorporate OSD policy on determining the workforce mix into their workforce requirements determination process.²⁰ However, their actual FTS workforce mix indicates a disposition favoring FTS as inherently governmental or military essential. For the ARNG, USAR, ANG, and USAFR, their FTS approaches all reflect a decision that FTS at least is inherently governmental. In the cases of the Navy and the Marine Corps' approaches, they seem to view FTS as military essential.

These considerations raise a fundamental workforce mix question: MilTechs are inherently governmental, but are they military essential? The fact that DS MilTechs must maintain SelRes affiliation suggests that they are military essential. On one hand, if the MilTech's function is military essential, then, in terms of pure military readiness, the services should consider whether it is more appropriate to use strictly

20. If they do not, we recommend that they consider doing so.

military FTS or a mix of civilian DS MilTechs and military FTS. On the other hand, if the MilTech's function is not military essential, the services should consider whether it is more appropriate to use military FTS for other reasons (such as currency in military operations and training and augmentation), DS MilTechs, NDS technicians, or Title 5 federal civilian employees.

Divisive terms of work²¹

In terms of everyday operations, active-duty military typically are viewed as being available 24 hours a day, 7 days a week (24/7). In comparison, based on our conversations with service representatives, DS MilTechs' union-negotiated terms of work are 8 hours a day (40 hours a week). Overtime is restricted by statute in the ARNG and ANG but is permissible in the USAR and USAFR. MilTechs also are subject to furloughs. These different terms of work can contribute to divisive attitudes within individual units, as well as across a given military organization.

The nature of military operations is unpredictable, even during regular administration, training, and maintenance activities. Unit commanders cannot predict when an aircraft or piece of machinery will break down right before it is needed to support training or other military operations. With regard to the National Guard, statutory restrictions on overtime mean unpredictable work requirements either are not addressed as quickly as needed or fall to active-duty (i.e., AGR) military personnel. In contrast, the use of overtime in the USAR and USAFR tends to contribute to a perception that MilTechs are "working the system" to earn additional pay.

In the short term for National Guard units, the challenges associated with different terms of work can complicate units' abilities to maintain scheduled activities and to plan for and support drill weekends. In the long term for all the services, these different terms of work can affect unit morale and cohesiveness, as well as unit training and

21. Information in this section is drawn from interviews with service representatives, phone conversations with DS MilTechs while fielding the survey, and free-text DS MilTech survey responses.

readiness levels, particularly for those units that are preparing for activation and deployment. Poor morale also holds the potential for retention problems, which in the case of DS MilTechs could negatively affect both DS MilTech and reserve manning levels.

Compatibility

One benefit of the technician program is to provide National Guard and Reserve units with full-time personnel support and continuity on a day-to-day basis that tends to transition to a compatible SelRes job and remain with the unit during drill weekends, annual training, and activation periods. Achieving this benefit would require that a DS MilTech's civilian position be the same as or similar to his/her SelRes position.

From earlier discussion, we know that each service approaches compatibility differently. The ARNG and ANG strive to have the DS MilTech position be the same as the person's military position, but sometimes the level of compatibility between the two is different. The USAR also strives for skill compatibility between the MilTech's civilian and SelRes positions, although this is not always the case. The USAFR is the only component to inextricably link DS MilTech and military positions so that the person has the same duties regardless of whether acting in his/her MilTech or SelRes capacity.

Input from DS MilTechs confirms information provided to us by service-level headquarters representatives. In our MilTech program survey, we included two questions on this issue. In the first, we asked: To what extent are your military and civilian technician training requirements the same? In the second question, we asked: To what extent are your military and civilian technician duties the same? In tables 7 and 8, we provide DS MilTech's responses to each question by reserve component.

In response to both questions, overall nearly 90 percent of all respondents indicate that their military and civilian technician training and duty requirements were compatible, ranging from slightly the same to completely the same. We find that ANG and USAFR DS MilTechs indicated the greatest level of compatibility—well over 90 percent—and the least incompatibility—only 3 percent. Furthermore, over

75 percent of ANG and USAFR DS MilTechs indicated their skill training and duty requirements were completely or mostly the same.

Table 7. DS MilTechs' survey responses by RC to the question: To what extent are your military and civilian technician training requirements the same?^a

Response	ARNG	USAR	ANG	USAFR	All respondents
Completely the same	990 (9.89%)	155 (5.32%)	3,327 (34.62%)	836 (31.90%)	5,308 (21.10%)
Mostly the same	3,552 (35.47%)	711 (24.40%)	4,194 (43.64%)	1,188 (45.33%)	9,645 (38.34%)
Somewhat the same	2,736 (27.32%)	784 (26.90%)	1,265 (13.16%)	370 (14.12%)	5,155 (20.49%)
Slightly the same	1,327 (13.25%)	522 (17.91%)	475 (4.94%)	137 (5.23%)	2,461 (9.78%)
Not at all the same	1,408 (14.06%)	742 (25.46%)	349 (3.63%)	90 (3.43%)	2,589 (10.29%)
Total	10,013 (100.0%)	2,914 (100.0%)	9,610 100.00%	2,621 (100.0%)	25,158 (100.0%)

a. Source: CNA 2012 DS MilTech program survey results.

Table 8. DS MilTechs' survey responses by RC to the question: To what extent are your military and civilian technician duties the same?^a

Response	ARNG	USAR	ANG	USAFR	All respondents
Completely the same	1,110 (11.09%)	171 (5.87%)	3,729 (38.83%)	1,027 (39.21%)	6,037 (24.01%)
Mostly the same	3,192 (31.88%)	635 (21.81%)	4,020 (41.86%)	1,093 (41.73%)	8,940 (35.55%)
Somewhat the same	2,453 (24.50%)	628 (21.57%)	1,086 (11.31%)	291 (11.11%)	4,458 (17.73%)
Slightly the same	1,498 (14.96%)	533 (18.31%)	443 (4.61%)	121 (4.62%)	2,595 (10.32%)
Not at all the same	1,758 (17.56%)	944 (32.43%)	326 (3.39%)	87 (3.32%)	3,115 (12.39%)
Total less missing/ unknown	10,011 (100.0%)	2,911 (100.0%)	9,604 (100.0%)	2,619 (100.0%)	25,145 (100.0%)

a. Source: CNA 2012 DS MilTech program survey results.

In comparison, ARNG and USAR DS MilTechs indicated lower levels of compatibility and higher levels of incompatibility (respectively, at 14 and 25 percent for training and 18 and 32 percent for duty requirements). Only 45 percent of ARNG and 30 percent of USAR DS MilTechs indicated in their survey responses that their skill training and duty requirements were completely or mostly the same. Furthermore, MilTechs in the lower (WG and GS levels 1–8) and mid-level GS paygrades indicated the highest levels of incompatibility.

Ideally, we would like to be able to compare a DS MilTech’s civilian occupation and unit job with his/her military occupation and SelRes unit job. However, this would require person-by-person and job-by-job comparisons, which, while possible, is not practical. An alternative approach is to examine the distribution of DS MilTech’s civilian occupations. Doing so gives us a general sense of how the services are using their DS MilTechs.

In table 9, we show the Office of Personnel Management (OPM) civilian occupational classifications by reserve component for all DS MilTechs ranked by total overall numbers from highest to lowest. Of interest is the relative mix of administrative occupations versus occupations that seem more in line with supporting military training, maintenance, supply, and other military operations.

We find that, based on total numbers across all the services, 21 percent of DS MilTech civilian positions are classified as general administration, clerical, and office services and rank first in terms of the total MilTechs in these jobs. However, service percentages of DS MilTechs in general administration range from a high of 52 percent in the USAR to a low of 10 percent in both the ARNG and the ANG (the USAFR percentage is 19 percent). The number of civilian positions in general administration ranks the highest for the USAR and second for the remaining services. The percentage of DS MilTechs in general administration, many of which we would expect to be “compatible” with their military positions, seems high if we assume that most SelRes units have tactical mission requirements. It is possible that some DS MilTech positions supporting general administration functions could be converted to Title 5 federal civilian FTS positions.

Table 9. DS MilTechs by OPM civilian occupation classifications, sorted from greatest to lowest based on total across all services^a

OPM civilian occupation classifications	ARNG	USAR	ANG	USAFR	Total	Percentage	Cumulative percentage
03: General Administration, Clerical and Office Services	3,274	4,121	2,373	1,756	11,524	15.8%	15.8%
58: Transportation/Mobile Equipment Maintenance	8,453	2,141	630	1	11,225	15.4%	31.2%
88: Aircraft Overhaul	2,329	172	3354	2,020	7,875	10.8%	42.0%
21: Transportation	1,626	90	2174	1,317	5,207	7.1%	49.2%
26: Electronic Equipment Installation and Maintenance	1,593	100	1528	659	3,880	5.3%	54.5%
02: Human Resources Management	2,080	369	670	460	3,579	4.9%	59.4%
22: Information Technology	1,462	114	1,797	64	3,437	4.7%	64.1%
20: Unknown	1,759	198	803	116	2,876	3.9%	68.1%
11: Business and Industry	1,414	43	889	215	2,561	3.5%	71.6%
69: Warehousing and Stock Handling	1,417	172	324	19	1,932	2.7%	74.2%
66: Armament Work	353	65	1,150	354	1,922	2.6%	76.9%
86: Engine Overhaul	103	0	1,041	411	1,555	2.1%	79.0%
05: Accounting and Budget	898	121	501	16	1,536	2.1%	81.1%
17: Education	884	8	232	223	1,347	1.8%	82.9%
53: Industrial Equipment Maintenance	156	78	771	241	1,246	1.7%	84.6%
16: Equipment, Facilities and Services	664	76	210	133	1,083	1.5%	86.1%
38: Metal Work	236	5	527	297	1,065	1.5%	87.6%
82: Fluid Systems Maintenance	38	0	670	340	1,048	1.4%	89.0%
00: Miscellaneous Occupations	444	35	374	87	940	1.3%	90.3%
28: Electrical Installation and Maintenance	117	1	469	268	855	1.2%	91.5%
48: General Equipment Maintenance	89	9	425	244	767	1.1%	92.5%
01: Social Science, Psychology and Welfare	58	5	594	93	750	1.0%	93.6%
19: Quality Assurance, Inspection and Grading	220	0	413	0	633	0.9%	94.4%
06: Medical, Hospital, Dental and Public Health	233	0	319	20	572	0.8%	95.2%

Table 9. DS MilTechs by OPM civilian occupation classifications, sorted from greatest to lowest based on total across all services^a (continued)

OPM civilian occupation classifications	ARNG	USAR	ANG	USAFR	Total	Percentage	Cumulative percentage
34: Machine Tool Work	152	2	270	73	497	0.7%	95.9%
54: Industrial Equipment Operating	115	0	333	7	455	0.6%	96.5%
57: Transportation/Mobile Equipment Operation	195	57	158	16	426	0.6%	97.1%
08: Engineering and Architecture	76	1	324	21	422	0.6%	97.7%
10: Information and Art	221	15	115	67	418	0.6%	98.3%
37: Metal Processing	147	1	185	64	397	0.5%	98.8%
52: Miscellaneous Occupations	12	0	167	0	179	0.2%	99.1%
31: Fabric and Leather Work	81	0	27	2	110	0.2%	99.2%
41: Painting and Paper	100	1	0	0	101	0.1%	99.4%
09: Legal and Kindred	87	0	4	2	93	0.1%	99.5%
65: Ammunition, Explosives and Toxic Materials Work	77	0	10	0	87	0.1%	99.6%
13: Physical Sciences	1	0	43	11	55	0.1%	99.7%
70: Packing and Processing	0	0	43	0	43	0.1%	99.7%
33: Instrument Work	37	0	0	0	37	0.1%	99.8%
47: General Maintenance and Operations Work	17	1	14	1	33	0.0%	99.8%
42: Plumbing and Pipefitting	0	0	32	0	32	0.0%	99.9%
18: Investigation	23	0	6	0	29	0.0%	99.9%
46: Wood Working	29	0	0	0	29	0.0%	100.0%
25: Wire Communications Equipment Installation and Maintenance	21	0	1	0	22	0.0%	100.0%
44: Printing	4	1	0	0	5	0.0%	100.0%
04: Biological Sciences	1	0	0	2	3	0.0%	100.0%
15: Mathematics and Statistics	0	0	2	0	2	0.0%	100.0%
35: General Services and Support Work	1	0	0	0	1	0.0%	100.0%
Total all OPM civilian classification categories	31,297	8,002	23,972	9,620	72,891	100.0%	100.0%

a. Source: National Guard Bureau provided MilTech data for September 2011; USAR provided MilTech data for February 2012; and USAFR provided MilTech data for January 2012.

Continuity and deployability

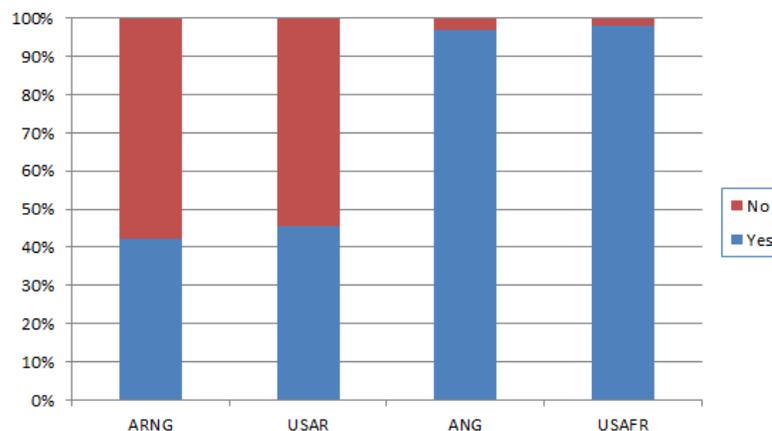
In terms of providing unit continuity and facilitating deployability, we examine three factors based on DS MilTech survey-based input:

- Whether a DS MilTech's civilian position is in the same unit where he/she drills as a SelRes member
- The extent to which the DS MilTech program provides an experience base for the unit
- How much DS MilTechs have been activated during the past 10 years

Unit continuity

To provide unit continuity between day-to-day FTS support, drill weekend and annual training periods, and deployments, one alternative would be for DS MilTechs to work in the same unit in which they drill. In figure 6, we show DS MilTechs' self-reported information on that topic. In the ARNG and USAR, more than half of DS MilTech respondents indicated that they do not work in the same unit in which they drill. In comparison, nearly all DS MilTech survey respondents in the ANG and USAFR indicated that they do.

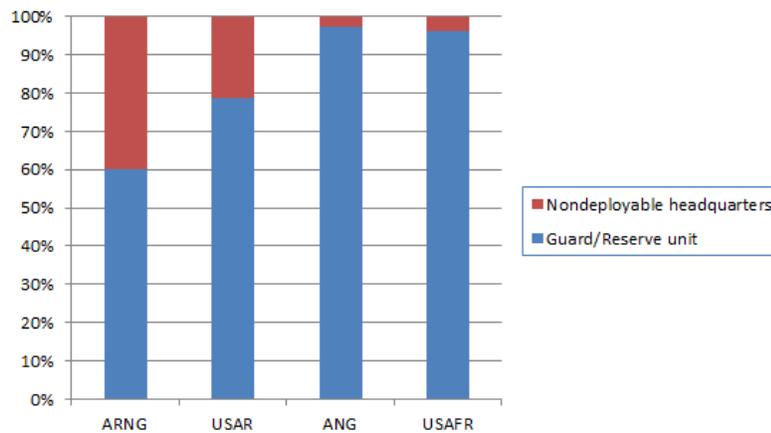
Figure 6. DS MilTechs' self-reported information regarding whether they work in the same unit in which they drill^a



a. Source: CNA 2012 DS MilTech program survey results.

Given these stark differences between the Army and Air Force National Guard and Reserve components, we are curious about the types of units in which these MilTechs work. Are they working in other drilling units that have a supporting relationship with the MilTech drilling unit or in some other type of unit? Unfortunately, we cannot readily answer this question from the service-provided MilTech data, so we include a question in our DS MilTech survey asking whether the technician’s position was in a drilling unit or a nondeployable headquarters. We provide the responses to this question in figure 7. We find that the majority of survey respondents’ MilTech positions are in a drilling unit, although, compared with the ANG and USAFR, a much greater percentage of ARNG and USAR respondents reported working in a nondeployable headquarters (40 and 22 percent, respectively).

Figure 7. Percentage of DS MilTechs indicating their civilian position is in a drilling unit versus a nondeployable headquarters^a



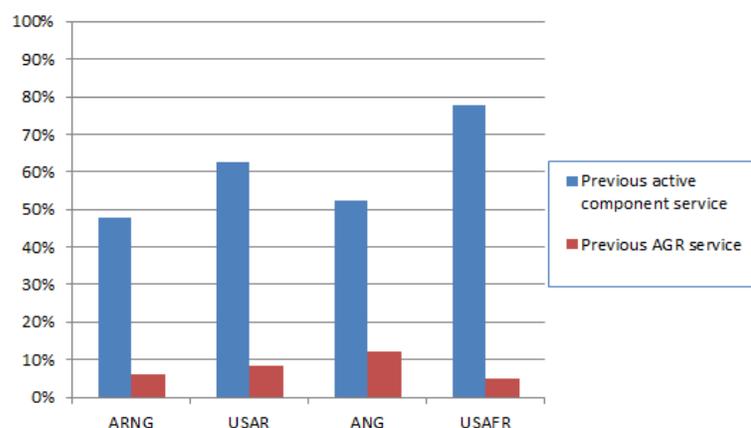
a. Source: CNA 2012 DS MilTech program survey results.

Experience base

The notion of continuity implies building an experience base, which in turn offers career options and contributes to readiness. Because a DS MilTech must be a member of the SelRes to be eligible for and maintain his or her civilian employment, the dual-service requirement also has the potential for the RCs to build and maintain a deeper experience base and enhanced readiness levels in both their MilTech

and SelRes inventories. We know from previous research that it is not unusual for SelRes members to have previous AC service. Based on FY 2006 data in [20], the percentage of enlisted SelRes with previous AC service was 31 percent in the ARNG, 34 percent in the USAR, 40 percent in the ANG, and 59 percent in the USAFR.²² Prior-service SelRes members are assets to their units because they are already trained and bring with them AC experience and leadership skills that help foster continuity between the active and reserve components. The same is true for prior-service SelRes members who become DS MilTechs. Because we could not determine prior active service for DS MilTechs from service-provided personnel data, we included two questions in the DS MilTech survey regarding previous service in the AC or as an AGR. In figure 8, we provide the percentages of survey respondents who reported they had previously served in the AC or as an AGR.

Figure 8. Percentage of DS MilTech survey respondents who indicated that they have previously served in the active component or as an AGR^a



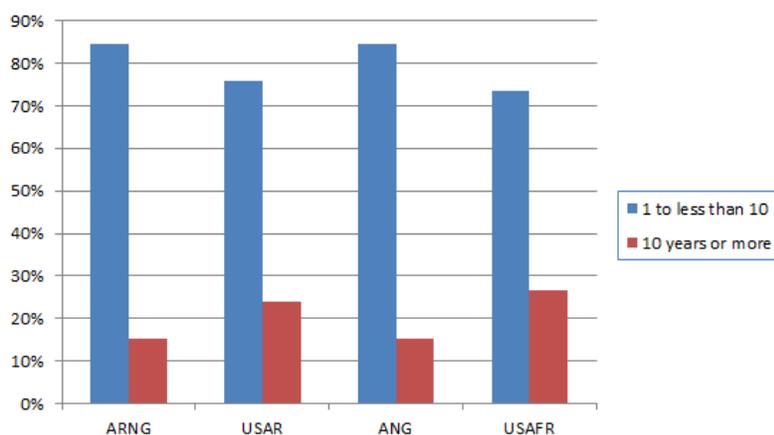
a. Source: CNA 2012 DS MilTech program survey results.

Previous AC service is a common DS MilTech characteristic among those who responded to our survey: more than half of DS MilTech respondents from the USAR, ANG, and USAFR indicated that they

22. The percentage with previous AC service was slightly higher for officers: ARNG, 32 percent; USAR, 40 percent; ANG, 45 percent; and USAFR, 74 percent [20].

had previous AC service. In comparison, service as an AGR was not a common trait for those who responded to the DS MilTech survey. One reason for this difference could be that reserve component AGR programs provide SelRes with another long-term career option. Of those survey respondents indicating previous AC service, nearly 75 percent—or more depending on their service component—had 1 to less than 10 years of active service (see figure 9).

Figure 9. DS MilTech survey respondents self-reported total years of service as a member of the active component (only for those indicating they had previous AC service)^a



a. Source: CNA 2012 DS MilTech program survey results.

In tables 10 and 11, respectively, we show DS survey respondents' self-reported total years in military service and total number of active-duty years. First, the percentage of survey respondents reporting less than 1 to 4 total years in military service is very small—less than 2 percent overall. Second, well over half of the survey respondents in each service indicated that they have 20 or more total years of military service, which supports the notion that DS MilTechs provide their units with continuity in terms of longevity and experience. Third, we note that close to 25 percent of survey respondents indicated that they had 30 or more years of military experience, suggesting that many are maintaining their SelRes affiliation beyond typical SelRes retirement windows in order to reach the minimum age level to be eligible for retirement as a DS MilTech as well.

Table 10. DS MilTech survey respondents' self-reported numbers of years in military service^a

Response	ARNG	USAR	ANG	USAFR	All respondents
Less than 1 year to 4 years ago	173 (1.73%)	8 (0.28%)	127 (1.32%)	25 (0.96%)	333 (1.33%)
5 to 9 years ago	1,026 (10.27%)	212 (7.31%)	721 (7.52%)	185 (7.07%)	2,144 (8.54%)
10 to 14 years ago	1,660 (16.62%)	589 (23.3%)	1,518 (15.83%)	428 (16.36%)	4,195 (16.71%)
15 to 19 years ago	1,378 (13.8%)	430 (14.82%)	1,226 (12.78)	339 (12.96%)	3,373 (13.44%)
20 to 24 years ago	1,600 (16.02%)	447 (15.4%)	1,477 (15.4%)	375 (14.33%)	3,899 (15.54%)
25 to 29 years ago	1,909 (19.11%)	532 (18.33%)	2,192 (22.85%)	572 (21.87%)	5,205 (20.74%)
30 or more years ago	2,242 (22.45%)	684 (23.57%)	2,331 (24.3%)	692 (26.45%)	5,949 (23.7%)
Total	9,988 (100.0%)	2,902 (100.0%)	9,592 (100.0%)	2,616 (100.0%)	25,098 (100.0%)

a. Source: CNA 2012 DS MilTech program survey results.

One potential concern with regard to DS MilTechs with 30 or more years of military service is their corresponding active-duty time. The more years of military service, the more accumulated active-duty time as a reservist (although accrued at a lower rate). Servicemembers, whether active or reserve, who reach 18 years of active-duty service, without signing a waiver, enter into sanctuary. By statute, the services must allow members who are in sanctuary to serve on active duty until they reach 20 active-duty years, at which time they are eligible for an AC retirement.

Historically, the possibility of reservists entering sanctuary has not been a concern because they were not activated for long periods of time. Since September 2001, this has changed. Under the ongoing activation authority, many reservists have been activated multiple times and accrued significant active-duty time. Reserve members in sanctuary count against their parent service's AC endstrength level. Allowing reservists to go into sanctuary during times of endstrength growth presents less of a challenge to the services than during downsizing periods. Consequently, if this finding is representative of each service's DS MilTech population, it could present readiness challenges with respect to the willingness of the services to activate DS

MilTechs who are approaching sanctuary or would be in sanctuary if activated. We show DS MilTech survey respondents' self-reported number of active-duty years in table 11.

Table 11. DS MilTech survey respondents' self-reported numbers of active-duty years^a

	ARNG	USAR	ANG	USAFR	All Respondents
Less than 1 to less than 2 years	1,897 (19.30%)	334 (11.66%)	2,013 (21.39%)	210 (8.10%)	4,454 (18.03%)
2 to less than 4 years	2,478 (25.21%)	603 (21.05%)	1,473 (15.65%)	284 (10.96%)	4,838 (19.59%)
4 to less than 6 years	1,472 (14.97%)	501 (17.49%)	1,522 (16.17%)	464 (17.91%)	3,959 (16.03%)
6 to less than 8 years	883 (8.98%)	315 (10.99%)	913 (9.70%)	348 (13.43%)	2,459 (9.96%)
8 to less than 10 years	578 (5.88%)	215 (7.50%)	608 (6.46%)	260 (10.03%)	1,661 (6.73%)
10 to less than 12 years	435 (4.42%)	218 (7.61%)	566 (6.01%)	268 (10.34%)	1,487 (6.02%)
12 to less than 14 years	354 (3.60%)	156 (5.45%)	378 (4.02%)	171 (6.60%)	1,059 (4.29%)
14 to less than 16 years	253 (2.57%)	128 (4.47%)	239 (2.54%)	134 (5.17%)	754 (3.05%)
16 to less than 18 years	177 (1.80%)	68 (2.37%)	182 (1.93%)	82 (3.16%)	509 (2.06%)
18 to less than 20 years	138 (1.40%)	50 (1.75%)	158 (1.68%)	49 (1.89%)	395 (1.60%)
20 or more years	1,166 (11.86%)	277 (9.67%)	1,359 (14.44%)	321 (12.39%)	3,123 (12.64%)
Total	9,831 (100.00%)	2,865 (100.00%)	9,411 (100.00%)	2,591 (100.00%)	24,698 (100.00%)

a. Source: CNA 2012 DS MilTech program survey results.

Finally, in table 12, we show DS MilTech survey respondents self-reported total years of service as a MilTech. The modal category for each service except the USAR is 20 or more years as a MilTech; the modal category for the USAR is 2 to less than 4 years. More than half of USAR respondents indicated that they had less than 10 years as a MilTech, while half or more of ARNG, ANG, and USAFR respondents indicated they had 10 or more years as a MilTech.

Table 12. DS MilTech survey respondents self-reported total years of service as a National Guard/Reserve military technician^a

Response	ARNG	USAR	ANG	USAFR	All respondents
Less than 1 to less than 2 years	663 (6.64%)	170 (5.86%)	441 (4.60%)	168 (6.43%)	1,442 (5.75%)
2 to less than 4 years	933 (9.35%)	497 (17.13%)	790 (8.25%)	289 (11.07%)	2,509 (10.01%)
4 to less than 6 years	1,317 (13.19%)	431 (14.85%)	890 (9.29%)	244 (9.35%)	2,882 (11.49%)
6 to less than 8 years	1,198 (12.0%)	294 (10.13%)	878 (9.17%)	235 (9.0%)	2,605 (10.39%)
8 to less than 10 years	781 (7.82%)	247 (8.51%)	724 (7.56%)	180 (6.89%)	1,932 (7.71%)
10 to less than 12 years	843 (8.45%)	246 (8.48%)	679 (7.09%)	219 (8.39%)	1,987 (7.92%)
12 to less than 14 years	780 (7.81%)	225 (7.75%)	862 (9.00%)	242 (9.27%)	2,109 (8.41%)
14 to less than 16 years	526 (5.27%)	168 (5.79%)	632 (6.60%)	146 (5.59%)	1,472 (5.87%)
16 to less than 18 years	427 (4.28%)	83 (2.86%)	504 (5.26%)	148 (5.67%)	1,162 (4.63%)
18 to less than 20 years	319 (3.20%)	64 (2.21%)	400 (4.18%)	101 (3.87%)	884 (3.53%)
20 or more years	2,195 (21.99%)	477 (16.44%)	2,778 (29.0%)	639 (24.47%)	6,089 (24.29%)
Total less missing/unknown	9,982 (100.0%)	2,902 (100.0)	9,578 (100.0%)	2,611 (100.0%)	25,073 (100.0%)

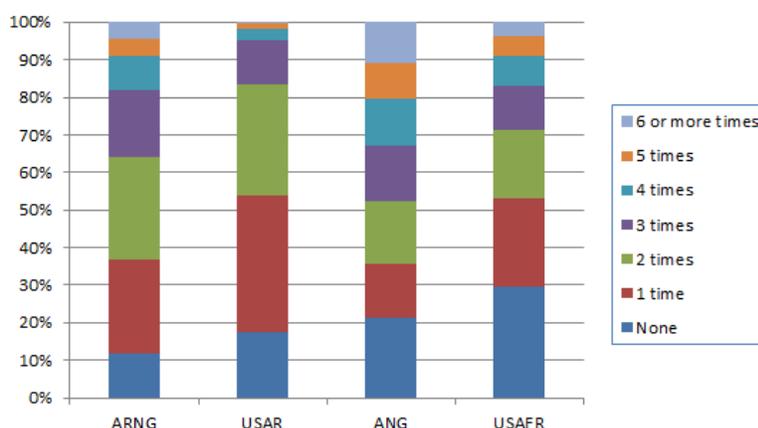
a. Source: CNA 2012 MilTech program survey results.

Deployability and recent activations

The last set of factors that we investigate is the extent to which DS MilTechs have been activated and deployed over the past 10 years. Because we only had a single snapshot of data from the services for their DS MilTechs, we included questions in the MilTech survey that asked about respondents' activations over the past 10 years. In figure 10, we show the percentages of DS MilTech survey respondents who have been activated and deployed over the past 10 years and the frequency of deployments. A majority of survey respondents indicated that they had been activated and deployed over the past 10 years. The

percentages of those responding affirmatively follow: ARNG, 89 percent; USAR, 82 percent; ANG, 79 percent; and USAFR, 70 percent. Sixty-three percent of ARNG and 64 percent of ANG respondents indicated that they had been activated and deployed multiple times, while the percentages of those with multiple deployments were comparatively lower for respondents from the USAR and USAFR, at 46 and 47 percent, respectively.

Figure 10. Percentages of DS MilTech respondents who have deployed over the past 10 years and the frequency of deployments^a

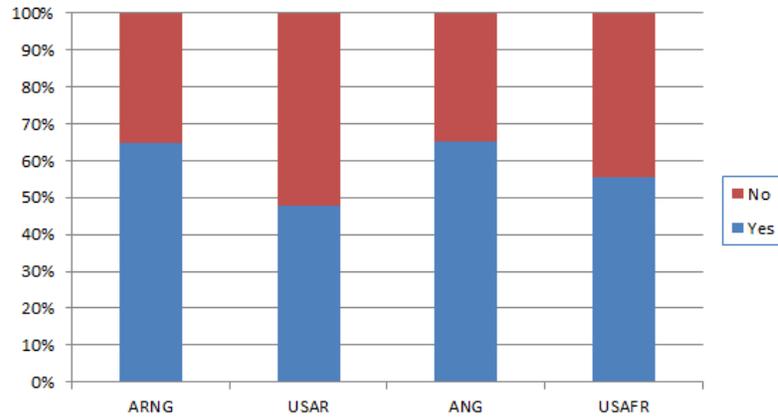


a. Source: CNA 2012 DS MilTech program survey results.

For those who deployed over the past 10 years, approximately 66 percent of ARNG and ANG respondents indicated that their most recent deployment had been with their drilling unit. This percentage was lower for USAR and USAFR survey respondents: 48 and 56 percent, respectively, reported their most recent deployment was with their drilling unit (see figure 11).

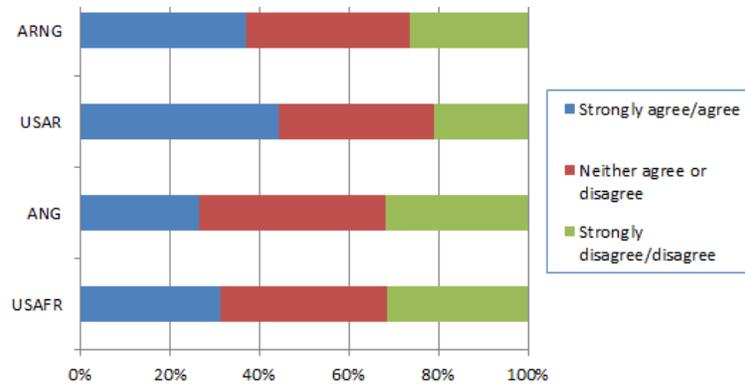
Although it is often expected that FTS (whether military FTS or DS MilTechs) will go with their units when they are activated, this is not always the case. It is customary for some FTS to man the unit's remain-behind element. USAR and ARNG survey respondents had a slight tendency to indicate that their MilTech position was better suited for supporting the unit's remain-behind element when it deployed, while ANG and USAFR survey respondents' answers tended not to reflect a specific judgment on this issue (see figure 12).

Figure 11. For those DS MilTechs who deployed over the past 10 years, the percentage whose most recent deployment was with their drilling unit^a



a. Source: CNA 2012 DS MilTech program survey results.

Figure 12. Percentage of DS MilTechs who reported that their technician position is better suited for supporting the unit's remain-behind element when it deploys^a



a. Source: CNA 2012 DS MilTech program survey results.

Summary

In table 13, we summarize (and color-code) our findings in terms of the benefits and challenges posed by the issues that we have discussed so far. Red indicates areas for which we recommend immediate action on behalf of OSD and the services. Yellow identifies areas that could

pose some challenges and require attention on the part of the services to manage. Finally, green denotes areas in which the DS MilTech program seems to be operating as intended.

Table 13. Benefits and challenges summary: Complexity, compatibility, and continuity summary by reserve component DS MilTech program

	ARNG	USAR	ANG	USAFR
Complexity				
Management oversight				
Workforce mix				
Divisive terms of work				
Compatibility				
Training requirements the same				
Duties the same				
Reliance on admin. occupations				
Continuity and deployability				
Unit continuity				
Experience base				
Deployability				

Based on information discussed in this section, which does not include any consideration of compensation issues, we find the following:

- *Complexity*
 - The MilTech program is a complex program. Effective management requires linking data from at least two separate automated personnel systems—the DCPDS and RCCPDS—neither of which accurately identifies who is a MilTech, whether DS or NDS. We recommend that OSD and the services work to resolve this issue in DCPDS and RCCPDS. Doing so is the critical first step to allowing OSD and the services more effective management oversight of the MilTech program.
 - According to OSD force management policy and guidance for determining the workforce mix, DS MilTechs appear to be both inherently governmental and military essential.

However, if the function that a MilTech supports is not military essential, the services should consider whether it is more appropriate to use military FTS for other reasons (such as currency in military operations and training and augmentation), DS MilTechs, NDS technicians, or Title 5 federal civilian employees. We recommend that the services make this determination as part of their annual review of their workforce mix as required under the Federal Activities Inventory Reform (FAIR) Act.

- Different terms of work can contribute to divisive attitudes within individual units, as well as across a given military organization. One way to address this issue would be to modify the union-negotiated DS MilTechs' terms of work; however, this seems unlikely. Using purely military FTS also would address this issue, but also seems unlikely. Consequently, this issue becomes a leadership responsibility for service and unit commanders to manage.
- *Compatibility*
 - Overall, nearly 90 percent of all DS MilTech survey respondents indicated that their military and civilian technician training and duty requirements were compatible, ranging from slightly the same to completely the same. We find that ANG and USAFR DS MilTechs indicated the greatest levels of compatibility and the least incompatibility. In comparison, ARNG and USAR DS MilTechs indicated lower levels of compatibility and higher level of incompatibility. Positions for which military and civilian training and duty requirements are not compatible may be good candidates to convert to FTS Title 5 civilian positions. This would require congressional action to authorize the National Guard to hire Title 5 federal civilian FTS positions.
 - We find that, overall, 21 percent of DS MilTech civilian positions are classified as general administration, clerical, and office services, and they rank first in terms of the total DS MilTechs in these jobs. This percentage seems high if we assume that most SelRes units have tactical mission requirements. We recommend that the services investigate whether

it is possible that some DS MilTech positions supporting general administration functions could be converted to Title 5 federal civilian FTS positions without compromising unit readiness. If so, Congress will need to authorize the National Guard to hire Title 5 federal employees to fill these FTS positions.

- *Continuity and deployability*

- We find that, in the ARNG and USAR, more than half of DS MilTech survey respondents indicated that they do not work in the same unit in which they drill. In comparison, nearly all DS MilTech survey respondents in the ANG and USAFR indicated that they do. DS MilTech positions that are not located in the same unit in which the MilTech drills may be good candidates to convert to FTS Title 5 civilian positions. We recommend that the services determine if this is the case. If so, Congress will need to authorize the National Guard to hire Title 5 federal employees to fill FTS positions.
- Survey input suggests that the DS MilTech programs are functioning as intended with regard to providing an experienced FTS DS MilTech workforce that enhances unit readiness by being immediately available to augment AC forces when their National Guard and Reserve units are activated.

MilTechs' compensation

In the second half of this report, we focus on the compensation and direct manpower cost implications associated with changing the DS MilTech personnel category.²³ Direct manpower cost savings resulting from a change in the MilTech personnel category can be achieved by one or more of the following actions:

1. Elimination of the DS MilTech program without replacement
2. A partial elimination of some DS MilTech positions without replacement
3. A change in the classification of current DS MilTech positions that results in lower compensation costs

We assume that the current inventory of DS MilTechs is the minimal necessary baseline for the program to maintain readiness. We base this assumption on the supposition that the current numbers of civilian MilTech and SelRes positions reflect readiness requirements. Under this supposition, we exclude the first two options above and focus on the third as the only viable potential cost saving option that would not affect readiness in the short term. In terms of being consistent with the directives of Section 519, FY 2012 NDAA [21], the third option, while in the spirit of

determine potential cost savings, if any, to be achieved as a result of the transition described in paragraph (2), including savings in long-term mandatory entitlement costs associated with military and civil service retirement obligations [21, section (b)(5)]

23. Potential manpower cost implications relating to a change in the MilTech program are either direct and indirect. Direct implications are associated with the MilTech positions; indirect implications are associated with the administration, oversight, and legal management of the MilTech program. See appendix E for some historical considerations regarding the MilTech program and compensation issues.

it is not *necessarily* consistent with

...management of any effects of that transition on the pay and benefits of current military technicians (including means for *mitigating or avoiding* such effects in the course of such transition). [21, section(b) (2), emphasis added]

In our assessment, we focus on MilTech program compensation and the issues associated with converting the MilTech personnel category to either federal civilian employees or military FTS (AGR or AC) in the context of balancing the requests by Congress to mitigate or avoid effects on the pay and benefits of current military technicians [21, section (b) (2)] while realizing potential cost savings from such a conversion [21, section (b) (5)]. Because DS MilTechs are either Title 5 or Title 32 federal civilian employees and members of a drilling Sel-Res, DS MilTech compensation highlights the complexity of both the civil service and reserve compensation systems.^{24, 25}

Data

Defense Manpower Data Center (DMDC) data holdings, such as RCCPDS, and the civilian personnel data files do not identify MilTechs, so to conduct our analysis we used service-provided data that included both aggregate information on a number of MilTech career factors and individual-level data to conduct our compensation and cost analysis.²⁶ The aggregate-level data were tabulations of the FY 2011 MilTechs as of September 2011; the individual-level data were September 2011 snapshots of the ARNG and ANG, a January 2012

24. This section is not exhaustive. For example, we do not discuss Federal Employees Group Life Insurance (FEGLI) or Servicemen's Group Life Insurance (SGLI) since those two forms of compensation are offered equally to technicians and non-technician federal employees, and to technician and non-technician National Guard/Reserve members, respectively.

25. Because NDS technicians are not required to be reserve members, we cover their compensation predominantly in the federal civilian job compensation subsection.

26. Neither the aggregate-level nor individual-level data include reimbursable MilTechs.

snapshot of the USAFR, and an April 2012 snapshot of the USAR.²⁷ For our cost and compensation analysis, we primarily use the individual-level data. For each figure and table, we note the data source used by either “individual level” or “aggregate level” service-provided data.

To generate cost comparisons, we linked the service-provided individual-level data with data from the DMDC. To build our dataset, we first used RCCPDS to fill in missing paygrade and geographic location information. We also used RCCPDS for dependent status data and data on pay entry base date.²⁸ We then linked the individual-level DS MilTech with DMDC Contingency Tracking System (CTS) data to identify which personnel were activated in the previous 12 months and which DS MilTechs were deployed in the previous 12 months.²⁹ We then linked those data with DMDC’s Civilian Pay File, DMDC’s Reserve Pay File, and military basic pay tables and BAH tables in order to conduct our compensation and cost analysis. We did not have data elements for all MilTechs because of missing or incomplete data, such as missing or inaccurate geographic location information, which limited our ability to merge some of the files. We show counts of the data on some of the key data elements in table 14.

27. The aggregate- and individual-level data match for the ARNG and ANG. Differences in the snapshot time period between the aggregate- and individual-level data for the USAR and USAFR resulted in differences between the data. The January 2012 snapshot of USAFR MilTechs was for 9,648 MilTechs—36 more than documented in the aggregate-level data. The April 2012 snapshot of the USAR MilTechs was for 9,677 MilTechs—1,252 more than documented in the aggregate-level data.

28. Geographic information was provided by ARNG, ANG, and USAR. We used RCCPDS data to identify geographic location for USAFR MilTechs. We used DMDC’s RCCPDS SelRes personnel information for September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR to fill in missing military paygrade and geographic location for DS MilTechs. For all services, we used RCCPDS to get information on dependent status for BAH determination and years of service (i.e., pay entry based date) for Basic Pay determination.

29. The CTS provides a single source of data on all RC members who have been activated more than 30 days since September 2001, including whether they have deployed to support a named contingency, such as Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF).

Table 14. Data counts, by service and status

Records	ARNG		USAR		ANG		USAFR	
	DS	NDS	DS	NDS	DS	NDS	DS	NDS
All ^a	31,297	1,632	8,005	420	23,972	351	9,620	28
With civilian gross pay and salary ^b	31,158	1,632	7,871	419	23,891	350	9,285	28
With drill data and combat pay ^c	29,037	N/A	7,667	N/A	22,766	N/A	9,363	N/A
With Basic Pay ^d	31,092	N/A	7,969	N/A	23,932	N/A	9,577	N/A
With BAH ^e	31,012	N/A	7,754	N/A	23,636	N/A	9,557	N/A

a. Source: Service-provided individual-level inventory data for September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR. DMDC's RCCPDS SelRes personnel information for September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR. DMDC's CTS transaction files from October 2010 to September 2011.

b. Source: DMDC's Civilian Pay File for pay periods for FY 2011. We include all records with non-missing salary data.

c. Source: DMDC's Reserve Pay File for pay periods over FY 2011. We include all records with non-missing reserve drill pay data and all records with non-missing hostile fire pay information.

d. Source: 2011 Military Pay tables. Missing records occurred in cases of missing military rank.

e. Source: 2011 BAH tables. Missing records involved missing military rank or missing/inaccurate geographic data.

MilTech federal civilian compensation

Civilian pay

Depending on their civilian position, MilTech pay typically falls under the GS or the Federal Wage System (FWS) pay classifications. FWS personnel are paid hourly and are commonly termed wage grade (WG), wage board personnel, or prevailing rate employees [22]. Across the four RCs, in FY 2011, 36 to 52 percent of MilTechs were wage board personnel (see table 15). Non-GS and non-FWS pay plans reflect the introduction of new pay plans, such as the National Security Personnel System (NSPS) and the Defense Civilian Intelligence Personnel System (DCIPS).³⁰ We further summarize the current MilTech inventory in table 16 by dual-status/non-dual-status and pay plan. The majority of dual-status MilTechs are under the GS pay plan, followed by the WG pay plan.

30. In section 1113 of [23], Congress repealed NSPS and required the transition back to existing personnel systems by January 1, 2012.

Table 15. Number and share of MilTechs, by civilian category for FY 2011/FY 2012)^a

	GS ^b	FWS ^c	Other ^d	Total
ARNG	17,032 (51.7%)	15,897 (48.3%)	0 (0.0%)	32,929 (100.0%)
USAR	5,413 (64.2%)	3,008 (35.7%)	4 (0.0%)	8,425 (100.0%)
ANG	12,171 (50.0%)	12,152 (50.0%)	0 (0.0%)	24,323 (100.0%)
USAFR	4,505 (46.7%)	5,033 (52.2%)	110 (1.1%)	9,648 (100.0%)

a. Source: CNA tabulations of service-provided individual level MilTech data from September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR.

b. General schedule include GM and GS pay plans. GM designates employees "...covered by the General Schedule classification and pay system who are covered by the Performance Management and Recognition System (PMRS)..." (<http://www.opm.gov/oaca/pay/html/PayPlans.asp>)

c. Federal Wage System includes WG, WL, WS, WU, WR, and WQ pay plans.

d. For the FY 1986 data, the "other" category includes PR. For the FY 2011 data the other category includes Demonstration (DE, DJ, DK), Senior Executive Service (ES), DCIPS (IA), and NSPS (YA, YB, and YC) pay plans.

Table 16. Number and share of MilTechs by status and pay plan^a

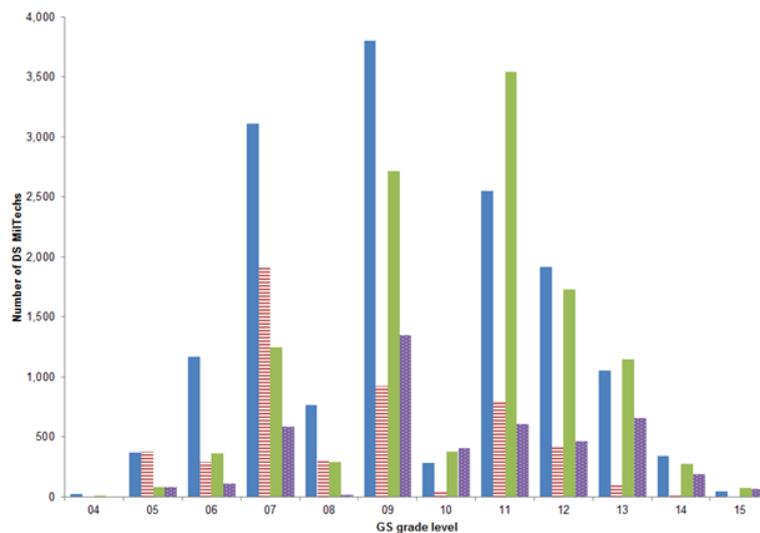
	Status	GS	WG	Other ^b	Total
ARNG	Dual	15,424 (49.3%)	13,487 (43.1%)	2,386 (7.6%)	31,297 (100.0%)
	Non-dual	1,607 (98.5%)	20 (1.2%)	5 (0.3%)	1,632 (100.0%)
USAR	Dual	5,195 (64.6%)	2,358 (29.5%)	452 (5.6%)	8,005 (100.0%)
	Non-dual	218 (51.9%)	136 (32.4%)	66 (15.7%)	420 (100.0%)
ANG	Dual	11,843 (49.4%)	10,120 (42.4%)	2,009 (8.4%)	23,972 (100.0%)
	Non-dual	328 (93.4%)	20 (5.7%)	3 (0.9%)	351 (100.0%)
USAFR	Dual	4,494 (46.7%)	3,986 (41.4%)	1,140 (11.9%)	9,620 (100.0%)
	Non-dual	11 (39.3%)	14 (50.05)	3 (10.7%)	28 (100.0%)

a. Source: CNA tabulations of service-provided individual level MilTech data from September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR.

b. For FY 2011 data, the other category includes Demonstration (DE, DJ, DK), Senior Executive Service (ES), Defense Civilian Intelligence Personnel System (IA), and National Security Personnel System (YA, YB, and YC) pay plans.

Figures 13 and 14 show the DS MilTechs under the GS and WG pay plans in further detail. Figure 13 shows the number of DS MilTechs by GS grade level and service. The highest number of ARNG and USAFR DS MilTechs under the GS system is at level 9. In 2011, the level 9, step 1 GS pay was \$41,563 (without a locality differential) and went up to a high of \$56,172 in the San Francisco, CA area. Among DS MilTechs under GS in the Army Reserve, the largest numbers were at GS-7. For the ANG DS MilTechs under GS, the largest numbers were at GS-11.

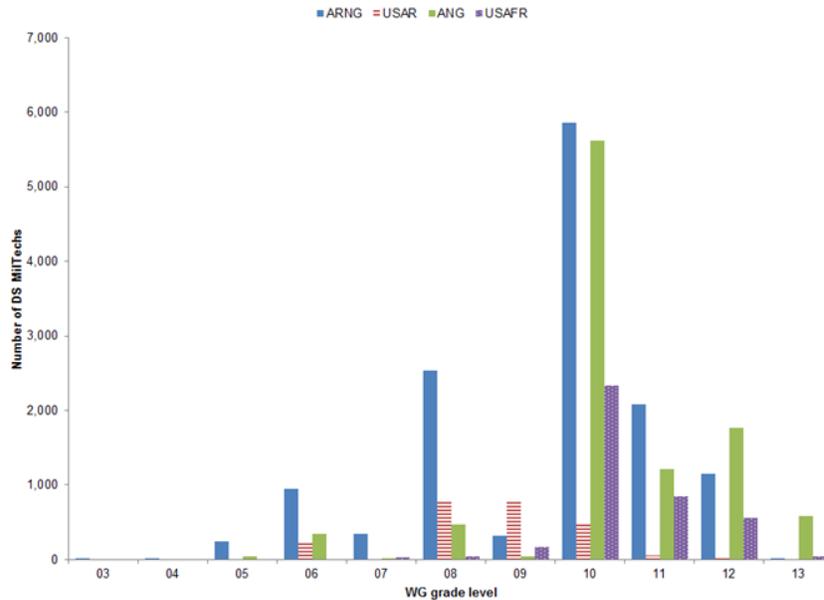
Figure 13. Number of DS MilTechs by reserve component and GS paygrade level^a



a. Source: CNA tabulations of service-provided individual level MilTech data from September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR.

Figure 14 shows the number of DS MilTechs in each WG grade level. By WG level, most ARNG, ANG, and USAFR DS MilTechs are at WG-10. The pay associated with WG-10 in the United States ranged in 2011 from \$18.51/hour in northern Mississippi to \$57.42/hour in Stockton, CA—owing to the differences in step and geographic locality. In the USAR, level 8 has the highest number of WG designated DS MilTechs, ranging in 2011 from a U.S. low of \$16.89/hour in northern Mississippi to a high of \$52.05/hour in Stockton, CA, as a result of step level and geographic locality pay differences.

Figure 14. Number of DS MilTechs by reserve component and WG paygrade level^a



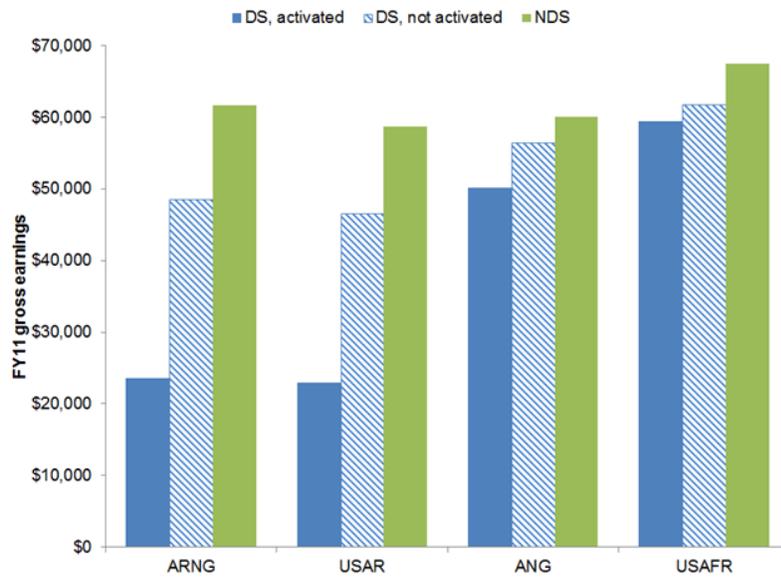
a. Source: CNA tabulations of service-provided individual level MilTech data from September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR.

We use service-provided snapshots of MilTechs for a single month and track them the 12 previous months. Figure 15 shows the gross earnings of those individuals. We cannot assume that the person was a MilTech in each of those 12 previous months. Thus, in some cases, it will overstate an individual’s earnings if he or she left a higher pay federal civilian job to become a MilTech; in other cases, it will understate the earnings if the individual only recently became a MilTech. We also note that those MilTechs who were activated, on average, also have lower earnings because they are earning their military salary instead of their federal civilian pay.

In figure 16, we show the average imputed annual earnings for MilTechs based on the salary amount listed in the civilian pay files for salaried MilTechs.³¹ For wage earners we assume they worked 40 hours/week. In figure 16, we see that the gross pay shows a higher differential between DS and NDS technicians relating to both lower DS gross earnings and higher NDS gross earnings than the imputed

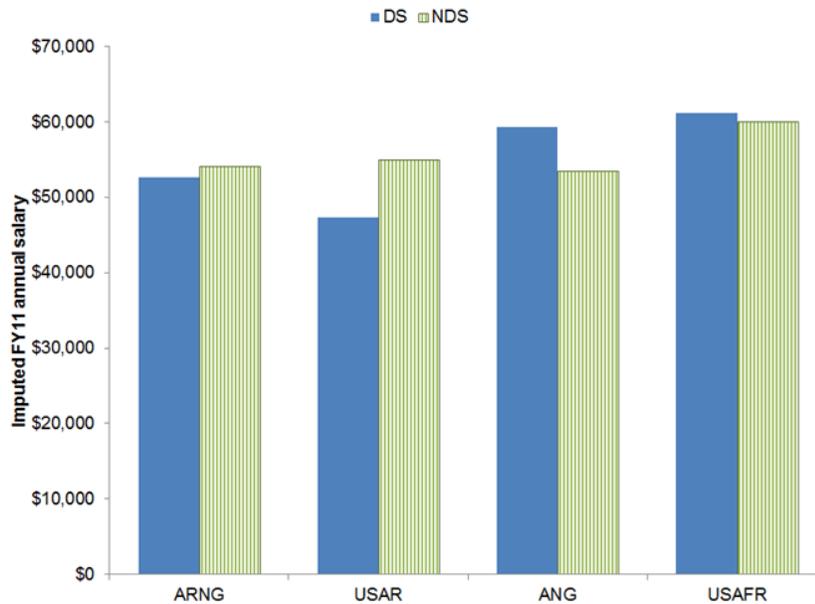
31. Imputed annual earnings do not include bonuses or overtime pay.

Figure 15. MilTechs' gross federal civilian earnings, by reserve component and status^a



a. Source: CNA tabulations of service-provided individual level MilTech data from September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR linked to DMDC civilian pay data.

Figure 16. MilTechs' average imputed annual salary, by service and status^a



a. Source: CNA tabulations of service-provided individual level MilTech data from September 2011 for the ARNG and ANG, April 2012 for the USAR, and January 2012 for the USAFR linked to DMDC civilian pay data.

annual salary in figure 16. In addition, the numbers in figure 16 are, for many categories, lower than the gross pay in figure 15, which is to be expected because the imputed annual salary does not include bonuses or overtime.

Overtime pay

Army and Air Force Reserve MilTech Overtime

Title 5 technicians are eligible for overtime pay in certain circumstances (see Title 5 U.S.C. § 5542) [24]. The USAR, for example, highlights this benefit in its usajobs.gov MilTech job announcements, noting that “as a ‘Dual Citizen’ you are employed by the federal government (Department of Army) as a civilian working a normal forty-hour week with overtime, compensatory pay and other benefits” [25].

Earlier we noted that, within the USAR and USAFR, one difference between the imputed salary and the gross pay, as illustrated in figures 15 and 16, relates to overtime pay. Table 17 shows the overtime hours and pay for USAR and USAFR MilTechs by status. For both the USAR and USAFR, the number of DS MilTechs earning overtime pay is greater than the number of NDS technicians earning overtime pay. However DS MilTech’s average overtime pay is lower than that for NDS technicians. This difference in average overtime pay is greatest for the USAFR for which the average number of overtime hours and pay is over 6 times greater for NDS technicians than for DS MilTechs.

Table 17. FY 2011 MilTech overtime hours and pay, by status and service^a

Status	MilTechs with overtime	Average overtime hours ^b	Average overtime pay ^b
U.S. Army Reserve			
DS	998	30.5	\$1,098.91
NDS	88	28.9	\$1,226.79
U.S. Air Force Reserve			
DS	1,937	25.9	\$1,090.21
NDS	8	168.8	\$7,030.47

a. Source: CNA tabulations of service-provided individual level MilTech data from April 2012 for the USAR and January 2012 for the USAFR linked with DMDC Civilian Pay Data. Overtime hours and pay reflect FY11 pay of individuals identified as MilTechs.

b. Averaged over MilTechs with non-zero or non-missing overtime hours and pay fields.

National Guard Compensatory Time Off

As noted earlier, 32 U.S.C. 709 restricts the payment of overtime to National Guard MilTechs for irregular or overtime work.³² In lieu of overtime pay, Title 32 technicians are eligible for "compensatory time off" (see [9]). A National Guard Bureau report in 2001 on MilTech overtime pay affirmed the practice of providing National Guard technicians compensatory time off for overtime worked, countering concerns that "National Guard technicians generally do not receive the compensatory time off for overtime hours worked" [26, p. 7].

Health benefits

As federal civilian employees, MilTechs may participate in the Federal Employee Health Benefits Program (FEHBP) and are not eligible to participate in TRICARE Reserve Select (TRS),³³ a premium-based health plan offered to National Guard and Reserve SelRes members.³⁴ This TRS exclusion is across all SelRes members who are eligible for FEHBP and is not exclusive to MilTechs.

Retirement

DS MilTechs potentially are eligible for both a SelRes retirement, discussed later, and a civilian retirement. The technician retirement system has been raised as an example of technicians earning multiple retirements for essentially one job [29]. However, the dual civil service and SelRes retirement benefit also is a possibility for any retirement-eligible non-MilTech federal employees who are drilling reservists.

As part of their civilian employment and depending on their date of hire, most MilTechs are covered under either the Civil Service

32. In FY 2011, we identified *only* 8 ARNG DS and NDS technicians and 18 ANG DS and NDS technicians who earned overtime. While they were identified as MilTechs in September 2011, they may not have been MilTechs for all of FY 2011.

33. Reference [27] introduced TRS and outlines the FEHBP exclusion.

34. For more information, see [28].

Retirement System (CSRS) or the Federal Employees Retirement System (FERS) [30, 31]. CSRS was implemented in 1920. Employees hired after December 31, 1983, are included in Social Security coverage and taxes; this retirement system is sometimes called CSRS offset.³⁵ FERS was implemented in 1987; employees hired before January 1, 1984, continued to be covered by CSRS, while those hired on or after that date are covered by FERS. CSRS is a defined-benefit plan, while FERS includes a basic defined-benefit plan and a thrift savings plan, along with Old-Age, Survivors, and Disability Insurance and Medicare coverage.³⁶

We outline OPM’s guidance on FERS immediate retirement age in table 18. The minimum retirement age under FERS is between 55 and 57, depending on age and years of service (YOS), while the minimum retirement age under CSRS is between 55 and 62, based on YOS.³⁷ For example, the minimum retirement age (MRA) for people born in 1970 or later is 57.

Table 18. OPM guidance on FERS immediate retirement age^a

Age	Minimum years of credible service
62	5
60	20
MRA	30

a. Source: OPM website: <http://www.opm.gov/retire/pre/fers/computation.asp>.

While federal employees with at least 10 YOS may draw retirement younger than age 62, in some cases doing so reduces their benefits. People with at least 10 years but under 30 years of credible service may draw under age 62, but doing so reduces the annuity by 5 percent

35. See [32] for more on CSRS offset.

36. The thrift savings plans are a defined contribution plan.

37. See appendix A of [33] for a comparison of CSRS and FERS.

for each year under 62. The exception to that rule is for those with at least 20-YOS retirement benefits, who can draw retirement starting at age 60.

However, there are special considerations for MilTechs. MilTechs who have been separated from service involuntarily due to disability or other reason may draw a retirement annuity at age 50 if they have 25 YOS. This early retirement is determined in a similar way to a regular annuity [34].

Table 19 shows the basic annuity formula for FERS, illustrating that the retirement amount is dependent on years of service and the three highest years of salary. Note that federal personnel under FERS are also eligible for Social Security benefits and that the nondisability annuity is reduced for people retiring early (for example, those with at least 10 but under 30 YOS retiring under age 62).

Table 19. OPM guidance on basic annuity formula for FERS retirement^a

FERS Basic Annuity Formula	
Under age 62 at separation for retirement Or Age 62 or older with less than 20 YOS	1 percent of your high-3 average salary for each year of service
Age 62 or older at separation with 20 or more YOS	1.1 percent of your high-3 average salary for each year of service

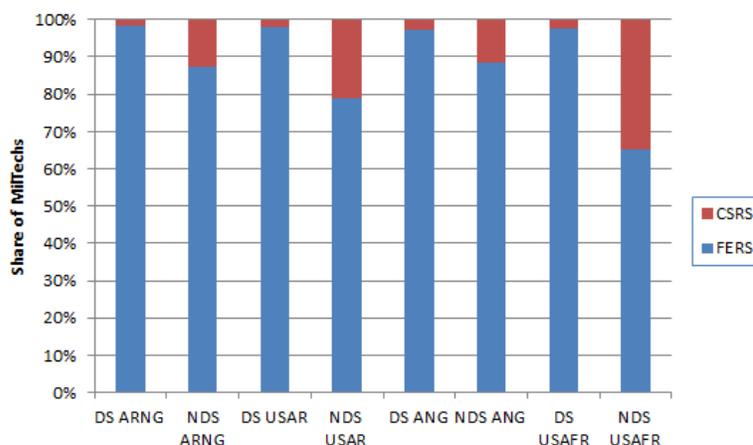
a. Source: OPM website: <http://www.opm.gov/retire/pre/fers/computation.asp>.

Figure 17 shows the share of MilTechs under the CSRS versus FERS, by status classification for the ARNG, ANG, USAR, and USAFR. In each service, the share of MilTechs under the CSRS system is higher among NDS than DS MilTechs. For the USAR and USAFR, the share of NDS technicians under CSRS is significantly higher than the share within the ARNG and ANG. This difference is caused partly by differences in MilTech age relating to how NDS technicians are treated in the National Guard versus the Reserves.

For the USAR and USAFR, the FY 2000 NDAA resulted in the mandatory retirement of NDS technicians hired after November 18, 1997

[35], reflecting congressional effort to reduce the number of NDS technicians in those components. The law differentiated the treatment of NDS technicians based on whether they were hired before or after November 18, 1997. We illustrate these in figure 18. (For a more thorough discussion of the implications of this law, see [36 and 37].)

Figure 17. September 2011 snapshot of the share of MilTechs under FERS versus CSRS by RC^a



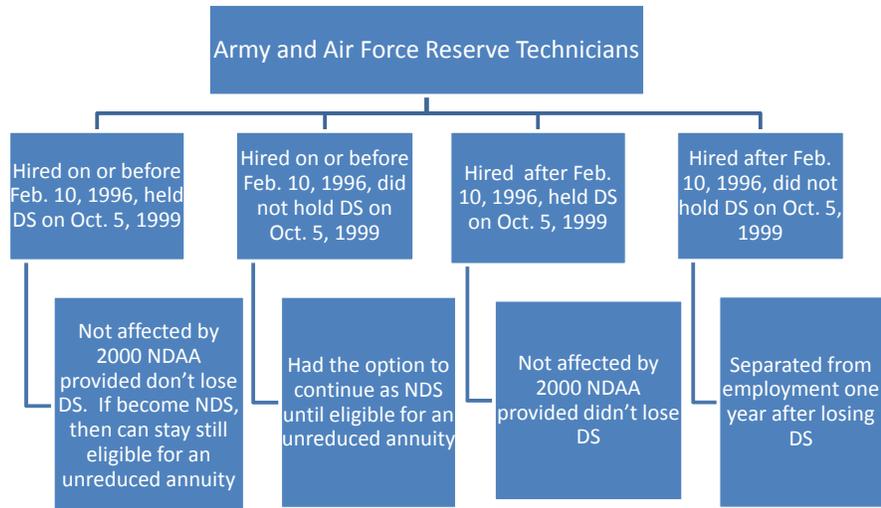
a. Source: Service-provided aggregate-level 2011 MilTech data. Note, although not shown here, the USAR had 27 DS MilTechs who were under some other retirement plan.

Only NDS technicians who were hired *on or before* November 18, 1997, were provided the alternative to stay—for an extended period of time—as NDS technicians. However, those DS and NDS technicians who were hired before November 18, 1997, could only potentially stay NDS at a maximum of within 30 days of becoming eligible for an unreduced annuity. Reserve MilTechs hired *after* November 18, 1997, are limited from being NDS for no longer than 12 months. USAR and USAFR MilTechs who held dual status on or after October 5, 1999, are required to maintain their dual status. If they lose their dual status and are eligible for an unreduced annuity, they must retire.³⁸ If they

38. As noted earlier, if the DS MilTech loses such status as the result of a combat-related disability as defined by [10], he/she may be retained as an NDS technician [7].

are not eligible for an unreduced annuity, they must try to regain their dual status or find another civilian position that does not require dual status.³⁹

Figure 18. How the 2000 NDAA affected Army and Air Force Reserve Technicians^a



a. Source: [36 and 37].

Military leave and support for activated MilTechs

All federal employees who are members of reserve components are entitled to 15 days (120 hours) of military leave for active duty for training or Inactive Duty Training [38]. In "support of emergency duty" federal employees are also entitled to 22 workdays. When using their authorized military leave, federal employees' civilian leave is reduced by the amount of their military leave.⁴⁰

Effective February 10, 1996, Congress amended 5 U.S.C. 6323 to include military leave unique to MilTechs: 5 U.S.C. 6323(d) entitles

39. The law specifies that, if MilTechs continued as NDS technicians, they would have to be separated within a year.

40. Federal employees also have the discretion to use other forms of leave, such as annual leave, instead of military leave.

MilTechs only to an additional 44 days of leave to support contingency operations outside the United States [39].⁴¹ While on 5 U.S.C. 6323(d) leave, MilTechs are on active duty without pay, but they still receive retirement points and earn their civilian technician pay.⁴²

Beginning March 11, 2009, federal employees activated under Title 10 are eligible for differential pay (5 U.S.C. 5538). Federal employees who are activated and on civilian leave without pay receive full military pay and may receive reserve differential to make up the difference between their civilian and military pay.⁴³

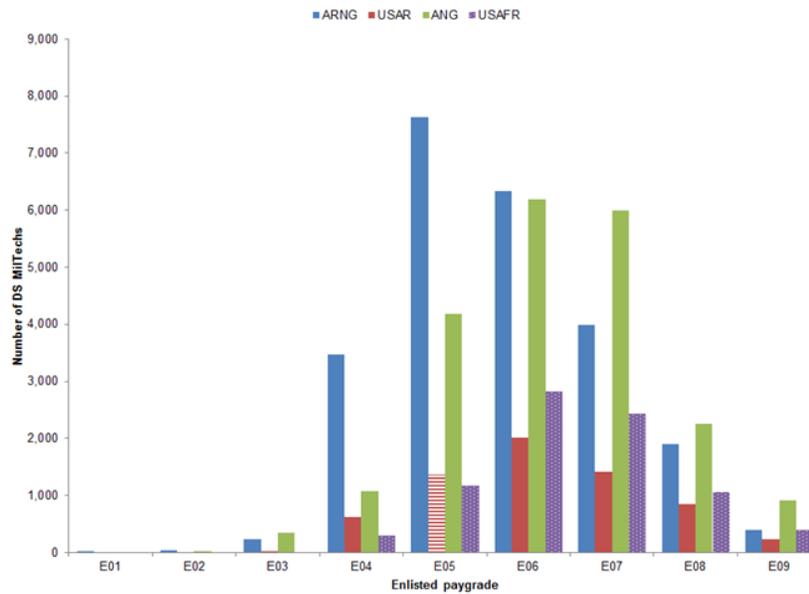
DS MilTechs: SelRes compensation⁴⁴

National Guard and Reserve pay

In figure 19, we provide the total number of DS MilTechs who are enlisted by military paygrade. Likewise, in figure 20, we provide the total number of DS MilTechs who are officers by military paygrade. For the USAR, ANG, and USAFR, over 25 percent of DS MilTechs were E6s. In the ARNG, 25 percent were E5s.

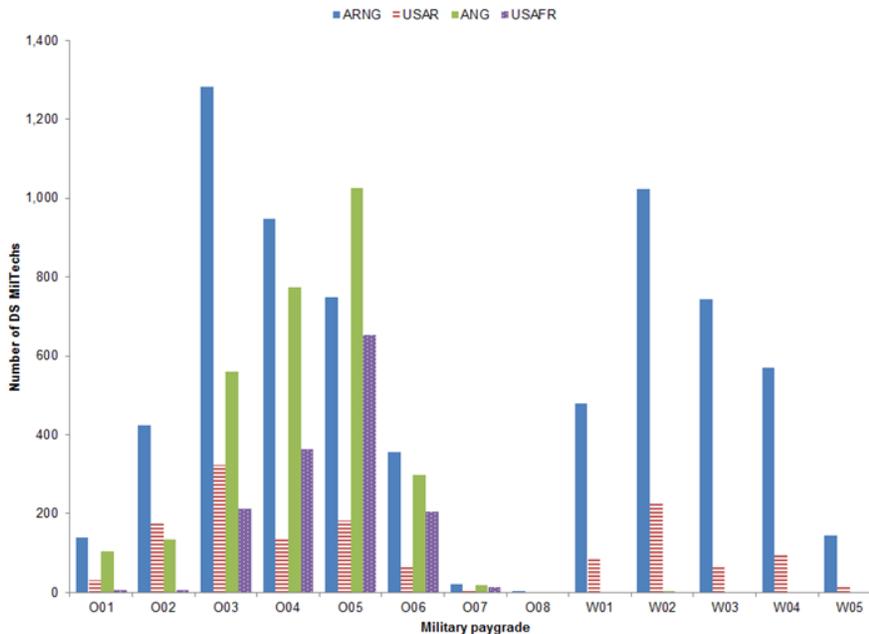
-
41. 5 U.S.C. 6323(d) specifies that MilTechs are eligible for this leave, when "on active duty without pay, as authorized pursuant to section 12315 of title 10, under section 12301(b) or 12301(d) of title 10 for participation in operations outside the United States, its territories and possessions."
 42. All reservists, when performing authorized military duty—whether active or inactive—receive retirement points. In addition, MilTechs, as federal employees, have the discretion to use other forms of leave, such as annual leave, instead of military leave.
 43. Employer support for activated National Guard and Reserve members is not unique to the federal government. Research addressing employer costs under the ongoing mobilization found that 67 percent of state and local governments surveyed have provided some level of voluntary support for activated reservists and their families [40]. Among large businesses and nonprofit organizations, the share providing some level of support is lower—47 percent. Among small businesses, 43 percent reported providing some level of voluntary support [40]. The most common type of support was payment of a portion of reservists' civilian pay while that reservist was on active duty.
 44. A full review of reserve compensation can be found at [41].

Figure 19. Total number of DS MilTechs who are enlisted, by military paygrade^a



a. Source: CNA tabulations of service provided individual level MilTech data: ARNG and ANG, September 2011 snapshots; USAR, April 2012 snapshot; and USAFR, January 2012 snapshot.

Figure 20. Total number of DS MilTech who are officers by military paygrade^a



a. Source: CNA tabulations of service-provided individual-level MilTech data: ARNG and ANG, September 2011 snapshots; USAR, April 2012 snapshot; and USAFR, January 2012 snapshot.

There are two main types of basic pay for National Guard and Reserve members.⁴⁵ The first is inactive duty for training (IDT) pay. IDT pay is paid during drill weekends, which typically occur once a month, and are paid per 4-hour drill unit.⁴⁶ So, 2 days of IDT will equal 4 drill units, or the equivalent of 4 days of basic pay. The second pay type is active-duty pay during annual training or when activated, and is equivalent to basic pay. Duty status also influences other compensation, other than pay. For example, during annual training, National Guard and Reserve members are eligible for a reduced housing allowance (BAH-RC/Transient), while, in comparison, they are eligible for a full housing allowance when activated for 31 days or more.

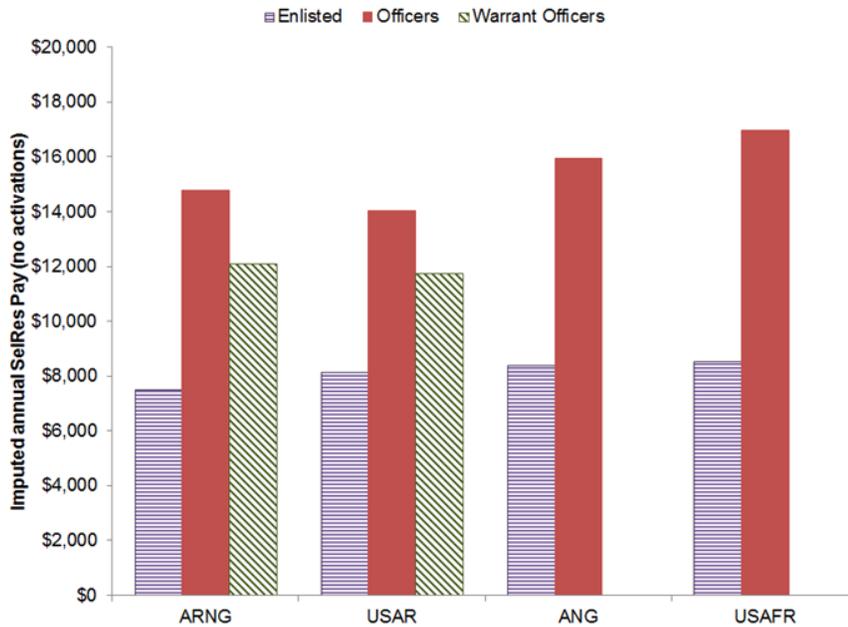
In figure 21, we show the imputed SelRes average annual earnings based on DS MilTechs' military paygrade and years of service. The averages in figure 21 are based on drill pay, basic pay, and BAH-RC compensation for one IDT weekend per month and two weeks of active duty for training per year.

Figure 21 assumes the minimum of one IDT weekend per month and two weeks of active duty; however, drilling SelRes members often do more than the minimum—for example, at times activating and deploying with their units. Figures 22 and 23 show the gross drill pay and active duty pay earned by DS MilTechs in FY 2011, broken out by whether the DS MilTech had or had not been activated or deployed in FY 2011. Figure 22 shows the gross drill pay and active duty pay by service for DS MilTechs who were activated. Figure 23 shows the gross drill pay and active duty pay by service for DS MilTechs who did not activate. Not surprisingly, the gross pay for those who were activated is greater than for those who were not activated.

45. SelRes members' pay and other benefits are influenced by their duty status. Over 30 legal authorities delineate the three primary SelRes duty statuses and, at times, influence compensation [42].

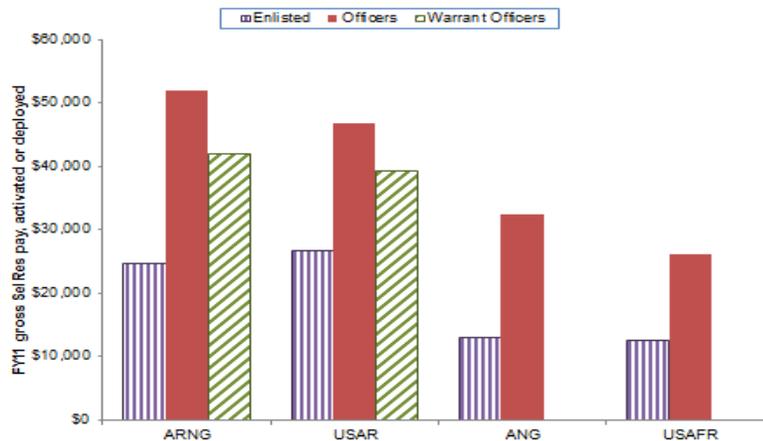
46. Depending on the service, IDT is also known as drills, unit training assemblies, and battle assemblies. We use the term *drill* in our discussion and intend it to be inclusive of all regular monthly SelRes IDT activities.

Figure 21. 2011 imputed SelRes average annual earnings, by service^a



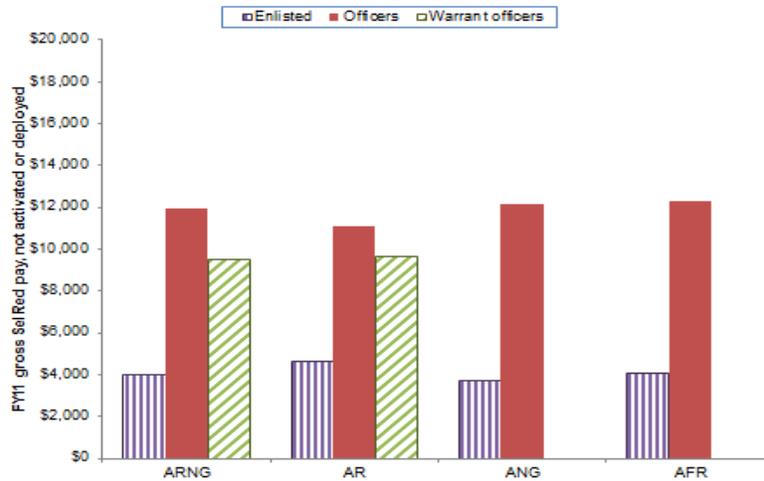
a. Source: CNA tabulations of individual-level data provided to us by the services linked with 2011 drill pay, basic pay, and BAH-II (RC/Transient) tables.

Figure 22. FY 2011 gross SelRes average drill and active duty earnings for DS MilTechs who activated or deployed, by service^a



a. Source: CNA tabulations of service-provided individual-level MilTech data linked with FY 2011 SelRes Pay Files.

Figure 23. FY 2011 gross SelRes drill and active duty earnings for DS MilTechs who did not activate or deploy, by service^a



a. Source: CNA tabulations of service-provided individual-level MilTech data linked with FY 2011 SelRes Pay Files.

Selective reenlistment bonuses (SRBs)

The services' discretion in paying reenlistment bonuses is authorized by Title 37, section 308 (Special pay: reenlistment bonus). The services *typically* determine SRB eligibility on a fiscal year, where eligibility differs by YOS, military occupation, and reenlistment obligation. The services also make different SRB determinations for the AC than for National Guard and Reserve SelRes members, and the services differentiate between bonuses for MilTechs and for the National Guard or the Reserves (e.g., see [43]). In some cases, MilTechs have been eligible for an SRB, such as in the case of the Army Reserve Components (RC) Reenlistment Bonus—Deployed/Location Program [44].

Education benefits

Since 1985, SelRes members have been eligible for the Montgomery GI Bill-Selected Reserve (MGIB-SR) [45]. SelRes members are also potentially eligible for the MGIB-SR Kicker.⁴⁷ While technicians may

47. The MGIB Kicker is also referred to as the Army, Navy, Marine Corps College Fund and the Air Force GI Bill Kicker.

still use their MGIB-SR, their MGIB-SR Kicker is placed into suspension on their 180th day of their technician duty [46].⁴⁸

Health benefits

When ordered to active duty for more than 30 days on federal orders, MilTechs are eligible for TRICARE Prime, and their dependents are eligible for TRICARE Prime, TRICARE Standard, or TRICARE Extra. Since 2004, Congress has enacted a number of laws associated with reserve members' health care, such as the previously mentioned TRS [47]. As previously noted, however, MilTechs who are eligible for FEHBP are not eligible for TRS.

Deployment-related compensation and civilian job support

As with their regular component counterparts, all activated National Guard and Reserve members serving in combat are eligible for a number of deployment-related pays (such as family separation pay among those with dependents). Some of those deployment-related pays and benefits, such as hostile fire pay and the combat zone tax exclusion, are associated with combat service.⁴⁹ We show the counts of DS MilTechs receiving hostile fire pay according to DMDC's pay files in table 20.⁵⁰

Research on the effect of deployments on reserve members' finances during the past decade indicates that military pays and tax incentives

48. For more information see [47].

49. See [48] for further discussion of the pays associated with combat deployments and the effect of those pays on the continuation behavior of National Guard and Reserve members.

50. The USAFR provided us with FY 2011 counts of MilTechs' deployment experiences. In FY 2011, 581 USAFR MilTechs were deployed in the continental United States (CONUS), and 1,994 were deployed outside CONUS (OCONUS). The majority of those deployed OCONUS (54 percent) were to an area designated as eligible for hostile fire pay or the combat zone tax exclusion. The USAFR was the only service to provide us with deployment-specific aggregate-level data, which is why—for consistency across the services—we report data from the DMDC CTS data on crisis deployments and DMDC DFAS data on combat-related pays in table 20.

associated with deployment have mitigated somewhat the loss in civilian pay experienced by SelRes members while deployed. For reservists activated in 2002 or 2003, their earnings tended to increase, on average, as a result of activation and to grow as the number of days served increases (see [49], p. 188). Since then, as previously discussed, Congress passed legislation addressing MilTech military leave and federal employee differential pay, further reducing any negative income effects experienced by MilTechs and all federal employees, in general, while being activated.

Table 20. DS MilTechs by activation status, deployment status, and hostile fire pay receipt, FY 2011^a

	Identified as		
	Participating in an activation	Participating in a deployment	Receiving Hostile Fire Pay
ARNG	6,889	5,803	5,323
USAR	1,496	1,037	953
ANG	4,680	3,664	2,908
USAFR	2,309	1,669	1,566

a. Source: CNA tabulations of service-provided individual-level DS MilTech data linked with DMDC Reserve Pay Files and CTS data.

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Cost and compensation implications of converting MilTech positions

Implications of converting MilTechs to Title 5 federal civilians

Under this scenario, MilTechs' civilian positions would be converted to civilian positions—with the same pay plan, level and step—and DS MilTech's SelRes positions would become delinked from their civilian positions. In our discussion here, we assume that DS MilTechs would be offered the opportunity to maintain their civilian jobs, as federal civilians, and their SelRes positions upon conversion. These conditions would hold for both the National Guard and Reserve MilTechs. We note, however, that converting DS MilTechs to Title 5 federal civilians *may* also require replacement of their SelRes position at some point if individuals decided not to continue their SelRes affiliation. NDS technicians would maintain their current civilian position.

Thus, conversion of DS and NDS technicians to federal civilians—in terms of grade determination—is clear-cut since MilTechs would maintain their current pay plan, level, and step. The same is true for DS MilTechs in regard to their SelRes positions for those who elect to stay in the SelRes; their paygrade and pay would not change. In addition, existing MilTech's retirement, both civilian and military, would not change. Thus, MilTechs could be converted without substantial hardship with regard to compensation.

Compensation implications

MilTechs' compensation would, in some cases, be increased by a conversion to federal civilian status. DS MilTechs who elected to stay in the SelRes would potentially be eligible for SelRes bonuses, and Title 32 MilTechs in the National Guard would earn overtime pay for overtime work (as opposed to the compensatory time off for overtime work to which they are currently entitled).

SelRes Bonus

Converting National Guard and Reserve MilTechs to Title 5 federal civilians would have the potential to change the costs of the MilTech personnel because they would become eligible for SelRes bonuses. However, this cost is likely to be minimal in the long term since bonus eligibility can be modified (in terms of eligibility requirements) to manage the reserve components' bonus budget.

Overtime pay

Title 32 National Guard MilTechs currently are not eligible for overtime pay and potentially would be if they were reclassified as Title 5 employees. A 2001 report conducted by the National Guard Bureau on overtime behavior among Title 32 MilTechs before implementation of the overtime restriction estimated that ARNG and ANG technicians *each* worked an average of 25 and 39 overtime hours, respectively, in calendar year 2000 [26], amounting to less than a week of work in a year.

This is higher than what we observed in the USAR and USAFR for FY 2011. As noted earlier in table 16, not all DS MilTechs or all NDS technicians earned overtime pay in FY 2011, which is a smaller share of the population than suggested by [26]. Of those DS MilTechs who earned overtime, it was on average for less than a week in a year. The total paid in overtime in FY 2011 to USAR and USAFR personnel who were identified as MilTechs was a little over \$3.3 million.

Recruitment implications

The conversion of MilTechs to federal civilians increases the overall pool of potential candidates since, as noted by [50], the pool of potential civilians is larger than the pool of potential MilTechs. The authors of [50] argue that the civilian recruiting pool is larger than the MilTech recruiting pool because it includes people who are older, are unable to physically deploy, and are not interested in becoming drilling reservists. Thus, they conclude that civilians are easier to recruit than MilTechs, at least at the lower grades. The authors of [50] note that replacing MilTechs with civilians leaves reserve positions open, which also need to be filled. This is because the now delinked positions are likely to be filled from a different cohort than the

current MilTechs and because the MilTech position creates an incentive for people to drill in the SelRes. This option potentially creates two new recruiting actions in the short term.

The arguments presented in [50] are true for the pool of potential candidates for a typical MilTech position; however, there is heterogeneity in MilTech positions. There are some positions in which the delinking of the federal civilian and SelRes position may change the job function of the civilian position. For example, USAFR DS MilTechs in the pilot, navigator, and air-crew occupations spend part of their MilTech workweek conducting flight operations. Under a delinked civilian-SelRes construct, those flight operations would potentially be limited to just the SelRes position (i.e., during drills, training, and activation) or convert to an AGR position. Thus, the decrease in military activities for the federal civilian positions may, for specific job position(s), decrease the pool of potential candidates for the federal civilian position.

Retention implications

In terms of retention, the conversion of MilTechs to Title 5 federal civilians could potentially increase retention of individuals in their civilian position. DS MilTechs in the National Guard and Reserve are limited in their employment as MilTechs, if they lose their SelRes status. For example, MilTechs in the Reserve who lose their SelRes position have 12 months to regain SelRes status or face potential termination. Delinking the civilian and military positions would allow for individuals to stay as federal civilian FTS even if they lost their SelRes positions. By the same token, converting MilTechs to federal civilians may erase a current incentive for reservists to maintain their part-time unit affiliation in order to retain their full-time MilTech jobs.

Administrative issues

There is a potential legal barrier to converting Title 32 MilTechs to federal civilians for the Army and Air National Guard. Congress would have to change the law in order to convert National Guard Title 32 positions into Title 5 positions or to authorize a new category of Title 32 federal civilians.

Implications of converting MilTechs to military FTS

As highlighted in [51, p. 5]:

The sole reason for the technician force is to satisfy a military requirement to the same extent as active duty personnel. Thus, the military considerations of the technician program are paramount.

There are potential readiness and deployability limitations to federal civilians replacing DS MilTechs. Currently, for example, in the USAR, FTS positions are filled by either DS MilTechs or AGRs [13]. Consequently, we also examined conversion to AGR or AC. In this section, we discuss the cost and compensation issues associated with replacing DS MilTechs with AGRs or AC servicemembers. Under this scenario, we assume that DS MilTechs would have the option of converting to the AGR position, but not necessarily to the AC, or keeping their MilTech position until retiring or some other termination action.

AGR versus active component

There are differences between AGRs and AC, which we briefly discuss here.

Compensation

For the most part, compensation of AGRs and AC members are the same; however, there are differences between the following:

- The VA benefits of Title 32 National Guard AGRs and the VA benefits of Title 10 AC and AGRs⁵¹
- Nondisability separation pay for AC personnel and AGRs [22].
- Educational benefits for AC personnel and AGRs [22].

In addition, members of the AC are eligible for bonuses as designated by the services. Like DS MilTechs, AGRs are typically designated separately, but have at times been eligible for selective reenlistment bonuses (see [52], for example).

51. See the “Compensation of Full-Time Support” chapter of [22].

Change of duty location

While AGRs are potentially subject to being moved—in terms of duty location—AC members are more likely to conduct a permanent change of station (PCS) move.

Comparison basis

As outlined in the 6th QRMC in regard to costing FTS,

Relative costs cannot be determined without establishing a linkage, such as military pay grade, as a basis of comparison. Such linkages may take the form of grade equivalency tables, service or component manpower organization classification guidance, or population averages. [22, Executive Summary, p. 112]

In this subsection, we discuss that linkage between MilTechs and AGR/AC. Grade equivalency is a linkage between civilian pay levels and steps with a military paygrade. For our cost comparison, we use a grade equivalency based on the civilian and military jobs of MilTech.⁵² The civilian and military comparison for DS MilTech under the GS pay plan is indicated in table 21. For example, among all ARNG, USAR, ANG, and USAFR DS MilTechs who are GS grade 7, 70 percent were military paygrade of E5, E6, or E7.

The civilian and military paygrades for DS MilTech under the WG pay plan are indicated in table 22. DS MilTechs who are WG employees have a range of military ranks within the SelRes. For example, over 70 percent of WG8 DS MilTechs are E4, E5, or E6 within the SelRes.

52. One common linkage used for DOD travel is military and civilian equivalency grades for prisoner-of-war identification [53]. However, that grade equivalency is somewhat arbitrary with no correlation to years of service or job function.

Table 21. Number of DS MilTechs by GS level and SelRes paygrade (for the ARNG, USAR, ANG, and USAFR)^a

	GS pay scale level											
	4	5	6	7	8	9	10	11	12	13	14	15
E1	0	1	0	3	1	1	0	0	0	0	0	0
E2	1	4	6	9	0	2	0	0	0	0	0	0
E3	4	40	61	94	7	39	1	7	1	0	0	0
E4	11	242	394	900	128	384	5	116	4	0	0	0
E5	11	281	634	1,975	328	1,219	43	561	30	0	0	0
E6	2	220	571	2,111	376	2,241	162	1,045	64	0	0	0
E7	0	78	178	1,127	267	2,640	417	1,721	155	2	0	0
E8	0	6	24	287	106	992	313	1,284	264	7	2	0
E9	0	1	3	29	16	139	76	583	397	5	3	0
O1	0	1	1	22	7	72	5	80	74	8	0	0
O2	0	6	2	61	14	205	11	241	164	10	0	0
O3	0	3	4	84	19	325	27	675	872	280	3	0
O4	0	2	2	12	4	58	16	428	916	703	27	0
O5	0	1	1	3	5	17	3	169	876	1,213	279	0
O6	0	0	1	0	1	0	0	17	93	168	504	130
O7	0	0	0	0	0	0	0	0	1	1	5	51
O8	0	0	0	0	0	0	0	0	0	0	0	1
W1	0	4	3	23	23	121	3	97	33	1	0	0
W2	0	2	6	31	44	180	8	193	179	52	1	0
W3	0	1	0	7	8	48	1	125	195	121	0	0
W4	0	0	0	3	3	23	6	79	141	260	2	0
W5	0	0	0	0	1	3	0	9	30	103	1	0
Total	29	893	1,891	6,781	1,358	8,709	1,097	7,430	4,489	2,934	827	183 ^b

a. Source: CNA tabulations of service provided individual level MilTech data: ARNG and ANG, September 2011 snapshots; USAR, April 2012 snapshot; and USAFR, January 2012 snapshot.

b. One GS15 DS MilTech did not have a reported military paygrade.

Table 22. Number of DS MilTechs by WG level and SelRes paygrade (for the ARNG, USAR, ANG, and USAFR)^a

	WG level										
	4	5	6	7	8	9	10	11	12	13	14
E1	1	0	1	0	0	0	2	0	0	0	0
E2	1	9	2	1	13	0	5	0	0	0	0
E3	1	52	25	6	124	5	120	6	10	0	0
E4	2	96	366	79	932	157	1,323	162	96	21	0
E5	0	73	588	122	1,381	354	4,796	889	761	173	0
E6	0	40	350	106	848	433	5,268	1,438	1,406	219	1
E7	0	13	149	56	347	227	2,179	1,326	1,022	200	4
E8	0	0	28	11	66	72	320	223	144	10	1
E9	0	0	1	0	4	5	18	24	14	0	0
O1	0	0	0	0	1	0	2	0	0	0	0
O2	0	0	0	0	1	2	2	0	1	0	0
O3	0	0	0	1	1	2	0	0	1	0	0
O4	0	0	0	0	1	1	0	0	0	0	0
O5	0	0	1	0	0	1	0	0	0	0	0
W1	0	0	2	1	10	11	66	56	14	0	0
W2	0	0	2	0	17	23	72	39	21	0	0
W3	0	0	1	0	3	5	4	9	3	0	0
W4	0	0	0	0	2	2	6	2	0	0	0
W5	0	0	0	0	0	0	1	0	0	0	0
Total	5	284	1,516	383	3,751	1,300	14,185	4,174	3,493	623	6

a. Source: CNA tabulations of service-provided individual-level MilTech data: ARNG and ANG, September 2011 snapshots; USAR, April 2012 snapshot; and USAFR, January 2012 snapshot.

In our comparisons, we set DS MilTechs at their SelRes paygrade. Note that, as we show in the next section, grade equivalency based on DS MilTech civilian and military occupations is not cost equivalent. A cost equivalent conversion would require a change in existing DS MilTechs' military rank in order to set MilTechs at a military rank that resulted in cost equivalency to their DS MilTech job.

DS MilTech versus AGR/AC compensation: pay

Imputed DS MilTech versus AGR/AC comparison

Table 23 shows the comparison of DS MilTech’s civilian pay and SelRes pay compared with the basic pay and BAH based on their SelRes rank and geographic location.⁵³ For all DS MilTechs, we estimate that converting all DS MilTechs would increase annual pay compensation costs by \$140 million. However, the conversion of all DS MilTechs to AC/AGR would not increase annual compensation costs across all services and current pay plans. For the ARNG, ANG, and USAFR, we estimate that DS MilTechs who fall under the FWS would experience a reduction in basic salary from a conversion to AC/AGR. This suggests that a full DS MilTech conversion based on grade equivalency is likely to have inconsistent retention implications across pay plans and, consequently, types of job functions.

Actual DS MilTech Pay versus AC/AGR comparison

As previously discussed the imputed estimates may underestimate the actual earnings of DS MilTechs, particularly when they activate. In addition, our imputed civilian annual earnings in table 23 assumes that wage grade DS MilTechs work exactly 40 hours per week all year, when that may be an inaccurate estimate of their actual hours. Thus, we calculated the cost comparison using FY 2011 actual gross civilian and SelRes pay.

53. In tables 23 and 24, GS refers to DS MilTechs under the GS or GM pay plan. FWS refers to DS MilTechs under the WG, WL, WQ, WR, WS, and WU pay plans. Tables 22 and 23 do not report cost estimates for individuals under other pay plans (i.e., those without pay plans or those under the ES, IA, YA, YB, YC, YH, or YJ pay plan). For table 23, the USAR had 4 DS MilTechs under the “other” pay category, whereas the USAFR had 110. For table 24, the USAR had 4 DS MilTechs under “other” pay plans, and the USAFR had 106 under the “other” pay plan. Because of small sample sizes in the USAR, we reported only the cost estimates for DS MilTechs in the USAFR under the “other” pay plan.

Table 23. Imputed DS MilTech compensation versus imputed AGR/AC compensation, by GS and FWS pay plan^a

Category	Obs. ^b	Average imputed civilian salary (A)	Average imputed SelRes earnings (B)	Average imputed basic pay and BAH (C)	Average difference (A + B) - (C)	Summed difference (millions) $\sum((A + B) - C)$
ARNG						
GS	14,925	\$51,046.84	\$9,941.89	\$70,781.17	-\$9,792.44	-\$146
FWS	15,546	\$54,310.60	\$7,852.46	\$57,540.05	\$4,623.01	\$71.9
USAR						
GS	4,902	\$45,170.97	\$9,529.91	\$69,959.10	-\$15,258.22	-\$74.8
FWS	2,654	\$51,531.03	\$8,117.24	\$59,912.25	-\$263.98	-\$0.7
ANG						
GS	11,544	\$57,842.08	\$10,559.88	\$75,851.84	-\$7,429.88	-\$85.8
FWS	11,962	\$60,797.77	\$8,092.48	\$60,519.75	\$8,370.50	\$100
USAFR						
GS	4,264	\$60,079.56	\$11,678.07	\$82,724.58	-10,966.95	-\$46.8
FWS	4,871	\$62,066.99	\$8,243.82	\$61,248.23	\$8,962.58	\$43.7
Other	110	\$64,862.94	\$13,042.89	\$91,333.08	-\$13,427.25	-\$1.5

a. Source: CNA tabulations of service-provided individual-level data on DS MilTechs linked with DMDC RCCPDS, DMDC CTS, DMDC Civilian Pay tables, 2011 Military pay tables, and 2011 BAH rates.

b. We only included GS and FWS DS MilTechs in this table with non-missing civilian salary data, military rank, and geographic location.

Note that the gross civilian and SelRes pay is for FY 2011 for those identified as DS MilTechs by the services in September 2011 for the ARNG and ANG, in January 2012 for the USAFR, and in April 2012 for the USAR. Those estimates are listed in table 24 by service, pay category, and activation or deployment experience. For all DS MilTechs who activated or deployed, we estimate that converting them to AC/AGR would increase their annual compensation costs by \$379 million. As with our imputed results, however, we find that the level of the impact varies across services and job categories. In particular, the ANG and USAFR DS MilTechs who are WG employees would, on average, have lower annual pay under an AC/AGR conversion.

Table 24. Actual DS MilTech pay^a versus imputed AGR/AC compensation, by GS and FWS pay plan and whether or not activated and/or deployed

	Obs. ^b	Average gross civilian salary (A)	Average SelRes earnings (B)	Average imputed basic pay and BAH (C)	Average difference ((A + B) - (C))	Summed difference (millions) $\sum((A + B) - C)$
ARNG						
Not activated/deployed						
GS	10,335	\$53,075.05	\$6,968.20	\$69,771.31	-\$9,728.06	-\$101.0
FWS	11,328	\$49,557.44	\$4,016.16	\$57,386.45	-\$3,812.85	-\$43.2
Activated/deployed						
GS	2,953	\$25,767.30	\$35,632.80	\$74,048.44	-\$12,648.34	-\$37.4
FWS	3,839	\$23,559.83	\$25,482.81	\$57,632.56	-\$8,589.92	-\$33.0
USAR						
Not activated/deployed						
GS	3,884	\$49,159.93	\$5,983.144	\$69,113.75	-\$13,970.67	-\$54.3
FWS	1,957	\$47,893.2	\$4,350.66	\$59,423.53	-\$7.179/67	-\$14.1
Activated/deployed						
GS	780	\$24,395.52	\$32,096.96	\$73,496.97	-\$17,004.48	-\$13.3
FWS	649	\$21,738.53	\$27,733.22	\$61,308.02	-\$11,836.27	-\$7.7
ANG						
Not activated/deployed						
GS	8,567	\$61,150.20	\$5,989.55	\$74,212.80	-\$7,073.05	-\$60.6
FWS	8,683	\$57,997.14	\$3,175.28	\$60,679.01	\$493.42	\$4.3
Activated/deployed						
GS	2,252	\$52,560.84	\$22,491.99	\$80,813.04	-\$5,760.21	-\$13
FWS	2,859	\$51,543.11	\$10,275.43	\$59,497.52	\$2,321.02	\$6.6
USAFR						
Not activated/deployed						
GS	3,068	\$64,427.08	\$6,488.21	\$80,255.54	-\$9,340.24	-\$28.7
FWS	3,477	\$62,466.47	\$3,207.90	\$61,782.68	\$3,891.68	\$13.5
Other	79	\$69,729.61	\$7,890.05	\$91,692.34	-\$14,062.67	-\$1.1
Activated/deployed						
GS	1,040	\$66,853.01	\$19,988.36	\$89,507.35	-\$2,665.98	-\$2.8
FWS	1,367	\$54,071.30	\$10,858.63	\$60,210.50	\$4,719.43	\$6.5
Other	27	\$55,844.85	\$19,395.93	\$86,566.27	-\$11,325.49	-\$0.3

a. Source: CNA tabulations of service-provided individual-level data on DS MilTechs in the GS or FWS pay system linked with DMDC RCCPDS, DMDC CTS, DMDC Civilian Pay Files, DMDC Reserve Pay Files, military pay tables, and BAH tables.

b. We included only GS and FWS DS MilTechs in this table with non-missing activation/deployment indicators, civilian gross salary earnings, SelRes active-duty and drill pay, military rank, and geographic location.

Summary

Unlike the case of the MilTech-to-regular federal-civilian conversion, the compensation and cost implications of changing MilTechs to AGR/AC are not as clear-cut. As noted earlier, the determination of which military pay level to set for MilTechs, under a conversion to the AC or AGR, will influence the pay and benefits of current DS MilTechs. Conversely, converting DS MilTechs to a compensation equivalent AC/AGR position (i.e., basic pay and BAH that equals civilian salary and SelRes drill pay) would result in a change of military rank for some existing DS MilTechs.

In addition, any cost-neutral conversion system could be changed in the long term because Congress has the discretion to set annual military and federal civilian pay raises at different levels. Although a MilTech civilian-to-military conversion algorithm could result in pay and benefit equivalency at conversion, this neutrality would be eroded over time by unequal military and federal civilian raises. For example, future military pay raises that outpaced civilian pay raises would erode any cost neutrality achieved from switching MilTechs to AGRs. In recent years, for example, Congress has set military pay raises at higher rates than federal civilian pay [54]. Military pay rates not only influence compensation through pay, as discussed in this subsection, but also influence the military retirement system, which we discuss next.

DS MilTech versus AGR/AC compensation: retirement

In this subsection, we discuss the long-term retirement cost implications of converting DS MilTechs to AGR/AC. For our analysis, we used DS MilTechs in the GS pay scale.

In general, the annual cost to DOD for a retirement plan is the amount it must contribute to a retirement trust fund or Thrift Savings Plan (TSP) annually in order to have the necessary balance to pay the annuity to a retiree when he or she retires and is eligible to receive payments. For DS MilTechs, the DOD pays into both the military reserve and federal civilian retirement trust funds and TSP accounts.

Here we discuss changing the current DS MilTech system to an AC position. If that happens, DOD's annual contribution would go to the AC military retirement trust fund. Because the retirement benefits differ under the two systems, we know the costs to DOD will change following conversion.

Under the DS system, MilTechs who stay for an entire career become eligible for two pensions—one for their SelRes position and one for their federal MilTech civilian employee position. Under an AC system, career servicemembers will become eligible for the AC retirement. These three retirement plans have different rules about time of service for eligibility, age for receipt of pensions, and pension amounts for those who collect them.

DOD asked us to estimate the differences in costs to DOD if it were to move from the current DS MilTech system to an AC system. To accomplish this, we've constructed a simple calculator that incorporates the rules and algorithms of each retirement plan and combines them with data regarding basic pay and discounting factors to estimate the costs of all three plans.

In the rest of this section, we (1) describe the rules about each retirement plan and the algorithms we used to calculate the retiree per-year cost to DOD, (2) describe the scenario of how the retirement programs will change for each military personnel category (officers, warrant officers, and enlisted), for active-duty servicemembers, military reservists, and federal civilian employees, and (3) report our results in both dollar and percentage amounts.

Retirement rules and algorithms for calculating annual costs

We estimate the annual costs to DOD of three separate retirement plans: active component, federal civilian employee, and selected reserve. The three plans are fundamentally different from each other [33, 55, 56, and 57].

The active-duty retirement plan is considered a "second-career" and an "old-age" pension plan. This is because most career active servicemembers who retire from the AC do so at a young enough age (typically in their early to late forties) to collect a pension while they

work a second career, and then continue to collect the pension after they retire from their second career. In our analysis, we focus only on the AC/AGR retirement and do not estimate the value or cost of retirement from a second career.

The SelRes retirement plan is strictly an old-age pension plan, because, even though reservists may be eligible to retire at a relatively young age (typically in the middle to late fifties), they are only eligible to receive the pension when they've reached age 60.

Finally, the Federal Employee Retirement System (FERS) plan is a combination old-age pension and defined-contribution (TSP) plan, in which the employer matches employee contributions at a defined rate (percentage of basic pay) into an account that belongs to the employee after one year of service.

Vesting

A major difference between the systems is what happens if they leave before retirement eligibility. On one hand, if AC servicemembers or reservists leave before 20 years of service (YOS) or 20 years of commissioned service (YCS), respectively, they receive no retirement benefit. The federal civilian employee, on the other hand, is vested at the fifth year, and, if he or she leaves before 30 YCS, he or she can still receive a prorated portion of the pension, beginning at age 62. We note this but do not estimate this part of the retirement system since the data do not tell us how many MilTechs leave each year or how that might change by transitioning the system from DS MilTech to AC. As a result, our calculations may underestimate actual retirement costs of the DS MilTech system since, in our model, we estimate retirement costs only for those who reach full retirement eligibility and do not include the costs for those who leave early and collect a partial pension.

Years of service

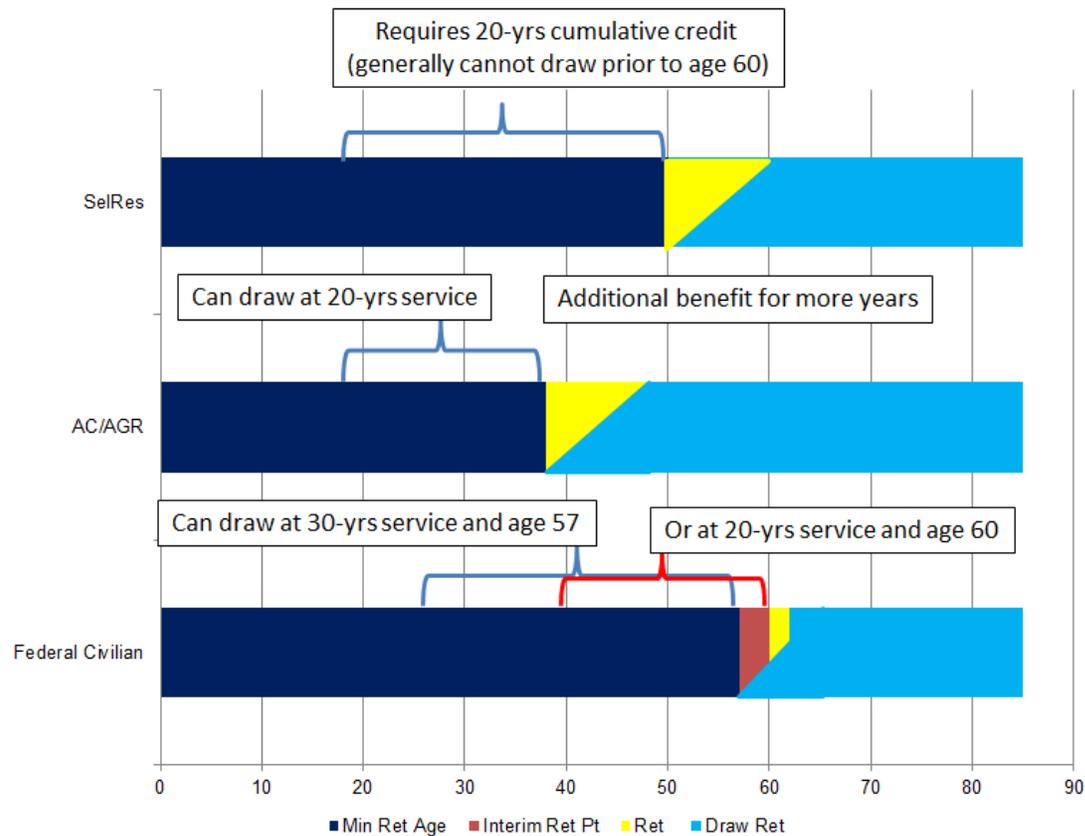
For the active service, retirement eligibility and pension amount depend on the number of years of service, which are typically consecutive from the date of entry into the service. The military reserve and the civilian employment depend on years of creditable service, which may or may not be consecutive because people may shift employment

in and out of the DS MilTech position, and in and out of federal service. In addition, for the reservist, the amount of the pension depends on YCS points, which are earned through drill times, active-duty periods, and number of years in service.

Retirement age

Another difference among plans is the age at which the MilTech can begin receiving the pension. The differences in age of retirement pay eligibility are significant (see figure 24).

Figure 24. Conceptual differences between retirement age by personnel category^a



a. Source: CNA notional representation of information discussed in [55, 56, 57].

In the active service, payment begins immediately on retirement after YOS 20, which can notionally be as early as age 39 or 40 for enlisted and as young as 43 or 44 for officers. Reservists typically must wait until age 60 to begin receiving their pension, even if they actually retire years before age 60.⁵⁴ Civilian employees must wait until age 62 to receive the full pension, although they can receive a reduced pension at age 57. In comparison, federal civilian employees born after 1970 who are under FERS are eligible to receive retirement as early as age 57.

Pension annuities

The size of the pension annuities differs among the plans (see table 25). When they retire, AC servicemembers receive 2.5 percent of the average of the highest three years of basic pay (Hi-3) times the number of years of service. Reservists also receive 2.5 percent of Hi-3, but it is multiplied by the number of years of creditable service, which depends on the number of days of active service and days of other activities and training. The size of the annuity for the federal civilian employee is only 1.0 percent of Hi-3 times the number of years of service, but they also may have accumulated a sizable amount in their TSP account over the years.

54. Congress reduced the non-regular reserve retirement age to a potential minimum of age 50 in section 647 the FY 2008 NDAA. According to this change, any member of the Ready Reserve who is recalled to active duty or, in response to a national emergency, is called to certain active service after January 28, 2008, shall have the age 60 requirement reduced by 3 months for each cumulative period of 90 days so performed in any fiscal year after that date. For example, if a reservist has five years in his or her career since January 28, 2008 in which he or she had more than 90 days of active duty, he or she could begin to receive retirement pay at age 58 and 3/4. In theory, if a DS MilTech had 90 days of active duty every year in a 30-year career, he or she could draw a reserve pension at age 50.

Table 25. Retirement eligibility for various components of DOD

	Military active component (AC)	Military reserve components (RCs)	Federal civilian (FERS)
Vesting	20 YOS; if he or she leaves the service before this, the servicemember is not eligible to receive any pension	20 YCS; if he or she leaves the service before this, the reservist is not eligible to receive any pension ^a	5 YCS; any time after that, the civilian employee is eligible to receive a prorated portion of the pension, beginning at age 62
YOS eligibility	Eligible after 20 YOS	Eligible after 20 YCS	30 YCS
Age eligibility to receive pension	No age requirement	Receivable at age 60	Receivable at min. age 57; must wait until age 62 for full benefit
Benefit algorithm	Pension algorithm: $0.025 * YOSR * Hi-3(BPY)$ (see ^b and ^c)	Pension algorithm: $0.025 * YCSP * Hi-3(BPY)$ (see ^d , ^e and ^f)	$0.01 * YCS * avg. Hi-3$ (see ^g and ^h)
401(k) (403(b) defined employer contributions)	None	None	Contributions begin 1 year after hire: <ul style="list-style-type: none"> • 1% of BP • \$1 for \$1 matching up to 3% of BP • \$.50 for \$1 matching next 2% of BP

a. YCS is the number of years a reservist has been on active duty, plus the number of years for which he or she has garnered at least 50 retirement points, which is usually every year in the reserves.

b. YOSR is last year of service.

c. BPY is the average of basic pay in the highest paid years, usually the last three years of service.

d. YCSP is based on points from days of active duty and days of other activities and training.

e. BPY is the average of basic pay in the highest paid years, usually the last three years of service.

f. YCSP is prorated YCS based on retirement points earned; reservists receive an average of about 120-125 retirement points each year in the reserves.

g. Provisions exist for early retirement and other factors, such as old age but low YOS.

h. MilTechs may be eligible for supplement from age 50 to 62.

Data and methodology

We approached the analysis as follows. First, using data on basic pay for civilians, reservists, and active-duty servicemembers, we estimated the lump-sum net present value (NPV) of the stream of consumer-price-indexed annuities each retiree would receive from the beginning of their eligibility through the expected number of years of retirement [57 and 58].

The NPV is roughly how much DOD would need to have accumulated into the trust fund to make the annual payment to the retiree for the

number of years the retiree expects to receive the pension. We estimate the NPV using DOD's discount rate of 0.025. We use DOD's AC, RC, and civilian personnel compensation data to get basic pay from 2011 to form the basis of the retirement benefit. We use the Social Security Administration's 2007 Actuarial Life Tables to estimate the expected number of years a retiree will collect a pension.

Second, we assumed that, under the current system, one DS MilTech retiree per year would receive the SelRes NPV(A) after having worked 30 years, beginning at age 60, and would receive the federal civilian employee NPV(A) each year beginning at age 62. The total NPV under the current system for one DS MilTech retiree is the sum of these two outlays [55].

Third, if the DOD changes DS MilTechs over to AC, we assume that an AC retiree would have worked for 20 years and begun receiving the retirement at age 40 (for enlisted) and age 44 (for officers). Because of this 20-year career cycle in the AC versus the 30-year cycle for the DS MilTech, DOD would have 1.5 AC retirees each year in lieu of one yearly retiree under the DS system, in order to have the same number of total personnel.⁵⁵

Finally, we estimate the annual cost of the retirement for a SELRES officer, warrant officer, and enlisted person, along with their GS counterparts, under the DS MilTech system. We estimated the annual cost of retirement for an officer, warrant officer, and enlisted person under the AC system. We assume that the current proportions of these rank groups would remain the same under either system, and we estimate the changes in cost from converting DS MilTechs to AC personnel.

55. We note that we do not estimate retirement costs for AGRs. AGRs may retire at an older age than their AC counterparts because they first must complete an initial tour in the SelRes or the AC and may have broken service time before becoming an AGR. If it is the case that AGRs retire at an older age, the value and cost of the retirement program would be less than it is for AC personnel because they would not collect a pension for as many years. To estimate the differences in cost between AGRs and AC personnel, we would need additional historical data from each service to determine the average AGR retirement age.

Caveats

We estimate the annual cost to DOD of accruals to the retirement funds of an individual DS Miltech retiree and compare that with the accrual costs of retiring 1.5 active duty retirees, which would be needed if DOD were to convert the DS Miltech position to an AC position. We stipulate four caveats to the results that come from our approach.

First, our method only considers DOD's retirement costs for career DS Miltechs who accrue 30 years of service. This is the number of years needed to receive the full SELRES and federal civilian benefits. However, DS Miltechs who have more than five years but less than 30 are still eligible to receive a partial civilian pension, starting at age 62. To the extent that some DS Miltechs receive partial pensions, our method underestimates the full cost of the civilian retirement.

Second, our method estimates the DOD's retirement cost for career AC servicemembers who serve 20 years. This is the minimum number of years needed to be eligible for the retirement benefit. However, some servicemembers stay longer than 20 years, and receive a larger annuity, albeit for fewer years. We note that the added cost of the larger pension typically outweighs the savings from the fewer years of payment, and thus our method underestimates the full cost of the AC retirement.

Third, fewer federal civilian employees will live to age 60 and 62 to collect a pension under the DS MilTech system than will AC servicemembers who reach their 40s and collect an AC pension. To the extent that this is true, our method overestimates the cost of the DS Miltech retirement. This number could be small, however. According to the Social Security Administration's Life tables, about 4.5 and 6.0 percent of those who reach age 40 will not reach ages 60 and 62 respectively.

Finally, this method does not consider differences in retention rates for DS Miltech and active duty servicemembers. If retention rates change in the transition from DS Miltech to AC, the cost to DOD could rise or fall, depending on how retention changes.

As a result, our method probably underestimates the total costs to DOD of the retirement benefits for both the DS Miltech and the AC. Lack of data prevents us from using the above information to make more accurate estimates. However, it is likely that these effects balance somewhat, allowing us to make a reasonable estimate of the difference in the costs between the two systems.

Findings

Net present value

We show in table 26 our NPV estimates for DS MilTechs at the time they become eligible to start receiving annuity payments (rounded to nearest \$100). We estimate these values for retiring AC personnel, reservists, and federal civilian employees, for enlisted personnel, officers, and warrant officers and their GS counterparts.

Table 26. Net present value of retirement benefit at first year of eligibility to receive payments

Military rank/ GS equivalent group	(1) Total NPV for active component	(2) NPV for reserve component	(3) NPV for federal civilians (FERS)	(4) Total NPV for DS MilTech (RC plus FERS)	Difference between (1) and (4) (\$)	Difference between (1) and (4) (%)
Enlisted	\$484,600	\$339,900	\$228,300	\$568,100	-\$83,500	-14.7%
Officer	\$762,300	\$632,600	\$365,900	\$998,500	-\$235,900	-23.6%
Warrant Officer	\$606,100	\$469,300	\$303,100	\$772,400	-\$166,500	-21.6%

As we can see, for the DS MilTech, who receives both the RC pension beginning at age 60 and the federal civilian pension beginning at age 62, the total NPV is greater than it is for an AC retiree, even though he or she receives the pension for fewer years. So, for example, a DS MilTech who retires after 30 years as a federal employee and as a SelRes will receive two annuities, the total NPV of which is worth about \$568,100. An AC enlisted servicemember who retires after 20 years of service will collect a stream of annuities whose lump-sum NPV is about \$484,600. So, the NPV of the DS retirement is about 14.7 percent higher than the AC retirement.

The result may seem counterintuitive based on the following reasons: (a) the DS MilTech retiree receives a pension for a much shorter time than an AC retiree, (b) the SelRes portion of the DS MilTech retirement is prorated by retirement points, and (c) the civilian portion has a basis of only 1 percent of basic pay, rather than 2.5 percent, as does the servicemember's. However, three factors lead to this result:

1. First, the DS MilTech has a longer career than the typical AC servicemember, so his or her basic pay near retirement, which is the basis for the amount of the pension, is larger.
2. Second, the NPV is the sum of payments that are discounted by 2.5 percent a year (in real dollars). So, the current value of payments 20 years out are only about 60 percent of the payment amount. Payments 30 years out are valued at less than half, and payments 38 years out are valued at about 40 percent of the payment amount. As a result, although the AC retiree receives more payments, many of the payments are highly discounted.
3. Finally, the DS MilTech retirement is greater in value because it is the sum of two pensions, rather than just one, even if each is smaller in value than the AC retiree's pension.

Annual set-aside

Despite the greater NPV of the average DS MilTech pensions for individual retirees, the cost of the retirement benefit to DOD will be higher if the current system is converted into an AC system. There are two reasons for this. First, AC servicemembers retire at or about at 20 years of service, whereas DS MilTechs retire at or at about 30 years of service. This implies a 50-percent greater turnover of AC personnel, which means DOD will pay 50 percent more for AC retirees than DS MilTech retirees. This alone is enough to create greater costs for DOD under an AC system.

Second, DOD will typically only have 20 years to accrue the necessary NPV to pay the annuity for the typical AC retiree. In comparison, for the DS MilTech, DOD will typically have 30 years to accrue the NPV. Although this could go either way, we estimate that it will increase DOD's compensation costs even further.

We show DOD's annual retirement set-aside costs (per-retiree) in table 27. For example, the annual cost of retiring one DS MilTech enlisted level (and GS-equivalent) in 2011 dollars, is about \$13,900. This is roughly \$5,900 for the civilian pension, and \$8,000 for the SelRes pension. This is compared with an annual cost of \$19,100, or about 38 percent more, for a position held by an AC servicemember instead of a dual-status MilTech.

To get the total difference in costs from the transition from DS MilTech to the AC, we take the average of all cost differences for enlisted, officers, and warrant officers, weighted by the relative proportions of each group in the current MilTech system. According to our data, the DC MilTech force under the GS civilian pay plan is currently about 85 percent enlisted, about 11 percent officer, and 4 percent warrant officer. Using these weights, we estimate that DOD's total weighted costs will increase from \$15,300 to \$20,500 per year per retiree, which is a \$5,2000 increase or a 34-percent increase in total costs from the transition.

Table 27. Annual per-person costs of retirees for active component and DS MilTechs

Military rank/ GS equivalent group	Proportions by rank group	Total active component	Reserve component	Federal civilian (FERS)	Total DS MilTech	Cost difference (\$)
Enlisted	85%	\$19,100	\$8,000	\$5,900	\$13,900	\$5,300
Officer	11%	\$30,100	\$14,800	\$10,200	\$25,005	\$5,100
Warrant officer	4%	\$24,700	\$11,300	\$8,700	\$19,900	\$4,800
Weighted sum of costs and cost differences		\$20,100			\$15,300	\$5,200
Percentage change in weighted costs						34%

Summary of retirement comparison

Because of the different characteristics of the DS MilTech and active-duty retirement plans, changing the system would create countervailing effects. As a result, it is not immediately obvious that making this change should raise, rather than lower, retirement costs. For example, under the current system, DS MilTechs can receive two pensions, which together are larger than an AC retirement annuity.⁵⁶ Even accounting for the fewer number of years DS MilTechs actually receive the two pensions, the total NPV of the DS MilTech combined pensions is higher than the AC benefit. In addition to the pension, as federal civilian employees, DS MilTechs receive annual contributions from the DOD into a TSP account. As a result, the total value of the DS MilTech retirement benefit at the time of retirement can be 20 to 30 percent greater than the benefit for an AC retiree.

AC servicemembers, however, retire much earlier than DS MilTechs, typically soon after 20 YOS, whereas the DS MilTech must usually work 30 years or more. This means that DOD would have a 20-year personnel turnaround for AC positions and would have to replace retiring servicemembers every 20 years; however, for a DS MilTech position, there is a 30-year turnaround. The result is that DOD would need to retire 50 percent more AC servicemembers each year to have the same total number of personnel as under the current system of DS MilTechs. In addition, DOD would have only 20 years to accrue enough money into the retirement trust fund to pay the AC pension, as opposed to the 30 years it currently takes to accrue the DS MilTech retirement amount.

As a result, although changing the current DS MilTech position to an AC position could, in theory, raise or lower annual costs, we estimate that this change would increase DOD's annual retirement costs by as much as 34 percent.

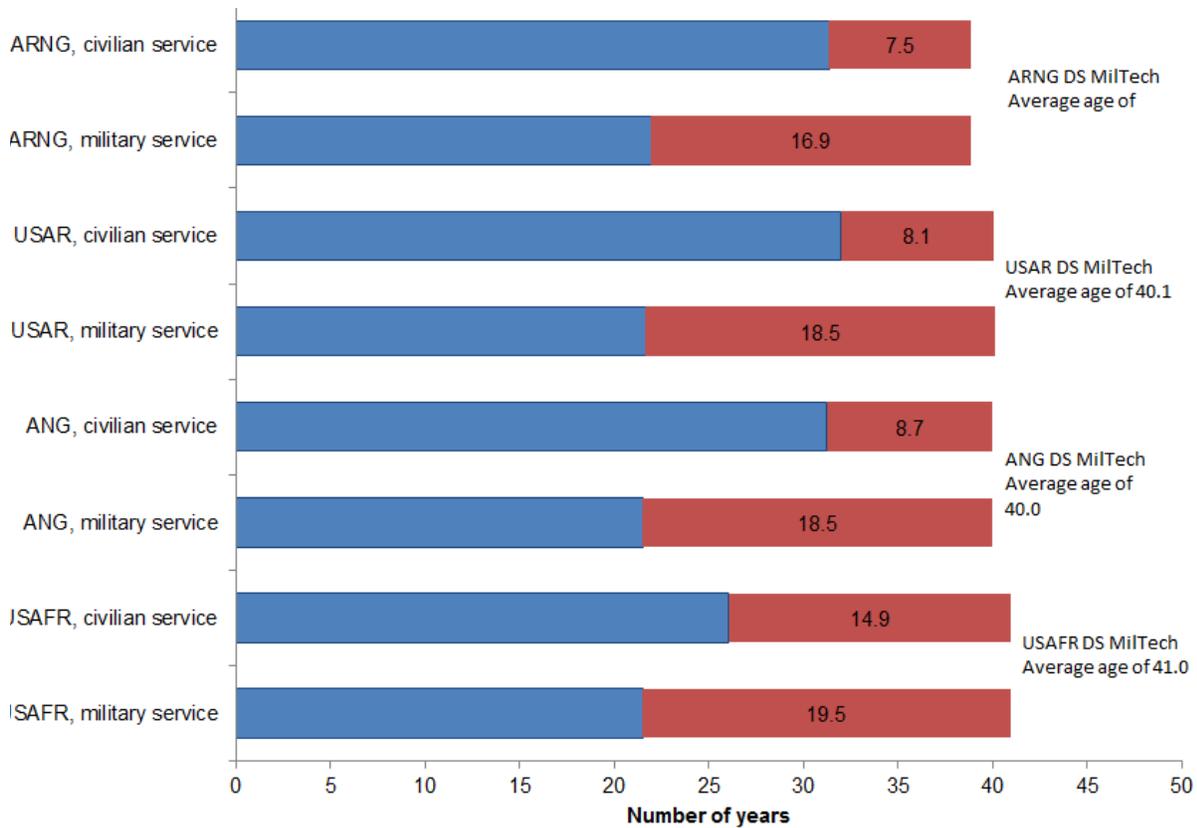
56. This finding does not imply that lifetime retirement earnings as AC/AGR would be less than for DS MilTechs because this analysis ignores the acquisition of a second retirement pension and/or following retirement from AC/AGR (e.g., earning a "full" AC/AGR military retirement and a "full" federal civilian retirement is notionally feasible).

Transition implications

In addition to cost differences, differences in the retirement age between the systems may have transition implications. Figure 25 shows, by service, the average years of civilian and SelRes service for the current inventory of DS MilTechs. The blue and red bars combined represent the average age of the DS MilTech by service, which we also indicate in text on the right side of the figure. The red bar indicates the average years of civilian or military service. The blue bar represents average years not in civilian or military service over the life span.

Note that we determine military years of service based on pay entry based date. For example, for the ARNG, the average age of DS MilTechs is 38.9 years of service, and they have, on average, 16.9 years of military service and 7.5 years of civilian service. This illustrates how a conversion to AGR/AC that included credits for prior technician and military service could result in a large number of technicians applying immediately for “military retirement by virtue of entitlement earned through prior technician service” [51, p. V-32].

Figure 25. DS MilTech average years of military and civilian service^a



a. Source: CNA tabulations of service provided individual-level MilTech data: ARNG and ANG, Sep. 2011 snapshots; USAR, Apr. 2012 snapshot; and USAFR, Jan. 2012 snapshot.

Summary

As previously noted in [51, p. 5]:

The sole reason for the technician force is to satisfy a military requirement to the same extent as active duty personnel. Thus, the military considerations of the technician program are paramount.

In addition, the costs of meeting that military requirement—by filling it with a MilTech, federal civilian or AC/AGR—need to be taken into consideration. What follows is a summary of our findings from our cost and compensation analysis:

- For the most part, DS MilTech civilian compensation is similar to its federal civilian counterparts, and the military compensation is similar to other SelRes members. However, there are some differences:
 - DS MilTechs in the National Guard are legally restricted from getting overtime.
 - There are differences in SelRes reenlistment bonus (based on how the services implement their SRBs).
- DS MilTechs fall under the same federal civilian employee and military retirement rules as individuals who are not DS MilTechs, so DS MilTechs legitimately earn their “dual retirement.”
- Manpower personnel and cost oversight of the program is hampered by:
 - *A complex compensation system.* DS MilTech compensation highlights the complexity of both the federal civilian employee and the military compensation system.
 - *Lack of centralized data on the program.* DMDC is DOD’s centralized military personnel data source. MilTechs are not reliably identified in DMDC datasets, including DCPDS and RCCPDS. This limits centralized OSD-level oversight on the number of, characteristics of, and calculations of manpower metrics (i.e., retention behavior) of MilTechs. For example, our analysis was limited to using just one month of data because a centralized data system that reliably identifies MilTechs is not available. Thus, we were required to make assumptions on DS MilTech retention behavior in our retirement calculations.
- Assuming a direct conversion to DS MilTechs’ paygrade structure, we estimate that the aggregate cost of DS MilTechs’ compensation is lower than the cost of AGR/AC counterparts.
 - Estimates on the basic pay and BAH compensation of a conversion from DS MilTechs to military FTS range from a \$140-million to a \$379-million annual increase over the DS

MilTechs' civilian earnings and SelRes pay. However, our cost estimates show that AGR/AC compensation is not higher for all DS MilTech categories. In particular, the ANG and USAFR federal wage grade system DS MilTechs would receive less pay, on average, if they were converted to AGR/AC. However, this assumes a direct grade conversion based on DS MilTechs' current military rank.

- For DS MilTechs under the GS pay system, the cost to DOD of AGR/AC retirement is 34 percent higher than DS MilTech retirement. The DS MilTech retiree receives two pensions, and the sum of the two NPVs are greater than the NPV of the active-duty retirement. Nonetheless, the annual cost to DOD of providing the retirement benefit to the AC is greater. Differences are primarily due to two factors. First, although AC military personnel retire after only 20 years of service while career DS MilTechs work for 30, the number who retire from the AC each year will be higher than the number of DC MilTechs who retire, in order to keep the total number of personnel the same. Second, DOD must accrue the AC NPV in only 20 years rather than the 30 to accrue the NPV for the DS MilTech retirement. As a result, DOD must set aside a higher proportion of basic pay each year for the AC retirement trust fund than for the DS MilTech. We estimate that converting the DS MilTech system to the AC would raise DOD's annual costs of retirement by about 34 percent.

Based solely on our cost/compensation analysis, and not taking into consideration readiness, deployability, transition or legal factors, our recommendations and concluding thoughts follow:

- We recommend identification of MilTechs in DMDC data holdings, particularly DCPDS and RCCPDS.
- Our findings suggest that converting DS MilTechs to AC/AGR would not represent a cost savings. Therefore, if DS MilTechs are converted, we don't recommend, from a cost perspective, that they be converted to AC/AGRs.

- Congressional decisions on military and federal employee pay influence the difference in cost of DS MilTech versus AGR/AC. The higher cost differential to DOD of AGR/AC compared with DS MilTechs may increase over time if Congress continues to increase military pay by a higher percentage than federal civilian pay. This applies to salary/basic pay as well as retirement since retirement payments are a function of salary/basic pay.
- The higher cost to DOD of AGR/AC compared with DS MilTechs is driven in part by current military retirement rules. Any military retirement reform, particularly increasing the AC military retirement age, would significantly influence this comparison.
- Converting DS MilTechs to federal civilians would be close to direct manpower cost neutrality (assuming both the civilian and SelRes positions were maintained). Full conversion of DS MilTechs to federal civilians would free up hours now devoted to managing the MilTech program. However, any conversion to federal civilians has to consider readiness and deployability factors.
- Conversely, converting DS MilTechs to AC/AGR is likely to increase manpower costs; however, this does not consider changes in readiness or deployability. This also does not consider that fully converting DS MilTechs to AC/AGRs would free up hours now devoted to managing the MilTech program. If conversion to AC/AGR increases readiness or allows for fewer positions, then either could potentially justify the AC/AGR conversion as the best course of action.

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Recommendation and conclusions

In this report, we have examined the ARNG, USAR, ANG, and USAFR MilTech programs. We compare each service's MilTech program with congressional intent, highlighting where programs are consistent with and different from that intent and discussing how inconsistencies contribute to concerns about the MilTech program. To frame our analysis, we focus on three major MilTech program characteristics: complexity, compatibility, and continuity and deployability. We also consider and evaluate alternatives to the MilTech program in terms of compensation costs and provide an analysis of the benefits and challenges associated with potentially converting MilTechs to Title 5 federal civilian employees or military FTS, either AGR or AC.

Recommendation

Based on our analysis of the DS MilTech program, we recommend that Congress continue the program in order to have the least impact on readiness, although limited conversions to Title 5 civilian employees may be appropriate for positions that are inherently governmental but not military essential.

The reasons for this recommendation follow. First, the DS MilTech program tends to meet Congress's intent in terms of providing continuity and deployability to National Guard and Reserve units that facilitate and support readiness requirements. Second, it also provides the additional benefit of training and duty compatibility between the MilTech and SelRes positions which contributes to unit readiness. Third, compared with AC/AGR compensation, the cost of a DS MilTech is lower. Although the MilTech program is complex, its complexity tends to manifest in terms of program management, and there are steps that OSD and the services can take to address these issues.

Concluding remarks

In table 28, we summarize our findings in terms of the benefits and challenges posed by the issues that we have discussed so far. Red indicates areas for which we recommend immediate action on behalf of OSD and the services. Yellow identifies areas that could pose some challenges and require attention on the part of the services to manage. Green denotes areas in which the DS MilTech program seems to be operating as intended. In the case of compensation concerns, green denotes that milTechs provide an overall cost advantage to the government, and yellow denotes that costs are roughly comparable to AC/AGR costs.

Table 28. Benefits and challenges summary: Complexity, compatibility, and continuity summary by reserve component DS MilTech program

	ARNG	USAR	ANG	USAFR
Complexity				
Management oversight				
Workforce mix				
Divisive terms of work				
Compatibility				
Training requirements the same				
Duties the same				
Reliance on admin. occupations				
Continuity and deployability				
Unit continuity				
Experience base				
Deployability				
Compensation				
Pay				
Retirement				

Our concluding thoughts and additional recommendations follow.

Complexity

The MilTech program is a complex program both in terms of understanding program basics and how it works and in terms of its dual-compensation systems. Effective personnel management of the

MilTech program is hampered by these complexities and contributes to misconceptions about the program.

Lack of centralized data that clearly identify MilTechs, whether DS or NDS, is a fundamental problem. MilTechs are not identified accurately in DMDC/OSD datasets, including DCPDS and RCCPDS. Separate automated personnel management systems—namely, DCPDS for civilian employees and service-specific National Guard and Reserve personnel systems—contribute to this problem. Not only is OSD-level oversight limited, but so is the degree of oversight by the military services. Currently, neither OSD nor the services have adequate management oversight of the MilTech program in terms of characteristics and behavior, such as retention. These complexities lead to a lack of information about the program and how it is working. OSD and the military services need to work together to ensure the maintenance of reliable MilTech information in the DCPDS and RCCPDS.

In addition, in terms of workforce mix considerations, we find that DS MilTechs largely appear to be both inherently governmental and military essential. However, if the function that a MilTech supports is inherently governmental but not military essential, we recommend that the services determine whether it is more appropriate to use military FTS for other reasons (such as currency in military operations and training and augmentation), DS MilTechs, NDS technicians, or Title 5 federal civilian employees. For example, it may be possible that some DS MilTech positions supporting general administration functions could be converted to Title 5 federal civilian FTS positions.

Compatibility

Based on survey input from DS MilTechs, we find that nearly 90 percent of all survey respondents indicate that their military and civilian training and duty requirements are compatible, although to varying degrees. ANG and USAFR DS MilTechs indicated the greatest level of compatibility, while ARNG and USAR DS MilTechs indicated lower levels of compatibility and higher levels of incompatibility. We also found that 21 percent of all DS MilTech positions are general administration, clerical, and office services occupations. Some positions

that provide FTS but have limited military compatibility, such as administrative jobs, may be good candidates to convert to FTS Title 5 civilian positions. However, we note that it probably would not be appropriate to convert all administrative jobs since units also need administrative support when they are activated and deployed. This would require congressional action to authorize the National Guard to hire Title 5 federal civilian FTS positions.

Continuity and deployability

Survey input suggests that, for the most part, the DS MilTech programs are functioning as intended with regard to providing an experienced FTS DS MilTech workforce that is readily available to augment AC forces when the MilTechs' National Guard and Reserve units are activated.

Compensation

DS MilTech civilian compensation tends to be similar to that of their federal civilian counterparts, and their military compensation is similar to other SelRes members. Differences exist with regard to overtime restrictions for the National Guard and eligibility for SelRes reenlistment bonuses. DS MilTechs fall under the same federal civilian employee and military retirement rules as individuals who are not DS MilTechs; thus, DS MilTechs legitimately earn their "dual retirement."

Because of the high degree of compatibility and continuity provided by the MilTech program, the most important compensation comparison is between MilTech and AC/AGR compensation. Assuming a direct conversion to DS MilTechs' paygrade structure, we estimate that the aggregate cost of DS MilTechs' compensation is lower than the cost of their AGR/AC counterparts. Basic pay and BAH compensation estimates of a conversion from DS MilTechs to military FTS range from a \$140-million to a \$379-million annual increase over the DS MilTechs' civilian earnings and SelRes pay. However, our estimates show that AGR/AC compensation is not higher for all DS MilTech categories. Assuming a direct grade conversion based on military rank, the ANG and USAFR federal wage grade system DS MilTechs

would receive slightly less pay, on average, if they were converted to AGR/AC.

For DS MilTechs under the GS pay system, the cost to DOD of AGR/AC retirement is 34 percent higher than DS MilTech retirement. The DS MilTech retiree receives two pensions, and the sum of the two NPVs is greater than the NPV of the active-duty retirement. Nonetheless, the annual cost to DOD of providing the retirement benefit to the AC is greater because those in the AC have an earlier retirement age.

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Glossary

AC	Active Component
AGR	Active Guard/Reserve
ANG	Air National Guard
AR	Active Reserve
ARNG	Army National Guard
ART	Air Reserve Technician
ASD/RA	Assistant Secretary of Defense, Reserve Affairs
AVF	All-Volunteer Force
BAH	Basic Allowance for Housing
CGR	United States Coast Guard Reserve
CONUS	Continental United States
CPP/DCPAS	Civilian Personnel Policy Defense Civilian Personnel Advisory Services
CRS	Congressional Research Service
CSC	Civil Service Commission
CSRS	Civil Service Retirement System
CTS	Contingency Tracking System
DAC	Department of the Army Civilian
DCPDS	Defense Civilian Personnel Data System
DFAS	Defense Finance and Accounting Services
DISE	Defense Intelligence Service Employee
DMDC	Defense Manpower Data Center
DOD	U.S. Department of Defense
DS	Dual Status
DSMT	Dual Status Military Technician in the United States Army Reserve
ES	Executive Service
FAIR	Federal Activities Inventory Reform

FEGLI	Federal Employees Group Life Insurance
FERS	Federal Employees Retirement System
FEHBP	Federal Employees Health Benefits Program
FTS	Full-Time Support
FWS	Federal Wage System
FY	Fiscal Year
GS	General Schedule
HQ	Headquarters
IA	Individual Augmentee
IDT	Inactive Duty for Training
IMA	Individual Mobilization Augmentee
IRB	Institutional Review Board
IRR	Individual Ready Reserve
MCTFS	Marine Corps Total Force System
MGIB-SR	Montgomery GI Bill-Selected Reserve
MilTech	Military technician
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRA	Minimum Retirement Age
MSPB	Merit System Protection Board
NDA	National Defense Authorization Act
NDS	Non-Dual-Status
NDST	Non-Dual-Status Technician
NGTA	National Guard Technician Act
NPS	Non-Prior-Service
NPV	Net Present Value
NSPS	National Security Personnel System
OCONUS	Outside the Continental United States
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OPM	Office of Personnel Management
OSD-RA	Office of the Secretary of Defense, Reserve Affairs

PCS	Permanent Change of Station
PS	Prior Service
QRMC	Quadrennial Review of Military Compensation
RC	Reserve Component
RCCPDS	Reserve Common Component Personnel Data System
SelRes	Selected Reserve
SES/ES	Senior Executive Service/Executive Service
SGLI	Servicemen's Group Life Insurance
SMCR	Selected Marine Corps Reserve
SME	Subject Matter Expert
SRB	Selective Reenlistment Bonus
TAG	The Adjutant General
TIS	Time in Service
TRS	TRICARE Reserve Select
TSP	Thrift Savings Plan
USAFR	United States Air Force Reserve
USAR	United States Army Reserve
USMCR	United States Marine Corps Reserve
USNR	United States Navy Reserve
U.S.C.	United States Code
VA	Veterans' Administration
WG	Wage Grade
WHS	Washington Headquarters Service
WL	Wage Leader
WO	Warrant Officer
WQ	Wage Supervisor equivalent in Puerto Rico
WR	Wage Leader equivalent in Puerto Rico
WS	Wage Supervisor
WU	Wage Grade equivalent in Puerto Rico

YCS	Years of Commissioned Service
YCS	Years of Continual/Good Service
YCSP	Years of Continual/Good Service Points
YOS	Years of Service
YOSR	Last Year of Service

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