**Written Statement from Dr. Elizabeth Kolmstetter, Director of Talent Strategy and Engagement, Office of the Chief Human Capital Officer, NASA**

**Testimony before the National Commission on Military, National, and Public Service on the occasion of public discussion regarding policy options for improving federal hiring processes and attracting and retaining public service employees, especially those with critical skills**

**Public Service Hearing: Critical Skills and Benefits**

**May 15, 2019 | Washington, D.C.**

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Thank you Commissioners for your important work on this most critical topic for our public agencies and our workforce. As a public servant with over 25 years of service, including 15 years in the Senior Executive Service, across eight agencies, I can personally attest to the fact that the topic being discussed is of utmost importance *and is urgent*.

Like all of the public agencies here today and those who participated in this study, NASA recognizes that our mission is accomplished by our most valuable asset – our talented and dedicated *people*. NASA has an inspiring mission and is honored to have been named Best Place to Work in the federal government among large agencies for 7 years in a row by the Partnership for Public Service…nevertheless, we find ourselves in unprecedented times to continue to compete and motivate for the 'best and brightest.'

We have recently completed a study of our current personnel authorities as well as a groundbreaking Future of Work report – We have identified significant barriers that impede our ability to attract, deploy, and reward a vibrant and productive workforce, particularly given our latest mandate to put a human on the moon by 2024.

For NASA to deliver on its mission, it must manage people using a modern, simplified, integrated *talent*-based system that allows us to put the right people, with the right skills, to the right work, for the right duration. NASA's workforce must be prepared and rewarded for taking on varying activities on different days, supporting diverse and evolving missions and complex, dynamic projects, while using ever-evolving skills and technology/data. NASA's work of tomorrow has not even been invented yet, so employees must "grow as they go" - invent, evolve, adjust, and deliver. NASA's "best and brightest minds" do not perform predictable, repetitive work; in spite of this, almost 100% of NASA's workforce is bound by Title 5's definition of jobs/occupations and pay rules, which are rigid, antiquated, and seniority-based and no longer fit today's business model and the actual world of work, let alone the future of work.

We have organized our needs into three large categories:

1. A need to emphasize agility and talent;
2. A need to acquire and deploy top talent; and,
3. A need to align total compensation and performance.

Let me take a moment to explain these three areas of need.

**Emphasize Agility and Talent.** NASA must move to a *talent-based* system, away from the rigid, *position*-based system in which it is stuck today. A talent-based (or skills-based) system flexibly supports matrixed, interdisciplinary teams, quickly mobilizes talent to task, focuses on people in knowledge-based positions. This type of system incentivizes continuous learning and skills growth and rewards innovation and complex problem solving. In turn, the agency becomes more agile, able to lean forward into the future of work, and be much more requirements-driven in its workforce planning. Many federal agencies today are already able to utilize such a model.

**Acquire and Deploy Top Talent.** NASA must be able to hire through tailored, *expedited* hiring programs for needed skills, experience, and competencies. We are not competitive for the most sought after scientists, engineers, and business professionals because we can't *proactively* recruit and hire, using market relevant offers. Many of the talented people we want to hire are not submitting applications on USAJobs, in fact, many of them are *not on the job market at all*. Best practices in industry are to use professional recruiters, expert incumbents, head hunters, and search firms, to proactively *seek out* the skilled individuals they would like to employ and immediately provide direct, competitive offers of employment. A few examples illustrate this:

- An example from a manager at our Ames Research Center: "Google has a database of *every* Software Engineer in the Bay Area and has recruiters reaching out personally to those talented individuals who are the best in their field and wooing them to come work for them. NASA is stuck in an inflexible and slow hiring system, forced to ask applicants to please go on to USAJobs, fill out a federal resume, etc. etc. so that we can *hope* they show up on a "cert list" and can be interviewed and ultimately selected. Applicants in Silicon Valley, or at least the ones we want to hire, are not going to do this, they don't have to."

- Another good example of the problems we are facing comes from a Johnson Space Center manager who was a judge in a competition recently at Texas A&M's Startup Aggieland Incubator. All the teams were presenting business ideas they had developed around NASA technology. One of the teams was presenting on cutting edge levitation technology that a student intern had worked on. These are exactly the bright, innovative people we are trying to attract to NASA. The student couldn't

be there himself to present because the prior week SpaceX was in town. They met him on Friday morning, saw his potential, offered him a job *that day*, finalized it over the weekend, and on Monday he was driving from Texas to California to start at a new position at Elon Musk's, The Boring Company. They literally met him, offered him a position arranged for his move, and coordinated his start date within about a 24 hour period. Every student at the innovation competition said that this was their expectation. If we truly desire to recruit top talent to NASA, especially in cutting edge STEM fields, we must be able to hire like this. The top talent we want are winning at innovation challenges, presenting at professional conferences, working on our grants with academia, and in our diverse internship/fellowship program, and the like, not scrolling through USAJobs.

- Our applicant data are proving this point: In FY18, about 61% of engineering vacancies, 87% of scientist vacancies, and 86% of mathematics vacancies had fewer than three *qualified*, not most qualified, applicants.

**Align Total Compensation and Performance.** For NASA to remain viable and vital, we must be able to reward and pay people on the basis of their performance and impact - not longevity, as well as the market value of their skills and capabilities. A few examples to highlight this are the following:

- A Senior Manager at Kennedy Space Center shared that "We have *stopped* going after 5–10 year experienced engineers with highly sought after skills, such as designing and building hardware in commercial industry. We can't even come close to the salaries the market bears in industry. We are lucky that our brand is still hanging on, that is the only thing helping us retain the top talent we have now. I know our brand strength won't last much longer, companies like SpaceX and Blue Origin are building brands that surpass our ability to attract and retain, especially if we pay at "store brand" levels. Our contractors are paying more than we can for the same skills and then we end up paying them to do our work. I just lost a superstar multi-term Pathways intern, pursuing a PhD, to Blue Origin in West Texas. All we had to do was "convert" him, which we offered, but that wasn't enough... and that trend is accelerating away from us each day. I'm happy for him, but scared for what it means for NASA. We're behind, we have been for a decade, and losing ground fast — the next boom of space is here – but we are not competitive."
- For comparison, the median market-based pay for candidates in aerospace engineering with 5 years of experience is estimated at $135,900, while at 5 years of experience within NASA, a typical aerospace engineer would be at the GS-13 at step 1 or 2, which across NASA localities, averages $94,139.

Our analysis also showed that NASA is the *only* STEM agency with an exploratory, research, and discovery mission still saddled with the antiquated, rigid rules and regulations under Title 5 U.S.C. which requires us to use position-based classification, out of date occupational standards, and longevity/seniority pay system. For example, there is no occupational standard for Data Scientist, one of the most sought after STEM occupations, *for the past 10 years*. In addition, our research revealed that no new agency or component created in the last 20 years has been placed wholesale under Title 5, instead they have been granted exceptions and the ability to implement alternative personnel systems (i.e., excepted service). Such systems and components of systems have proven to be very successful in government, through what are called "demonstration projects," yet none of those improved programs have been rolled out to the rest of the government. How are we supposed to create "learning organizations" and ask our valued people to change their mindset and move our organizational cultures to ones where innovation thrives, continuous learning is the rule, mobility and resilience are expected, employee engagement and experience are extremely high, and so forth when we are forced to adhere to policies and processes that were defined well over 40 years ago…?

Further, our research, as well as my experience in Agencies with multiple personnel systems, show that having more than one personnel system for the workforce is inefficient, ineffective, and creates significant morale and equity issues. I strongly urge you to consider that any recommendation to pilot a new personnel system cover the *entire workforce*, rather than only a segment such as STEM. Furthermore, I suggest that your recommendations recognize the fact that talent management in organizations are integrated and inter-dependent – so fixing one component alone will not be successful unless *all the components are modernized and working together* "like gears in a complex machine." For example, fixing the hiring without also fixing the classification, pay, performance, and implementation rules are not likely to result in real or lasting solutions for what we must do to retain and motivate our workforce.

In closing, I believe it is a privilege to work in the public sector, with a mission and purpose to serve our country and the American people. As compelling as that calling is, whether for NASA or any other agency, if we do not have a more competitive and modern workforce system that ensures both quality and speed, we will not attract nor keep the very best talent in our agencies that our country deserves.

Thank you very much.