

Statement of Dr. L. Reginald Brothers

**Nominee for Under Secretary for Science and Technology,
Department of Homeland Security**

Before the

U. S. Senate Homeland Security and Governmental Affairs Committee

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Mr. Chairman, Senator Coburn, and distinguished Members of the Committee, it is a great honor for me to appear before you today as President Obama's nominee for the position of Under Secretary for the Science and Technology (USST) Directorate at the Department of Homeland Security. I am also honored to appear before this Committee, which for the past 12 years has delivered sound and distinguished leadership for a Department that provides the foundation of our domestic security. This is a truly humbling opportunity and, if confirmed, I will build on their vision and continue the trajectory of increasing S&T's relevance and value to the Homeland Security Enterprise. I look forward to making my contribution to the security of our nation in these times of accelerating technological advancements and diverse threats.

I would like to take this time to introduce the people who provide me with a sense of security, support, guidance and comfort: my family. First, I'd like to introduce my wife Cynthia, who is the kindest and most compassionate person I know. Her love is my security. My daughter Jasmine, who while only seven years old, teaches me profound lessons and greater love every day. I marvel as I watch her grow in intelligence, confidence, kindness and inner and outer strength. She claims she wants to be a scientist and a doctor and she is swiftly becoming an accomplished martial artist. I have a new nickname, 'JD', for 'Jasmine's Dad'. My Dad, Lou Brothers, is not just my father, but my best friend. At 96 years of age, he continues to provide a powerful example of the type of man I strive to be. He was a member of the first African American Parachute Battalion in the Second World War, the "Triple Nickle" and his life has been based on service to his family, community and his country. He has taught me the values of integrity and perseverance from his daily example. My mother who is here with us in spirit

today, passed away four years ago. She is my example of love for family and friends that I continuously strive to emulate. I thank my cousin Debbie, who frequently baby sat me as a child and never lets me forget it. I thank her for her love and never ending support. I also would like to acknowledge my extended family; my friends. I whole-heartedly believe in the motto: “Friendship is Essential to the Soul”. And the friends that you see here today are truly essential for my soul.

I was asked recently, why I am interested in taking on this challenge of leading the Science and Technology Directorate of the Department of Homeland Security. My desire comes from my personal understanding of the impact of terrorist attacks. On the morning of September 11, 2001 while watching the terrible events on television from my home in Boston I understood terror for the first time. I heard from a friend who was seriously injured when, in sheer panic, while fleeing the site, she ran headlong into a cement street pole. Last year, I was on the phone with another friend while police helicopters hovered above his home searching for the suspected bomber of the Boston Marathon. I soberly remembered when, seventeen years earlier, I crossed that same finish line, in front of the Boston Public Library, as I completed the Centennial Marathon of 1996. As I watched the video of the scene from my current home in Virginia, I recognized every street and every store, and it hit home for me. What if someone I loved had been injured or killed that day? These sorts of tragedies have ignited my passion to serve the mission and vision of the Department of Homeland Security, to ensure a safer, more secure America. This is my country and this is my family. I want to do everything I can to protect them. If confirmed, I would be tremendously honored to lead the Directorate. Science and technological innovation are force multipliers for our country and are essential for the successful execution of the mission sets of the Department of Homeland Security. To be clear, in this context, the phrase science and technology applies not only to materiel systems and components, but technical analyses, system engineering, acquisition program support and other knowledge products.

One of the attributes I can bring to the position of Under Secretary for Science and Technology is the perspective I have garnered from a diverse career spent working across the science and technology enterprise: academia, industry, laboratories and public service. I bring a variety of perspectives from my experience to view problem sets. In the private sector I have worked in

both large industry as well as a small start-up company. I have worked in academic environments including non-profit and federally funded research and development centers. At DARPA, I was at the frontlines of high-impact, truly innovative research and development. As the Deputy Assistant Secretary of Defense for Research in the Department of Defense (DoD), I have purview over a broad portfolio - influencing approximately \$12 billion of DoD investment. I have a strategic platform to think about how I can best harness the creativity and potential of science and technology to contribute both needed evolutionary advances as well as the game-changing revolutionary technologies.

My technical expertise and training is in the areas of sensor systems, communications, data networking and cyber security. I was a BAE Systems Technical Fellow in Sensor Systems and Communication Systems. In my current role in the Department of Defense, I am the lead for overseeing the Departments Cyber S&T portfolio. I am also the Chair of the DoD S&T Executive Council, which has oversight of the DoD S&T portfolio and is composed of senior members of the Services and Components. If confirmed, the experience I have gained in each of these positions will help me as I learn the role of under secretary and the homeland security mission space.

I think, when being considered for such an important role, it is important to discuss not just technical competence, but leadership style as well. From a leadership perspective, it is essential to focus on fostering relationships among the right stakeholders, asking the right questions and truly listening. I try to use a persuasive and supportive management style which involves firm, yet thoughtful control over the decision making process and subsequent task execution. I dedicate the time required to working with my subordinates, peers and supervisors (and any other relevant stakeholders) to completely understand a problem or issue. Only then do I lead the development of options to achieve our vision followed by selection of the best approach to reach our mutually agreed upon goals. I spend time with my employees to get to know them, their capabilities and strive to align tasks with their strengths. If confirmed, I will emphasize collaboration and open communication horizontally and vertically across the Directorate. I believe this is essential to encourage efficient and effective innovation.

Now I would like to pivot from leadership to another priority for the Homeland Security Enterprise and that is technology transition to operational components. The process of developing critical technical end user capabilities involves a wide variety of professionals including: academics, scientists and technologists, tactical operators, senior leaders and acquisition and legal professionals. I am fortunate to have worked closely with professionals from all of these communities and I learned and appreciate each of their nuanced languages. I believe this multi-lingual capability is essential for most efficient and effective technology transition and I hope to employ this skill set at the Department of Homeland Security.

From a global perspective, we know that the pace of technological advancement is accelerating. We also know that the pace of the adoption of technology is increasing. Knowledge is becoming increasingly globalized due to the hyper-connectivity of the internet. As we advance through the age of the 'internet-of-things' and autonomous cyber-physical systems, the nation may become more vulnerable to adversaries. It is in this context that I am prepared to use my diverse technical and managerial background and core values of service, open communication, analysis based decision making and integrity to help ensure our nation's security through the thoughtful and efficient use of science and technology.

Going forward I would like to continue the good work and leadership of my predecessors: Dr. Charles McQueary, Rear Admiral Jay Cohen and Dr. Tara O'Toole. I would continue to foster a culture in which decisions are informed by rigorous analyses and frameworks. One example framework is a hazard rate formulations which can provide threat time horizons, probability and potential impact. This type of framework can be used to provide efficient and effective management of the Directorates complex science and technology portfolio and knowledge products. With respect to balance in the science and technology portfolio, I believe the S&T Directorate should dedicate a significant portion of its portfolio to meeting the short-term needs of its customers as there is no homeland-security-equivalent of the DoD laboratories to perform this function. However, S&T should balance its near-term investments with mid and longer-term, higher payoff investments that provide new capabilities and new opportunities for our customers.

There is significant research in the business literature regarding innovation models. One of the models of which I am particularly fond is ‘user-producer’ innovation. User-producer innovation engages the end-user throughout all phases of the technology development process. From a first responder perspective, this would enable operators to work with technologists to co-develop systems as well as concepts of operations. I have taken part in experiments designed around this model with US Special Forces and have personally experienced the rapid transition potential.

Once again, I am deeply humbled and honored to appear before you today in consideration of serving as Under Secretary for the Science and Technology Directorate at the Department of Homeland Security. If confirmed, I look forward to working with the leadership and members of this Committee to serve the interests of the United States and its people.