Senator Bill Nelson
Nominee for Administrator, National Aeronautics and Space Administration
Testimony before the U.S. Senate Commerce, Science, and Transportation Committee
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Thank you, Chair Cantwell, Ranking Member Wicker, and members of the committee.

I am honored to appear before you today as President Joe Biden's nominee to be Administrator of the National Aeronautics and Space Administration, an awe-inspiring agency that has been close to my heart for my entire life.

BACKGROUND

NASA is in my blood. After the civil war, under the Homestead Act, if you worked a plot of land for four years, the U.S. government would deed you 160 acres of land. My family did just that on Florida's east coast. The 160 acres of land deeded to my grandparents in 1917 sits at what is now the north end of the space shuttle runway at the Kennedy Space Center.

In 1985, I was given the opportunity to train with NASA's astronauts and join the crew the 24th flight of the Space Shuttle. On the morning of our first launch attempt, I wandered off on the launch tower and looked three miles northwest at my family's old homestead. I thought about my grandparents, who I never had the chance to meet, and knew they would have never believed that their grandson was going to literally leave the face of Earth from nearly the same piece of land on which they worked so hard to provide for their family.

Our flight scrubbed on that first attempt and three more times. On the fifth launch attempt, on January 12, 1986, our crew on the Space Shuttle Columbia finally lifted off. While in orbit for six days, I conducted 12 medical experiments. Even today, NASA is continuing medical research and experiments similar to those I conducted in order to improve health care here on Earth. Over the course of our extensive training and that six-day flight, I gained unique insight into the rigors of human spaceflight.

My flight was the last before the fatal Challenger disaster. That terrible day and the ensuing investigation left a mark on me and many in the space industry. It has driven my concern for astronaut safety ever since. There is nothing more sacred. What we learned in the aftermath of Challenger is that the engineers at ground level had concerns about launching the shuttle in extremely cold temperatures, but the leaders did not listen or did not want to hear. Leadership means listening to all employees and ensuring that technical experts and independent voices have a pathway to reach and inform decision making. I am committed to hearing and acting on their advice.

As a young Congressman representing Florida's space coast, I worked closely with NASA throughout my years in Congress. I chaired the Space Subcommittee of the House Science, Space, and Technology committee for six years. During that time, I cosponsored the NASA authorization bills of 1984, 1985, and 1986. This suite of NASA policy bills directed NASA to develop a space station for peaceful purposes, authorized operations of the Space Shuttle and a

number of science missions that revolutionized our understanding of the cosmos such as the Hubble Space Telescope and the Galileo mission to Jupiter.

While in the House, I also co-sponsored the Commercial Space Launch Act of 1984 and sponsored the follow-on Commercial Space Launch Amendments Act of 1988. These laws established the original policy and regulatory framework for commercial space launch in the United States and laid the foundation for the emergence of the modern commercial space sector, which is valued at over $350 billion today.

In the Senate, I served as both the Chairman and Ranking Member of the Space and Science Subcommittee and Ranking Member of this committee – the Committee on Commerce, Science and Transportation. During my time in the Senate, I helped write NASA Authorizations in 2005, 2008, 2010, and 2017, all of which shaped NASA's current missions and programs.

I would like to highlight the landmark NASA Authorization Act of 2010. This was a particularly uncertain time for NASA's human spaceflight program. Due to safety concerns raised after the Columbia disaster in 2003, the space shuttle was set to retire, leaving NASA with no way to transport astronauts to the International Space Station. NASA's follow-on program, Constellation, was over budget and behind schedule. There was not consensus on NASA's path forward for human space exploration. In order to give NASA the direction it needed, I reached across the aisle and worked with Senator Kay Bailey Hutchison from Texas. We authored a compromise that united a number of factions and set NASA on its current dual course of both government and commercial human spaceflight missions. In addition, the bill authorized a balanced portfolio of science, exploration, and technology initiatives for the agency.

The programs authorized in that bill – commercial crew and cargo transportation, the Space Launch System, and Orion – are just now coming to fruition. In fact, SpaceX is launching a U.S. and international crew tomorrow. I am committed to ensuring success for all these programs and continuing NASA's legacy of excellence in human spaceflight.

VISION FOR NASA

The space program needs constancy of purpose. This is why Senator Cruz and I worked hard on the NASA Transition Authorization Act of 2017. I was pleased that the Trump administration continued the major human exploration programs from the Obama administration's "Journey to Mars."

I would like to recognize NASA's former administrator, Jim Bridenstine, and thank him for his service to NASA and this nation. Jim took the Journey to Mars and laid out a plan for NASA to return to the Moon in order to prepare for missions to Mars. He named this program Artemis. Jim had tremendous success in growing political and public support for NASA, particularly around the Artemis program. Jim was also very transparent with the public, and I believe that is extremely important to maintaining public confidence in NASA. If confirmed, I look forward to continuing to work with him and will seek his advice.

In the early months of this administration, President Biden committed his support to the Artemis program. The first of the Artemis mission launches within the next year, and subsequent missions will land the first woman and the first person of color on the Moon. When NASA returns to the Moon this time, we will go in a way that reflects the world today – with government, industry, and international partners in a global effort to build and test the sustainable systems needed for challenging missions to Mars and beyond.

NASA is best known for its human and robotic exploration of the solar system, which will continue to be a focus for this administration. But NASA also plays a major role in developing solutions to some of the challenges we face here on Earth – climate change, educating and inspiring a diverse STEM workforce, building back better through innovation, and using space to create and strengthen global alliances and ensure U.S. global leadership.

When I flew on the space shuttle, any time that was not scheduled with experiments or flight activities – which was not often – I would make my way to the space craft window to look at our home, our planet. I was struck by how fragile it looked with its thin atmosphere. Combating climate change cannot succeed without robust observations, data, and research. With more than two dozen satellites and instruments observing key climate indicators, NASA satellites are our "eyes in the sky," showing us how the planet is changing at global, regional, and local scales. NASA is also investing in new technologies to improve the efficiency of aircraft, helping to spur an American-led sustainable aviation industry.

I also believe NASA plays an important role in inspiring the next generation of inventors and scientists. After the Apollo program, thousands of young people dedicated themselves to studying engineering, science, and computing. Not all of these people joined the space program. Some went into biology or the nascent computer industry. They made this country a technology and economic powerhouse. 60 percent of people alive today weren't alive to see a human walk on the Moon. Imagine who NASA and America inspires when we return to the Moon, and this time include women and people of color.

Finally, the President has highlighted that space investments spur economic growth, improve life on Earth, and keep America competitive. Through all NASA activities, the agency generated more than $64.3 billion in total economic output during fiscal year 2019, supported more than 312,000 jobs nationwide. Every state in the country benefits economically from NASA. Investments in research and technology are our seed corn for future economic growth, and are a key part of the Build Back Better plan.

CONCLUSION

NASA is in a new age of development full of limitless opportunities, from the agency's Artemis Moon-to-Mars approach and the new space telescope that will unlock mysteries of the universe; to innovative aeronautics development to revolutionize the future of air travel; to preparing the next generation of scientists and engineers. For decades, NASA has served as a beacon of ingenuity, home to incredible scientific innovation and technological development that not only

unlock awe inspiring discoveries and the mysteries of the universe, but also provide the private sector with hundreds of NASA-developed technologies.

From a young age, I've held on to the belief that we are created to work for the common good and to create a better world for all. I have tried to dedicate most of my adult life to serving our country. Should I be confirmed by the Senate, I look forward to doing so in a new capacity, and helping to lead a great agency and NASA's incredible workforce to an exciting future.

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