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DEPARTMENT OF COMMERCE

Developing an Update to the National Space Weather Strategy

AGENCY: National Weather Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

ACTION: Notice of request for information.

SUMMARY: On behalf of the National Science and Technology Council (NSTC), Committee on Homeland and National Security, the National Weather Service (NWS) requests input from all interested parties on the development of an update to the National Space Weather Strategy (Strategy). Through this Request for Information (RFI), NWS seeks input from the public on ways to improve government coordination and on long-term guidance for Federal programs and activities to enhance national preparedness to space weather events, including geomagnetic disturbance (a natural source of electromagnetic pulse); promote American leadership in space weather research, technology, and innovation; and improve the safety and viability of human and robotic space activities. This RFI also seeks input on ways to enhance private sector engagement across these endeavors. The public input provided in response to this RFI will inform the NSTC as it works with Federal agencies and other stakeholders to develop the updated Strategy.

DATES: Responses are due by May 16, 2018.

ADDRESSES: You may submit comments by e-mail to *swxo2rplan@noaa.gov*. Please include "Space Weather Strategy Update" in the subject line of the message.

Instructions: Response to this RFI is voluntary. Respondents need not reply to all questions. Responses exceeding 2,000 words will not be considered. Clearly indicate which

questions are being answered. Each individual or institution is requested to submit only one response. NWS may post responses to this RFI, without change, on a Federal website. NWS, therefore, requests that no business proprietary information, copyrighted information, or personally identifiable information be submitted in response to this RFI. Please note that the U.S. Government will not pay for response preparation or for the use of any information contained in the response.

FOR FURTHER INFORMATION CONTACT: Michael Bonadonna, michael.bonadonna@noaa.gov, Office of the Federal Coordinator for Meteorology, (301) 686-0058.

SUPPLEMENTARY INFORMATION:

Space weather, a natural source of electromagnetic pulse (EMP), can disrupt, degrade, or damage infrastructure and technology systems, including the electric power grid. Space weather can also blackout air traffic control and high frequency communications systems. Beyond terrestrial systems, space weather can affect satellite systems, interfere with GPS service, endanger the lives of humans in space, and delay the launch of space missions. This makes preparing for space weather events critical to national security, infrastructure services, space missions, and technology innovations (such as autonomous vehicles) that rely on communications systems and GPS for positioning, navigation, and timing services.

Preparing the Nation for space weather events will contribute to addressing many priorities identified in the 2017 National Security Strategy (NSS). The NSS identifies the need for America to lead in research, technology, and inventions through collaborations with allies and partners, leveraging private capital and expertise, and rapidly fielding innovations.

Additionally, the NSS calls for promoting American resilience through improving risk management, building a culture of preparedness, and improving planning. Space weather phenomena, including EMP, can disrupt or damage technology and critical infrastructure systems, challenging national resilience and necessitating new and innovative approaches to addressing this hazard.

The NSS identifies the need for the United States to maintain leadership and freedom of action in space, including advancing space as a priority domain, promoting space commerce, and maintaining the lead in exploration. In addition to the NSS, Space Policy Directive – 1 (December 11, 2017) calls for the Nation to lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and to bring back to Earth new knowledge and opportunities. Robust space weather observing and forecasting capabilities are key to the safety and viability of human and robotic space activities.

NSTC has begun the process to update the Strategy, and is soliciting public input through this RFI to obtain recommendations from a wide range of stakeholders, including representatives from diverse industries, academia, and other relevant organizations and institutions. The public input provided in response to this RFI will inform the NSTC as it works with Federal agencies and other stakeholders to update the Strategy.

Questions to Inform Development of the Strategy

Through this RFI, NSTC seeks responses to the following questions to improve government coordination and provide long-term guidance for Federal programs and activities in support of national preparedness for space weather events, on Earth and in space; and, to promote American

leadership in space weather research, technology, and innovation. Responses should clearly indicate which question is being addressed.

1. How can the Federal Government improve internal and external coordination and better inform the long-term guidance and direction for Federal programs and activities that support national preparedness for space weather events?
2. In priority order, how, where, and why should the Federal Government invest limited resources to enhance research, technology, and innovation to improve observations and understanding of space weather events? Please include near-term and long-term objectives for each investment.
3. In priority order, what activities should the Federal Government undertake to enhance national capabilities to prepare for, recover from, adapt to, or otherwise mitigate the effects of space weather events? Please include near-term and long-term objectives for each activity.
4. What innovative tools, platforms, or technologies are needed by the Federal Government and space weather research and development communities to advance the transition of research to operations for models and observations of space weather phenomena? Please include any barriers to implement the identified tools, platforms, or technologies.
5. In priority order, what opportunities exist to enhance U.S. operational space weather predictions, alerts, and services, for Earth, near-Earth, and deep space applications? Please include any barriers for implementation and utilization of these capabilities.

6. Are there regulatory or other barriers to commercial activities associated with space weather prediction, observation, or the transitioning of research to operations? Please list any, in priority order, and describe how the barrier(s) impedes activity.

7. Beyond regulation and grant programs, what can the federal government do to enable and advance the private sector role for capabilities, forecasting, modeling, mitigation, research, development, and observation in the space weather domain?
8. What opportunities exist for the United States to marshal the collective resources of like-minded nations and organizations to address the global hazard of space weather?
9. Is there any additional information related to enhancing national capabilities to address space weather events, not requested above, that you believe NSTC should consider?

Dated: April 17, 2018.

Louis W. Uccellini,

Director,

National Weather Service.

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