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**Implementation of Agreement between the
United States and China on Science and Technology
Public Law 107-314**

RELEASE IN FULL

The Department of State (DOS) prepared this 2016 biennial report in consultation with federal agencies that conducted bilateral science and technology activities under the auspices of the 1979 U.S.-China Science and Technology Cooperation Agreement (“S&T Agreement”), as amended and extended. This report is being submitted in accordance with Section 1207 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314).

REVIEW AUTHORITY: Samuel Smith, Senior Reviewer

Federal agencies continued to advance a range of U.S. objectives during the reporting period between January 1, 2014, and December 31, 2015. During this period, administering activities under the S&T Agreement cost each of eight federal agencies an average of 11 percent of 90 employees’ salaries (GS-12/13/14/15, military O-4/5/6, and Senior Executive Service). Science and technology engagement with the United States continues to be highly valued by the Chinese government. This enables DOS and other federal agencies to use ongoing dialogues and cooperation to encourage the Chinese to support democratic and meritocratic principles and to adopt appropriate protection of intellectual property, scientific merit review processes, and transparent publishing of scientific data. Accordingly, engagement under the S&T Agreement likely has positively influenced the foreign and domestic policies of China. Cooperative activities also accelerated scientific progress in the United States and provided significant direct benefit to a range of U.S. technical agencies. DOS projects that activities undertaken during the next two years will likely be a continuation of current activities. Most activities are conducted under implementing agreements and arrangements, such as memoranda of understanding, which often are in effect for five or more years.

ODNI, DoD, and DOJ are aware of the interest in assessing the security implications of science and technology activities under the S&T Agreement. Those agencies could provide such analyses and determinations separately, as appropriate.

Account of Activities: Following are the activities conducted from January 1, 2014, through December 31, 2015.

Department of Agriculture: The Agricultural Research Service jointly investigated the control of invasive pests and plant species and held discussions on biotechnology, gene-bank technology, and water-saving technology. This cooperation enhanced U.S. preparedness to control invasive pests and develop new seed varieties through improved access to Chinese plant genetic resources. The Animal and Plant Health Inspection Service participated in numerous events with Chinese regulatory counterparts that benefited the United States by enhancing preparedness to address potential animal

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and plant pest and disease threats to U.S. ecosystems. The Foreign Agricultural Service administered the Scientific Cooperation Exchange Program that promoted exchanges of technical information and identified areas for cooperation in food safety and security – benefitting these areas for both nations. The National Institute of Food and Agriculture supported U.S. institutions’ research, extension, and teaching programs that facilitated student and faculty exchanges and collaboration with China to enhance U.S. agricultural science programs. The National Agricultural Statistics Service shared agricultural statistical methodology information, enabling Chinese statisticians to better understand and advocate for improved methodologies and transparency for Chinese agricultural production and stocks data, a key U.S. priority. The Economic Research Service conducted information exchanges on market analysis and economic modeling techniques that promote market transparency and global food security. The U.S. Forest Service conducted an exchange of carbon flux technology and data, initiated a project designed to restore forest corridors in Sichuan’s panda habitat, selected pilot sites for a new phase of forest health cooperation, and performed training on invasive species for the mutual benefit of biodiversity and conservationism.

Department of Commerce: The National Institute of Standards and Technology collaborated with Chinese partners on measurement standards that address mutual national priorities, such as greenhouse gases and personalized medicine. This collaboration promotes an understanding and acceptance of transparent, non-discriminatory standards and measurement methodologies for a range of scientific, industrial, and technology applications. The National Oceanic and Atmospheric Administration (NOAA) and China’s State Oceanic Administration (SOA) maintained cooperative dialogue on ocean science and technology issues in several fora that address mutual national priorities: Strategic and Economic Dialogue (S&ED), Our Ocean Conference, and numerous technical intergovernmental meetings. NOAA is currently exploring cooperation with SOA on: ocean/climate topics to expand ocean observations in the Pacific, Indian, and Southern Oceans and advance ocean acidification research in the Arctic; and research and exchanges on marine (fisheries) resources and protected areas to benefit shared oceans and resources. In 2014, NOAA and the China Meteorological Administration renewed a cooperative agreement in areas of sub-seasonal to seasonal climate prediction, high-impact weather forecasting, multi-model ensembles numerical weather prediction, and cooperation on meteorological satellite matters and weather/climate service delivery. These activities increase the capacity of the United States’ numerical weather prediction models to produce more accurate forecasts.

Department of Defense (DoD): DoD attended international science and technology conferences in China to promote mutual understanding and address national priorities on topics that include robotics, molecular electronics and photovoltaics, quantum computing, fluid dynamics, rarefied gases dynamics, battery lifetimes, solar cells,

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vacuum electronics, lasers, magnetics, systems and control, ocean research, nanotechnology, and nano-micro engineered and molecular systems. DoD engaged in exchanges with China on pandemic response, infectious disease surveillance, malaria, veterinary education, water management, disaster management, and environmental issues to foster collaboration in areas of mutual benefit and to support efforts to combat global transnational threats.

Department of Energy (DOE): DOE explored mutually beneficial basic science and technology cooperation with Chinese partners under the jointly funded \$150 million Clean Energy Research Center (CERC) in clean vehicles, advanced coal technology, and building energy efficiency (<http://www.us-china-cerc.org/>). In 2014, CERC added a research track on energy and water and in 2015 discussed adding a research track on medium- and heavy-duty trucks. In basic science, benefits to U.S. programs include participation at the Daya Bay neutrino experiment; China's contribution of the permanent magnet for the spectrometer on the Alpha Magnetic Spectrometer; access to long-pulse magnetic fusion research facilities in China; unique climate observations and historic climate data; and Chinese contributions to nuclear physics experiments at Brookhaven National Laboratory and Thomas Jefferson National Accelerator Facility.

Department of Health and Human Services (HHS): The Centers for Disease Control and Prevention collaborated with China in global immunization, outbreak response, surveillance, HIV/AIDS, and epidemiologic training. The National Institutes of Health (NIH) collaborated in basic biomedical and behavioral sciences, and in FY 2014, 19 out of 27 NIH Institutes and Centers were involved with Chinese counterparts. The Health Resources and Services Administration, through National Marrow Donor Program (NMDP) Cooperative Registries, provides a global transplant network to patients who need a potentially life-saving bone marrow or cord blood transplants with 38 countries, including China. The Food and Drug Administration (FDA) collaborated through strategic engagement with Chinese regulators of food and medical products, outreach to Chinese firms that export FDA-regulated products to the United States, and encouragement of China's engagement with international standard-setting bodies, enabling the FDA to enhance safety of imported food and medical products from China through better information sharing and access to production facilities. HHS has worked with China to establish commitments and collaborations with China to build capacity to prevent, detect, and respond to global infectious disease threats and achieve successes such as joint efforts to respond to the Ebola outbreak in West Africa.

Department of the Interior: The Fish and Wildlife Service (FWS) and partners in China continued their 29-year dialogue on wildlife management and nature conservation. Topics addressed in 2014-15 included: African elephant conservation and reducing demand for ivory and wildlife products; implementation of the Convention on

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International Trade in Endangered Species of Wild Fauna and Flora (CITES); sturgeon conservation and management; conservation of giant panda in the wild; conservation of wild tigers; wetlands restoration; migratory bird management; nature reserve operations; and nature conservation education. FWS's engagement with China supports U.S. objectives for addressing wildlife trafficking and implementation of CITES. The National Park Service (NPS) sister park relationships with Chinese protected areas bring increased Chinese tourism to the United States. Two more sister parks were established during this period – one between Hawaii Volcanoes NP and Wudalianchi Geopark and another between Shenandoah NP and Baihuashan Nature Reserve. Senior NPS officials visited China to speak to China's National Development and Reform Commission and PRC Ministry officials regarding park management, culminating in 2015 with a Statement of Cooperation on Park Management. The U.S. Geological Survey (USGS) continues to collaborate with Chinese organizations and institutions under formal protocols with the China Earthquake Administration, China Geological Survey, Chinese Academy of Sciences, and Chinese Ministry of Science and Technology. Science activities include exchange of earthquake data; application of marine geophysical surveys to natural resources; establishment of two ground stations in China and exchange of LANDSAT 8 data; studies of coastal wetlands; research on landslide monitoring and modeling; and studies related to carbon sequestration. These activities are conducted through joint meetings and field surveys and benefit mutual national priorities.

Department of State (DOS): DOS continued to co-chair the biennial working-level Executive Secretaries Meeting under the Joint Commission Meeting of the S&T Agreement, which promotes technical collaboration and U.S. policies such as transparency and meritocracy. DOS also promoted enhanced scientific exchange through the U.S.-China Consultation on People-to-People Exchange.

Environmental Protection Agency (EPA): EPA collaborated with Chinese partners to build capacity for environmental pollution assessment, measurement, modeling, prevention, management, and control; development, implementation, and enforcement of environmental law; and management of environmental information. Mutual EPA and Chinese research and environmental capacity interests included sustainability, climate, water and air quality, management of chemicals and waste, and prevention and remediation of land contamination. These programs help reduce pollution and its impacts on the environment, climate, food chains, and human health in the global commons.

National Science Foundation (NSF): NSF and its Chinese counterparts benefit through competitive cooperative research projects that support shared national priorities to advance basic science and to train the next generation of scientists. NSF sent 40 U.S. graduate students to China during the reporting period for research through the

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East Asia and Pacific Summer Institutes. NSF also conducted scientific activities with China through the Integrated Ocean Discovery Program.

U.S. Nuclear Regulatory Commission (NRC): The NRC and China's National Nuclear Safety Administration (NNSA) continue to cooperate closely in the area of new reactor construction, as both China and the United States prepare to commission the world's first AP1000 reactor units, a light water reactor for producing nuclear power. Between January 1, 2014, and December 31, 2015, three NRC inspectors have completed three-month assignments in China at the Sanmen AP1000 construction site and the NNSA Eastern China Regional Office. Likewise, one NNSA staff completed a temporary assignment at the NRC. This continued cooperation brings mutual benefit through the exchange of construction information, leading to enhanced safety and regulatory oversight for the AP1000 construction projects in both countries. The NRC is also continuing to expand its cooperation with NNSA outside of new reactor construction.

Office of Science and Technology Policy (OSTP): On September 12, 2014, OSTP co-chaired the U.S.-China Joint Commission Meeting of the S&T Agreement, which coordinates the collaborative science and technology activities of the U.S. and Chinese governments. The participants discussed bilateral efforts in areas of mutual interest, including health research, energy, earthquakes, cook stoves, oceanographic research, vaccine development, and soil science, in addition to data sharing as an area of cross-cutting importance. On July 8, 2014, and June 22, 2015, OSTP co-chaired the annual U.S.-China Dialogue on Innovation Policy, or Innovation Dialogue (ID), with the Chinese Minister of Science and Technology. The ID seeks to address Chinese innovation policies that could have a negative impact on U.S. or Chinese business interests. At the 2014 ID, the two sides resolved to protect the legal rights of inventors in accordance with their respective domestic laws and regulations, in addition to creating a work plan to cooperate on smart infrastructure for urbanization technologies. At the 2015 ID, the two sides discussed various topics that outlined how to foster an innovation ecosystem such as intellectual property rights, standards and regulation, tax incentives, and business-to-business collaboration. As a result of OSTP engagement from 2013-2015, China committed to continue to study its High and New Technology Enterprise (HNTE) tax benefit policy to address concerns of discrimination against foreign firms raised in past IDs, and relate that information and progress made in to address these issues to the United States. These outcomes continue the history of the ID in working towards progress in key issues of concern to the U.S. business community.

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United States Department of State

Washington, D. C. 20520

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Segment: L-0001

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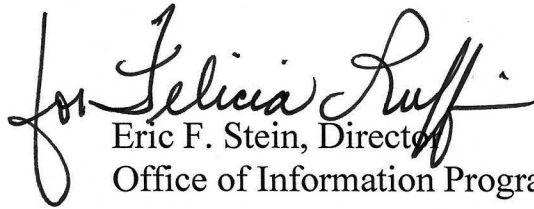
Dear Mr. Aftergood:

In response to your request dated April 22, 2016 under the Freedom of Information Act (Title 5 USC Section 552), we initiated a search of the records of the Office of the Legal Adviser.

The search of these records has been completed and has resulted in the retrieval of one document responsive to your request. After reviewing this document, we have determined that it may be released in full. All released material is enclosed.

We have now completed the processing of your case. If you have any questions, you may write to the Office of Information Programs and Services, SA-2, Department of State, Washington, DC 20522-8100, or telephone us at (202) 261-8484. Please be sure to refer to the case number shown above in all correspondence about this case.

Sincerely,

A handwritten signature in cursive script, appearing to read "Eric F. Stein". The signature is written in black ink and is positioned above the typed name and title.

Eric F. Stein, Director
Office of Information Programs and Services

Enclosure:
As stated.