



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
OFFICE OF INSPECTOR GENERAL

BO JIANG'S ACCESS TO NASA'S LANGLEY RESEARCH CENTER

INVESTIGATIVE SUMMARY

OCTOBER 22, 2013

I. INTRODUCTION¹

On March 16, 2013, agents from the Department of Homeland Security conducted a border search of former NASA contractor Bo Jiang at Dulles International Airport as part of an investigation of potential export control violations. Jiang, a citizen of the People's Republic of China, was preparing to fly home to China. After questioning him about what electronic media he had in his possession and searching his belongings, agents took Jiang into custody and charged him with making a false statement to Federal authorities.²

Six weeks later, Jiang pleaded guilty in Federal court to a misdemeanor offense of violating Agency security rules by using a NASA laptop to download copyrighted movies, television shows, and sexually explicit material.³ In the court proceeding, Jiang did not admit to lying to Federal agents or possessing sensitive NASA information. Federal prosecutors and Jiang stipulated in a court filing accompanying the plea that "none of the computer media that Jiang attempted to bring to [China] on March 16, 2013, contained classified information, export-controlled information, or NASA proprietary information."⁴

However, in an interview with Department of Justice officials after the court proceeding, Jiang admitted that the laptop computer he carried with him when he attempted to leave the United States in March contained some NASA information. According to these officials, the nature of the information on Jiang's computer and how he obtained it remains under investigation.

At the time of his arrest, Jiang had lived in the United States since 2007, first as a Ph.D. student and then as a postdoctoral research assistant for the National Institute of Aerospace (NIA), a non-profit research and graduate education organization located in Hampton, Virginia. In 2002, NASA's Langley Research Center (Langley) and the NIA

¹ We provided a full report of our findings to the NASA Administrator and the Langley Center Director. Because the full report contains information protected by the Privacy Act of 1974, as amended, 5 U.S.C. § 552a, we prepared a summary for public release.

² The charge, 18 U.S.C. § 1001, is a felony offense that carries a maximum prison sentence of 5 years. According to the affidavit signed by a Federal Bureau of Investigation agent in support of Jiang's arrest warrant: "During the consensual encounter, federal agents asked JIANG what electronic media he had with him. JIANG told the Homeland Security Agent that he had a cellphone, a memory stick, an external hard drive and a new computer. However, during the search, other media items were located that JIANG did not reveal. Such items include an additional laptop, an old hard drive and a SIM card."

³ Any willful violation, attempt at a violation, or a conspiracy to violate any NASA regulation or order created for the protection or security of a NASA facility or property (e.g., NASA-owned computer equipment) can be prosecuted as a misdemeanor under 18 U.S.C. § 799. Conviction under this section can result in a maximum prison sentence of one year. Jiang violated NASA Policy Directive 2540.1, Personal Use of Government Office Equipment Including Information Technology, by downloading these materials.

⁴ U.S. v. Jiang, Statement of Facts, U.S. District Court for the Eastern District of Virginia, Newport News Division (May 2, 2013). Export-controlled information refers to certain materials, devices, or information restricted by Federal laws and regulations from flowing outside the United States or being shared with foreign persons.

entered into a cooperative agreement pursuant to which Langley frequently hired NIA personnel as contractors to work on NASA research projects. Prior to his arrest, Jiang had been working on a research project with NASA employees in Langley's Electromagnetics and Sensors Branch.

Earlier in March 2013, Congressman Frank Wolf of Virginia publicly questioned whether NASA had inappropriately afforded Jiang access to Langley and to Agency data and information technology (IT). The Congressman's concerns were prompted at least in part by internal NASA documents suggesting it had been improper for Langley to hire Jiang as a contractor, to allow him unescorted access to the Center, and to provide him with data related to his research. As discussed below, in a number of respects these documents contained incorrect information that led to confusion about the propriety of Jiang's access to and work at Langley.

The Office of Inspector General (OIG) conducted an administrative investigation to examine the process by which Jiang came to work at Langley and the information and IT resources to which he was given access.

II. BACKGROUND

Jiang came to the United States in 2007 and earned a Ph.D. in Electrical and Computer Engineering from Old Dominion University in Norfolk, Virginia in the summer of 2010. At Old Dominion, Jiang studied with Professor Zia-ur Rahman, who for many years, collaborated with employees in Langley's Electromagnetics and Sensors Branch (the Branch) to develop technology that would allow for real-time video image enhancement to improve aircraft safety by making it easier for pilots to fly in poor visibility conditions. In June 2010, Rahman left Old Dominion to become a civil servant in the Electromagnetics and Sensors Branch. Rahman helped Jiang get hired at NIA and under contract with NASA. However before Jiang began working at Langley, Rahman was killed in an automobile accident on December 16, 2010.

Because of Jiang's close working relationship with Rahman, Rahman's co-workers in the Branch decided to move forward with hiring Jiang (whom they had met only once). Jiang began working at Langley in January 2011. Early on in his work, Jiang was given access to select computer files Rahman's co-workers had taken from his hard drive after his death. Several months later, Jiang copied material from Rahman's hard drive onto a laptop that Branch employees purchased for Jiang through a NASA contract. Although the employees were coordinating with Langley security and export control staff concerning Jiang's work for the Center, they did not consult with these individuals before giving Jiang access to the information on Rahman's hard drive or inform them that they had done so.

A. Policy and Procedures Regarding Access by Foreign Nationals to NASA Facilities, Information, and IT Resources

A complex series of rules, regulations, and processes govern access by foreign nationals to NASA facilities, information, and IT resources. In part, these rules seek to ensure that foreign nationals are not inappropriately granted access to controlled or sensitive information, including information that under U.S. law may not be transferred to foreign entities or persons without a license. This type of material is generally referred to as “export-controlled” information.⁵

Pursuant to NASA regulations, no contractor may be given access to a NASA Center, facility, or IT system until completion of a National Agency Check (NAC), submission of the paperwork necessary to complete the inquiries portion of the National Agency Check with Inquiries (NACI), and a favorable interim access determination by NASA security personnel.⁶ At NASA, foreign nationals must be escorted at all times while on NASA property pending completion of the NACI and a favorable determination by NASA security officials. Finally, Agency policy requires preparation of a Technology Transfer Control Plan to outline the foreign national’s approved access to NASA facilities and information. At Langley, this plan is referred to as a Security Technology Transfer Control Plan (STTCP or Plan).

The STTCP sets the general parameters of a foreign national’s access to a NASA facility and to NASA IT resources and information. As part of the Plan, a NASA employee is designated as the host or sponsor of the foreign national and charged with taking “all reasonable measures to prevent the disclosure of inappropriate information to foreign persons.” Specifically, unless the foreign national has received an export license, the Plan allows sponsors to share only information that “is unclassified, non-sensitive, [or] non-export controlled” or that has “been approved for release to the general public.” With regard to export-controlled information, NASA policy advises employees to “[c]onsult with the Center Export Administrator, Center Export Counsel, Headquarters Export Administrator or Headquarters Export Counsel for guidance.”⁷ In addition,

⁵ The specific hardware and technical data subject to these rules are listed on the State Department’s U.S. Munitions List (http://www.pmdetc.state.gov/regulations_laws/documents/consolidated_itar/ITAR_Part121.pdf) and the Commerce Department’s Commerce Control List (<http://www.bis.doc.gov/index.php/regulations/commerce-control-list-ccl>).

⁶ The NAC consists of a review of four Government databases for information concerning the contractor. The NACI gathers additional information about the individual from former employers, educational institutions, and other entities with which the individual has had contact.

⁷ NASA Procedural Requirement 2190.1, NASA Export Control Program. This NPR provides guidance for NASA employees and contractors engaged in the transfer of information and technology to foreign individuals and organizations. It defines an export as the “transfer of anything to a ‘Foreign Person’ or foreign destination.” In addition, if an employee is in doubt about a particular transfer or export, they should refrain from the transaction, provide all relevant information to the Headquarters or Center Export Control Administrator, and await their determination.

sponsors are to brief foreign nationals on the contents of the STTCP and ensure that co-workers in the area in which the foreign national will work are aware of his or her status and the restrictions on the foreign national's access to certain information. STTCPs are reviewed and approved by personnel in several Center offices.

Apart from the STTCP, all requests for foreign national access at NASA are processed through an electronic database known as the Identity Management & Account Exchange (IdMAX) system. The system is designed to contain all information needed to review and approve a foreign national's access request, including the STTCP, which can but is not required to be uploaded into the system. Each NASA Center has some ability to tailor IdMAX to fit its particular processes. The process described below reflects how IdMAX operated at Langley during the time period Jiang had access to the Center.

Generally, the process begins with submission of a visit request, which in Jiang's case was generated by an NIA administrative assistant. The requestor enters basic personal information about the foreign national into the system (e.g., name, date of birth, educational background) and designates a NASA employee as the "sponsor" of the request.⁸ For foreign national contractor employees, a technical representative serves as the IdMAX sponsor.

The technical representative confirms that the foreign nation has a relationship with NASA through a contract, grant, or other agreement. Once approved by the sponsor, the request is routed to and reviewed by employees in Langley's Office of Security Services, including employees with responsibility for export control matters.

Center security personnel review the request to ensure that the foreign national has a valid visa, has been vetted against specified Government databases, and that a STTCP has been developed. In addition, they enter the foreign national's name into several Government databases to determine if he or she is affiliated with a denied party or entity, on the terrorist watch list, or from a country under U.S. sanctions or embargo. Once these checks are complete, the request is forwarded to export control staff for review. If the foreign national is from certain "designated countries" (including China), this review involves both Center and Headquarters personnel.

At Headquarters, the request is reviewed to ensure that it is consistent with applicable U.S. foreign policy, agreements, and laws related to the country and re-checked for any derogatory information in Government databases. In addition, export control personnel indicate in the IdMAX system the conditions or "provisos" that will apply to the foreign national's visit. For example, the foreign national may be required to be escorted at all times when he or she is on Center. These provisos are selected from a pre-set list developed by the Headquarters' Export Control Office that has evolved over time.

Following Headquarters review, the request is routed back to Center security personnel for final approval. If the request is approved, IdMAX sends the sponsor and the

⁸ The term "sponsor" is used both in IdMAX and in the STTCP; however, oftentimes different individuals serve in these roles.

requestor an electronic message notifying them of the approval. This message also contains information about the provisos export control and security personnel have placed on the foreign national's visit. It is important to note that this message is not sent to the individual named in the STTCP as the foreign national's sponsor.

B. Funding Restriction Relating to China

The legislation funding NASA for fiscal years 2011 and 2012 contained language prohibiting the Agency from spending appropriated funds “to develop, design, plan, promulgate, implement, or execute a bilateral policy, program, or contract of any kind to participate, collaborate, or coordinate bilaterally in any way with China or any Chinese owned-company” or to host official Chinese visitors at NASA facilities.⁹ In a March 7, 2012, letter to Congressman Wolf, the NASA Administrator stated that pursuant to this provision, “NASA has declined all bilateral engagement with China and Chinese-owned companies” and has not permitted “any visit to a NASA-owned or-utilized facility by any official Chinese visitors where such a visit effectuated the bilateral participation, collaboration, or coordination with China or a Chinese-owned company.” Importantly for purposes of this administrative investigation, the provision does not restrict individual Chinese foreign nationals like Jiang from visiting NASA facilities or working as paid NASA contractors.

III. JIANG'S TENURE AS A NASA CONTRACTOR

The cooperative agreement between NASA and NIA required NIA to obtain a license if a foreign national employed by NASA under the agreement would be working with export-controlled material. To determine if a license was needed, NIA considers the type of work and the information and technology to which the foreign national would have access. In Jiang's case, NIA determined that his work constituted “fundamental research” and therefore an export control license was not required. Fundamental research is basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community. This determination was made by a Langley contractor employee who both worked at Langley and served as an export consultant to NIA. Before making this determination, NIA provided the contract employee a synopsis of the research Jiang would be doing, which NIA had created based on information supplied by Rahman.

On November 23, 2010, NIA submitted a foreign national visit request for Jiang to Langley officials. The request was made in hard copy and listed Rahman as Jiang's sponsor and the dates of the proposed visit as November 29, 2010, through September 25, 2012. In the “justification” section of the document, NIA stated that Jiang had “expertise in the area of image processing and image detection” and that he would work on “real

⁹ Section 1340 of the Department of Defense and Full-Year Continuing Appropriations Act of 2011. Public Law 112-10 (April 15, 2011); Section 539 of the Consolidated and Further Continuing Appropriations Act of 2012, Public Law 112-55 (November 18, 2011).

time video enhancement” and “real time edge detection.” The request included the determination that the “proposed work is generic and not application specific” and was “resulting from fundamental research.” The NIA request continued: “Many publications and software codes exist in this area of research and the intent is to publish the results of this work.... The proposed work can be done without need for a[n export control] license.” This determination was later included in the IdMAX request and shared with Langley export control personnel.

In accordance with NASA’s requirements, Langley and NIA officials developed an STTCP for Jiang. The Plan stated that Jiang would be “collaborating with Langley researchers . . . to utilize his experience in the area of image enhancement and edge detection.” Jiang, who was out of the country at the time, did not sign the document. After Rahman’s death, the STTCP was resubmitted with a different Branch employee named as Jiang’s sponsor. This Plan was never uploaded into IdMAX and Jiang did not sign this version of the document either. Moreover, the employee listed in the document as Jiang’s sponsor told the OIG that he did not provide a copy of the STTCP to Jiang or discuss it with him and that he viewed the document as “boilerplate” because the work that Jiang would be doing did not “have anything to do with security.” Although Jiang signed a subsequent version of the STTCP, he told the FBI that no one at Langley ever reviewed or discussed any of the Plans with him. Jiang’s sponsors told us that they did not provide copies of the Plans to other NASA employees in the Branch who may have had contact with Jiang or brief them on the Plans’ provisions.

When the NIA submitted its initial visit request for Jiang in November 2010, Langley was transitioning to IdMAX from a previous identity management system. Because of this transition, NIA did not initiate a visit request for Jiang in IdMAX until January 2011 when it was entered by an NIA administrative employee. On January 25, a Langley technical representative approved the request in IdMAX thereby confirming that Jiang would be working under the agreement and that the estimated cost to NASA for his work over a 2-year period would be \$194,854.¹⁰ The request was then automatically routed to Langley export control personnel, who approved it on January 31, 2011. From there, it was routed to NASA Headquarters.

After confirming that it did not conflict with U.S. foreign policy or any agreements with China, an employee in the Headquarters’ Office of International and Interagency Relations approved the request in IdMAX on February 1, 2011. The request was then routed to the Headquarters’ Export Control Office.

¹⁰ The length of Jiang’s contract was later extended and this figure was adjusted to \$315,193 for activity through September 2013. However, as discussed below the contract was terminated in January 2013.

From a list of 32, a contractor employee in the Export Control Office applied 10 provisos to Jiang's access request:

- The visitor shall be escorted at all times.
- Approved access is limited to information in the public domain; no access to classified, sensitive but unclassified, or export-controlled information or hardware is authorized.
- The visit is authorized only so long as there is a valid visa in effect.
- Copies of the visit approval provisos/conditions are to be provided by the NASA host to all NASA employees and on-site contractor employees working with this foreign person.
- The visit is approved based on no cost to NASA; payment of stipends/expenses against a NASA grant/contract/agreement is not authorized.
- Host is to confer with Center Export Administrator to determine export classification of data and hardware to be accessed prior to visit.
- A non-disclosure agreement is required for this assignment. A Security/Technology Transfer Control Plan must be in place and approved prior to this visit.
- Release of NASA software source code is not authorized.¹¹
- The Program Manager shall coordinate the decision to make this project fundamental research with the Center Export Administration and will document the decision; a copy should be kept by the [Center Export Administrator] and program manager.
- The employer, National Institute of Aerospace, is responsible for compliance with U.S. export control laws and regulations and for seeking an appropriate license if required; NASA host should be apprised of these provisos and is responsible for informing the employer of this proviso.

A supervisor in the Office reviewed and concurred with this list of provisos.

We asked the contractor employee and the supervisor why they applied the “no payment” proviso when it was clear that Langley was planning to hire Jiang as a contractor to conduct research pursuant to its agreement with the NIA. They told us that this was a standard proviso that they routinely attached to all foreign national visits and that it predated the funding restrictions contained in the NASA appropriations legislation. However, the contract employee said she did not understand why the Export Control Office included this proviso since the Office did not have authority to determine funding of contracts and the supervisor admitted that “no one really knew what [the proviso] meant,” [b]ecause everybody's paid somehow and the company's getting money from NASA.”

¹¹ The supervisor told us that this provision covered computer code that would not be disseminated into the public domain. As discussed above, Langley researchers anticipated publicly sharing the work Jiang was conducting.

When we pointed out to the supervisor that Langley was hiring Jiang under the NIA cooperative agreement, she agreed that the proviso did not appear to apply to his circumstances. She also said that she considered all the provisos her office applied to visit requests as advisory and that Center Security had the final authority regarding whether they were applicable in a particular case.

Once the Agency Export Control Office approved Jiang's request, it was sent back to Langley for final review and approval. On February 18, 2011, a Langley security employee approved the request in IdMAX with the following conditions, "with escort, no computer access."¹² This notation appears directly below the provisos selected by the Headquarters Export Control Office in the IdMAX system.

IdMAX generated an e-mail notification to the Langley technical representative and to NIA informing them that Jiang's request had been approved and listing the conditions that governed his access, including the Headquarters' Export Control Office's provisos. However, the Langley technical representative told us that although she noted the subject line of the e-mail indicating the request had been approved, she did not read the contents of the e-mail until many months later and therefore was not aware of the provisos the Export Control Office had imposed. Jiang's STTCP sponsor was not copied on this e-mail and no one informed him or anyone else in the Branch of the conditions that had been placed on Jiang's visit. Moreover, although NIA located a copy of this e-mail in its files when we asked for documents in connection with this review, NIA officials told us they had not seen the e-mail at the time and similarly were not aware of the provisos.

On March 18, 2011, NIA informed Jiang that his access request had been approved and that his NASA visitor badge was ready for pick-up. Because at this point the NACI check on Jiang had not been completed, the badge indicated that Jiang required an escort when on Center. Jiang picked up the badge that same day. During his time as a NASA contractor, we determined that Jiang predominately worked at NIA's facility and visited Langley relatively infrequently. Specifically, Jiang told the FBI that he had been at the Center no more than 30 times in the 2-year period he held a NASA badge.

A. Jiang Receives Unescorted Access to Langley

Pursuant to routine procedures, Langley security officials requested a NACI investigation of Jiang, the results of which would determine whether he would be eligible to request access to NASA IT systems and be permitted at Langley without an escort. The Office of Personnel Management (OPM) conducted the NACI investigation and on June 30, 2011, sent the results to Langley Office of Security Services. OPM's report revealed no unfavorable information about Jiang. Accordingly, Langley security personnel contacted Jiang's STTCP sponsor to inform him of the favorable NACI and asked him to describe the project on which Jiang would be working and to list Jiang's technology, information,

¹² The term "no computer access" means that Jiang was not permitted access to internal NASA IT systems (i.e., systems within the NASA IT security firewall).

and “hardware/software/data” requirements by completing Attachment D to the STTCP.¹³ The sponsor returned the form to Security with the following language:

Dr. Jiang will be assisting in our research for the Aviation Safety Program involving real-time video image enhancement hardware processing implementation and testing on a GPU [graphic processing unit] hardware processor located in Room 128 B1299 and his office will be located in that same Visual Information Processing Lab (Room 128). He will have access only to this laboratory computer which is not connected to any network inside the NASA [Langley] firewall. He will be supplying his own laptop computer/hard disk drive which he will use on the guest wireless portal (outside [Langley] firewall) for e-mail/internet access. He will also use this laptop for all his research computing to develop new and refined methods for edge detection and the investigation of new pattern recognition image processing methods.

The sponsor did not mention that Jiang had previously been given access to a copy of Rahman’s hard drive.

Based on the results of the NACI, on July 6, 2011, a Langley Security official authorized Jiang to request access to NASA IT systems.¹⁴ This determination did not automatically give Jiang the right to receive a NASA laptop or to access NASA IT systems. Rather, it meant he was eligible to request such access. At the same time, Jiang was issued a new visitor’s badge that permitted him unescorted access to the Center.

In August 2011, Branch personnel purchased a Dell Precision M4600 laptop for Jiang through a NASA IT contract. Prior to this date, Jiang had a NIA laptop, but that machine was not powerful enough to support his programming needs and he could not use the Branch’s computer identified in Attachment D of this STTCP because the file systems in the computer had been damaged. The Dell laptop was a commercial off-the-shelf product available for sale at retail outlets. NIA also purchased an external hard drive for Jiang to back-up his research and an internal solid-state hard drive for the Dell laptop. Jiang replaced the original hard drive with the commercially available hard drive to enhance the computer’s performance for his research. No one informed Langley security or export control personnel about the purchase and modification of the Dell laptop or corrected the statement in the STTCP that Jiang would be using his own equipment to conduct his research.

¹³ This part of the process was a relatively new responsibility for the Office of Security Services. Until approximately early 2011, Langley’s Office of Chief Information Officer (OCIO) would have played a role in determining which IT systems foreign nationals would be given access. However, in a streamlining effort the OCIO was removed from the foreign national visitor process. Langley management is now taking steps to reinsert the OCIO in the process.

¹⁴ NASA records indicate that Jiang was assigned a NASA e-mail account, domain user name, and domain password on October 24, 2012. However, records also show that Jiang never accessed any of these accounts and in fact sent an e-mail stating that he preferred to operate outside the NASA firewall because he was concerned that losing administrative rights to his computer would hinder his research.

Once the laptop arrived at Langley, it was shipped to Jiang at NIA with a “NASA Form 52 – Shipping/Transfer Document,” dated September 9, 2011. This form memorialized the transfer of accountability for the laptop from NASA to NIA. Thereafter, NIA reported the computer to NASA as Langley property in the custody of contractors. According to the NASA’s Grants and Cooperative Agreements Handbook, in such cases ownership of the computer remains with NASA but responsibility for safeguarding the device and its contents rests with the contractor.

Jiang used the NASA-provided laptop to access NIA e-mail and to work on his NASA-funded research. We found that Jiang used this laptop to access Langley’s guest Wi-Fi internet connection a total of 18 times beginning in September 2011 and ending in October 2012. We found no evidence that Jiang ever accessed any NASA computer system other than this guest network.

B. Jiang Travels to China

In November 2011, Jiang traveled to China to visit his family and took the Dell laptop with him. One of Jiang’s sponsors told us that when Jiang asked him if he could take the laptop to China he was unsure of the answer and therefore called a NASA industrial property management specialist and posed the question. He said the specialist told him that because the laptop had been turned over to NIA, it was NIA’s decision whether Jiang could take it to China. He said he therefore told Jiang he would have to consult with NIA about taking the computer to China. We interviewed the specialist with whom the sponsor said he had spoken and she told us she had no recollection of discussing the matter with him.

We also interviewed NIA officials. One official told us that no one at NIA was aware that Jiang had taken the computer to China and that no one in the organization gave Jiang permission to do so. He also said that one of Jiang’s Langley sponsors told him that he (the sponsor) had given Jiang permission to take the computer to China. An e-mail we found on Jiang’s computer corroborates this statement. In the e-mail, the sponsor responds to Jiang’s question of whether he can travel with the computer by saying, “you can take it as far as I know. Just take all the normal precautions as if it were yours, of course.” Moreover, in response to a question supplied by the OIG, Jiang told the FBI before he left the country that his sponsor had authorized him to take the NASA-issued laptop to China.

We re-interviewed the sponsor at the conclusion of our investigation to address these inconsistencies. He again stated that he told Jiang he did not have the authority to give him permission to take the laptop to China, denied making the statement to the NIA official cited above, and could not explain why Jiang would tell the FBI that he authorized him to take the laptop to China. When we showed the sponsor the e-mail exchange between him and Jiang about traveling with the laptop, he questioned the accuracy and completeness of the e-mail. He speculated it was possible that additional text was left out of the e-mail, that the two men may have been discussing another device,

or that the e-mail simply did not capture oral discussions between himself and Jiang about the issue.

NASA policy provides that only IT equipment approved by the NASA Chief Information Officer (CIO) for use outside the United States may be taken on international travel. The policy further provides that Agency laptops or personal computers should not be used for official business on international trips unless written authorization is obtained from the Center CIO. The Dell computer was not approved by the NASA CIO for international travel and Jiang did not request or receive approval from the Langley CIO to take the laptop to China. Although Jiang's STTCP specifically noted that his NASA identification badge could not be carried outside the United States, it did not address taking IT equipment out of the country. In addition, we found no evidence that Jiang was otherwise informed of Agency policy prohibiting international travel with NASA IT equipment absent approval by the CIO.¹⁵

C. NIA Requests that Jiang's Access be Extended

NIA requested that Jiang's access privileges be extended beyond September 25, 2012, the date they were set to expire. On June 22, 2012, a new STTCP was generated indicating that Jiang would be using commercial off-the-shelf hardware and software for his work. However the Plan failed to specifically identify the Dell laptop or mention the modification made to it. This document was uploaded into IdMAX on July 5 by NIA.

NIA's request to extend Jiang's access prompted a new round of approval requests in the IdMAX system. When the request reached the Headquarters' Export Control Office, personnel there again attached provisos to Jiang's access request. They selected 6 of the 10 provisos that had been attached to the first request, including the proviso requiring that Jiang be escorted while on Center. They omitted the provisos requiring a valid visa, prohibiting release of NASA software source code, denying payment of NASA funds, and requiring coordination with the Center Export Administration regarding whether the work qualified as fundamental research. The contract employee told us that she could not specifically recall why she included these provisos the first time she reviewed Jiang's visit request but omitted them the second time. She speculated that she omitted the proviso on fundamental research because Jiang's work had not changed and therefore did not need to be re-evaluated. She could not explain why she did not include the proviso about releasing NASA source code. With regard to the visa requirement and the "no funds" proviso, she said her supervisor had previously removed these two provisos from the Office's master list because they were matters that should be determined by security and procurement rather than export control personnel.

We also asked the Headquarters personnel why they continued to impose the escort provision when Jiang had received a favorable NACI review and months before had been

¹⁵ In response to OIG questions, Jiang told the FBI that no one other than him accessed the laptop while he was in China, that he did not provide Rahman's data to anyone in China, and that he did not provide anyone in China with NASA data or information.

issued a badge that did not require escort. Both said they were not aware of this information. We note that the information about the favorable NACI and the unescorted badge was in the IdMAX system, albeit not immediately viewable from the main page these employees viewed to select the provisos.

On August 21, 2012, a Langley security official approved the request to extend Jiang's access privileges until February 8, 2013, with the Headquarters' Export Control Office proviso that Jiang be escorted while on Center. We asked the official why he approved the request with the escort condition given the favorable NACI and unescorted badge Jiang had been issued months earlier. He said that he and others in Langley's security office viewed the Headquarters' provisos as boilerplate and that he had questioned the same inconsistency with the escort proviso in the case of another foreign national but was told by Headquarters that Center security was the final authority and that the proviso did not prevent them from issuing an unescorted badge. Similar to the earlier approval process, the provisos were not shared with Jiang or his STTCP sponsors.

D. Jiang's Second Trip to China and the Request that Jiang Have an Office on Center

In October 2012, one of Jiang's sponsors decided he wanted to have Jiang work at Langley on a daily basis so he could observe his work firsthand and better evaluate his contributions to the team. This triggered the need for a revised STTCP because Jiang's current Plan did not indicate that he would be assigned an office at Langley. Accordingly, NIA submitted a request for the change through IdMAX and the sponsor submitted a revised STTCP. One month later in November 2012, Jiang again traveled to China, taking with him the Dell computer and the NIA external hard drive he used to back up his files.

As with the previous STTCPs, the revised Plan was provided to Langley export control personnel for review. An export control professional who was not involved with the earlier requests reviewed this request, undertaking a full re-examination of Jiang's access privileges. She explained to OIG investigators that she took this step because she found issues with his access that caused her concern. For example, she noted that he was a graduate of University of Electronic Science and Technology of China, which had been added as "an entity of concern" to the Department of Commerce's Bureau of Industry and Security Entity List in September 2012.

As part of her review, the official asked for the model numbers and location of any NASA-owned IT devices in Jiang's possession. Jiang's sponsor told the export office about the Dell laptop, including that it contained a copy of the information that had been on Rahman's hard drive at the time of his death and that Jiang had taken it to China.

We confirmed that the graphics processing unit in the Dell Precision M4600 laptop is among the items the U.S. Bureau of Industry and Security says may not be exported to certain entities without a license and that the University of Electronic Science and

Technology is one such entity. However, China itself is not and consequently there are no restrictions on bringing this model of laptop into the country.

The Langley export official told us that she became quite concerned when she learned that Jiang had taken the Dell laptop to China. She told us that other aspects of Jiang's visit also troubled her – most prominently that NASA was paying for Jiang's research through the NIA cooperative agreement. She said that she believed that this payment violated the funding restrictions in NASA's appropriations legislation. She also said she was troubled that Jiang's sponsors had not asked for an export control review before providing Jiang with access to the information on Rahman's hard drive. She said she raised her concerns with attorneys at Langley and personnel in the Headquarters' Export Control Office and held off approving the extension of Jiang's visit request based on these concerns.

On December 12, 2012, an NIA Human Resources employee e-mailed Jiang and told him that upon his return to the United States he should report to NIA with all Government-issued equipment. Jiang returned to the United States on December 18 and turned in the Dell laptop and NIA external hard drive to NIA the next day. Langley security personnel retrieved the computer and hard drive from NIA on December 20 and turned them over to Center computer security personnel to determine whether they contained export-controlled information.

On January 11, 2013, NIA terminated Jiang's employment. An NIA Official told us that the termination resulted both from Jiang's violation of NIA policy by taking the laptop to China and because NASA had ended the agreement under which he had been hired. That same day Jiang turned in his NASA badge.

Later that January, Langley IT security personnel issued a report stating that they found "no evidence" of export-controlled information on the Dell laptop.¹⁶ In March 2013, Langley's Security Services Branch issued a "Statement of Inquiry" relating to the Jiang matter. The report concluded that the project Jiang was working on was not fundamental research and therefore it had been improper to share information from Rahman's hard drive with Jiang, that the funding restrictions in NASA's appropriation law prohibited the Agency from hiring Jiang pursuant to the NIA cooperative agreement, and that Jiang and his sponsors had committed various export control violations in connection with his visit and work.

¹⁶ According to DOJ officials, this examination did not include a visual review of all of the information on the laptop but rather consisted of searches for key terms and markings that would indicate export-controlled information. In addition, these officials noted that the individual who conducted the search was not a trained export control professional. Langley IT security personnel did not conduct a separate forensic review of the NIA hard drive because Jiang used it as a backup and therefore it contained the same data as the laptop.

IV. ANALYSIS

We found that Langley's process for requesting access for foreign nationals was structured pursuant to NASA regulations. However, we also found the process overly complex, required input from numerous Center and Headquarters employees, and not sufficiently integrated to ensure that responsible personnel had access to all relevant information. In addition, we determined that several employees who had roles in the screening process made errors that contributed to the confusion about the proper scope of Jiang's access to Langley facilities and IT resources and the appropriateness of Jiang taking his NASA-provided laptop to China.

First, we were struck by the highly-bureaucratic nature of Langley's process for reviewing foreign visit requests. Each of the many actors in the process appeared to view their role in isolation, with little consideration or understanding of the role others played in the process. In many instances, individuals seemed more focused on moving requests into the next person's in-box than ensuring that their actions made sense in the context of the request they had been asked to review.

For example, a Langley employee approved one of Jiang's visit requests in IdMAX on the condition that he be escorted while on Center even though the employee knew that Langley security had issued an unescorted badge to Jiang months earlier. Furthermore, when questioned about the seeming contradiction he said he did not believe the condition made sense. Similarly, another Langley employee approved one of Jiang's requests with a "no funding" proviso even though it was clear that Jiang would be working for NIA pursuant to a funded cooperative agreement with NASA. Moreover, both individuals dismissed the provisos attached by the Headquarters Export Control Office to foreign visit requests as "boilerplate."¹⁷

In some instances, employees seemed to realize that they did not fully understand what they were doing or why they were doing it but proceeded anyway, assuming that someone else down the road would figure it out. The starkest example of this phenomenon was the Headquarters export control supervisor who admitted that although "no one" knew what the no funding proviso meant the Office routinely attached it to all foreign visit requests. In the case of Jiang, having this and other incorrect provisos attached to his request in the IdMAX system caused confusion both inside and outside NASA about the appropriate boundaries of his visit.

Second, we believe that much of the confusion about the proper scope of Jiang's access at Langley occurred either because not all the players in the process had access to all of the relevant information or because individuals failed to exercise sufficient diligence in completing their duties. For example, although Jiang's STTCP sponsors had the most day-to-day contact with him and the most information about the work he was to perform, they were never informed of the provisos the Export Control Office and Langley security

¹⁷ Several witnesses involved in the process told us the high volume of Langley foreign visitor requests they received often overwhelmed them. Although this does not excuse the mistakes made, it may help explain them.

placed on Jiang's visit, and therefore were not in a position to question whether the provisos were appropriate or necessary. Although Export Control and Center security attached provisos through the IdMAX system and those provisos were visible on various IdMAX screens, there was no formal role for STTCP sponsors in the IdMAX process and no procedures established to ensure that IdMAX provisos were reflected in the STTCP or otherwise conveyed to sponsors.

Similarly, NIA appeared to lack sufficient procedures to ensure that appropriate officials in its organization were informed of the restrictions NASA placed on Jiang's access to the Center. Although IdMAX automatically generated an e-mail to NIA that contained the restrictions, that e-mail was received by a low-level administrative employee and no one else at the organization was aware of this information until we requested copies of documents and e-mails as part of our investigation of this matter.

With respect to lack of due diligence, the Langley technical representative admitted that she did not read the contents of the February 2011 IdMAX notification approving Jiang's access request until many months later. Therefore, she was not aware of the conditions that had been attached to his visit and not in a position to pass that information on to Jiang's sponsors.

Third, both system and individual failures contributed to Jiang inappropriately taking his NASA-provided laptop to China. From a system perspective, the STTCP did not reference NASA policy prohibiting employees and contractors from taking NASA IT resources outside the United States without the permission of the Center CIO, so neither Jiang nor his sponsor could consult the document for this information when the question arose. From an individual perspective, the preponderance of the evidence available to us suggests that one of Jiang's sponsors inappropriately authorized Jiang to take the laptop to China. Although the sponsor claims that he consulted with an industrial property management specialist at Langley about Jiang's request and, based on that conversation, told Jiang to consult with NIA about taking the computer to China, the specialist recalls no such conversation. Moreover, other available evidence – including statements from NIA officials and an e-mail found on Jiang's laptop – suggest that the sponsor authorized Jiang to take the computer to China. In his two interviews with the OIG, the sponsor attempted to explain away evidence supporting this conclusion. However, we are not convinced and conclude that the evidence suggests he gave Jiang permission to take the computer to China.

Fourth, we believe Jiang's sponsors erred in not consulting Center export personnel before providing Jiang access to Rahman's hard drive or informing export officials they had done so in a timely manner. We acknowledge that both sincerely believe that the information on the hard drive is fundamental research not subject to export control restrictions. Nevertheless, both admitted that they could not fully decipher Rahman's file system and did not have a complete understanding of the information contained on the hard drive. Moreover, the process of ensuring that export control restrictions are followed requires cooperation and collaboration between researchers and export control professionals. By failing to consult with others about the hard drive, the sponsors short-

circuited this process and helped engender suspicion when Langley export control personnel later learned about the information sharing. For similar reasons, they should have immediately informed Langley export control and security personnel about the purchase of the Dell laptop for Jiang.¹⁸

Finally, we do not believe that NASA violated appropriations restrictions by hiring Jiang as a paid contractor through the NIA cooperative agreement. While the provision prohibits the Agency from hosting official Chinese visitors and expending funds to execute bilateral agreements with the Chinese government or Chinese companies, it does not extend to work conducted by individual Chinese citizens like Jiang who are not official representatives of the Chinese government or affiliated with a Chinese company.

Accordingly, we believe that concerns related to the funding restriction were unfounded. Similarly, we find faulty the conclusion in the Langley Security Office's Statement of Inquiry that NIA violated the terms of Jiang's STTCP and may have violated the Federal False Claims Act by "claiming funds, in excess of \$300,000 from NASA for Jiang's visit, that were not authorized under the terms of the visit." Again, inclusion of this and other inaccurate information in the report fueled confusion both inside and outside NASA about the propriety of Jiang's access to Langley and to Center data and IT resources.

V. CONCLUSION AND RECOMMENDATIONS

In the wake of the Jiang incident and at the request of the NASA Administrator, Langley management has taken a number of steps to strengthen its foreign national visit process. These measures include increased education and training for Langley employees, revising the STTCP to include any provisos listed in the IdMAX system as well as the penalties for violating the Plan, and ensuring that the Center CIO's Office is involved in the foreign visitor request process. More broadly, in response to a suggestion from Congressman Wolf, NASA has contracted with the National Academy of Public Administration (NAPA) to assess the effectiveness of the Agency's foreign national access programs and processes. NAPA is scheduled to deliver a draft of its report to NASA by the end of the calendar year.

In addition to these and other ongoing measures, we offer the following recommendations to further improve NASA's foreign visitor approval process:

1. Examine the roles of the different offices that have input into the foreign visitor approval process and ensure that all appropriate offices are represented and that responsibilities are appropriately assigned.
2. Improve training for sponsors of foreign nationals to ensure they understand how the foreign national visit approval process works and their responsibilities as sponsors. This training should be required prior to an individual becoming a

¹⁸ We also note that the sponsors failed to ensure that Jiang received the required security briefing or that other NASA employees were aware of Jiang's access limitations in light of his status as a foreign national.

sponsor and be repeated at least annually as long as they continue to serve in this capacity.

3. Revise the STTCP to include NASA policy regarding taking IT equipment out of the United States and ensure that employees are trained regarding this policy.
4. Consider the following improvements to IdMAX:
 - a. Require individuals who will be acting as sponsors to acknowledge receipt of the Plan and their understanding of all conditions placed on the visits of foreign nationals they are sponsoring; and
 - b. Prevent the system from generating final approval until all key documents, including the STTCP, are loaded into the system.
5. Ensure that NIA and other similar organizations have a process in place so that appropriate organizational officials are aware of any conditions NASA places on foreign nationals associated with their organizations who are working with NASA.
6. Consider whether discipline and/or performance-based counseling is appropriate for any of the NASA civil servants discussed in this report.