Audit of NARA's Parking Program

OIG Audit Report No. 12-12

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Executive Summary

The National Archives and Records Administration's (NARA) Office of Inspector General (OIG) completed an audit of NARA's parking program. During this audit, we assessed whether NARA's controls over parking were effective and in accordance with NARA policy. We found that NARA expended over $430,000 for an automated License Plate Recognition (LPR) system at AII which is not fully functional. This condition was the result of inadequate planning, lack of appropriate oversight, and flawed contractual terms. Both the assignment of culpability and the opportunity to identify the cause of the failure were compromised as, per NARA's Lead Security Specialist, emails associated with the procurement action were inadvertently deleted. As a result, NARA is left with a failed parking control system, a lack of recourse to apply against the vendor, and the loss of taxpayer funds in an austere budget environment.

NARA relies on Policy Directive 232, *Parking at the National Archives at College Park (Archives II)* (NARA 232), Security Post Orders (Post Orders), and a License Plate Recognition (LPR) system as the means to control parking at the National Archives Building in College Park, Maryland (AII). Issued on April 26, 2006, NARA 232 provides procedures to control parking at AII. Post Orders provide general procedures for security officers to follow while posted at specified locations throughout AII and its grounds. The LPR system was implemented to control access barriers to NARA's satellite parking lot (Pepco Lot) and validate parking authorization at all vehicle entrances at AII to ensure employees and contractors park in their designated areas.

Our review found three issues that prevented NARA's parking program from fully meeting NARA requirements and lessened the effectiveness of NARA's controls over the parking program.

Although the delivery order for the LPR system, a key component in NARA's efforts to control parking at AII, was signed in August of 2009, the operation of the system at the Adelphi Road main gate (Main Gate), the Metzerott Road loading dock gate (Loading Dock), and the Pepco Lot is not consistent. This is despite the fact that NARA has spent over $430,000 on this system.

Additionally, NARA management failed to ensure that decisions regarding the LPR system were adequately documented. GAO's "*Standards for Internal Control in the Government*" require all transactions and other significant events to be clearly documented and readily available for examination. Despite this requirement, a lack of sufficient documentation hindered our ability to identify and review decisions Security Management Division (BX) and Facilities and Property Management Division (BF) personnel made related to the LPR system.

Lastly, BX personnel made the decision not to update NARA's policies and procedures used to control parking at AII to reference use of the LPR system until the system had been accepted. As of the end of fieldwork the LPR system had not been accepted, thus NARA's parking policies and procedures are not current and do not reflect the actual practices of NARA personnel. The

fact that these policies and procedures were not current was due in large part to the setbacks experienced with the LPR system.

This report contains four recommendations to strengthen the effectiveness of NARA's controls over the parking program.

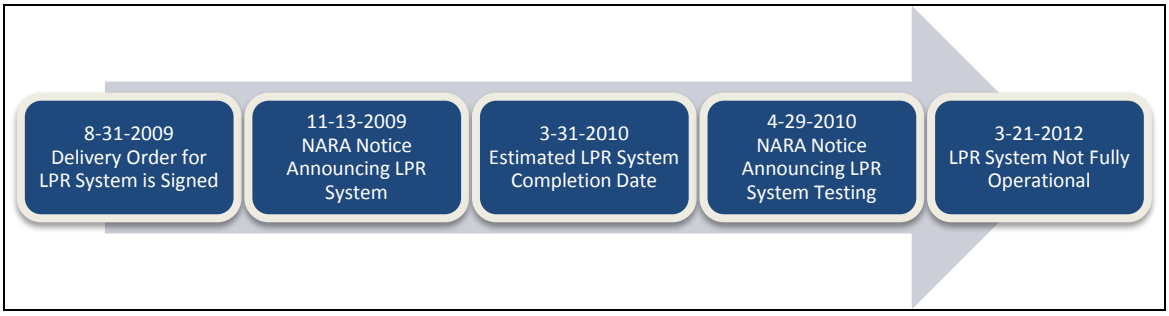
Background

The National Archives at College Park (AII) has three separate vehicle entrances; the Pepco Lot, the Main Gate, and the Loading Dock. Security Management Division (BX) personnel stated that the proximity of the Main Gate and the Loading Dock to the perimeter of AII would always necessitate human intervention in the form of security officers posted at these locations. However, in an effort to reduce costs, a radio-frequency identification (RFID) system was installed at the Pepco Lot to replace the security officer at this location. This RFID system used vehicle hangtags (parking permits) to automatically control the gates at the Pepco Lot allowing access to authorized vehicles. Although NARA employees are directed to park at the Main Gate and contractors are directed to park at the Pepco Lot, NARA distributed parking permits to all NARA employees and contractors. NARA relied on these parking permits to control parking at AII.

In August of 2008 the RFID system experienced a failure. When BX personnel contacted the RFID system vendor to request repairs, they were informed the system was no longer supported or maintained by the vendor. Shortly thereafter Facilities and Property Management Division (BF) personnel, with input from BX, decided to research options to replace the existing RFID system.

The agreed upon replacement was the LPR system that would both read license plates at all of AII's entrances and control access to the Pepco Lot. NARA personnel stated they did not choose to install another RFID system because they wanted to avoid issues associated with RFID systems as well as distributing and maintaining parking permits. The LPR system was acquired as a delivery order on a NARA Indefinite Delivery Indefinite Quantity (IDIQ) Contract with Heery International, Incorporated (Heery) for construction management and design build services. This delivery order was signed on August 31, 2009 for a cost of $460,528.

Figure 1: Timeline of NARA's Implementation of the LPR System



After the LPR system was installed, NARA officially ceased distribution of parking permits. NARA also issued an internal NARA Notice stating its intention to collect all parking permits previously issued to employees and contractors near the end of the project. However, because the LPR system is not functioning properly and therefore has not been accepted by NARA, no

notice has been issued instructing NARA employees and contractors to turn in their parking permits. Consequently, in order to control parking NARA is relying on an LPR system that is not fully functional and parking permits that are no longer officially distributed.

In an OIG management letter dated April 13, 2005, the Inspector General stated that information technology (IT) investments can have a dramatic impact on an organization's performance. Well-managed IT investments, carefully selected and focused on meeting mission needs, can propel an organization forward, dramatically improving performance while reducing costs. Likewise, poor investments - those that are inadequately justified or whose costs, risks, and benefits are poorly managed - can hinder and even restrict an organization's performance. Unfortunately, the implementation of the LPR system demonstrates that after almost seven years NARA has yet to fully grasp the importance of properly managing its IT investments to ensure they are functionally completed on time and on budget.

Objectives, Scope, Methodology

The overall objective of this audit was to determine whether NARA's new parking system, as well as NARA's parking program as a whole, met the needs of NARA requirements. The objective also included a determination as to whether the controls over the parking system and the overall parking program were effective. Our review placed particular emphasis on NARA's new parking system, the LPR system.

In order to accomplish our objectives we performed the following:

- interviewed key NARA personnel from Information Services and Business Support Services;
- requested and reviewed documents in place used to control parking or establish requirements over parking at National Archives at College Park (AII) including all policies, directives, or similar documents;
- compared the implementation of the parking program to NARA policy;
- reviewed the applicable laws and regulations related to parking at AII as well as the contract and delivery order for the LPR system and all subsequent modifications; and
- reviewed 36 CFR Appendix A to Part 1234 - Minimum Security Standards for Level III Federal Facilities to ensure NARA met these standards.

Our audit work was performed at Archives II in College Park, Maryland. The audit took place between December 2011 and March 2012. We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Audit Results

1. The License Plate Recognition (LPR) system is not fully operational.

As of the end of fieldwork for this audit, over two years after the initial estimated completion date, the LPR system was not fully operational. The LPR system was in place and functioning inconsistently at AII's three entrances, the Main Gate, the Loading Dock, and the Pepco Lot. Numerous issues, described in more detail below, prevented NARA from depending on the LPR system to control parking. Therefore, NARA had yet to accept the LPR system and the parking program at AII was relying on a system that was not fully operational.

LPR System Issues

The LPR system has encountered, and continues to encounter, obstacles that have prevented the system from operating consistently at AII. After the delivery order was signed in August of 2009 the LPR system was scheduled to be fully operational by the end of that year. The first progress meeting for the LPR system was held between NARA and the contractor on April 21, 2010. This meeting represented the first of many interactions between NARA and Heery where issues delaying the full operation of the LPR system were identified and discussed.

NARA experienced issues with the LPR system's inability to operate consistently and accurately throughout May and June of 2010 which caused "a high level of frustration and confusion with employees." This led Security Management Division (BX) personnel to state that "the LPR system is a hit or miss to pick up and record a tag number. However, in the event it has recorded tags, it is not displaying it for our guards at the display panels." In an effort to remedy the problems the LPR system was experiencing, NARA issued two modifications to the original delivery order in August of 2010. These modifications focused primarily on revamping ground loops, repairing bollards, and relocating a message board. The modifications added over $36,000 to the original delivery order bringing the total cost of the LPR system to approximately $500,000. However, the LPR system was still not fully functional after the completion of these modifications, leading NARA to send Heery a letter (a CURE Notice) informing them the contract would be terminated in thirty days unless changes were made to the system in November of 2010 (See Appendix D).

NARA's CURE Notice stated that the LPR system's software could not identify a variety of license plates. In the CURE Notice NARA requested a 100% reading rate for all variety of license plates at the Pepco Lot. NARA requested the 100% reading rate at the Pepco Lot because this lot was planned to be 100% automatically controlled by the LPR system, thus NARA could not afford anything other than a 100% reading rate. NARA felt a CURE Notice needed to be sent after a year of "software changes, failed readings, system malfunctions and inconveniences" experienced by "NARA staff, researchers, visitors, contractors and volunteers." Additionally, NARA believed that 15 months was enough time to complete a project that

"should have been accomplished in no more than four months." General Counsel (NGC) personnel stated during an interview that no NGC requirement was in place to review this CURE Notice for legal sufficiency, thus no review was performed. However, NGC personnel did state that it would seem to make sense to require NGC review of all CURE Notices for legal sufficiency before distribution. CURE Notices are an initial step in terminating a contract, an action which often has legal consequences. As such, NGC should become a part of the process at the earliest stage to utilize their expertise. A review of CURE Notices for legal sufficiency would allow NARA to ensure the effectiveness of the document, enhance the prospect of vendor compliance with NARA requirements, and could help support NARA's basis for legal recourse if the defects are not cured.

Heery responded to NARA's CURE Notice on December 6, 2010 and agreed that installation and testing of the LPR system had taken longer than anyone on the project team envisioned or was happy with (See Appendix E). However, Heery also claimed several factors that accounted for the complications and delays. These factors included limited physical access to the system, a lack of remote access, required wiring changes after removal of the RFID system, failures of existing fiber optic cables, and improper installation of ground loops. Heery laid out a completion schedule with the goal of completing the project by December 17, 2010.

After receiving Heery's response to the CURE Notice Facilities and Property Management Division (BF) personnel stated that they "do not see any light at the end of the tunnel" for the project. This proved true because despite the goal of completing the project by December 17, 2010, several issues, identified by NARA on January 13, 2011, are still outstanding as of the end of fieldwork. Heery addressed these issues in a March 2011 letter to NARA. The issues, followed by Heery's responses, are as follows:

- Gate Arm and Bollard Operation at the Pepco Lot
  - Heery stated that they were directed by NARA to perform additional work to modify the operation of the gates and bollards at the Pepco Lot. Heery stated that any additional work desired by NARA to address this issue must be at additional cost to the contract and authorized in advance by NARA.

- Read Accuracy Percentage
  - Heery accurately noted that the scope of work developed by NARA, which served as the basis for Heery's subcontractor's proposal to NARA, did not specify a required license plate read accuracy percentage. NARA confirmed this in a March 2011 internal email. Heery stated that any additional work desired by NARA to address this issue must be at additional cost to the contract and authorized in advance by NARA.

- Stacked Character Recognition
  - Heery noted that the introduction of the "War of 1812" Maryland license plates that represent the majority of the stacked characters encountered by the system began in June of 2010, well after the job was bid and awarded. Heery's

> subcontractor indicated any additional software costs required to address this issue will be an additional cost to the contract.

Heery also stated in its March 2011 letter that the project achieved substantial completion and complied with both the contract and the intent of NARA's scope of work on December 9, 2010, when the system was placed into operation by NARA.

Although Heery stated that the LPR system achieved substantial completion in December of 2010, NARA has continued to experience problems with the system. In April of 2011 BX personnel stated that the "system is critical to control our access at all entry points" but "is still out of service." Additionally in April of 2011 error messages were encountered that locked up the LPR system and required the system to be restarted. These error messages continued throughout the remainder of 2011, and still existed at the end of fieldwork. BX personnel stated in February of 2012 that these error messages continue to appear approximately once a week, requiring BX personnel to restart the system. In fact, BX personnel drafted procedures that hang next to the LPR system detailing the steps to re-start the LPR system in the event the error message appears.

In July of 2011, Heery's subcontractor stated that they were working on a solution to the error message problem. Heery's subcontractor also inquired about the possibility of remotely accessing the LPR system, reiterating an issue originally brought up in December of 2010. BX personnel stated that providing remote access to Heery's subcontractors would enable the subcontractors to update the LPR system remotely potentially allowing the LPR system software the ability to read stacked letters and images in order to make the LPR system fully operational. However, after speaking with NARA personnel, it appears that the earliest remote access for Heery's subcontractors would occur is middle to late May of 2012.

NARA and Heery seemingly have come to a standstill on this project due to the issues identified above. This is illustrated in statements within a February 2011 email sent by BF personnel, stating it "appears that they (Heery's subcontractor) probably got paid up front and are unwilling to spend any more resources, since (Heery's subcontractor) is losing money on this project." Furthermore, BF personnel stated, "I thought that we may see an end by 2010, later moved to spring 2011, and now I do not have any comfortable feel for the successful completion of this project, unless Heery can take action to bring this to a conclusion." In order for NARA to rely on the LPR system as a control for parking at AII the system needs to be fully operational at all three of AII's entrances. For this to occur, NARA and Heery need to resolve these outstanding issues. If these issues cannot be rectified, then NARA needs to implement a new strategy to control parking at AII that reduces its reliance the LPR system.

No Controls Over the Pepco Lot

It was noted at the end of fieldwork, each weekday from 5:30am through 10:00pm the gates at the Pepco Lot remained in the up and open position, allowing vehicles unfettered access. Thus, the Pepco Lot had no controls over parking. In fact, every weekday any person or persons could park at the Pepco Lot between 5:30am and 10:00pm without any type of screening. BX

personnel stated that controlling parking at AII consists of creating a buffer zone of 100 feet around the perimeter of the building. Since the Pepco Lot is greater than 100 feet from the perimeter of the building, BX personnel did not have concerns with the lack of parking controls at the Pepco Lot.

Because contractors are not authorized to park in the parking garage at the Main Gate, they are directed to park at the Pepco Lot. However, the lack of screening over parking at the Pepco Lot could allow individuals, who have no involvement with NARA as either visitors or researchers, to park at this lot as well. If the LPR system cannot be made operational at the Pepco Lot, then NARA needs to reexamine whether the controls over parking at the Pepco Lot are sufficient. Also, if BX personnel are not concerned with the lack of parking controls at the Pepco Lot, then they should ensure that projects such as the LPR system, which were implemented to control parking at the Pepco Lot, are analyzed and vetted thoroughly before being accepted.

LPR System Not Properly Evaluated Before Implementation

NARA has processes in place requiring the review of certain projects before acceptance and implementation. These processes include the Capital Planning and Investment Control (CPIC) process, Privacy Impact Assessments (PIA), and NGC review of new tasks added to a contract with a value more than $100,000. Our review of the LPR system found that two of these three processes did not occur, and the third only occurred after determined insistence from NGC personnel. BX personnel stated that putting projects through processes such as the CPIC process can end up "costing the government more money than not doing them." However, the CPIC process, as well as PIA's and NGC review serve to ensure projects address NARA's strategic needs and are properly reviewed before limited NARA resources are invested in them.

The CPIC process was instituted by NARA to optimize the use of limited IT resources. Described in NARA 801, *Capital Planning and Investment Control*, this process employs the Clinger-Cohen Act designed to implement a process for maximizing value and addressing and managing the risks of IT acquisitions, such as the LPR system. The Clinger-Cohen Act defines IT as any equipment or interconnected system or subsystem or equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. Because the LPR system clearly fits within the Act's definition of IT, the project should have been planned, reviewed, and approved in accordance with NARA 801 requirements.

IT Policy and Planning Branch (ISP) personnel, tasked with oversight of the CPIC process, stated during an interview that the LPR system should have undergone the CPIC process. ISP personnel also stated that the program office is responsible for contacting ISP when new projects are initiated. The program office for the LPR system, BX, failed to notify ISP regarding the initiation of the LPR system. Had BX contacted ISP and ensured that the LPR system followed the CPIC process, it is possible that the difficulties the system experienced could have been mitigated. Indeed, ISP personnel, tasked with oversight of the CPIC process, stated that projects that do not go through the CPIC process can experience difficulties being put into operation, which is precisely what occurred to the LPR system.

NARA also mandates the completion of a PIA to determine the risks and effects of collecting, maintaining, and disseminating information in identifiable form in an electronic information system. Although a PIA was completed for the LPR system, it was not signed until November of 2011, over two years after NARA signed the delivery order for the LPR system. Also, based on emails reviewed during the audit, it appears that the PIA was completed mainly due to the insistence of NGC personnel, who first contacted BX personnel in July of 2010.

A PIA was required for the LPR system because it collected information specific to individuals including name, license plate number, and NARA affiliation. An additional catalyst for the completion of a PIA was the misuse of personally identifiable information (PII) within the LPR system by a contractor working on the system. On April 21, 2011, [redacted] the contractor overseeing the installation and performance of the LPR system, accessed the LPR system to obtain and use PII for personal reasons. This individual's access to AII was terminated the following day by NARA.

NGC generally reviews new tasks in order to determine that contracts drafted for these tasks, and their associated scope of work, are legally sufficient. As a part of our review we contacted NGC personnel who stated that the only way to confirm whether NGC reviewed the LPR system contract is if the contract file contains the approval sheet NGC signs when reviewing contracts. Our audit revealed no such document. In addition, BX personnel interviewed during our review did not have knowledge as to whether a legal review was performed. The fact that a legal review was not performed on the LPR system scope of work became an issue during installation of the LPR system as BX personnel stated that language left out of the LPR system scope of work related to the read rate accuracy of the LPR system led to too much interpretation.

NARA issued Heery a CURE Notice on November 19, 2010 requesting a 100% reading rate for all variety of license plates. However, Heery accurately noted in its response to the CURE Notice that no required read rate for the LPR was included in the scope of work developed by NARA which served as the basis for Heery's subcontractor's proposal to NARA. It is possible that if a legal review had been performed on the LPR contract and scope of work, this kind of absence of definite requirements would have been discovered and rectified. However, no evidence was identified that proved a review was performed and consequently key contract requirements, such as a read rate percentage were left vague or out of the scope of work.

Loading Dock Option

AII has three vehicle entrances for parking: the Main Gate off Adelphi Road, the Pepco Lot, and the Loading Dock entrance off Metzerott Road. The purpose of the LPR system was to control parking at the Pepco Lot and validate parking at AII's other entrances. BX had the LPR system installed at the Loading Dock even though this entrance to AII already had procedures in place to control parking, resulting in a cost of approximately $100,000 to NARA.

Heery's August 20, 2009 proposal to NARA, which was ultimately accepted by NARA, was broken into two parts. The first part included installation of the LPR system at both the Main

Gate and the Pepco Lot for a combined cost of approximately $360,000. The second part of the proposal consisted of installation of the LPR system at the Loading Dock for approximately $100,000. Thus, the total cost of installing the LPR system at all three of AII's parking entrances was approximately $460,000.

NARA personnel from BX stated the original RFID system was introduced at the Pepco Lot in 2005 or 2006 to "save bucks" by relying on the RFID system to control parking at the lot thereby allowing NARA to eliminate the security officer who previously manned this post. The RFID system functioned only at the Pepco Lot entrance to AII. The LPR system, introduced to replace the RFID system, was installed at all three of AII's parking entrances, including the Loading Dock.

The Post Orders for the Loading Dock entrance state that it is manned by a security officer from 5:30am until 6:00pm each weekday. The security officer posted at the Loading Dock is also instructed to physically touch, check and validate all non-NARA ID's prior to granting access. Parking is not allowed at the Loading Dock when it is not manned by a security officer unless the driver of the vehicle has been issued an overnight parking permit. Because of NARA's standing procedures in place at the Loading Dock entrance, the decision to install the LPR system at this parking entrance seemed unnecessary due to the vigorous controls for parking already in place at this entrance. Furthermore, the parking lot at the Loading Dock only holds approximately 50 spaces, and according to BX personnel would always require human intervention.

BX personnel stated that the LPR system was installed at the Loading Dock because BX no longer wished to distribute or maintain parking permits. They also stated that the system would "back officers up" by allowing them to know in advance whether a vehicle was in the LPR system database, not in the database, or only allowed Pepco Lot access. However, NARA selected an option to a contract, costing approximately $100,000 that was unnecessary due to the existing procedures in place at the Loading Dock. In addition, BX was unable to produce documentation, other than responses to interview questions, showing who made the decision to install the LPR system at the Loading Dock, and why the decision was made.

RFID Option

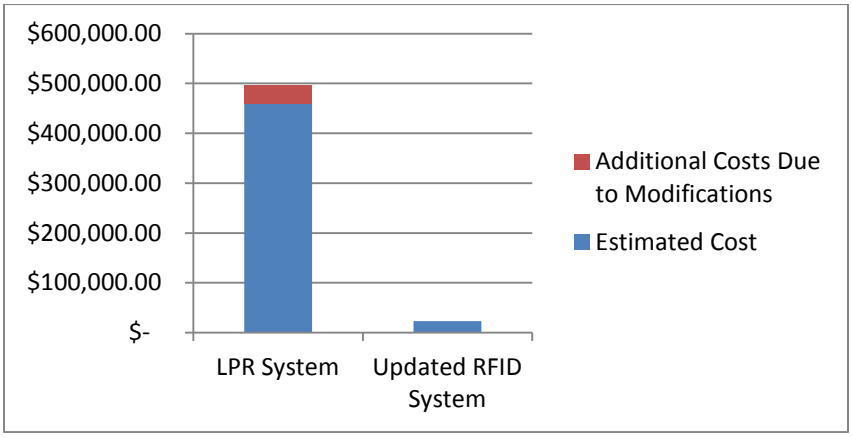
A replacement RFID system was researched to replace the original RFID system used to control parking at the Pepco Lot that reached the end of its useful life in August of 2008. BX received a quote for $22,940, less than 5% of the cost of the LPR system selected to replace the original RFID system. Although BX had reasons not to implement a replacement RFID system, discussed below, a cost-benefit analysis should have been performed on this alternative.

BX personnel stated many reasons why they preferred an LPR system to control access at the Pepco Lot as opposed to purchasing a replacement RFID system. For instance, BX personnel stated in an email "doing away with hangtag management was one of the primary goals. The hangtags are not that durable and an on-going expensive[*sic*] to re-purchase. It is labor intensive for the agency each time they need to be re-issued and would result in hundreds of hours of productive time lost for each tag holder to do an exchange. Performance was another issue.

Issues with rain and other weather conditions, windshield tinting, visibility of the physical hanging tags, vehicle size and tag location and repeated antenna misalignment often prevented reliable reads by the system." Vulnerabilities with a replacement RFID system were also cited by BX personnel as to why an LPR system was preferred over an RFID system. These vulnerabilities included issues NARA supervisors faced when attempting to retrieve unreturned hangtags and security concerns related to lost or stolen hangtags.

A replacement RFID system was researched and BX did receive a quote in May of 2008. The total cost of this system was $22,940, less than 5% of the cost of the LPR system. In the current "austere budget environment faced by all Federal agencies" as stated by Archivist Ferriero, it is essential to ensure that alternatives for projects are appropriately researched and analyzed.

Figure 2: Comparison of Parking Control System Costs



Recommendations

1. We recommend Business Support Services (B):

    a. Establish a deadline to have the LPR system operational and able to read license plates at an acceptable read accuracy percentage at AII's three entrances before acceptance of the system by NARA. If the LPR system cannot be made operational and cannot read license plates at an acceptable read accuracy percentage at AII's three entrances by this deadline then NARA needs to implement a new strategy to control parking at AII that reduces its reliance on the LPR system.

    b. Re-examine the sufficiency of the parking controls in place at the Pepco Lot.

    c. Ensure compliance with NARA Directive 801, including ensuring that the options and alternatives for all new projects are properly analyzed and considered before any new projects are initiated.

d. For projects greater than $100,000 ensure the contract and associated scope of work is reviewed by General Counsel (NGC) before the project is initiated.

2. We recommend the establishment of a NARA policy requiring General Counsel (NGC) review of CURE Notices before they are sent to contractors.

Management Response

Management concurred with the recommendations.

2. There is a lack of sufficient documentation for decisions regarding the LPR system.

NARA management failed to ensure that decisions regarding the LPR system were adequately documented. The Government Accountability Office's (GAO) "*Standards for Internal Control in the Government*" require that all transactions and other significant events be clearly documented and readily available for examination. These standards further require that all documentation and records be properly managed and maintained. Despite this requirement, a lack of sufficient documentation regarding the LPR system hindered our ability to identify and review decisions BX and BF personnel made related to the LPR system.

The need for a clear audit trail was especially important for this project because of the personnel changes that occurred during the selection and implementation of the LPR system. The LPR system was first considered by BX in August of 2008 when BF personnel directed LB&B (a NARA contractor providing facilities and building services) to work with BX and "take the lead on this and get your technical experts to come up with some various scenarios." Although not documented, during an interview we learned that in 2009 the Contracting Officer's Representative (COR) for the LPR system project shifted responsibility for the project from LB&B to BF. This COR eventually left NARA and was replaced by a new COR in November of 2010. Furthermore, responsibility for the LPR system project was shifted between BX personnel in July of 2010.

During our review we asked BX personnel why Heery was chosen as the vendor and what other entities used their LPR system. In addition, we asked the former COR for the LPR system whether any NARA personnel viewed LPR systems installed and functioning at other entities. The BX personnel interviewed did not know and could not provide documentation as to why Heery was chosen as the vendor and could not provide specific examples of other entities using LPR systems. Also, the former COR stated that Heery did provide an on-site demonstration at AII, but no other demonstrations of LPR systems were viewed by NARA personnel.

At the entrance interview for this audit, we requested any communications associated with obtaining the LPR system contract. NARA's Lead Security Specialist stated during a subsequent interview that they inadvertently deleted emails associated with obtaining the LPR system contract. This individual, who held the position of Lead Security Specialist at AII, was highly involved with the research and selection of the LPR system. Because these emails were deleted, an evaluation of the rational used to make decisions regarding the selection of the LPR system was hindered. For example, a proposal for the LPR system was sent to NARA on February 27, 2009. This proposal contained a scope of work that was very similar to the scope of work contained in the August 20, 2009 proposal accepted by NARA. However, the February proposal cost approximately $50,000 less than the August proposal. During this review NARA personnel could not provide documentation that explained why the proposal from February was not accepted, or why another proposal was sent in August.

Another individual from BX, who was assigned to the LPR system project in July of 2010, stated that when they were first placed on the project it was like "running with a project blind" because of the lack of background documentation. This individual also stated that when they started on the project regular meetings between NARA personnel and the contractors working on the LPR system were not taking place. In response to the lack of meetings, weekly progress meetings for the LPR system were initiated on July 14, 2010.

The PIA completed for the LPR system asked if a risk assessment was performed. BX's response stated that a risk assessment was performed in August of 2009 that did not identify any risks associated with the LPR system. However, during our review, no risk assessment was produced. Further, during interviews with BX personnel, no one had knowledge of a risk assessment taking place. This situation provided another example of NARA personnel unable to provide documentation allowing us to identify and review decisions BX and BF personnel made related to the LPR system.

Although our request for communications associated with obtaining the LPR system contract did not refer to a specific format, NARA personnel responded to this request by providing documentation in various formats including paper print-outs, Microsoft Word and Adobe portable document format (pdf) screenshots, and native Groupwise files. After reviewing NARA's communications utilizing these varying formats, it was noted that the native Groupwise files proved to be the easiest and clearest method of preserving and producing email communications. Emails produced as native Groupwise files also included attachments, which further streamlined our ability to effectively review the documentation provided.

Recommendations

3. We recommend the Security Management Division (BX) and Facility and Property Management (BF):

    a. Ensure compliance with GAO's "*Standards for Internal Control in the Government*" including ensuring that all transactions and other significant events are clearly documented and available for examination and all documentation and records are properly managed and maintained.

Management Response

Management concurred with the recommendation.

3. NARA's parking policies and procedures are not current.

Our review of NARA's parking program revealed that NARA's parking policies and procedures were not current. This occurred because BX personnel made the decision not to update NARA's parking policies and procedures to reference use of the LPR system until the system had been accepted. As of the end of fieldwork the LPR system had not been accepted, and thus NARA's parking policies and procedures did not reflect the actual practices carried out by BX personnel and NARA's contracted security officers.

NARA 232 Not Current

NARA 232 represents the NARA policy directive detailing the procedures to control parking at AII. However, NARA 232 contains procedures no longer performed by BX personnel. This is affirmed by BX personnel referencing 232 as an "old directive" that is "outdated." Also, NARA 232 did not include any references to the LPR system.

Subpar. 232.4a(2) of NARA 232 states that NARA's Space and Security Management Division (now the Security Management Division or BX) "issues and retrieves all permanent parking permits." NARA 232 also addresses the issuance of parking permits in paragraphs 232.7 and 232.8. However, BX personnel stated that BX no longer officially issues parking permits. Nevertheless, occasionally old parking permits are distributed to employees if they request one in order to alleviate the frustration NARA employees experience who have vehicles with license plates that cannot be read by the LPR system.

Subpar. 232.11(b) of NARA 232 states that "without a parking permit an individual may not park in the loading dock or satellite lots (Pepco Lot)." However, this statement is inaccurate because the current procedures at AII allow anyone to park at the Pepco Lot. Furthermore, security officers are directed to allow NARA employees and contractors to park at the Loading Dock if they present their NARA identification.

Par. 232.13 of NARA 232 states that "NARA Federal Identity Card holders who have been issued an Archives II parking permit must display the permit at all times the vehicle is on NARA-controlled property." Again, this statement is inaccurate because the current procedures at AII do not require the display of parking permits.

Parking at AII is controlled not only "with permits that authorize parking", as described in subpar. 232.6a, but also by the LPR system. However, as noted above NARA 232 did not include any references to the LPR system, despite its daily use (when functional) at AII's Main Gate and Loading Dock.

Post Orders Not Current

In addition to NARA 232, Post Orders also provide another means for NARA to control parking at AII. Post Orders provide general procedures for security officers to follow while posted at specified locations throughout AII.

Our review of Post Orders was limited to those that referenced duties pertaining to NARA's parking program. Four of the Post Orders at AII include references to parking policies and procedures, these posts are 6, 12, 14, and 18. All of these Post Orders contained a reference to parking permits which are no longer officially distributed or maintained. In addition:

- Post 6 – Staff Entrance Parking Garage
  - Stated that security officers record information when NARA employees sought to park without a parking permit although the practice no longer occurs. Also, it did not discuss the LPR system.

- Post 12 – Exterior Roving Patrol
  - Stated that security officers conduct a parking permit check that no longer takes place. Further, it referenced reserved parking spaces that no longer exist.

- Post 14 – Adelphi Road Main Gate
  - Stated that security officers record information when NARA employees sought to park without a parking permit although the practice no longer occurs.

- Post 16 – Metzerott Road Entrance Gate
  - Stated that security officers record information when NARA employees sought to park without a parking permit although the practice no longer occurs. Also, it did not discuss the LPR system.

BX personnel have stated that updates to NARA 232 and Post Orders associated with parking at AII are in progress. However, they have also stated that these updates will not go into effect until the LPR system is accepted. In fact, a document produced by BX during the review stated that BX has indicated that they have "no desire to implement interim/temporary procedure [*sic*] for a partially functioning system." However, given the fact that the LPR system has been functioning only partially since implementation, BX should consider implementing procedures that accurately reflect NARA's efforts to control parking at AII.

Recommendations

4. We recommend the Security Management Division (BX):

   a. Ensure that Policy Directive 232, *Parking at the National Archives at College Park (Archives II)* is current.

   b. Ensure that Post Orders are current and include actual practices in use by security officers as directed by BX personnel.

Management Response

Management concurred with the recommendation.

Appendix A – Acronyms and Abbreviations

232	NARA Directive 232, *Parking at the National Archives College Park Archives II*
801	NARA Directive 801, *Capital Planning and Investment Control (CPIC)*
AII	The National Archives Building at College Park, Maryland
BX	Security Management Division
BF	Facilities and Property Management Division
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CPIC	Capital Planning and Investment Control
GAO	Government Accountability Office
IDIQ	Indefinite Delivery Indefinite Quantity
ISP	IT Policy and Planning Branch
IT	Information Technology
LPR	License Plate Recognition
NARA	National Archives and Records Administration
NGC	General Counsel
OIG	Office of the Inspector General
PDF	Portable Document Format
PIA	Privacy Impact Assessment
PII	Personally Identifiable Information
RFID	Radio Frequency Identification

Appendix B – Management's Response to the Report

NATIONAL ARCHIVES

Date: MAY 29 2012

To: Paul Brachfeld, Inspector General

From: David S. Ferriero, Archivist of the United States

Subject: OIG Revised Draft Audit 12-12, Audit of NARA's Parking Program

Thank you for the opportunity to provide comments on the revised draft of the Parking audit. We appreciate the auditor's willingness to work with us to resolve questions and comments.

We concur with the four recommendations in this audit, and will begin work on an action plan when the final report is issued.

If you have any questions or need additional information on these comments, please contact Mary Drak by phone at 301-837-1668 or via email at mary.drak@nara.gov.

David S. Ferriero
Archivist of the United States

NATIONAL ARCHIVES *and*
RECORDS ADMINISTRATION
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740-6001
www.archives.gov

Appendix C – Report Distribution List

Archivist of the United States (N)

Deputy Archivist

Chief Operating Officer

NGC

Appendix D – CURE Notice

National Archives and Records Administration

8601 Adelphi Road
College Park, Maryland 20740-6001

Date : November 19, 2010

Reply to
Attn of : [redacted] Contracting Officer

Subject : CONTRACT #NAMA-04-SEM-0008 Delivery Order #0115 – CURE NOTICE

To : HEERY International Inc.
1099 14th Street, NW, Suite 101
Washington, DC 20005

Dear [redacted];

After last weeks meeting between NASS, NAF, HEERY, Mona and CTSI, I had a discussion with [redacted] and [redacted] in regards to HEERY's contract #NAMA-04-SEM-0008 Delivery order #0115 Archives II License Plate Recognition (LPR) Gate System. Basically the original contract was awarded on August 31, 2009 for the sum of $460,528.00 and since then we have issued two modifications to have this project completed. Since last year, the contractor has had multiple software and hardware issues on getting this project completed inspected and accepted. They have missed numerous deadline installation implementation dates. Modification/Amendment #1&2 were issued on August 31, 2010. Mod #1 was for the sum of $28, 679.73, and Mod #2 was for the sum of $4, 623.96 bringing this project to a total of $493,831.69.

Over the past several months the contractor has to redevelop several software patches for the system to recognize different license plates. After several weekly progress meetings, it has been noted that the original software proposed cannot identify a variety of license tags. It has been noted that the original software form Gateway was developed in Europe and was designed to only identify tags that use straight number and letters (ex...1234ABCD). The problems are that in the Metropolitan area there are multiple license tags with symbols, stack letters, and fonts. Although CTSI sub-contractor has been trying to develop patches for certain letters, tag formats and different states this should have been discussed at the beginning of the contract not a year into it. Since last June of 2010, CTSI and Gateworks have been loading numerous software patches into the LPR servers located in NAS SCIF. This has also entailed having to have an NAS Security Representative having to spend hours for escorting contractors.

After a year of data base and software changes, failed readings, system malfunctions and the inconvenience to NARA staff, researchers, visitors, contractors and volunteers [redacted] and myself have come to the conclusion that it is time to issued a cure letter to HEERY International Inc. They need informing that NARA wants a closing deadline date to this contract and a 100% reading rate for all variety of license plates especially the different states within the commuting area. The PEPCO lot will be 100% automatically controlled by this system and we cannot afford anything other then 100% reading rate. We also believe that HEERY has had enough time to reconcile any changes that may be

NARA's web site is http://www.nara.gov

needed to have this system up and running properly. I believe after 15 months for a project that should have been accomplished in no more than four months, is enough time.

In addition, if the contractor cannot get the software and system as a whole to work properly, maybe an option is to replace the LPR system with an new parking permit PIR system. My understanding was that the LPR system was supposed to be designed to replace a guard at the PEPCO lot and to provide NARA a cost saving on man power. If we cannot get the system to give us a 100% then we are defeating what we set out to do.

You are notified that the Government considers your performance in the above order a condition that is endangering performance of the Order. Therefore, unless this condition is cured within 30 days after receipt of this notice, the Government may terminate Heery for default under the terms and conditions of this contract order and effect the further use of Heery on subsequent Orders from NARA.

I suggest Heery meet with their subcontractors and submit a final completion schedule providing a finished operating system as required and that will be adhered to.

/s/ signed
[redacted]
Contracting Officer
[redacted]

CC: Official
NAS
NASS

Appendix E – Heery's CURE Notice Response

HEERY

Architecture
Engineering
Interior Design
Program Management
Construction Management
Facilities Management

December 6, 2010

[redacted]
Contracting Officer
National Archives and Records Administration
8601 Adelphi Road, [redacted]
College Park, MD 20740-6001

RE: Archives II – License Plate Recognition (LPR) Gate System
Delivery Order 0115 – Cure Notice
Contract No. NAMA-04-SEM-0008

Dear [redacted]:

This letter acknowledges receipt of NARA's CURE Notice dated November 19, 2010, regarding the Archives II License Plate Recognition (LPR) Gate System.

Heery acknowledges that the Gateworks software system chosen by NARA has required a number of software patches. The Gateworks software identifies license plates with a straight number and letter system. The Gateworks software, like any other LPR system, requires fine tuning to customize the system to read locally-varying plates. The system reads a minimum five letters or numbers prior to granting access. The combination of irregular characters and symbols are all variables, which the system must read. After much work and as demonstrated at our test of the PEPCO Lot Gate on December 1, the system now reads the various types of plates from Virginia, DC, Maryland, Pennsylvania, New Jersey, and West Virginia successfully.

Heery agrees that the installation and testing of the LPR system has taken longer than anyone on the project team envisioned or is happy with. We do note that the installation and testing of the system was complicated and delayed by a number of factors, including:

- Relocation of the head-end equipment from a non-secure to a secure area as directed by NARA via change order, requiring NARA escorts and a more time-consuming installation. The placement of the head end in the SCIF room, in lieu of Room 2300, severely impacted the start up and commissioning of the system. Typically, our subcontractors would have unlimited access to the system for programming, updating and upgrades. The secure location limited physical access to the system and required an escort from security for each time a programming/adjustment was needed.

Heery International, Inc.
A group of professional service practices
1099 14th Street, NW, Suite 101, Washington, DC 20005
Telephone 202 463-8200 Fax 202 463-8264
Offices Nationwide

HEERY

[redacted]

- The lack of remote access (over the internet) to the software to allow the installation of patches.
- Removal by NARA's separate contractors of existing equipment that was shown to remain at each of the gates. Heery understood that the gate/bollard controls at the PEPCO lot were operational with the RFID system. Once the RFID system was removed by NARA, there was existing equipment requiring replacement. The bollards and gates required redesign and wiring changes to allow system interaction with the LPR system. This additional work was funded by modifications issued by NARA on August 19, 2010 and August 31, 2010.
- Failures in the existing fiber network installed by others that the LPR system ties into. The existing fiber issue is still being worked on by NARA for the Adelphi and Metzerott gates.
- Improper installation by others of ground loops at the PEPCO Lot. The system was malfunctioning as the location of the loops did not allow completion of the transaction and system reset. This work was funded by the modification issued by NARA on October 4, 2010.

We have worked as a team with NARA to overcome each of these challenges.

It is noteworthy that no required "read rate" for the LPR was included in the scope of work developed by NARA (included herein as an Exhibit) which served as the basis for Mona Electric's proposal to NARA. It is also noteworthy that Mona Electric's proposal to NARA also did not specify a "read rate". Heery's research indicates that there is no accepted industry standard (e.g. NIST, CSI, etc.) "read rate" for an LPR system. However, we were able to locate an article entitled "ANPR System Performance" (also included as an Exhibit) which, besides calling for the industry to establish such a standard, states that "The experience of system operators is that overall read rates for license plates are 90% to 94% in ideal conditions with excellent modern systems". Given the limitations of all LPR systems, NARA's demand for a 100% read rate as stated in the CURE Notice is not achievable by any LPR system. Heery and our subcontractors have committed to providing a 95% read rate, which seems to exceed the standard suggested in the article.

The most recent test performed on December 1, 2010, at the PEPCO Lot resulted in 110 accepted transactions, 6 problems and 36 not entered in the database. These results show the LPR system working at 95.9% read accuracy for the PEPCO Lot. At our December 1, 2010 progress meeting, we reviewed with the NARA representatives present that the operational solution for all non-accepted plates is to direct those vehicles to the Metzerott Gate.

HEERY

[redacted]
December 6, 2010
Page 3

One particular concern with the operation of the LPR system is the need to NARA to correctly populate and then maintain the license plate database. 36 of the 152 vehicles (23.7%) that attempted to enter the PEPCO Lot were shown as "not in database", despite the protestations of the individual vehicle drivers that they had submitted the required documentation to NARA for entry into the database. The LPR system will not work as intended unless the database is properly maintained. We also recommend a template be developed for staff to properly enter the plate numbers with various configurations; i.e., stacked letters and symbols to improve the data entry, resulting in improved read accuracy. The database must be kept up-to-date by NARA to facilitate the final testing of the system.

Heery met with the representatives of NARA, Mona, and their subcontractors at our Progress Meeting on December 1, 2010 (minutes attached as part of the Exhibit) to reach a consensus on completing the project and the independent operating gate at the PEPCO Lot. The summary of the discussions follows:

1. The latest tests completed on December 1, 2010 at the PEPCO Lot indicate a much improved read rate of 95.9%. In order to increase read rate, an alternate plate for the employees with symbols or stacked letter plates that cannot be read may be acceptable to NARA.

2. In order to get the PEPCO Lot operating on the LPR System, NARA representatives indicated that under an access denied, that the individual could be instructed to use the phone at the PEPCO guardhouse and be directed to the Metzerott gate.

3. It was agreed a plan for formal testing will be submitted, testing performed and witnessed by NARA security and the project completed, as soon as possible.

4. NARA required a list of other locations and operations from Heery with LPR Systems. This information has been requested from our subcontractor, Mona.

HEERY

[redacted]
December 6, 2010
Page 4

We are working with our subcontractor (Mona) and have enclosed Attachment A as the Final Completion Schedule for the project, per your letter. We will continue to work with your team to successfully complete this project and maintain our 12 year relationship in providing services to NARA.

Sincerely,

HEERY INTERNATIONAL, INC.

[redacted]

Enclosures: Attachment A - Proposed Schedule
Attachment B - Mona Electric letter dated December 6, 2010
Exhibits - Progress Meeting Minutes dated December 1, 2010
Article on ANPR System Performance
Progress Meeting Minutes dated April 21, 2010
NARA License Plate Reader Development Scope of Work

Copy: [redacted] NARA
[redacted], NARA
[redacted], Heery

F:\2004\04130-62 All License Plate ID Gate Sys\c1\r_n120610_All_LPR Gate System_NARA_CURE_Ltr.doc