



National Archives and Records Administration

Office of the Inspector General

*8601 Adelphi Road, Room 1300
College Park, Maryland 20740-6001*

Date: May 13, 2010
Reply to
Attn of: Office of Inspector General (OIG)
Subject: Management Letter OI 10-03: Backup Computer Tape Disposal
To: David S. Ferriero, Archivist of the United States (N)

In December 2009, a complainant reported to the OIG that NARA was not properly or adequately disposing of used and/or failed computer backup tapes. The OIG deployed both audit and investigative resources to examine this issue. The purpose of this Management Letter is to formally advise you of the results of our analysis. The claim was substantiated in that we found: (1) NARA failed to adequately control the disposal of these tapes; and (2) NARA can provide no assurance that sensitive information has not inappropriately left NARA's control.

Computer Back-Up Tapes:

For several years, NARA has employed a variety of magnetic tape media to back up information stored on NARA's many varied computer systems throughout the country. Part of the lifecycle of a backup tape is to be reused. When tapes are reused, recorded information is written over with new information. While tapes are regularly reused, each individual tape has a limited life expectancy. Typically, a tape will report an "error" message when it is no longer performing to the manufacturer's standards. At this point the tapes are deemed no longer usable. Throughout their life in the backup process, tapes are tracked and logged. However, once an "error" message is received and the tape is deemed to have failed, the tape is taken out of the backup rotation and its existence is no longer catalogued. NARA does not have an adequate accounting of these tapes, as we have found their final disposition varies widely. While some tapes are burned, shredded, or stored indefinitely, the fate of many is simply unknown.

Lack of a Disposal Process:

On December 14, 2009, OIG staff met with senior Offices of Information (NH) staff to solicit information about the process for handling and disposal of backup tapes. Senior NH staff referred to a "Media Sanitation Policy," but allowed that current backup tape handling policy does not address the destruction of tapes at the end of their useable life. While Field Office Support Administrators (FOSAs) are typically charged with managing backup tapes at their respective NARA facilities, NH staff stated that FOSAs are not authorized to destroy tapes. Instead, tapes should be returned to NARA's College Park facility (A2) for storage in a warehouse cage.

Both rank-and-file staff, as well as contractors supporting NARA, told OIG they were not aware of any policy or standard operating procedure governing the destruction of tapes, nor of any requirement to document such destruction. One FOSA, unaware that NH did not allow it, stated he independently destroyed failed tapes because of his concerns for the potential disclosure of sensitive information. He was unaware of any standard operating procedures for the destruction of tapes. He stated that once tapes are at the end of their lifecycle, he takes the tapes outside to maintenance personnel who, under his supervision, burn the tapes in a steel drum. He also stated he had in the past sent tapes to NARA's Federal Records Center in Fort Worth, Texas, where a shredder capable of large-scale tape destruction is available. He did not know whether any other NARA facilities incinerate their failed tapes. He stated this process is not documented.

Senior NH staff confirmed that no destruction policy exists, and the unwritten policy is to forward failed tapes to NARA for storage in an A2 warehouse cage. An examination of the cage in question revealed 10-15 boxes of varying sizes stuffed with backup tapes from a variety of technologies, some dating back to 1987. Between January 20, 2010 and February 26, 2010, OIG staff inventoried the tapes from the warehouse cage. Throughout this process, a lack of a standardized tape labeling methodology was readily apparent. Many tapes did not contain labels and others contained labels with limited information. It was difficult and frequently impossible to determine the contents and origin of the backup tapes from their labels. A sample of the spreadsheet documenting the tape inventory is attached as Appendix - 1. The complete inventory is available at your request. Images of tapes collected in the A2 warehouse cage are attached as Appendix - 2.

Conclusion:

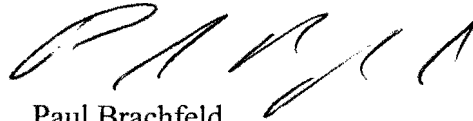
Our analysis revealed confused and contradictory beliefs and understanding of what was and was not allowed in terms of computer backup tape disposal at NARA. FOSAs were unaware of any policy, written or otherwise, governing tape disposal. Personnel responsible for the tapes are left to their own devices. Some burned them. Some sent them to be shredded. Others sent them to NARA where they were not destroyed, but stored in a warehouse cage. It was alleged that some tapes were simply thrown in the office trash.

A lack of a uniform labeling methodology also made it impossible to distinguish tapes containing sensitive data. Once tapes failed, there was no tracking, management, or oversight of their disposal. Senior NH staff insist the risk of exposure is low and that it would be close to impossible to recover data from a failed backup tape. We disagree. While the risk may or may not be low, it is the view of the OIG that while viewing the entirety of the data on a tape may be difficult, it is possible, and even likely, that portions of data would be retrievable and such portions could include a wide variety of sensitive information.

Ultimately, NARA cannot say whether all tapes at the end of their useable life are or are not delivered and present at A2, whether they are effectively destroyed or simply thrown in the trash. No documentation of failed tapes exists once they are taken offline, and no mechanism is in place to track their disposal. While one may argue the likelihood of sensitive information being leaked in this fashion, simple due diligence and limited initiative could virtually eliminate such a

possibility and operational best practices demand such steps be taken. We note that per NH, the processes we evaluated here continue to evolve as NARA converts to new backup technologies.

Please advise me within 30 days what action has been or will be taken to address these issues. Should you have any questions after you have had an opportunity to review this management letter, please e-mail me or Ross Weiland, AIGI, or call us at (301) 837-3000.



Paul Brachfeld
Inspector General

Enclosures:

- Appendix – 1: Inventory of backup tapes stored in A2 warehouse cage
- Appendix – 2: A2 warehouse cage pictures

APPENDIX - 1: Sample of Warehouse Cage Inventory

Redactions
done
under
b(2)

Server/System	Label Information			Tape Information		
	Date	Copy	Initials	Type	Notes	Box
[REDACTED]	12/8/2006	1 of 5	none	Dell LTO 1		1
[REDACTED]	7/27/2007	3 of 7	none	Maxell LTO1		1
[REDACTED]	5/13/2006	2 of 2	none	Verbatim LTO1		1
[REDACTED]	11/24/2006	1 of 2	none	LTO1		1
[REDACTED]	12/15/2006	1 of 4	none	LTO1		1
blank	blank	blank	none	LTO3		1
[REDACTED]	10/6/2006	blank	none	LTO1		1
[REDACTED]	7/27/2007	1 of 7	none	LTO1		1
[REDACTED]	blank	blank	none	LTO2	A00020	1
[REDACTED]	5/6/2006	2 of 2	none	LTO1		1
[REDACTED]	10/20/2006	blank	none	LTO1		1
[REDACTED]	7/27/2007	7 of 7	none	LTO1		1
[REDACTED]	7/26/2005	blank	none	DLT4	"test backup of sys" "successful"	1
[REDACTED]	7/8/2008	4 of 4	none	LTO1		1
[REDACTED]	7/27/2007	4 of 7	none	LTO1		1
[REDACTED]	10/27/2006	1 of 2	none	LTO1	monthly	1
[REDACTED]	5/6/2006	1 of 2	none	LTO1		1
[REDACTED]	12/2/2006	3 of 3	none	LTO1		1
[REDACTED]	9/16/2006	blank	none	LTO1		1
[REDACTED]	9/12/2006	blank	none	LTO1		1
[REDACTED]	blank	blank	none	LTO2		1
[REDACTED]	4/8/2006	blank	none	LTO2	a00015	1
[REDACTED]	7/18/2006	blank	none	LTO1		1
[REDACTED]	11/24/2006	blank	none	LTO1		1
[REDACTED]	10/1/2006	2 of 2	none	LTO1		1
[REDACTED]	8/4/2006	blank	none	LTO1		1
[REDACTED]	10/1/2006	1 of 2	none	LTO1		1
[REDACTED]	7/28/2006	blank	none	LTO1		1
[REDACTED]	7/28/2006	blank	none	LTO1		1
[REDACTED]	8/4/2006	blank	none	LTO1		1
[REDACTED]	8/4/2006	1 of 2	none	LTO1		1
[REDACTED]	6/16/2006	1 of 2	none	LTO1		1
[REDACTED]	9/1/2006	2 of 2	none	LTO1	no tape 1	1
[REDACTED]	8/25/2006	blank	none	LTO1	[REDACTED]	1
[REDACTED]	7/22/2006	blank	none	LTO1	Handwritten note stating the following: "This backup tape was provided by [REDACTED] NHT, on 3/13/07 @ 1:15pm. This is an incremental backup tape from the Reagan library"	1
[REDACTED]	2/22/2008	1 of 2	none	LTO1	[REDACTED]	1
[REDACTED]	4/8/2006	1 of 2	none	LTO1		1
[REDACTED]	10/27/2006	2 of 2	none	LTO1		1
[REDACTED]	10/27/2006	blank	none	LTO1		1
[REDACTED]	10/13/2006	blank	none	LTO1		1

b(6)

APPENDIX - 1: Sample of Warehouse Cage Inventory

Redactions
done
under
b(2)

Server/System	Label Information			Tape Information		
	Date	Copy	Initials	Type	Notes	Box
blank	blank	blank	none	LTO2		1
blank	blank	blank	none	LTO1		1
blank	blank	blank	none	LTO1		1
blank	blank	blank	none	LTO2		1
blank	blank	blank	none	LTO1		1
██████████	10/13/2006	2 of 4	none	LTO1		1
██████████	7/22/2006	1 of 9	none	LTO1		1
██████████	2/10/2007	3 of 3	none	LTO1		1
blank	blank	blank	none	DLT4		1
██████████	7/27/2007	1 of 3	none	LTO2		1
blank	blank	blank	none	LTO1		1
██████████	Tuesday	blank	none	DLT4		1
██████████	11/17/2006	4 of 4	none	LTO1		1
blank	blank	blank	none	LTO1		1
██████████	11/9/2007	3 of 4	none	LTO2		1
██████████	11/9/2007	2 of 4	none	LTO2		1
██████████	11/11/2006	2 of 3	none	LTO1		1
██████████	8/5/2006	1 of 3	none	LTO1		1
██████████	8/25/2006	2 of 2	none	LTO1		1
██████████	3/20/2009	5 of 5	none	LTO1		1
██████████	7/20/2007	2 of 3	none	LTO2		1
██████████	4/13/2007	3 of 3	none	LTO1		1
██████████	7/22/2006	2 of 2	none	LTO1		1
██████████	9/1/2006	blank	none	LTO1		1
██████████	9/22/2006	blank	none	LTO1		1
██████████	10/27/2006	1 of 2	none	LTO1		1
██████████	8/25/2006	2 of 4	none	LTO1		1
██████████	8/25/2006	2 of 4	none	LTO1		1
██████████	8/25/2006	4 of 4	none	LTO1		1
██████████	blank	blank	none	LTO2		1
██████████	4/13/2007	1 of 2	none	LTO1		1
██████████	1/12/2007	1 of 1	none	LTO1		1
██████████	9/29/2006	2 of 2	none	LTO1		1
██████████	11/3/2006	1 tape	none	LTO1		1
██████████	blank	4 of 4	none	LTO2		1
██████████	12/10/2006	1 tape only	none	LTO1		1
██████████	11/17/2006	blank	none	LTO1		1
██████████	11/26/2006	1	none	LTO1		1
██████████	4/27/2007	1 of 4	none	LTO1		1
blank	blank	blank	none	LTO3		1
██████████	4/24/2009	2 of 7	none	LTO1		1
██████████	4/24/2009	1 of 7	none	LTO1		2
██████████	8/18/2006	4 of 4	none	LTO1		2
██████████	10/6/2006	blank	none	LTO1		2

APPENDIX – 2: Warehouse Storage of Used/Failed Computer Backup Tapes



Some used/failed computer backup tapes, among other items, were thrown in old boxes and stacked on a pallet in the A2 warehouse cage. These boxes included at least one tape from 1987, as well as a variety of old floppy disks.





Additional tapes arrived at the A2 warehouse cage during the course of the OIG's inventory.



No uniform labeling standard existed on the discarded computer backup tapes and many had no label at all. Where labels existed, they provided no information regarding the sensitivity of the tape contents.