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IN REPLY REFER TO

OTS 730.5

April 13, 2007  
07-OTS-019(R)

MEMORANDUM FOR REGIONAL DIRECTORS, DCAA  
DIRECTOR, FIELD DETACHMENT, DCAA

SUBJECT: Audit Guidance Memorandum: Updated Criteria for Large File Size Review

The purpose of this memorandum is to remove the 10 megabyte (MB) criteria for the review of large backup and archive files and to clarify the intent of file size reviews as prescribed in CAM 4-407(d)(2). This memorandum is effective upon receipt.

Our review has determined that the 10 MB file size limit is no longer necessary and has the potential to drive undesired behavior with respect to inclusion of working papers in the APPS file. We believe that adequate training has taken place with respect to the use of effective file sizing techniques and that a more subjective approach can be taken to identify and resolve isolated problems related to large files and/or individual training needs. When unnecessarily large files are encountered, the supervisory auditor must ensure the problem is addressed on a prospective basis (e.g., with formal or on the job training) but may effect immediate corrective action, as appropriate. Immediate action may be appropriate for particularly egregious cases; corrective action often takes little time or effort and can provide a excellent opportunity for on-the-job-training.

In addition to training, we have also provided tools to help create more optimized file sizes. For example, the APPS Word Toolbar includes a "Paste as Picture" tool which inserts a picture of a spreadsheet section rather than embedding a large spreadsheet. Similarly, we have the "Excel Converter" tool to change an already embedded spreadsheet to a picture.

File size should never be used as the criteria for determining whether to retain a working paper necessary to support an audit conclusion. In some instances, contractor proposals may be extremely large. When this occurs, it is acceptable to file the proposal as a separate file in the iRIMS assignment folder rather than in the APPS working paper archive. This will allow for more expeditious retrieval of the working papers from iRIMS. The working papers should be appropriately annotated to reflect the location of the proposal.

CAM 4-407(d)(2) has been changed to the following:

Electronic files should be maintained in efficient formats. As audit working files are backed up or archived, individual files and sizes comprising the backup can be viewed using WinZip. When creating the final backup, the auditor should peruse the backup using WinZip to identify files appearing inordinately large

compared to their content. The intent of this review is to identify and remedy poor file creation techniques that contribute to unnecessarily large overall file size. The supervisory auditor should perform a similar review as part of the final review process. To aid in this review process, a File Size Review Tool is available on the DCAA Intranet as part of Other Audit Guidance. Files that directly support audit conclusions should never be removed from a backup or archive simply because they are large.

The File Size Review Tool included in Other Audit Guidance on the Intranet has been modified to remove the 10 MB criteria. A copy of the optional tool is included as an Attachment. It contains:

- Rules of thumb on what constitutes an unusually large file
- How to sort files in WinZip to locate the largest files, and
- Typical reasons for file size growth and solutions for common issues.

Should you have any questions, please contact the Technical Audit Services Division at (703) 767-2238.

Karen Cash /s/  
For Joseph J. Garcia  
Assistant Director  
Operations

Attachment:

DISTRIBUTION: C

## Review Tool for Audit Backup or Archive Files

The following is a list of methods to search for and locate problems associated with large APPS backup or archive files. The list is not intended to be “all inclusive” as there may be other attributes or facts that will provide a knowledgeable person with more clues as to how to isolate and identify other problems. Some of the processes described will reveal the same problem files. Finally, some items require judgment as to whether they can be corrected quickly and efficiently or used as a tool to develop a solution for future filings.

Version No. 1.1 , April 2007 Review Steps	Action <sup>1</sup>	Electronic Filename & Problem Description
1. Open the zipped or executable file using WinZip (Open the Winzip application first, then use the File, Open commands from the menu--you cannot double click the .exe files from explorer).		
2. Sort the files by size (in WinZip, click in the header labeled “size”-until the largest are on top).		
a. Isolate the largest files to see where a problem might be (if a couple of files take up most of the file space, you should investigate; see common problems below).		
b. Look for formats that are usually large (i.e., bmp, jpg, rtf, zip, etc.) and have issues associated with them (see common problems at the bottom of the review tool). If the problem seems isolated to a certain type of file, then see Sort the Files by Type below.		
c. Look for large Word files (this may occur because of embedding rtf/msg files in a “Conversations” type document (wps 07 & 08 are susceptible). It can also occur when images have been improperly inserted.		
d. You can also view the “Packed Size” of each file (in WinZip, click in the header labeled “Packed”--if the header is not there, right click on any header item and select “Packed”). Some files compress (pack) much better than others and may not be a large concern based on the packed size.		
3. Sort the files by Name		
a. Look for duplicate files (if a duplicate file exists, look at the path attribute to ascertain its location and whether it should be preserved).		
b. Look for Temporary files. When the sort is by name, these files will appear at the top or bottom, depending on the sort, and the first character in the file name will be “~”. Some will start with “~\$” while some will start with “~WRL”.		
c. Look for extraneous files that don’t follow the naming conventions in CAM 4-403h(2). These files have either been forgotten by the auditor and need to be renamed and incorporated in the work product or (more likely) they are duplicates of some other files.		
4. Sort the files by Type (in WinZip, click in the header labeled “Type”-if the header is not there, right click on any header item and select “Type”)		
a. Look for formats that are associated with excessively large file size (bmp, jpg, rtf, exe, zip, etc.)		
b. Look for formats that are associated with duplications		

## Review Tool for Audit Backup or Archive Files

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Version No. 1.1 , April 2007 Review Steps	Action <sup>1</sup>	Electronic Filename & Problem Description
(exe & zip).		
i. If a backup has been maintained in the subdirectory with the working papers, it will get zipped up in the archive process. This file should be deleted prior to archiving.		
ii. Ensure any large zip files do not contain files placed elsewhere in the audit work package.		
iii. Ensure any earlier copies of the .exe file are not maintained in the final archive file.		

### Note 1: Actions:

1=Delete

2=Review for duplication

3=Review for format

4=Review for content

### Common Problems with format:

1. Emails saved as rtf (the msg format should be used to preserve the attachments, and the txt format should be used when attachments have been preserved elsewhere).
2. Large Word files may contain images inappropriately inserted. The Word “rule of thumb” can be applied. 50-100KB per page (this rule contains some consideration for occasional [correctly] inserted images and some more elaborate formatting--like tables). If the file size divided by the number of pages is larger than 50-100KB per page, there is potential for a problem (judgment needs to be applied).
3. Image files saved as .bmp would be very large compared to their .tif and .pdf counterparts. Files in a .jpg format would rarely be necessary as well.
4. Large PDF files may have been scanned or converted incorrectly. The Word “rule of thumb” can be applied to .pdf files as well. If file size/# of pages is large, there is potential for a problem (judgment needs to be applied).
5. Temporary files are created in the working subdirectory when using some MS Office applications. When these MS Office applications terminate unexpectedly, the temporary files are used for recovery of data. Occasionally they do not get removed by Windows and can remain in the working subdirectory. When deleting these files, the user should ensure all Office applications are shut down.

### Common Problems with content:

1. Emails saved in msg (or rtf) preserve attachments that are already included in the working paper package somewhere else. This is a fine format if the attachments need to be preserved. However, if the attachments have been placed elsewhere in the working paper package, then they need not be saved twice (a hyperlink will do). The text of the email can be saved using the txt format.
2. Duplicate back up files in the exe file (this occurs when auditors use the audit working paper subdirectory to store their backup files). Auditors should be encouraged to use a LAN drive or an offline medium for backups.
3. Duplicate working papers. If a duplicate file exists, look at the path attribute to ascertain its location and whether it should be preserved. Subdirectories may be created by the auditor for temporary purposes and then forgotten. These files will have the same name but a different path.
4. Large MS Word files containing many msg or rtf files. This may occur because an auditor is trying to chronologically capture emails associated with a work package. Emails should be saved as either txt or msg (depending on whether any associated attachments need to be saved). Although these files should probably not be reworked, auditors should be informed to strive to use file naming conventions that will provide them with the necessary chronology rather than embedding technologies. In addition, auditors should not be saving files attached to emails that have been placed in the working papers elsewhere (the proper format for an email without saving attachments is .txt).
5. Files placed in the APPS working subdirectory (typically using Windows Explorer) or in another subdirectory created by the auditor, copied and altered as a working paper. These files are probably the remnants of original files that were used as building blocks for the auditor's work and were never deleted. Typically they have not been given a file name IAW our file naming convention.