tape, the agency and NARA must agree on the medium that will be used to transfer the records into the National Archives of the United States.

(d) *File Transfer Protocol.* Agencies may use File Transfer Protocol (FTP) to transfer permanent electronic records to the National Archives of the United States only with NARA's approval. Several important factors may limit the use of FTP as a transfer method, including the number of records, record file size, and available bandwidth. Agencies must contact the National Archives and Records Administration, Special Media Archives Services Division (NWCS), 8601 Adelphi Road, College Park, MD 20740, phone number (301) 837–2903, or the National Archives and Records Administration, Electronic/Special Media Records Services Division (NWME), 8601 Adelphi Road, College Park, MD 20740, phone number (301) 837–1578, to initiate the transfer discussions. Each transfer of electronic records via FTP must be preceded with a signed SF 258 sent to NWME.

(1) FTP file structure may use the 64-character Joliet extension naming convention only when letters, numbers, dashes (–), and underscores (____) are used in the file and/or directory names, with a slash (/) used to indicate directory structures. Otherwise, FTP file structure must conform to an 8.3 file naming convention and file directory structure as cited in ANSI/NISO/ISO 9660 (incorporated by reference, see § 1235.4).

(2) Permanent electronic records must be transferred in discrete files, separate from temporary files. All permanent records must be transferred in files that contain only permanent records.

§ 1235.48 What documentation must agencies transfer with electronic records?

(a) *General.* Agencies must transfer documentation adequate to identify, service, and interpret the permanent electronic records This documentation must include completed NARA Form 14097, Technical Description for Transfer of Electronic Records, for magnetic tape media, and a completed NARA Form 14028, Information System De-

scription Form, or their equivalents. Agencies must submit the required documentation, if electronic, in an electronic form that conforms to the provisions of this section.

(b) *Data files.* Documentation for data files and data bases must include record layouts, data element definitions, and code translation tables (codebooks) for coded data. Data element definitions, codes used to represent data values, and interpretations of these codes must match the actual format and codes as transferred.

(c) *Digital geospatial data files.* Digital geospatial data files must include the documentation specified in paragraph (b) of this section. In addition, documentation for digital geospatial data files can include metadata that conforms to the Federal Geographic Data Committee's Content Standards for Digital Geospatial Metadata, as specified in Executive Order 12906 of April 11, 1994 (3 CFR, 1995 Comp., p. 882) (Federal geographic data standards are available at *http://www.fgdc.gov/standards/standards_publications*).

(d) *Documents containing SGML tags.* Documentation for electronic files containing textual documents with SGML tags must include a table for interpreting the SGML tags, when appropriate.

(e) *Electronic records in other formats.*

(1) This paragraph (e) applies to the documentation for the following types of electronic records:

(i) E-mail messages with attachments;

(ii) Scanned images of textual records;

(iii) Records in portable document format (PDF);

(iv) Digital photographic records; and

(v) Web content records.

(2) Guidance on the documentation for electronic records in these formats are available on the NARA Electronic Records Management Initiative Web page at *http://www.archives.gov/records-mgmt/initiatives/transfer-to-nara.html* or from the National Archives and Records Administration, Special Media Archives Services Division (NWCS), 8601 Adelphi Road, College Park, MD 20740, phone number (301) 837–2903 for digital photographs and metadata, or

the National Archives and Records Administration, Electronic/Special Media Records Services Division (NWME), 8601 Adelphi Road, College Park, MD 20740, phone number 301–837–1578, for other electronic records.

§ 1235.50 What specifications and standards for transfer apply to electronic records?

(a) *General.*

(1) Agencies must transfer electronic records in a format that is independent of specific hardware or software. Except as specified in paragraphs (c) through (e) of this section, the records must be written in American Standard Code for Information Interchange (ASCII) or Extended Binary Coded Decimal Interchange Code (EBCDIC) with all control characters and other non-data characters removed. Agencies must consult with the National Archives and Records Administration, Electronic/Special Media Records Services Division (NWME), 8601 Adelphi Road, College Park, MD 20740, phone number (301) 837–1578 about electronic records in other formats.

(2) Agencies must have advance approval from NARA for compression of the records, and agencies must comply with a request from NARA to provide the software to decompress the records.

(3) Agencies interested in transferring scheduled electronic records using a Tape Archive (TAR) utility must contact the National Archives and Records Administration, Electronic/Special Media Records Services Division (NWME), 8601 Adelphi Road, College Park, MD 20740, phone number (301) 837–1578 to initiate transfer discussions.

(b) *Data files and databases.* Data files and databases must be transferred to the National Archives of the United States as flat files or as rectangular tables; *i.e.*, as two-dimensional arrays, lists, or tables. All ''records'' (within the context of the computer program, as opposed to a Federal record) or ''tuples,'' *i.e.*, ordered collections of data items, within a file or table must have the same logical format. Each data element within a record must contain only one data value. A record must not contain nested repeating groups of data items. The file must not contain extraneous control characters, except record length indicators for variable length records, or marks delimiting a data element, field, record, or file. If records or data elements in different files need to be linked or combined, then each record must contain one or more data elements that constitute primary and/or foreign keys enabling valid linkages between the related records in separate files.

(c) *Digital geospatial data files.* Digital spatial data files must be transferred to the National Archives of the United States in a format that complies with a non-proprietary, published open standard maintained by or for a Federal, national, or international standards organization. Acceptable transfer formats include the Geography Markup Language (GML) as defined by the Open GIS Consortium.

(d) *Textual documents.* Electronic textual documents must be transferred as plain ASCII files; however, such files may contain standard markup language such as Standard Generalized Markup Language (SGML) or XML tags.

(e) *Electronic mail, scanned images of textual records, portable document format records, digital photographic records, and Web content records.* For guidance on the transfer of these records to NARA, agencies should consult the transfer requirements available on the NARA Electronic Records Management Initiative Web page at *http://www.archives.gov/records-mgmt/initiatives/transfer-to-nara.html* or contact the National Archives and Records Administration, Special Media Archives Services Division (NWCS), 8601 Adelphi Road, College Park, MD 20740, phone number 301–837–2903 for digital photographs and metadata, or the National Archives and Records Administration, Electronic/Special Media Records Services Division (NWME), 8601 Adelphi Road, College Park, MD 20740, phone number (301) 837–1578, for other electronic records,

PART 1236—ELECTRONIC RECORDS MANAGEMENT

Subpart A—General