LICENSING SUPPORT SYSTEM

CATALOGING MANUAL

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1.0 INTRODUCTION AND BACKGROUND

The Licensing Support System (LSS) has been designed to support the information requirements of all parties to the licensing process for an underground repository for high-level nuclear waste. The LSS consists of three components: a capture system, a search and image system, and a communications system.

Each submittal to the LSS can be captured in three ways: cataloging, imaging, and converting text to searchable ASCII. Inverted indexes are generated for cataloging information and ASCII text; bit-map images are generated from the imaging process. Since the LSS will contain many non-document items, not all items in the database will have all three kinds of information. For example, a core sample will have only cataloging information as the record for that item. Another example would be a handwritten field notebook; this would have cataloging information and a bit-map image stored as its record. Every item in the system, however, will have, as a minimum, the cataloging information.

Cataloging information is intended to describe each item in ways which facilitate its retrieval in the Search and Image System. This information is stored as fielded data in a header. Inverted indexes are created from most of the fields. These indexes sort the information in the fields in an appropriate way (alphabetically, numerically, or by date) so that the sorted information is available at the time of query. Header information is also available through full-text searching, as is the ASCII text of the items in those cases where such text is available.

Information in the header is created by cataloging -- descriptive and subjective. The descriptive information permits the item to be specifically identified and retrieved by a user (for example, by author or title). This information is entered during the initial processing phase of the cataloging function. The subjective information permits the item to be generically retrieved (for example, by descriptor or identifier). Subjective information is added to the record after the item is scanned. The descriptive and subjective elements together can restrict the scope of a query to a manageable size, so that the specific information sought can be found by reading the text of the items in the retrieval set or by searching the text of the documents in the retrieval set.

The LSS will be accessible to a wide variety of users. Six user groups have been identified by a user needs analysis. These groups are the Scientific/Technical group, the Legal/Legislative group, the Management/Administrative group, General Public/Public Information group, Intermediaries, and Database Managers. All cataloging information must take into account the information needs and the querying habits of the different user types.

This manual provides the software- and hardware-independent guidelines and instructions for the initial processing and cataloging. Software and hardware instructions will be incorporated as they become available.

2.0 THE CATALOGING PROCESS

The LSS Cataloging System creates a record for each unit entered into the Capture System. A unit is cataloged during two phases--initial processing and subject cataloging. The procedures for this process are described in this section.

2.1 Initial Processing

During initial processing, the documents are checked for readability, are unitized when appropriate, are assigned accession numbers and bar coded, have descriptive information from them entered into the header, are checked for duplicates in the system, and are prepared for scanning.

2.1.1 Image Readability Check

The image readability check is conducted to verify that the items are of adequate quality to be captured in the LSS. Hard copy or microform that is illegible is rejected unless the submitter has indicated that it is the "best available copy". Magnetic media that cannot be loaded into the computer or retrieved after load is also rejected. Rejected items, with a rejection form stating the reason for rejection, are sent from initial processing to the Rejection Station for return to the submitter.

Procedures:

Examine each hard copy item carefully, evaluating the quality of each page and ensuring that the item is complete. If the pages are of acceptable quality and the document is complete, the document can be unitized. Send rejected hard copy to the Rejection Station for return to the submitter.

If the item is microfilm, load the film into the microfilm printer and print the hard copy. Examine the hard copy for legibility and completeness. If the print quality is acceptable and the hard copy is complete, send the microfilm to the local archive; the document(s) is ready for unitization. Send rejected microfilm to the Rejection Station for return to the submitter.

If the item is magnetic media, load the diskette or tape into the computer. Examine each computer file for readability and completeness. Copy readable files into the Magnetic Media

Staging Area. All magnetic media must be accompanied by hard copy, which should be examined as above. In addition, hard copy should be compared to the ASCII file for any major discrepancies (e.g., pages are missing, hard copy and ASCII file are not the same document). This comparison should not be a word-for-word or paragraph-for-paragraph process. Both ASCII file and hard copy will have the same submitter accession number to assist in correlating the hard copy and ASCII text. In addition, it is the submitter's responsibility to ensure that the hard copy and ASCII text are the same version of the document. Again, send rejected materials to the Rejection Station for return to the submitter. Send accepted magnetic media to the local archive.

In the case of electronic filings, the ASCII text will be downloaded from the Capture Station E-Mail system and processed on a priority basis as these filings must be available for searching the next day. No hard copy will accompany this submittal. Download the ASCII text and check to ensure that the transmittal has not been garbled and, therefore, would need to be transmitted again. If the transmittal is not readable, notify the Cataloging Supervisor immediately. Otherwise, the filing is ready for unitization.

2.1.2 Unitization

Unitization is the process of determining whether a document will be stored in the database as one unit (with one header, one image file, and one ASCII file as appropriate) or will be subdivided and stored as two or more units (with a corresponding number of headers, images, and ASCII files). The purpose of unitization is to assist the user in retrieving desired information in a consistent set of records with the least amount of irrelevant material. Appendix B contains the unitization rules that have been developed to ensure a consistent result.

Procedures:

Examine each submittal unit to determine if it requires subdivision, as defined by the LSS Unitization Rules (Appendix B). Separate documents requiring subdivision into the specified units so that a header can be created for each unit. This may require unbinding documents or otherwise separating documents into individual sheets of paper. This should be done with as little damage to a page as possible. Photocopy pages that are shared by two units.

Documents submitted as a package need a header for the package entity, as well as a header for each unit in the package, even though there may not be any text or image associated with the package header. Units that are part of a package need a Package ID. This number will

not be coded onto the unit. Enter it into the Package ID field in the header for each unit that is part of a package.

Enter LSS Pointers to indicate the relationships of documents that have been unitized. LSS Pointer and Package ID fields are described in Section 3.0 of this manual.

2.1.3 Scanning Pre-Processing

At this point, units containing text that will be converted to ASCII must be prepared for scanning. This step is not required for units that are "header only" or "header and image only." However, the Special Class field should contain the information that these units are "Header Only" or "Header and Image Only." Among other things, this task eliminates any blank or extraneous pages and tiles oversize pages before the pages are numbered. This task ensures that pages are in the proper order and that documents that contain missing pages are rejected unless the unit is marked by the submitter as being the "best available copy". This task also orders the text of a unit for ASCII conversion editing.

Procedures:

Unbind documents with as little damage to each page as possible. Similarly, documents that are stapled or fastened together in any way must be separated into individual sheets. If two pages of text are contained on one side of a sheet of paper, the pages must be separated into two sheets of paper. In some cases, this may mean photocopying some pages that might otherwise be destroyed in order to separate pages. Pages that are larger than 8 1/2 x 11 inches but do not exceed 17 x 22 inches in size require "tiling". That is, each page must be cut into a maximum of four pieces for scanning purposes. Use a paper cutter for this process. These sheets are then ordered from upper left to lower right. Note any irregularities in a unit (such as the existence of two-sided and one-sided pages in the same unit or units that contain pages of both landscape and portrait orientation) on the control sheet that will accompany each unit.

Mark out any irrelevant text on each page (e.g., text belonging to another unit) with a non-reproducible blue pencil. Use the pencil to order text flows where necessary. For example, if a block of text extends across two columns and interferes with the intellectual content of the rest of the text, indicate the logical intellectual order for ASCII conversion by numbering segments of text in the order in which they are to appear as ASCII text. Indicate, by marking the text, where footnotes, table or graphic captions, author biographies, etc. should appear on the ASCII page. Suggested locations are between paragraphs or at the top or bottom of the page.

The intent is to order any text within an ASCII page so that it does not interfere with the logical flow of the text and, therefore, interfere with proximity searching of the ASCII text.

2.1.4 Bar Coding

Bar codes are used to track each unit and its pages through the capture process. Each unit receives an LSS Accession No. which is converted to a bar code. Added to the LSS Accession No. on the bar code is a three-digit page number. Each page will, therefore, contain a unique number.

Procedures:

Using the workstation terminal, request the next available accession number (or range of accession numbers if the unit has been subdivided). This will also load a correspondingly-numbered header or range of headers into the workstation work space. Activate the bar code printer and feed each page to be numbered into the bar code device. Units that are "Header Only" will not need a bar code. "Header and Image Only" units will need a bar code only for the unit folder.

Do not number blank pages. A blank page is a page that does not contain any text or graphic or does not represent a page in the numbering sequence of the document. Examples of pages that are not "blank pages" are pages stamped with a microfilm number that contain no other text, a page with no text or graphic that falls between page ii and page iv of a unit, and a document cover that duplicates its title page. Bar code the folder that will contain the unit. This bar code will be an LSS Accession No. only bar code.

Check the order of the pages of the unit before bar coding it. It is extremely important to ensure that the pages are in the correct order prior to bar coding since the bar code device will add a page number as well as an accession number to each page. These numbers will be used to reassemble the images and ASCII text in page number order for writing to the load disk for the LSS Search and Image System.

2.1.5 Creating a Header

The header is a major element of the LSS database since the header determines the existence of a record. All units, therefore, must have a header. For non-document materials, a header is particularly important since it is the only entry in the database for that unit.

Procedures:

Using the workstation, retrieve the header corresponding to the bar code number of the unit to be entered. If there is a hard copy submitter's header, examine and verify the contents of the key fields (those used for the duplicate check process) against the information in the unit. If the submitter's header cannot be reconciled against the submitted material, do not process the unit any further, but send it to the Rejection Station stating the reason for rejection. Otherwise, enter the information supplied into the corresponding fields using the correct format (see Section 3.0). If the header information has been submitted on electronic media, import the header (using the submitter accession number) into a workspace, verify the key field information, and transfer it into the appropriate header fields. If no submitter header is available, complete the fields required for the duplicate check process (all fields up to and including the Page Count field). Follow the rules established for each field as contained in Section 3.0.

It is critical that the LSS Pointer and Package ID fields be completed at this stage if subdivision has occurred or if the unit is part of a package. The Process Control Database will need pointer and package information later to reassemble the document or package for subject cataloging. Units that are "Header Only" will be queued for subject cataloging at this point. E-Mail transmissions will also be queued for subject cataloging as a priority item.

2.1.6 Duplicate Check

The purpose of duplicate checking is to ensure that a unit being processed has not already been entered into the LSS. Upon completion of the Page Count field in the header, the duplicate check procedure is automatically activated. If the unit is an apparent duplicate, information on the potential duplicate will be displayed on the workstation screen. The header for the potential duplicate can be retrieved from the Search and Image System for further verification. If the unit still appears to be a potential duplicate, the ASCII and/or image of the likely candidate may also be retrieved. Any variation, such as missing or extra pages or text, disqualifies the unit as a duplicate. Marginalia on either unit is not considered in this process unless the submitter indicates the marginalia is the reason for the submission. In these cases (intended marginalia,

page or text differences), the unit is submitted as a non-duplicate, but the pointer field must be completed to indicate the relationship between the two units (e.g., is another version of, supersedes).

Procedures:

If the unit has been targeted as a duplicate, a bibliographic citation will appear on the screen for each unit that is a potential duplicate. If none of the potential duplicates appear to be an exact match, press the "No Duplicate" function key, and place the unit in its folder, ready for the scanning process.

If any of the potential duplicates appear to duplicate the current unit, retrieve the header for that unit and examine it for any differences. If differences are found, press the "No Duplicate" function key, and place the unit in its folder, ready for the scanning process.

If there do not appear to be any differences in the headers of the two units, retrieve the ASCII text or images of the potential duplicate and examine them for differences (missing pages, extra text, etc.). If differences are found, press the "No Duplicate" function key, and place the unit in its folder, ready for the scanning process.

If, at any stage, the current unit duplicates an existing record, append the submitter's accession number and any pointer or package information to the header of the previously-entered unit. Delete the current header, and send the unit to the Rejection Station stating the reason for rejection. Include on the rejection notice the LSS Accession No. of the record which the current unit duplicates.

2.2 Subject Cataloging

When a unit has completed the scanning and/or ASCII conversion processes, it is returned to Cataloging for completion of the cataloging record. These remaining fields contain information about the subject content of the unit. If the unit has relationships with other units in the capture process, all units must complete the other capture processes before subject cataloging occurs. Subject cataloging must take into account both the information in the unit and the context in which the unit occurs.

Tools available for the subject process include: a hard copy of the unit (printed from the image), unit word counts (from the ASCII conversion), an on-line thesaurus, and the original unit if it is a non-document. Complete the subject cataloging fields according the rules in Section 3.0.

3.0 RULES AND CONVENTIONS FOR CATALOGING

Each record entered into the LSS Capture System must be cataloged according to a standard format that allows users to easily retrieve and identify the item. Data in each record includes bibliographic information, subject information, information on the condition of the item, relationships to other records in the system, and administrative information. Each separate piece of information is assigned to a specific part of the cataloging record called a field or data element. Each field is identified by a number and a name. The field number reflects the order of the field in the cataloging process. The field name describes the information contained in that field. Table 1 is a summary of the LSS Capture System fields.

This section provides a description and usage of each field, including:

1) Description of the field.
2) Use of the field.
3) Instructions for entering information into the field.
4) Controlled vocabulary, if any, for the field.

Table 1

SUMMARY OF LSS CAPTURE SYSTEM FIELDS

	Field	Required?	Multiple Entries Allowed?	Controlled Vocabulary?
1	LSS Accession No.	Yes	No	No
2	Submitter's Accn No.	Yes	Yes	(1)
3	Title	Yes	N/A	No
4	LSS Pointer	No	Yes	(1)
5	Package ID	(8)	Yes	No
6	Document Type	Yes	Yes	Yes
7	Document Date	Yes	No	(7)
8	Document/Report No.	(2)	Yes	(7)
9	Author Name	Yes	Yes	(7)
10	Author Organization	(2)	Yes	Yes
11	Addressee Name	(2)	Yes	(7)
12	Addressee Organization	(2)	Yes	Yes
13	Sponsoring Agency	(2)	Yes	Yes
14	Publication Data	(9)	No	(7)
15	Copyright	(10)	No	Yes
16	Special Class	(5)(6)	Yes	Yes
17	Document Condition	(4)	Yes	Yes
18	Media	(5)	No	Yes
19	Page Count	Yes	No	No
20	Descriptors	Yes	Yes	Yes
21	Identifiers	No	Yes	No
22	Abstract	(6)	N/A	No
23	Event Date	(2)	No	(7)
24	Comment	(3)	N/A	No
25	Load Date	Yes	No	No

NOTES:

(1) No controlled vocabulary, but any entry must be preceded by a prefix. This prefix has a controlled vocabulary.

(2) Not a required field unless the information is contained in the unit.

(3) Required when a document contains oversized pages (larger than 17 x 22) which cannot be scanned.

(4) Required when unit is not complete, has parts missing, or is illegible.

(5) Required if unit cannot be imaged.

(6) Required for every unit that does not have ASCII text and for package headers.

(7) Field does not have a controlled vocabulary but does have a prescribed format which must be followed.

(8) Required for all units that are part of a package, as well as the package header.

(9) Required for all units that are not correspondence.

(10) Required for all units containing a copyright notice or units that are part of a copyrighted unit.

No.: 1

Name: LSS Accession No.

Description:

The LSS Accession No. is a unique internal identification code assigned to each cataloging unit entering the LSS Capture System. The number is an alphanumeric combination affixed to each unit by a bar-coding device. The capture station at which the unit enters the LSS processing system is also identified as part of this number. The LSS Accession No. will also be used in the LSS Pointer field for units which have relationships to other units in the data base.

Use: Required for all units.
A number may not be used more than once.
This is not a repeating field.

Instructions:

The LSS Accession Number will be generated automatically when a new blank header is requested.

Examples:

(To be determined)

Controlled Vocabulary:

There is no controlled vocabulary for this field.

No.: 2

Name: Submitter's Accession No.

Description:

This is a unique identification code required by 10CFR2 to be assigned by the submitter to each unit submitted for entry into the LSS.

Use: Required for all units.
This is a repeating field.

Instructions:

Enter the accession number exactly as it appears on the document or in the submitter's header. This field is a repeating field to allow for the submission of a document by more than one submitter or in more than one context.

Controlled Vocabulary:

There is no controlled vocabulary for this field.

No.: 3

Name: Title

Description:

The sentence or phrase given to a cataloging unit (usually by the author) to distinguish the unit from other units is the title. The complete identifying title of the unit, including any subtitle, is stored in this field. If there is no title, a brief description of the unit is entered by the indexer.

Use: Required for all units.
This is not a repeating field.

Instructions:

All units must have a title or description. Take the title from the part of the unit that provides the most meaningful and complete title information, such as the title page, cover, or report documentation page.

Include the words "The," "A" and "An" when they appear as the first word in a title. (These words will be suppressed during sorting, but they are needed for accurate citing.) Capitalize proper nouns; enter acronyms as all capital letters without periods or spaces. Capitalize the first letter of the first word of the title or subtitle; and the first letter of every word that is not an article, preposition, or conjunction. End titles with a period.

Subtitles follow the title; if no punctuation exists between a title and a subtitle, separate them with a period and a space. Enter dates in titles or subtitles in the same format and sequence as they appear on the unit. The sequence of title elements is from smallest to largest unit, e.g., Site Characterization Program, Chapter 8. Site Characterization Plan, Volume 5. Do not abbreviate Volume, Chapter, Section, etc. Except for journal and newspaper articles, include volume or appendix numbers in this field. (Enter volume numbers for journal and newspaper articles in the Publication Data field, not in this field.) Volume numbers follow the volume title, Chapter numbers follow Chapter title, etc. separated by a comma. Change Roman numerals to Arabic numerals. If the volume or appendix number appears as part of a report number but not as part of the title, include the volume information in the title field.

If the title contains non-reproducible symbols (e.g., Greek letters), superscripts or subscripts, degrees, etc., see Appendix C for conventions and instructions on entering this material.

Do not begin the title with the words "Summary of" or "Letter to" or "Report on" or similar phrases. In those cases where the title is too brief to be meaningful (e.g., "Report" or "Summary") or where there is no title, create a concise title reflecting the content of the unit. Follow all created or enhanced titles with the letter **C** in brackets two spaces after the last character in the title.

In those cases where the unit is an untitled fragment of text or an untitled excerpt from a larger work, use the title of the work as the title for the unit and add the word Excerpt (in brackets) two spaces after the last word in the title. For example, if the unit is an excerpt from a chapter, use the chapter title followed by **[Excerpt]**. In this way, the title of an excerpt will not be confused with that of the entire work. Examples of what are and are not excerpts follow. A title for an excerpted section should not be the title of the section but the title of the chapter or larger work.

Assume the unit is information from the book Geology of the Great Basin.

If the unit is an excerpt from the book with no information as to which chapter it is in, the title would be:

Geology of the Great Basin. [Excerpt]

If the unit is an excerpt from Chapter 9 and Chapter 9 has no title, the title would be:

Chapter 9. [Excerpt]. Geology of the Great Basin,

If the unit is an excerpt from Chapter 9 and Chapter 9 has a title, the title would be:

Prepaleozoic, Chapter 9. [Excerpt]. Geology of the Great Basin.

If the unit is the complete Chapter 9 and the chapter does not have a title, the title would be:

Chapter 9. Geology of the Great Basin.

If the unit is Chapter 9 and the chapter has a title, then the title of the unit would be the title of the chapter followed by the title of the unit:

Prepaleozoic, Chapter 9. Geology of the Great Basin.

For all of the above examples the Publication Data field would begin:

Denver CO: Academic Press...

Be sure to select the term "Excerpt" in the Special Class field in those cases where the unit is an excerpt.

Special Cases with Examples:

Correspondence: use the subject line if available and informative (do not include the words "Re:", "In Re:", or "Subject:").

Title: Data Processing Needs for July. [C]

Unauthored chapters or articles: use the title of the chapter or article followed by the title of the encompassing work.

Title: Geology. Site Characterization Plan, Yucca Mountain...

Authored chapters, articles, or conference papers: use the title of the chapter, article, or paper; the title of the encompassing work is entered in the Publication Data field.

Title: Exploratory Shafts in Candidate Repository Site Characterization.

Publication Data: In: Post, RG, and Wacks, ME, ed. Waste Isolation...

Meeting summaries: all information at the head of the summary is entered as the title; include the place and date of the meeting.

Title: Site Characterization Plan, Chapter 8, Meeting of 6 Apr. 1987 in Denver CO. Summary. [C]

Conferences or proceedings: the title includes the place and date of the conference separated by commas. Workshops, symposia, etc. are treated as conferences. If these are added to the title, bracket the information.

> Title: Proceedings of the 51st Annual Meeting of the American Society for Information Science. [Atlanta, GA, October 23-27, 1988].

Newspaper or journal articles: use only the headline of the article as the title; do not include banner lines, column titles or section titles; the name of the newspaper or journal is entered in the Publication Data field, as is the volume and issue number.

> Title: Yucca Mt - Repository Site Winner.
>
> Publication Data: Las Vegas Herald...

Series: the title of a series is entered in the Publication Data field; only the title of the cataloging unit is entered in the Title field.

> Title: High Level Waste Transportation.
>
> Publication Data: Radioactive Waste Management Series. New York...

Public Laws: use the short title as the main title, with the long title as a subtitle.

> Title: Nuclear Waste Policy Act of 1982, Public Law Number 97-425. Act to Provide for the Development of Repositories for the Disposal of High-Level...

<u>Examples of Titles</u>:

Waste Package Testing, Volume 1. Progress Report, July 1987 - September 1987. (for a report)

Waste Isolation in the U.S. (for a book)

Materials Associated with the Site Characterization Plan Chapter 8 Meeting, Denver CO, July 4 - 6, 1988. [C] (for a meetings package)
Developments in Oil Shale in 1982. (for a journal article)

Site Characterization Plan, Chapter 8, Meeting held in Denver CO on April 6, 1987. Meeting Handouts. (for a meeting presentation)

Controlled Vocabulary:

There is no controlled vocabulary for this field.

No.: 4

Name: LSS Pointer

Description:

Units within the LSS can have relationships among them which are important to retain. Three types of relationships have been identified: parent/child (a document and its attachments), original/subsequent (a document and later versions, comments, corrections, etc.), and whole/part (a book and its chapters, a proceedings and its papers, etc.). This repeating field is intended to store these relationships by identifying the relationship and the units involved. The relationships are identified by alphanumeric codes (e.g., PA for "has parts" or "is part of"). All pointers are two-way pointers; that is, the parent points to the child and the child points to the parent. Similarly, the original points to the subsequent document and the subsequent document points to the original; the whole points to the parts and each part points to the whole.

Use: This is a repeating field.
Required for all units that have prior editions, drafts, versions, attachments; for all units that have been divided into parts; and for all units that comment upon another document or correct another document.

Instructions:

It is very important that all relationships between documents be determined. Relationships may not always be apparent at first glance. For example, a document that comments upon Chapter 8 of the Site Characterization Plan should be connected to that chapter through the use of the pointer field. Use the CM pointer in this case, and search the header database for the accession number of Chapter 8. Enter the number after the CM pointer.

Enter the LSS Accession No. for each unit that has a relationship to the unit being processed. Retrieve the headers of the related units and modify the pointer field of those units to include the LSS Accession No. of the current unit.

Special Cases:

Errata sheets for a previously-entered document are treated as a separate unit but must be connected to the original unit by a CM pointer.

Examples:

AT:PT00406001	(if PT0046001 is either an attachment to the current unit or the current unit is an attachment to PT00406001)
SU:CS00427600	(if the current unit supersedes CS00427600 or if CS0042600 supersedes the current unit)

Controlled Vocabulary:

The LSS Pointer Code List is the controlled vocabulary for the relationships. The list of existing accession numbers forms the controlled list for the accession number entry.

LSS Pointer Code List

AT:	Has attachment...	or Is attached to...
CR:	Corrects...	or Is corrected by...
CM:	Comments upon...	or Has comments...
PA:	Has parts...	or Is part of...
SU:	Supersedes...	or Is superseded by ...
	Is a later version of...	or Is an earlier version of...

No: 5

Name: Package ID

Description:

This field is used to identify all parts of a package entering the LSS. Examples of these packages are audit packages, data packages, drawings packages, meeting packages, training packages, etc. This field enables the user to easily reassemble a package by simply entering a Package ID in a query. This is a repeating field since a unit may be part of more than one package.

Use: This is a repeating field.
Required for all parts of a package and for a package header.

Instructions:

Request the next Package ID number from Process Control if this header is being completed for the entire package and enter the number in this field. If a unit of this package has previously been entered into the LSS, retrieve the header for that unit and enter the Package ID. If this header is for a unit that is part of a package, enter the Package ID from the package header.

Examples:

AU10099001
ME102129015

Controlled Vocabulary:

The LSS Package ID Code List is the controlled vocabulary for the type of package. The Package ID number is the valid entry for the field.

LSS Package ID List

AU: Audit Package
DA: Data Package
DR: Drawings Package
ME: Meetings Package
TR: Training Package
TU: Turnover Package

No.: 6

Name: Document Type

Description:

The type of unit that is being cataloged is stored in this field. The unit type is the format or physical form of the unit. It describes the kind of unit, not the content.

Use: This is a repeating field.
Required for all units.

Instructions:

(To be determined.)

Examples:

(To be determined.)

Controlled Vocabulary:

The controlled vocabulary for this field is the Document Type List.

No.: 7

Name: Document Date

Description:

This field contains the date on which the unit was published or created.

Use: Required for all units.
Only one entry is allowed.

Instructions:

Enter the date in the format ccyy mm dd. Include all components of the date. If a component is missing, use the following rules:

Missing day: use 00 for the day.
Missing month and day: use 00/00 for month and day.
Date range: use later date.
Seasons: in the month segment, use 03 for Spring or first quarter, 06 for summer or second quarter, 09 for Autumn or Fall or third quarter, and 12 for Winter or fourth quarter.

If the date is unknown, try to determine from information in the unit what the likely date is and enter this date in the same format, followed by the letter C in brackets, e.g., 1966 02 00 [C]. If the date is from a source other than the document, follow the date with the letter C in the brackets. The order of preference for selecting the date from the unit is as follows:

1 - Date published (date of publication indicated on unit)
2 - Date copyrighted
3 - Date unit was submitted for publication
4 - Date work was completed
5 - Date unit was typed
6 - Date embedded in report number (e.g., conference number CONF-840119 would use 1984 as the date)
7 - Latest date appearing on a unit where no qualifying words are given
8 - Latest date in a reference (year only).

Special Cases:

Patent Applications: enter the date filed

Patents: enter the publication date

Contract: enter the date of the second signature

Packages: if there is material attached to the package header (e.g., transmittal letter, meeting summary), use the date of the material; otherwise, enter the date of the most recent part of the package.

Examples:

1987 12 15 (for December 15, 1987)
1987 00 00 (for 1987)
1987 07 00 (for June/July 1987 journal article)
1987 08 15 (for August 1-August 15, 1987 conference)
1987 06 00 (for Summer 1987)

Controlled Vocabulary:

A controlled vocabulary is not needed for this field.

No.: 8

Name: Document/Report Number

Description:

Identifying numbers that have been assigned to a unit and appear on the unit itself are considered to be control or identification numbers for that unit. This field contains these control numbers. The control numbers are usually assigned to a document by the issuing agency or organization. These control numbers can be report numbers, contract numbers, public law numbers, or any other identifying numbers on the unit. Microfilm identification numbers are not included in this field.

Use: Required for all reports.
This is a repeating field.

Instructions:

Enter all control numbers that appear on the cover or title page of the unit. Enter report numbers and certain series document numbers following the format rules and examples listed in the Document Number Authority List. However, enter contract numbers as they appear on the document. Do not enter the volume and issue number for a journal in this field; enter this information in the Publication Data field.

Special Cases:

Chapters of a report: enter the report number in this field.

Examples:

USGS/OFR-82-457 (for a USGS report)
DE-AI08-78ET44802 (for a DOE contract number)
PL95-16 (for a Public Law)
10CFR60 (for a section of the Code of Federal Regulations)

Controlled Vocabulary:

There is no controlled vocabulary for this field.

Report Number Format List

USGS:	
Special Series	USGS-###-###
Bulletins	USGS/Bull-####
Circulars	USGS/Circ-###-A
Maps	USGS/GQ-###
Field Study Maps	USGS/MF-####-A
Open File Reports	USGS/OFR-YY-####-A
Professional Papers	USGS/PP-###-A
Water Data Report	USGS/WDR/NV-YY-##
Water Resources Invest.	USGS/WRI-YY-####
Water Supply Paper	USGS/WSP-####
DOE:	
All reports	DOE/XXX-####
DOI:	
All reports	DOI/XX-YY/###A
EPA:	
All reports	EPA-###-#-YY-###A
Congress:	
Public Laws	###-### (use code PL; the number preceding the hyphen is the Congressional session number)
Reports, hearings	###-### (the number preceding the hyphen is the Congressional session number)
Bills (Senate)	S##
Bills (House)	HR####
NRC:	
Contractor Reports	NUREG/CR-####
NRC-Reports	NUREG-####

Code:
- number
Y - year
A - alpha character
X - department acronym

Rules for other document numbers:

1 - Separate numbers and letters with hyphens (ERDA-1551).

2 - Separate sets of letters with slashes (AAEC/C).

3 - Separate sets of numbers with hyphens (84-135).

4 - Omit periods and commas, and replace parentheses with slashes or hyphens as appropriate according to rules 1, 2, and 3.

5 - Include the organization acronym (GSA/M-110).

6 - Include revision or volume numbers only where they are obviously part of the number (AAEC/C-40-VOL-1).

7 - Use common abbreviations where possible, e.g., Bull for Bulletin, Mem for Memoirs, Circ for Circular, Pap for Paper, etc.

No.: 9

Name: Author Name

Description:

All persons listed as responsible for the creation of all or part of a unit are considered authors of the unit. This includes contributions, editors or compilers but not those who merely concur or approve. Only personal authors are entered in this field. Organization authors are entered in the Author Organization field.

Use: This is a repeating field.
Required for all units.

Instructions:

The authors' names usually appear on the cover or title page of a unit, although other pages may have to be checked to verify other names. If the author is unknown or is an agency or corporate entity, leave the field blank. This is a repeating field to allow for entry of all authors. Enter every author, entering multiple authors in the order in which they appear. Examples of authors to be entered are:

- the person being deposed or testifying, but not the person recording the deposition or testimony
- the person filing for a patent
- parties to a contract or agreement
- contributing persons to articles, reports
- speakers at a hearing

Examples of those who are not authors are:

- court reporters
- notaries
- concurrences on a unit

Format:

Entry in this field is as follows: Last name, FM (where F=first initial and M=second initial). Initials for all names preceding the surname are to be included. No punctuation in the author's name is to be retained except the hyphen, e.g., OBrien, DAngelo, Randers-Pehrson. Compound names are entered with the first element first, e.g., names containing such words as "von" "van" "de" "d'" begin the last name with these words. Examples of this type of entry are "von der Bruck" "Van Buskirk" "du Pont" "de la Court". Care must be taken to distinguish between a word that is a first name and one that is part of the last name, as in "Van Johnson", where "Van" is the first name. If the elements of a compound surname are hyphenated, enter the name under the first element (e.g. Pattison-Gordon, E). Do not include "Dr" "Jr" "Sr" "III" "ed." "comp." or other similar appendages.

Special Cases:

Surname only: enter the surname followed by a comma.

First name or initials only: enter the available information with no punctuation.

Examples:

Ponce, DA (for David A. Ponce)
OBrien, HW (for Henry W. O'Brien, Jr.)
du Pont, ETJ (for Etienne T. J. du Pont)
James, (for Mr. James)
Dave (for a letter signed by Dave without any other author identification)

Controlled Vocabulary:

There is no controlled vocabulary for this field.

No.: 10

Name: Author Organization

Description:

The name of the organization with which each author was affiliated at the time the unit was created is stored in this field. This field is also used for the name of an organization when a unit has no personal author, for the corporate source of a report, or for the corporate author of a book.

Use: Required if shown on unit.
This is a repeating field.

Instructions:

The correlation between each author and affiliation must be maintained by entering the organization in the space next to the author. If an author has more than one affiliation, enter both affiliations. If any of the authors do not have an affiliation, do not enter any information in the space provided. If the Author Organization is not listed in the Organization Name Authority List, see the Cataloging Supervisor for a new entry.

Special Cases:

Testimony or Deposition: enter the affiliation of the witness testifying or being deposed.

Patent: enter the affiliation of the person(s) filing for the patent; if there is no personal inventor, enter the organization in whose name the patent will be filed.

Meeting Summary or Minutes: if it cannot be determined who wrote the summary or took the minutes, assume the organization transmitting them is the corporate author.

Examples:

USGS (for United States Department of Interior Geological Survey)
LANL (for Los Alamos National Labs)
Tera (for Tera Corporation)

Controlled Vocabulary:

The controlled vocabulary for this field is the Organization Name Authority List.

No.: 11

Name: Addressee Name

Description:

This repeating field is used only for correspondence and lists all persons to whom the unit was addressed. This includes both personal names and other recipient designations (e.g., RW-11).

Use: Required if shown on the unit.
This is a repeating field.

Instructions:

Enter all addressees in the order in which they appear. If the addressee is an organization, the data is entered in the Addressee Organization field. This is a repeating field to allow for entry of all addressees; every addressee is to be entered. If the addressee is "Distribution" or a distribution code (e.g, UC-70), this information is entered into this field.

Format:

Entry in this field is as follows: Last name, FM (where F=first initial and M=second initial). Initials for all names preceding the surname are to be included. No punctuation in the author's name is to be retained except the hyphen, e.g., OBrien, DAngelo, Randers-Pehrson. Compound names are entered with the first element first, e.g., names containing such words as "von" "van" "de" "d'" begin the last name with these words. Examples of this type or entry are "von der Bruck" "Van Buskirk" "du Pont" "de la Court". Care must be take to distinguish between a word that is a first name and one that is part of the last name, as in "Van Johnson", where "Van" is the first name. If the elements of a compound surname are hyphenated, enter the name under the first element (e.g. Pattison-Gordon, E). Do not include "Dr" "Jr" "Sr" "III" "ed." "comp." or other similar appendages.

Addressees that do not have personal names are entered the way they appear on the unit.

Special Cases:

Surname only: enter the surname followed by a comma.

First name or initials only: enter the available information.

Examples:

San Angelo, JR (for a letter addressed to John R. San Angelo)
Milton, CD (for a memo to C. D. Milton)
James, (for letter addressed to Mr. James)
Dave (for letter addressed to Dave with no other recipient identification)
Director, EM-30, (for a memo addressed to the Director of DOE Environmental Management)

Controlled Vocabulary:

There is no controlled vocabulary for this field.

No.: 12

Name: Addressee Organization

Description:

This field contains the affiliation of each addressee, if indicated.

Use: Required if indicated on unit.
This is a repeating field.

Instructions:

The correlation between each addressee and organization is to be maintained. Enter the affiliation of each addressee in the space provided. If any of the addressees do not have an affiliation, do not enter any information. If the addressee is an organization, it is listed in this field only.

If the Addressee Organization is not listed in the Organization Name Authority List, see the Cataloging Supervisor for a new entry.

Examples:

ANSI (for American National Standards Institute)
Desert Res Inst (for Desert Research Institute)
ID Geol Survey (for Idaho Geological Survey)

Controlled Vocabulary:

The controlled vocabulary for this field is the Organization Name Authority List.

No.: 13

Name: Sponsoring Agency

Description:

The name of the agency or agencies responsible for funding or otherwise sponsoring the work reported in the unit is stored in this field. Generally, it is assumed the work has a sponsor if there is a contract number or if it is stated that the work was "Prepared for."

Use: Required for all units containing a contract number.
This is a repeating field.

Instructions:

If more than one organization or agency has sponsored the work, enter them in the order in which they appear on the unit. If the Sponsoring Agency is not listed in the Organization Name Authority List, please see the Cataloging Supervisor for a new entry.

Examples:

DOE OCRWM (for DOE Office of Civilian Radioactive Waste Management)
LLNL or LBL (for Lawrence Berkley Laboratory)
St Joe Amer (for St. Joe American Corp.)

Controlled Vocabulary:

The controlled vocabulary for this field is the Organization Name Authority List.

No.: 14

Name: Publication Data

Description:

Bibliographic information that is not covered by another field, but is important in identifying or citing the unit is entered in this field. A standard format is used based on the type of document. Examples of information for this field are journal name, conference title, conference location.

Use: Required for all units except correspondence.
This is not a repeating field.

Instructions:

Enter the information for each unit according to the format for the type of document being cataloged.

Dates:

In all cases, give the date to the fullest extent possible.

Year only: use 19yy.

Date range: enter the full range (e.g., 8/25/87 - 9/1/87).

Seasons: spell out the season (e.g., Spring 1983).

Formats with Examples:

Computer Software:

Version. City of publication two-digit state code: Publisher; date. medium, language, computer.

(Version 5.0. Columbus OH: Science Applications International Corporation; 1988. Diskettes (2), Turbo-Prolog, MS-DOS compatible.)

Maps (stand-alone maps only):

Series. City of publication two-digit state code: Publisher; date; scale; projection; size; colored (only if colored).

(U.S. Geological Survey; 1967; 1:24000; 10,000-ft grid based on Nevada coordinate system, central and east zones.)

Journal Article:

Abbreviated journal title volume no(issue number):beginning page number-ending page number; date.

(Bull Seismol Soc Am 56(1):35-56; 1/88.)

Newspaper Articles:

Newspaper name. Edition. date: page number (col. column number).

(The Washington Post. Final edition. 12/13/88:A14 (col 1.)

Proceedings or Collections of Papers:

Series Title. City of publication two-digit state code: Publisher; date.

Materials Research Society Annual Meeting. New York NY: Plenum Press; 1979.)

Conference Paper:

In: Editor last name, first initial middle initial, ed. Proceedings title held in place date. Series Title. City of publication two-digit state code: Publisher; date:beginning page number-ending page number.

(In: McCarthy, GJ, ed. Scientific Basis for Nuclear Waste Management, Volume 1. Proceedings of the Symposium on Science Underlying Radioactive Waste Management,

Boston, MA Nov 28 - Dec 1, 1978. Materials Research Society Annual Meeting, New York NY: Plenum Press; 1979:479-486.)

Books:

Series Title. Edition. City of publication two-digit state code: Publisher; date.

(Library and Information Science Series. 3rd edition. Orlando FL: Academic Press; 1985.)

Authored Chapter:

In: Editor last name, first initial middle initial, ed. Title of work. Series Title. City of publication two-digit state code: Publisher; date:beginning page number-ending page number.

(In: Jefferson, TM, ed. Late Pleistocene and Holocene Environments in the Great Basin. Geoscience Monographs. Tucson AZ: University of Arizona Press; 1978:304-398.)

Unauthored Chapter:

Series Title. Edition. City of publication two-digit state code: Publisher; date:beginning page number-ending page number.

(Library and Information Science Series. 3rd edition. Orlando FL: Academic Press; 1985:137-164.)

Theses and Dissertations:

City of publication two-digit state code: Institution granting the degree; year of degree. Dissertation (or Thesis if it is a Master's Degree).

(College Park MD: University of Maryland; 1984. Dissertation.)

Reports:

Edition. Report number. City of publication two-digit state code: Publisher; date.

(Consultation Draft. DOE/RW-1600. Washington DC: U.S. Government Printing Office; 1986.)

Patents:

Assignee (if any); date assigned.

(Unisys; 1988.)

Excerpt:

Series. Edition. City of publication two-digit state code: Publisher; date:beginning page number-ending page number.

(Denver CO: Harcourt Brace; 1964:169-190.)

NOTE: See the Title field for more examples of citing excerpts.

Transcripts or Disposition:

City of Publication two-digit state code: Company producing the transcript or deposition; date.

(Boston MA: Massachusetts Court Reporters; 9/86.)

Controlled Vocabulary:

There is no controlled vocabulary for this field, but use journal title abbreviated names as listed in Appendix D.

No.: 15

Name: Copyright

Description:

Some of the documents submitted to the LSS are documents protected by copyright laws and may be subject to printing restrictions or royalty payments. This field tells the user whether the unit is in this domain of documents.

Use: Required for all units that are copyrighted material.

Instructions:

This field is left blank for all units that are not copyrighted. For copyrighted units, select the controlled vocabulary term that best describes the copyright status.

Examples:

(To be determined.)

Controlled Vocabulary:

The Copyright Indicator List is the controlled vocabulary for this field.

Copyright Indicator List

(To be determined.)

No.: 16

Name: Special Class

Description:

This is a field that further classifies units in a manner that would assist a user in locating all units belonging to a special class of units, regardless of the type of unit. These classifications are not subjects of the document, but rather are another way of grouping certain kinds of materials in order to facilitate retrieval or inform the user of some unusual aspect of the group. Examples of the use of this field would be for units that are Site Characterization Plan references or for units that have only a header and image (i.e., no full-text of the unit is available).

Use: This is a repeating field.
This field is required for all units that do not have images and/or ASCII text.

Instructions:

Enter the appropriate term (or terms) for the special class of which the unit is considered a member. In many instances, this information will be provided by the submitter.

Special Cases:

If the document type is Packages and the header is for a package which has no physical material attached to the header, enter Header Only in this field.

Examples:

Header Only
SCP-Ref4
Foreign Language

Controlled Vocabulary:

The controlled vocabulary for this field is the Special Class List.

Special Class List

Adj	Unit is part of an adjudicatory record
Docket	Unit is part of the License Application Docket.
Concurrence	Unit is a concurrence copy
EA-AR	Unit is part of the Environmental Assessment Administrative Record
Electronic Filing	Unit has been submitted electronically
Errata	Unit is an errata sheet for another unit
Excerpt Only	Unit is an excerpt from a document.
Foreign Language	Text of unit is in a foreign language
Header Only	Unit has no ASCII text or image
Header & Image Only	Unit has no ASCII text
LA-AR	Part of License Application Administrative Record
NRC Evidence	Unit is submitted as evidence in an adjudicatory proceeding.
NRC Issuance	Unit is an adjudicatory proceeding issuance.
NRC Notice	Unit is an adjudicatory proceeding notice.
NRC Pleading	Unit is an adjudicatory proceeding pleading.
SCP-AR	Part of the Site Characterization Administrative Record
SCP-Ref0	Site Characterization Plan, additional references
SCP-Ref1	Site Characterization Plan, Chapter 1 reference
SCP-Ref2	Site Characterization Plan, Chapter 2 reference
SCP-Ref3	Site Characterization Plan, Chapter 3 reference
SCP-Ref4	Site Characterization Plan, Chapter 4 reference
SCP-Ref5	Site Characterization Plan, Chapter 5 reference
SCP-Ref6	Site Characterization Plan, Chapter 6 reference
SCP-Ref7	Site Characterization Plan, Chapter 7 reference
SCP-Ref8	Site Characterization Plan, Chapter 8 reference
SCP-RefA	Site Characterization Plan, Part A reference
SCP-RefB	Site Characterization Plan, Part B reference
Translation	Original document is in a foreign language, this is a translation

No.: 17

Name: Document Condition

Description:

The condition of the unit at the time of entry into the system is stored in this field. This includes information such as pages missing, portions illegible, etc. This information assists the user both for retrieval and display/printing.

Use: This is a repeating field.

Instructions:

Enter the code for each specific document condition that applies.

Examples:

Marginalia
Pages Missing
Attachment Missing

Controlled Vocabulary:

The controlled vocabulary for this field is the Document Condition List.

Document Condition List

Illegible	Entire unit is illegible
Pages Missing	Unit has one or more missing pages
Attachments Missing	Unit is missing one or more attachments
Not Scannable	Unit is not suitable for scanning (too large, etc.)
Unreadable Text	Unit contains unreadable text
Marginalia	Unit contains marginalia (use for any document that has handwritten notes in the margins; do not use for highlighting, underlining, etc.)

No.: 18

Name: Media

Description:

This field is used to inform the user of the media on which non-document materials are stored. The field also contains a code which can be translated into a contact for access to the non-document media.

Use: This is a required field for all non-document media.

Instructions:

In the case of physical samples, logs, etc., the media will not enter the LSS; the submitter will provide a full description including the kind of media. In all other cases, enter the appropriate media. If the media is not on the Storage Media List, notify the Cataloging Supervisor.

Examples:

(To be determined.)

Controlled Vocabulary:

The controlled vocabulary for this field is the Storage Media List.

Storage Media List

(To be determined.)

No.: 19

Name: Page Count

Description:

This field stores the exact the number of images that will be created from the pages of the unit. Inclusive pages of excerpts, articles, papers, etc. are stored in the Publication Data field.

Use: This is a required field.

Instructions:

Enter the page number from the bar code of the last page of the unit. This number should not exceed 999.

Examples:

256
3

Controlled Vocabulary:

A controlled vocabulary is not needed for this field.

No.: 20

Name: Descriptors

Description:

Descriptors are terms selected from the LSS Thesaurus that represent the subject content of the unit. The number of descriptors assigned will vary from unit to unit, depending upon how many are needed to fully cover the content of the unit. Most routine documents will require from three to six descriptors. Technical reports, meeting minutes, and other documents that cover a variety of subjects may require up to twenty. Descriptors for all topics of the document as a whole, as well as for topics of individual sections, should be provided.

Use: Required for all units.
This is a repeating field.

Instructions:

Select descriptors at the most specific level available, i.e., a term which is closest in meaning to the concept in the document, neither broader nor narrower. Thus a document on igneous rocks is assigned a descriptor representing that concept and not rocks (broader) or basalt (narrower).

Make descriptor assignments with the user in mind. Therefore, analyze each unit carefully, select useful concepts, and locate descriptors for each concept that will match each user's expression of his needs. Consider each unit from two points of view: the unit itself and the requests which are likely to be made of the system, i.e., a document-oriented view and a request-oriented view. Document-oriented cataloging is one in which the cataloger examines the document, determines what subjects are covered, and provides terms for those subjects. In effect, the cataloger is providing terms which answer the question "What is this document about?" Request-oriented cataloging is more difficult. It requires consideration not just of the subjects which are explicitly covered in the document, but of other issues of importance to the system. The document may provide aid on one or more such issues, even though it is not clearly "about" any of them. In this case the cataloger is considering the question "For what likely queries does this document provide all or part of the answer?" Several examples follow.

An issue of concern in the LSS is the participation of various interested parties (such as the states and Indian tribes) in the licensing process. A document containing a request by the state of Nevada for ground water sampling at Yucca Mountain is clearly about groundwater, sampling, and Yucca Mountain, and should be assigned descriptors for those concepts. The document also provides part of the answer to a question such as "How have local and state governments been participating in the licensing process?" and should be assigned a descriptor which will bring out the aspect of government participation.

Another issue of concern is the impacts (socio-economic, transportation, etc.) of the repository. A document describing the extra wear and tear on roads in the region of the repository as a result of radioactive waste shipments by truck is about radioactive waste shipments, truck shipment, traffic, and roads. It also is of interest to users concerned about the impact of the repository on the transportation system and requires an appropriate descriptor for this issue.

Sources of information for descriptor assignment can include the title, abstract, table of contents, index, summary, introduction, etc. Review shorter documents in their entirety. Documents that discuss a number of very diverse subjects, such as meeting reports, must be thoroughly reviewed so that all of the subjects can be indexed. Select ideas that indicate what the document is about and also seem likely to generate user requests. Some types of information that will be useful to index are:

1) Entities that are described, take action, or are acted on
2) Operations and actions
3) Events
4) Effects of actions and events
5) Time periods
6) Places, geological formations, etc.
7) Chemical and physical properties and reactions
8) Methods used in technical studies.

Be alert both for concepts which are explicit subjects of the document and for those which are implicit but important in providing answers to requests which will be made of the system.

Consider also the scope of the system in order to avoid overusing particular descriptors. For example, almost all documents in the system relate to radioactive waste in some way; assigning "Waste" as a descriptor to all such documents would not be helpful to the user. As

another example, approximately 10 to 20 percent of the documents within the system will be about some form of management. The term management should not be used as a descriptor if a more precise descriptor such as "issue management" or "waste management" covers the topic.

Additional information that is helpful in selecting descriptors can be found in the LSS Thesaurus.

Examples:

Air Pollution Monitoring
Earthquakes
Geotechnical Engineering
Local Officials
Waste Package

Controlled Vocabulary:

The controlled vocabulary for this field is the LSS Thesaurus.

No.: 21

Name: Identifiers

Description:

This is a field for those terms that are not contained in the LSS Thesaurus, but that the submitter or cataloger believe will assist a user in retrieving the unit. These may be "buzz words" or words representing new concepts that have not yet appeared in the LSS Thesaurus. The terms in this field will provide a candidate list of terms for inclusion in the LSS Thesaurus.

Use: This is a repeating field.

Instructions:

Enter those terms which would be crucial for retrieving the unit. Terms that are so closely related to terms in the Thesaurus that they might be considered near synonyms are not to be used. Enter only those terms for which a concept is not covered in the LSS Thesaurus or for which the concept is too broad to be useful. In the latter case, enter the descriptor which would be the broad term for the identifier in the descriptor field.

Examples:

Drinking Water Regulations
Environmental Aspects
Pack Rats
Wells

Controlled Vocabulary:

There is no controlled vocabulary for this field.

No.: 22

Name: Abstract

Description:

A brief description of the content of the unit, either submitted by the author or created by the indexer, is stored in this field. This field is particularly important for physical samples and other units that are not available for full-text searching in LSS. In this case, a more detailed abstract is required.

Use: Required for units in Special Class "Header Only" or "Header and Image Only".
Required for all units containing an abstract.
Required for all units that are packages.

Instructions:

If no abstract exists for a unit that requires one, compose an abstract. For units that do not have any ASCII text, the abstract must provide a complete description of the unit. Use standard typing procedures for entering the abstract (e.g., one blank space between words, two blank spaces between sentences). Enter the abstract as one paragraph.

In those cases where an abstract is composed, enter the character C enclosed in brackets two spaces after the closing mark of punctuation of the abstract. If the abstract is submitted separately by the submitter, enter the submitter's code in brackets two spaces after the closing mark of punctuation of the abstract. In the case of a "header only" package, give a complete description of the package. Check the end of the document for a transmittal sheet which may contain an abstract by the author organization or an agency such as NTIS, NRC, DOE, etc. Enter this information followed by the agency or organization code in brackets.

If the abstract contains non-reproducible symbols (e.g., Greek letters), superscripts or subscripts, degrees, etc., see Appendix C for conventions and instructions on entering this material.

Example:

Oil shale development activities continue at an impressive level both in the United States and elsewhere, but the activity is somewhat reduced compared to prior years. The current soft economic environment is probably the cause for the less aggressive development posture of many project developers. (abstract from a journal article.)

Controlled Vocabulary:

A controlled vocabulary is not needed for this field.

No.: 23

Name: Event Date

Description:

Units may have as their topic a particular event of importance to users searching the database. The date of such an event (meeting, audit, hearing, inspection, etc.) is useful to capture in a separate field to enable a user to retrieve all units which discuss such an event. This date will not be the date of the document, but the date on which the event took place. The date is combined with a code indicating the type of event.

Use: This is a repeating field to allow for units that discuss more than one event.

Instructions:

Examine the unit to determine if it concerns a particular event. The event must be the main topic or one of the main topics of the unit; events that are casually mentioned do not qualify for this field. Enter the date in the format ccyy mm dd. If the event type is not an entry in the controlled vocabulary, please notify the Cataloging Supervisor.

Examples:

(to be determined)

Controlled Vocabulary:

A controlled vocabulary is not needed for the event date, however, the Event Date Code is used for the date qualifier.

Event Date Code

AU: Audit
HE: Hearing
IN: Inspection
ME: Meeting

No.: 24

Name: Comments

Description:

Any information not covered in the bibliographic fields which the submitter or indexer believes will be necessary to identify or retrieve the unit is stored in this field.

Use: Required for all units containing pages greater than 17 x 22 inches.
Required for all units in a foreign language.
Required for all units with missing pages or attachments.

Instructions:

This is a free form field, but be concise. This field should tell the user the language of the unit if it is not English. If the language is not known, enter the words: Language not known. If the unit contains maps or charts that were not imaged, enter information about them in this field. If the unit has pages missing, enter the numbers of the missing pages here. If the unit has attachments missing, enter that information here. If the unit is only an abstract from an abstracting publication, enter that information here.

Examples:

The abstract of this document is in English; the rest of the document is in Swedish.
This document contains a detached oversize map: "Geology of Yucca Mountain".
Publication contains abstracts only.
Pages 15-18 are missing.

Controlled Vocabulary:

A controlled vocabulary is not needed for this field.

No.: 25

Name: Load Date

Description:

The Load Date is the date on which the unit is loaded into the LSS Search and Image System. This will enable users to search for all units that have entered the Search and Image System since a certain date or within a range of dates.

Use: Required for all units

Instructions:

The Load Date will be generated automatically when a unit is loaded into the LSS Search and Image System.

Controlled Vocabulary:

A controlled vocabulary is not needed for this field.

APPENDIX A

GLOSSARY

Cataloging Unit - generally consisting of a document, but in some cases will be a subset of a document that has been unitized. The unitization process results in a cataloging unit for each subdivision or each document left intact. Each cataloging unit must have a header and a record created for it.

Controlled Vocabulary - a list of terms (words, abbreviations, phrases, etc.) which are authorized for inclusion in a specific field.

Document - a submittal that contains text to which unitization rules are applied, resulting in one or more headers.

Excerpt - a fragment of text or a portion of a document that has been submitted as such to the LSS.

Field - a data element or group of data elements in the header.

Header - a group of fields that describe a cataloging unit and therefore become the surrogate for that unit in a data base.

Package - a group of documents that have an important commonality and therefore have been submitted as a related group (such as a group of meeting materials, each of which may be a stand-alone unit). A package must have a header, regardless of whether any physical material accompanies the header, and is assigned a Package ID. Each component of the package undergoes unitization, with all resulting units receiving the same Package ID.

Repeating Field - a data element or group of data elements in the header that can have more than one occurrence for each cataloging unit.

Required Field - a data element or group of data elements in the header that must be completed for each cataloging unit.

Thesaurus - a controlled vocabulary that contains relationships (such as related to, narrower than, broader than) to other terms in the vocabulary.

Unitization - the process of analyzing documents according to prescribed rules to create cataloging units.

APPENDIX B

UNITIZATION RULES

Material in the LSS is subdivided and stored as units. Each unit has an associated header and may have associated images and ASCII text. The object of unitization, the process of determining what is to be considered a unit, is to maximize the likelihood that a user will retrieve the desired information in the smallest number of units each of which contains the least amount of irrelevant information. Unitization rules have, therefore, been developed to guide the catalogers in analyzing material being captured and, if necessary, in further subdividing the submittal unit into relatively homogenous entities (with respect to subjects, authorship, or origin, for example) which are likely to be useful distinctions in a retrieval.

One good example of the need for unitization is the storage in the LSS of a volume containing a collection of conference papers. Although the papers are probably on related topics, each paper deals with a separate specific subject and was written by a different author. Many searches can be envisioned where it is not useful to retrieve the entire collection. Therefore, under the rules below, each paper would be treated as a separate unit for cataloging and storage. The material associated with the collection, but not with any individual paper within the collection, constitutes another unit (with its own header describing the entire collection) which points to each individual paper unit via the LSS pointer.

1. Entire document submitted is attributable to a single author entry, (i.e., one author or group of authors, editors, etc. for entire document.)

   A. Single topic (or group of closely related topics)

      i. Less than 1000 pages[1]

         Treat as a single unit.

[1] Limit imposed by image file-naming convention.

ii. Equal to or greater than 1000 pages

Subdivide into parts less than 1000 pages, each of which is pointed to by a header describing the entire unit (parent header). Every effort should be made to make each part a logical unit (e.g., a chapter or section.)

B. Multiple topics

Subdivide by topic, then treat each subdivision further as 1.A above. Use parent header pointers and title rules as appropriate to indicate to the user that the document was subdivided and that the subsequent units have relationships among them.

2. Entire document is attributable to more than one author entry.

Subdivide by separately-authored parts, including parts with no authorship attributed to them. Then treat each part further as 1 above. Use header pointers and title rules as appropriate.

3. Submission is a group of related documents (i.e., a meeting or quality assurance package).

Generally, materials related to the package as a whole are to be treated as one unit. Subsequent stand-alone attachments or parts are separate units treated as 1 above. If no materials relate to the entire package, there is still a package header, but there will be no ASCII text or image associated with this header. Each package will receive a Package ID in addition to pointers.

SPECIAL CASES

Some documents contain numerous short, individually-authored works (i.e., collections of meeting abstracts). When no useful distinction can be made among the works which could aid in retrieval, such works may be treated as a single unit. This is more often the exception rather than the rule, since if no distinction is made, these individual works are unrecoverable by header searches.

Occasionally a unit resulting from a subdivision will already be in the LSS. In this case, it will not be recaptured, but the pointers will be included in the LSS Pointer field of all appropriate units.

EXAMPLES

1. Meetings Packages

A typical collection of documents within a meetings package will contain a memo announcing an upcoming meeting, an agenda for the meeting, the minutes, a list of participants, and attachments. It can be useful for many retrievals to distinguish among these documents of different authorship, origin date, and content. Therefore, the package is to be subdivided.

The parent unit would have a title such as "Working Papers for the Meeting of January 15, 1989, Agenda, and List of Participants." Subsequent stand-alone attachments (according to the authorship, subject and length criteria above) are treated as separate units. All units are given the appropriate pointers and a Package ID.

2. Book Chapters

It is often difficult to determine if the individual chapters of a book or extensive report should be treated as individual units, or if the book should be treated as a whole. The choice is least difficult if the chapters are individually authored and the chapter topics are clearly different. In this case, a parent header should be created for the common material and the chapters should constitute individual units. Individual authorship (indicating subdivision is appropriate) would dominate over homogeneity of topic (suggesting a single unit is appropriate).

When chapters are not separately authored, the cataloger should determine if subdivision would generally be useful to retrieval. The material should be considered a single unit when there is not sufficient topical distinction in the chapters for multiple units to be useful (unless, of course, the document contains 1000 pages or more). Length of such chapters can often be a guide.

APPENDIX C

CONVENTIONS FOR NON-REPRODUCIBLE TEXT

Since the equipment currently used for both cataloging and retrieval are unable to display certain text (symbols, notation, foreign characters), some conventions must be adopted. The conventions used here to unambiguously express this text are consistent with standard conventions (including basic Hill notation for chemical notation). Titles should be made as searchable as possible, with substitutions made clear and easy to retrieve.

Substitution Codes and Format Conventions

Unreadable text	<unreadable text>
Underline	omit
Italics	ignore
Bold text	ignore
Formula	omit and insert <technical notation> in its place
Greek letter (in text)	spell out (e.g. <delta>)
Foreign language text	omit and insert <foreign language>

Subscripts and Superscripts - Chemical Notation

Bring all subscripts and superscripts to the level of the main line, e.g., Na U O (c) as Na2U2O7(c).

Give priority to subscripts when occurring at the same place as superscripts by entering them first.

Replace the degree symbol (superscript °) with <deg>.

APPENDIX D

JOURNAL TITLE ABBREVIATIONS

AAPG Explorer	American Association of Petroleum Geologists Explorer
Acta Chem Scand Ser A	Acta Chemica Scandinavica Series A: Physical and Inorganic Chemistry
Acta Crystallogr	Acta Crystallographica
Amer J Sci	American Journal of Science
Amer Mineral	American Mineralogist
Ann Assoc Amer Geog	Annals of the Association of American Geographers
Ann Glaciology	Annals of Glaciology
Ann Rev Ecol Systematics	Annual Review of Ecology Systematics
Applied Phys	Applied Physics
Arctic Alpine Res	Arctic and Alpine Research
AUL J Soil Res	Australian Journal of Soil Research
Bull Amer Assn Petro Geologists	Bulletin of the American Association of Petroleum Geologists
Bull Earthquake Res Inst	Bulletin of the Earthquake Research Institute
Bull Intl Assoc Sci Hydrology	Bulletin of the International Association of Scientific Hydrology
Bull Seismol Soc Amer	Bulletin of the Seismological Society of America
Bull Univ UT	Bulletin of the University of Utah
CA Geol	California Geology
Catena	Catena (FRG)
Chem Geol	Chemical Geology
Clays Clay Minerals	Clays and Clay Minerals
Climatic Change	Climatic Change

Contributions Mineralogy Petro	Contributions to Mineralogy and Petrology
Corrosion	Corrosion
Corrosion Sci	Corrosion Science
Deep Sea Res	Deep Sea Research
Earth Planetary Sci Letter	Earth and Planetary Science Letter
Earth Sci Bull	Earth Science Bulletin
Earth Sci Rev	Earth Science Review
Earthquake Eng Struct Dynamics	Earthquake Engineering and Structural Dynamics
Earthquake Prediction Res	Earthquake Prediction Research
Ecol Monographs	Ecological Monographs
Econ Geol	Economic Geology
Eng Geol	Engineering Geology
Environ Geol Water Sci	Environmental Geology and Water Sciences
EOS. Trans Amer Geophys Union	Transactions of the American Geophysical Union
Episodes	Episodes
Fed Reg	Federal Register
Futures	Futures
Geochem Intl	Geochemistry International
Geochim Cosmochim Acta	Geochimica et Cosmochimica Acta
Geoderma	Geoderma
Geol	Geology
Geol Soc Amer Bull	Geological Society of America Bulletin
Geophys Res Letters	Geophysical Research Letters
Geophys	Geophysics
Geophys Monographs	Geophysics Monographs
Geotec	Geotec
Geotherm Resources Coun Bull	Geothermal Resources Council Bulletin
Ground Water Monitoring Rev	Ground Water Monitoring Review

Intl J Min Eng	International Journal of Mining Engineering
Intl J Rock Mech Mining Sci Geomech Abs	International Journal of Rock Mechanics, Mining Science, and Geomechanical Abstracts
Intl J Solids Structures	International Journal of Solids and Structures
J Amer Ceramic Soc	Journal of the American Ceramic Society
J Amer Chem Soc	Journal of the American Chemical Society
J Appl Meteorology	Journal of Applied Meteorology
J Appl Physics	Journal of Applied Physics
J AZ Acad Sci	Journal of the Arizona Academy of Science
J Atmos Sci	Journal of Atmospheric Sciences
J Chem Eng Data	Journal of Chemical and Engineering Data
J Chem Phys	Journal of Chemical Physics
J Clim Appl Meteorology	Journal of Climate and Applied Meteorology
J Electroanal Chem	Journal of Electroanalytic Chemistry
J Enviro Quality	Journal of Environmental Quality
J Geochem Soc Meteorological Soc	Journal of the Geochemical Society and the Meteorological Society
J Geol	Journal of Geology
J Geol Educ	Journal of Geological Education
J Geol Soc London	Journal of the Geological Society of London
J Geomorphology	Journal of Geomorphology
J Geophys Res	Journal of Geophysical Research
J Geotech Eng	Journal of Geotechnical Engineering
J Hydraul Div, ASCE	Journal of the Hydraulics Division, American Society of Civil Engineers
J Hydrol	Journal of Hydrology

J Inorganic Nucl Chem	Journal of Inorganic Nuclear Chemistry
J Interdisciplinary Hist	Journal of Interdisciplinary History
J Iron Steel Inst	Journal of the Iron and Steel Institute
J Mats Sci	Journal of Materials Science
J Nucl Mats	Journal of Nuclear Materials
J Paleontology	Journal of Paleontology
J Petro Technol	Journal of Petroleum Technology
J Res, US Geol Survey	Journal of Research, U.S. Geological Survey
J Structural Geol	Journal of Structural Geology
J Soil Mech Fdns Div, ASCE	Journal of the Soil Mechanics and Foundations Division of the American Society of Civil Engineers
J SAF Inst Mining Metallurgy	Journal of the South African Institute of Mining and Metallurgy
J Volcanology Geotherm Res	Journal of Volcanology and Geothermal Research
Mineral Energy Resources	Mineral and Energy Resources
Mining Eng	Mining Engineering
Monthly Weather Rev	Monthly Weather Review

Nature	Nature
Nucl Chem Waste Mgmt	Nuclear and Chemical Waste Management
Nucl Eng Design	Nuclear Engineering and Design
Nucl Technol	Nuclear Technology
Oil Gas J	Oil and Gas Journal
Pageoph	Pure and Applied Geophysics
Palaeo	Palaeography, Palaeoclimatology, Palaeoecology
Petro Trans, AIME	Petroleum Transactions, American Institute of Mining Engineers
Philos Trans Royal Soc London, Ser A	Philosophical Transactions of the Royal Society of London, Series A: Mathematical and Physical Sciences
PMM	PMM
Progress Phys Geog	Progress in Physical Geography
Pure Applied Chem	Pure and Applied Chemistry
Quaternary Res	Quaternary Research
Quaternary Sci Revs	Quaternary Science Reviews
Rad Effects	Radiation Effects
Rad Phys Chem	Radiation Physics Chemistry
Rad Res	Radiation Research
Radioactive Waste Mgmt Nucl Fuel Cycle	Radioactive Waste Management and the Nuclear Fuel Cycle
Radiocarbon	Radiocarbon
Radiochim Acta	Radiochimica Acta
Radiocarbon	Radiocarbon
Revs Geophys	Reviews of Geophysics
Revs Geophys Space Phys	Reviews of Geophysics and Space Physics
Rock Mechs	Rock Mechanics
Rock Mechs Rock Eng	Rock Mechanics and Rock Engineering

Sci	Science
Scientific Amer	Scientific American
Soc Petro Engrs J	Society of Petroleum Engineers Journal
Soil Sci	Soil Science
Soil Sci Soc Amer J	Soil Science Society of America Journal
Survey Notes	Survey Notes (Utah)
Technometrics	Technometrics
Tectonics	Tectonics
Tectonophysics	Tectonophysics
Tellus	Tellus
Trans Amer Inst Mining Metallurgical Petro Engrs	Transactions of the American Institute of Mining, Metallurgical and Petroleum Engineers
Trans Amer Nucl Soc	Transactions of the American Nuclear Society
Trans Soc Mining Engrs, AIME	Transactions of the Society of Mining Engineers, American Institute of Mining Engineers
Univ NV Bull	University of Nevada Bulletin
Water Resources Res	Water Resources Research
Welding	Welding
WY Geol Assoc Earth Sci Bull	Wyoming Geological Association Earth Sciences Bulletin
Zeitschrift Geomorph Suppl 42	Zeitschrift fur Geomorphologie Supplementband 42
Zeitschrift Kristall	Zeitschrift fur Kristallographie, Kristallgeometrie, Krystallphysik, Kristallchemie
Zeitschrift Natur	Zeitschrift fur Naturforschung