

Under SECTION E - SPECIAL PROVISIONS,

Subsection E.2. TERM OF CONTRACT, last line,

DELETE: "February 29, 1980.", and

INSERT: "March 31, 1980."

Subsection E.3. CONTRACT OPTIONS TO EXTEND OR INCREASE QUANTITY,
Subsection E.3.1 OPTION TO EXTEND THE TERM OF THE CONTRACT, twelfth line,

DELETE: "shall not exceed 66", and

INSERT: "shal] not exceed 67."

Under SECTION F - MANDATORY SPECIFICATIONS,

Subsection F.6 SYSTEM SPECIFICATIONS - SOFTWARE,
Subsection F.6.1 SPECIAL PURPOSE SOFTWARE,

Subsection F.6.1.1 CONVERSION PROGRAMS is renumbered
Subsection F.6.1.1.a CONVERSION PROGRAMS, and

The second paragraph is revised to read as follows:

"The second computer file consists of the items listed in Exhibit F.7.6. (substitute attached exhibit for one currently in contract) and described in Exhibit F.7.7. (substitute attached exhibit for one currently in contract). This computer file represents a backlog of about 48,000 records of the NRC Document Control System (DCS) that will be available on magnetic tape to load into the PDR data base."

The fourth paragraph is revised to read as follows:

"A description of the blocking, codes, formatting and labeling of the above two magnetic tapes are indicated in Exhibits F.7.8. and F.7.11. (substitute attached exhibits for ones currently in contract). The PDR record format agreed upon as a result of the contractor generation of specifications for the master record layout shall be the format into which the other tapes shall be converted and merged. The master file will be updated daily by reading tapes from the NRC DCS system. This will be done by PDR personnel on the process controller on a daily basis."

1. AMENDMENT/MODIFICATION NO. Three (3)

2. EFFECTIVE DATE 6/14/79

3. REQUISITION/PURCHASE REQUEST NO. RFPA SEC-79-449, Mod 43

4. PROJECT NO. (If applicable) _____

5. ISSUED BY U. S. Nuclear Regulatory Commission
 Division of Contracts
 Washington, DC 20555

6. ADMINISTERED BY (If other than block 5) _____

7. CONTRACTOR NAME AND ADDRESS

ACCESS Corporation
 4815 Para Drive
 Cincinnati, OH 45237

8. AMENDMENT OF SOLICITATION NO. _____

MODIFICATION OF CONTRACT/ORDER NO. NRC-17-79-449

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers is extended, is not extended.

Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:

(a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)

Appropriation Symbol	S&R No.	FIN No.	AMOUNT
31X0200.709	70-19-02	C-6357	\$4,619.00

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS

(a) This Change Order is issued pursuant to _____

The Changes set forth in block 12 are made to the above numbered contract/order.

(b) The above numbered contract/order is modified to reflect the administrative changes (such as changes in issuing office, appropriation data, etc.) set forth in block 12.

(c) This Supplemental Agreement is entered into pursuant to authority of mutual agreement

It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION

This Supplemental Agreement is issued to change Item Nos. 1016 and 1017; to change the specifications for the Systems Specifications - Software, Item No. 2004; to add new line Item No. 2007; to change the delivery schedule; and to increase the total amount of the contract.

Continuation Sheets, Pages 2 and 3, are revised as follows:

Item No.	Supplies/Services	Quantity	Unit	Unit Price	Amount
<u>Revision</u>					
1016	1600 BPI Mag Tape (7970E-236)	1	EA	\$11,638.00	\$11,638.00
1017	Maintenance on 1600 BPI Mag Tape	3	MOS	117.00	351.00
<u>Addition</u>					
2007	Translation Library	1	LOT	3,000.00	3,000.00

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 3 COPIES TO ISSUING OFFICE

14. NAME OF CONTRACTOR/OFFEROR

BY Newton D. Baker IV (Signature of person authorized to sign)

17. UNITED STATES OF AMERICA

BY Mary Jo Mattia (Signature of Contracting Officer)

15. NAME AND TITLE OF SIGNER (Type or print)

Newton D. Baker IV
 Vice President & Treasurer

16. DATE SIGNED 6/21/79

18. NAME OF CONTRACTING OFFICER (Type or print)

Mary Jo Mattia

19. DATE SIGNED 6/14/79

The following new Subsection is added:

F.6.1.1.c. Translation Library

Due to the dynamic nature of the NRC Document Control System and changing PDR requirements, the DCS conversion software shall include a special translation library program that shall provide the PDR staff with the capability of determining the conversion or mapping from one set of keyname/keyvalue items in the DCS system into one or more alternate keyname/keyvalue entries in the PDR master data base. It shall allow for the mapping process to: cross keyname boundaries; be irreversible; be multiple; be specific or generic.

Subsection 6.1.2. Automated Indexing Program is revised to read as follows:

Because the subject indexing methodology and terminology to be used in the NRC Document Control System is still in its developmental stages, the precise format and content of the DCS subject field(s) cannot be specified.

Contractor-furnished indexing software, therefore, shall provide the PDR staff with the capability to determine at some later date the mapping relationship from keyname/keyvalue subject entries in the DCS data base to one or more keyname/keyvalue subject entries in the PDR data base. The keyterms generated as a result of this mapping process shall then form part of their respective records and shall be inverted and searchable by Boolean logic.

This software shall have the translation capabilities specified in Subsection F.6.1.1.b. The program will be executed on a daily basis as part of the processing of DCS tapes by the PDR staff.

Under SECTION G - MANDATORY SUPPORT REQUIREMENTS,
 Subsection G.2.3.1. INSTALLATION SCHEDULE is revised as follows:

<u>Item No.</u>	<u>Quantity</u>	<u>On or Before</u>
1001	1 each	July 2, 1979
1004	16,000 each	July 2, 1979
1005	1 each	July 2, 1979
1006	3 months	Commencing ninety (90) days after completion of successful performance period
1007	1 each	July 2, 1979
1008	3 months	Commencing ninety (90) days after completion of successful performance period
1009	1 each	July 2, 1979
1010	3 months	Commencing ninety (90) days after completion of successful performance period
1011	1 each	July 2, 1979
1012	1 each	July 2, 1979
1013	3 months	Commencing ninety (90) days after completion of successful performance period
1014	1 each	July 2, 1979
1015	1 each	July 2, 1979
1016	1 each	July 2, 1979
1017	3 months	Commencing ninety (90) days after completion of successful performance period
1018	1 each	422 July 27 1979
1019	3 months	Commencing ninety (90) days after completion of successful performance period

Under SECTION G - MANDATORY SUPPORT REQUIREMENTS, Subsection G.2.3.1.
 Installation Schedule (Continued)

<u>Item No.</u>	<u>Quantity</u>	<u>On or Before</u>
1020	1 each	July 2, 1979
1021	3 months	Commencing ninety (90) days after completion of successful performance period
1022	2 each	July 2, 1979
1023	3 months	Commencing ninety (90) days after completion of successful performance period
2001	3 months	Commencing ninety (90) days after completion of successful performance period
2002	1 lot	July 30, 1979
2003	3 months	Commencing ninety (90) days after completion of successful performance period
2004	1 lot	July 30, 1979
2005	3 months	Commencing ninety (90) days after completion of successful performance period
2006	1 lot	July 30, 1979 - (Except for Formal acceptance (Test Plan due July 2, 1979
2007	1 lot	July 30, 1979
3001	1 lot	Within three (3) weeks after loading of software and data
3002	1 lot	Drafts - two (2) weeks prior to installation of software and data Finals - one (1) week prior to installation of software and data
3003	3 months	Commencing ninety (90) days after completion of successful performance period
3005	1 lot	In accordance with ACCESS Corporation's Best and Final Offer letter dated November 13, 1978
3006	1 lot	In accordance with ACCESS Corporation's Best and Final Offer letter dated November 13, 1978

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Subsection G.5 TRAINING, Subsection G.5.1 SCHEDULE FOR TRAINING,
 Use of System Training is revised to read as follows:

<u>Type of Training</u>	<u>Location</u>	<u>Approximate No. to be Trained</u>	<u>Course Schedule</u>
Use of System			In accordance with ACCESS Corporation's Best and Final letter dated November 13, 1979
Key Operators	PDR*	4	In accordance with ACCESS Corporation's Best and Final letter dated November 13, 1979
Operators	PDR*	7	In accordance with ACCESS Corporation's best and Final letter dated November 13, 1979
Operators	PDR*	7	In accordance with ACCESS Corporation's Best and Final letter dated November 13, 1979

Subsection G.6 MANUALS AND PUBLICATIONS, "Documentation," "Quantities,"
 and "Delivery Schedule" Columns are revised to read as follows:

<u>Documentation</u>	<u>Quantities</u>	<u>Delivery Schedule</u>
User Manuals	3 each	Draft Version: Two (2) weeks prior to Installation of software and data
	12 each	Final Version: One (1) week prior to Installation of software and data
Contractor Software Manual	1 each	Draft Version: Two (2) weeks prior to Installation of software and data
	1 each	Final Version: One (1) week prior to Installation of software and data

*Public Document Room, Washington, DC

As a result of this Supplemental Agreement, the total amount of the contract is increased by \$4,619.00 from \$298,145.00 to \$302,764.00.

Attachments:

- Exhibit F.7.6.
- Exhibit F.7.7.
- Exhibit F.7.8.
- Exhibit F.7.11.

ARMS INDEX DATA CODING FORM

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EXHIBIT F.7.6.

DOCUMENT CONTROL NUMBER	DOCUMENT IDENTIFICATION NUMBER (DIR)	DOC PAGE NO (DPN)	DOC REV NO (DRN)	RECIPIENT AFFIL. CODE (RA)	SLIPP NO (SN)	NO OF PAGES (NP)
DOCUMENT TYPE CODE (DTC)						
AUTHOR(S) AFFILIATION (AA)	RECIPIENT(S) AFFILIATION (RA)	NAME (RN)				
DATE ISSUED (DIS)	DATE INDEXED (DIX)	AVAILABILITY	LOCAL PUBLIC DOC. ROOM (LPR)	SECURITY OR SPECIAL CODE (SSC)		
DOCKET DATE (DDC)	DOCKET NUMBER(S) (DKN)	CONTRACT NO (CN)				
ACCESSION NO (ANO)						
TASK NO (TASK)	LANGUAGE	OTHER DOCUMENT ID NO (ODID)				
TITLE/DESCRIPTION (TID)						
FILE LOCATION(S)/LEVEL(S) (FIL)	FILE	FILE	FILE	FILE PACKAGE NO (FPAC)	ARMS MICROFILM ADDRESS (AMDA)	
FORMAL REPORT NO. (FRN)						
DIST. ST (DIST)	DIST. DATE (DDT)					



U. S. NUCLEAR REGULATORY COMMISSION
DOCUMENT CONTROL SYSTEM

TITLE LIST

DATA RECORD
SPECIFICATION

By: TERA Corporation

August 4, 1978

EXHIBIT F.7.7.

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INTRODUCTION
DATA RECORD SPECIFICATION AND
EDITING INSTRUCTION SHEETS

Revision: 0
Date:
Page __ of __

1.0 INTRODUCTION

The following section of the ARMS ~~CODING MANUAL~~ ^{DATA DICTIONARY} contains the Data Record Specification and Editing Instruction sheets referred to by the various indexing procedures and other system documents. These specifications and instruction sheets are prepared and maintained by personnel of the ARMS Control Center and define the mandatory and optional data elements, data content, data formats, and other editing instructions for each document type (first through third level DTC) and consequent index data record content for a given type of document as identified by its complete Document Type Code (DTC).

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INTRODUCTION

This Title List Data Record Specification provides definitions of the data elements which comprise the Title List Data Record as required for program modifications, and indexing of documents for entry into the DCS index record data base. The data elements, as defined herein, will be supported to the maximum extent possible for each document processed to provide maximum information capture. Primary emphasis will initially be placed on capture of those elements necessary to support the Title List production effort. Concurrent development and training to support all elements will be undertaken from the outset to attain full index definition capability at the earliest practical date.

Table 1 provides a list of the data elements and sub-elements with name and label. Paragraphs 1 thru 24 provide a description of each element and sub-element defining the function and format to be followed when indexing documents.

Table 2 provides a summary of each data element and its program parameters as explained by the Data Element Characteristic Descriptions following Table 2.

TABLE I

TITLE LIST DATA ELEMENTS

1. Document Control Number (DCN)
 - 1.1 Document Type Code (DTC)
 - 1.2 Author Affiliation (AA)
 - 1.3 Document Identification Number (DIN)
 - 1.4 Document Page Number (DPN)
 - 1.5 Document Revision Number (DRN)
 - 1.6 Recipient Affiliation (RA)
 - 1.7 Supplement Number (SN)
2. Date Issued (DIS)
3. Date Indexed (DIX)
4. Recipient (REC) - 3 fields per data record
 - 4.1 Recipient Affiliation (RA)
 - 4.2 Recipient Name (RN)
5. Author (AUT) - 3 fields per data record
 - 5.1 Author Affiliation (AA)
 - 5.2 Author Name (AN)
6. Security or Special Classification Code (SSC)
7. Document Title/Description (TID)
8. Accession Number (ANO)
9. Docket Number (DKN)
10. Docket Date (DKD)
11. Other Document ID Number (ODID)
12. Language (LANG)
13. Numbers of Pages (NP)
14. Contract Number (CN)
15. Price (PR)
16. Hard Copy Document Location (HDL)
17. ARMS Microfilm Document Address (AMDA)
18. Other Microfilm Document Address (OMDA)
19. Reference Document ID Numbers (RDI)
20. File Locations (FIL)
21. Task Number (TASK)
22. Document Size (SIZE)
23. Distribution List (DLST)
24. Distribution Date (DID)

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TABLE 2

TITLE LIST DATA ELEMENTS

DATA ELEMENTS - NAME AND MNEMONIC	(1) NO. FIELDS	(2) MAX BYTES	(3) JUST.	(4) CODED ALPHA	(5) REQ'D	(6) ITEM TYPE	(7) KEY	(8) FETCH DESC.	(9) FETCH'D BYTES
1. Document Control Number (DCN)	1x7	42							
1.1 Document Type Code (DTC)	1	6	L	Y	Y	A/N	Y	N	
1.2 Author Affiliation Code (AA1)	1	7	L	Y	Y	A/N	Y	N	
1.3 Document Identification Number (DIN)	1	15	L	N	Y	A/N	Y		
1.4 Document Page Number (DPN)	1	3	R	N	N	N	Y		
1.5 Document Revision Number (DRN)	1	2	R	N	N	N	Y		
1.6 Recipient Affiliation Code (RA1)	1	7	L	Y	N	A/N	Y	N	
1.7 Supplement Number (SN)	1	2	R	N	N	A/N	Y		
2. Date Issued (DIS)	1	6	L	N	Y	D	Y		
3. Date Indexed (DIX)	1	6	L	N	Y	D	N		
4. Recipient (REC) - 3 fields per data record	3x2	59							
4.1 Recipient Affiliation (RA2 & RA3)	2	7	L	Y	N	A/N	Y	Y	40
4.2 Recipient Name (RN1, RN2 & RN3)	3	15	L	N	N	A	Y		
5. Author (AUT) - 3 fields per data record	3x2	59							
5.1 Author Affiliation (AA2 & AA3)	2	7	L	Y	Y	A/N	Y	Y	40
5.2 Author Name (AN1, AN2 & AN3)	3	15	L	N	Y	A	Y		
6. Security or Special Classification Code (SSC)	1	3	L	Y	N	A	N	N	
7. Document Title/Description (TID)	1	240	L	N	Y	A/N	N		
8. Accession Number (ANO)	1	10	L	N	Y	N	Y		
9. Docket Number (DKN)	3	30(3x10)	L	Y	N	N	Y	Y	40

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TABLE 2
(CONT.)

DATA ELEMENTS - NAME AND MNEMONIC	(1) NO. FIELDS	(2) MAX BYTES	(3) JUST.	(4) CODED ALPHA	(5) REQ'D	(6) ITEM TYPE	(7) KEY	(8) FETCH DESC.	(9) FETCH'D BYTES
10. Docket Date (DKD)	1	6	L	N	N	D	N		
11. Other Document ID Number (ODID)	1	15	L	N	N	A/N	Y		
12. Language (LANG)	1	3	L	Y	N	A	N	Y	10
13. Number of Pages (NP)	1	10	R	N	Y	N	N		
14. Contract Number (CN)	1	20	L	N	N	A/N	Y		
15. Price (PR)	1	10	R	N	N	N	N		
16. Hard Copy Document Location (HDL)	1	4	L	Y	Y	A	N	N	
17. ARMS Microfilm Document Address (AMDA)	2	16(2x8)	R	N	N	N	N		
18. Other Microfilm Document Address (OMDA)	1	15	L	N	N	A/N	N		3
19. Reference Document ID Numbers (RDI)	3	45(3x15)	L	N	N	A/N	Y		
20. File Locations (FIL)	3	90(3x30)	L	Y	N	A/N	Y	N	
21. Task Number (TASK)	1	10	L	Y	N	A/N	Y	N	
22. Document Size (SIZE)	1	2	R	Y	Y	A/N	N	N	
23. Distribution List (DLST)	1	4	L	Y	N	A/N	N	N	
24. Distribution Date (DID)	1	6	L	N	N	D	N		

TITLE LIST

DATA RECORD SPECIFICATION

DATA ELEMENT CHARACTERISTIC DESCRIPTION FOR TABLE 2

1. No. Fields - Defines the number of data element fields in each data record for a particular element. When sub-elements apply, the primary element will show first the number of fields and then the number of sub-elements per field, i.e., 3 x 2 means 3 fields of 2 parts each.
2. Max. Bytes - Defines the maximum byte (character) length for each data element field. When sub-elements apply, the primary data element will show total bytes for all sub-elements and repetitions. The sub-elements will show only that specific part's byte length for each field.
3. Just. - Defines justification of data for each data element where L=Left and R=Right justified respectively. When sub-elements apply, show only for the sub-element.
4. Coded Alpha - Defines data elements which will require coded alpha tables, Y=Yes, N=No for each data element. When sub-elements apply, specified for each sub-element only. May be linked coded alpha requirements within any given element or sub-element. Refer to specific Coded Alpha Element specification for detailed definition.
5. Req'd - Defines data element as a mandatory or optional data entry when each data record created. Y=Yes mandatory, N=No not mandatory. When sub-elements apply, specified for sub-element only.
6. Item Type - Defines data element data type per following:
A/N = Alpha/Numeric, includes special characters
A = Alpha only
N = Numeric only
D = Date
Item type specified in FILES for non-coded alpha data elements, and specified in ALPHA for coded alpha data elements.
7. Key - Defines data element as a key, Y=Yes, or non-key, N=No, for use in one or more key indexes for the data base. Refer to specific Key Index Specification for detailed definition.

8. Fetch Desc. - Fetch Description specifies the need
and to be able to pull the Item Description from the appropriate
9. Fetch'd Bytes coded alpha table for display at CRT's or report printing.
It is an optional data element characteristic which applies
only to data elements which use coded alphas. It is a generic
optional characteristic for each coded alpha table, but
when available for a specific table, its use is further defined
at the individual screen and report format level. That
is, even though a specific table has been specified with
this capability, its use for a specific display or report is
further defined when each display or report format is speci-
fied. Each data element which is designated as a Coded
Alpha (column 4) will be defined as to this requirement
by either N=No or Y=Yes in column 8. When "Y" in column
8, column 9, Fetch'd Bytes, will define the length in bytes
of the item description to be fetched. This is shown for
convenience when building screens and report formats
which use item descriptions.

1.0 DATA ELEMENT NO. 1 - DOCUMENT CONTROL NUMBER

The Document Control Number (DCN) is the primary key data element for the index data record and must have a unique value for each document and/or page within the data base. To achieve and assure this uniqueness, the DCN consists of seven data fields. Each data field provides an ever-increasing level of uniqueness and fully identifies a single unique data base index record for each identifiable physical document and record. The seven fields which comprise the DCN are:

1. Document Type Code (DTC)
2. Author Affiliation Code (AA)
3. Document Identification Number (DIN)
4. Document Page Number (DPN)
5. Document Revision Number (DRN)
6. Recipient Affiliation Code (RA)
7. Supplement Number (SN)

1.1 DOCUMENT TYPE CODE

DCN Field 1, the Document Type Code (DTC), will be a multi-level, coded alpha type of document descriptor. That is, the characters will constitute a hierarchy of document type categories, where each category is represented by one or more alphabetic characters. For example, a major document type category is correspondence, which would be represented by the letter "C" in the first character position of the DTC. A subcategory of correspondence documents is letters, which would be represented by an "L" in the second character position of the DTC field. This type of coded hierarchy can be extended through all character positions. However, only three levels of DTC hierarchy will be used.

1.2 AUTHOR AFFILIATION

DCN Field 2, the Author Affiliation Code (AA), is also a multi-level coded alpha type of data element. In this case, a code for the primary organization responsible for originating the document will be entered and will be hierarchical. For

example, the first character of the code will indicate a broad category of organization type, either external or internal. The second and third characters will specify a subcategory of the major organization type code, and the fourth through seventh characters will specify a final code for a specific external organization, or within the NRC for internal organizations (Divisions and Branches).

1.3 DOCUMENT IDENTIFICATION NUMBER

DCN Field 3, the Document Identification Number (DIN), is a free-form, i.e., non-coded, data field for entry of a document or record identification number. The DIN may be a subset of the Document Type Code and Author Affiliation Code or an independent, unique sequence number assigned on some standardized basis such as date issued. The DIN will take different forms depending on the type of document or record and its function or purpose.

For purposes of the Title List System, the DIN will use:

1. The Date Issued followed by a dash and then, if necessary, a sequence number as the DIN for items of correspondence; and
2. Specific standard formats as a subset of the Document Type Code for each identifiable type of drawing, text, and record as the DIN.

1.4 DOCUMENT PAGE NUMBER

DCN Field 4, the Document Page Number (DPN), is an optional data field used only if a document is revised on a page-by-page basis. This data field would contain the page number and allow the user to directly access a specific page when revisable page documents, normally multi-sheet drawings, are indexed.

1.5 DOCUMENT REVISION NUMBER

DCN Field 5, the Document Revision Number (DRN), is used to record the revision number or letter as specifically identified on the document by the originating organization. For a page revised document, the revision number is that of the page specified in the preceding Document Page Number (DPN) field.

1.6 RECIPIENT AFFILIATION

DCN Field 6, the Recipient Affiliation Code (RA), is a multi-level coded alpha type of data element and will use the same structure and code tables as applied to the Author Affiliation Code, DCN Field 2. In this case the code value will be that representing the primary recipient or addressee organization of the document, if applicable. The RA data element is optional for text and drawings, but mandatory for correspondence type of documents.

1.7 SUPPLEMENT NUMBER

There is a seventh field associated with the DCN, but it is not actually part of the Document Control Number. This field is designated as the Supplement Number (SN) data field. It is a field providing a special feature within the system to enable the linking of supplementary index data records to a primary index data record. Although the index data record format will be designed to provide sufficient data elements to cover all significant information requirements, a question often arises as to the number of like data elements to include in a single data record. For example, more than one contract number may apply to a given document. In this case, it is necessary to have more than one data element field for recording contract numbers in an index data record. The question arises of how many contract number fields should be available in a single data record.

Normally, a review of existing documents would reveal that for most users a single contract number data field would be adequate. However, this may not be adequate for a user to whom contract numbers are critical in his work functions. The Supplement Number field allows a user to add (or have added)

another complete index data record containing additional contract numbers with the same DCN and hence, the same primary key. Thus, special user requirements can be satisfied without encumbering the basic index data record with an excessive number of data fields for each data element.

The Document Control Number, as the primary key for the document control system's index data records, will not be directly expandable nor alterable in format. In concept and in practice, its implementation as the common primary key data element within the data base requires maximum consistency of use and control to maintain data base integrity.

2.0 DATA ELEMENT NO. 2 - DATE ISSUED

The Date Issued (DIS) is a six-character data field where the date of document issue is entered as a numeric code in a Year-Month-Day format. For example, the date "June 15, 1977" would be entered as "770615."

3.0 DATA ELEMENT NO. 3 - DATE INDEXED

The Date Indexed (DIX) data element is the date the index data record was created in the computer data base for the document in question. The format and field length for this data element is identical to that specified for the Date Issued, described above. The DIX data element is required to provide administrative control of systems operation and will be used in providing operating statistics.

4.0 DATA ELEMENT NO. 4 - RECIPIENT

The Recipient (REC) data element is comprised of two data fields. The first field is for entry of a coded alpha or alphanumeric affiliation descriptor and, as such, is designated the Recipient Affiliation (RA) data field. The second field is for entry of the recipient's name, if applicable, and is designated the Recipient Name (RN) data field. The REC data element is also a secondary key data element which is available for interactive searching. The data element uses the same code tables as the affiliation descriptors as discussed in Data Element No. 1.

The second data field of the REC data element, the Recipient Name (RN), is not a coded field; that is, a roster of personnel will not be implemented as part of the index plan. The RN data field is an optional data field where Recipient Name will be entered, last name first, a space, first initial, a space, and middle initial, if available. It will provide improved interactive search capabilities within the practical constraints imposed by the nature of the information. The portion of the key index(es) using the RN data element will not include the complete RN data field, but will use only the first five characters of the recipient's last name in the key.

Three REC data elements will be provided in each data record for multiple recipient data entries. The first RA code will have been previously entered via the DCN Field 6, and only the corresponding Recipient Name (RN) will have to be entered during data entry.

5.0 DATA ELEMENT NO. 5 - AUTHOR

The Author (AUT) data element will be comprised of two data fields. It will be used in exactly the same manner as the Recipient data element described in the previous section except, of course, the author's affiliation code and author's name are applicable. The AUT data element will be interactively searchable in conjunction with the REC data element and the affiliation codes will be common to both. Use of author's name will be an optional data field entry. The first AA code will also have been entered via DCN Field 2 and only the corresponding Author Name (AN) will be entered.

6.0 DATA ELEMENT NO. 6 - SECURITY OR SPECIAL CLASSIFICATION CODE

The Security or Special Classification Code (SSC) is an optional coded alpha data element which will provide for entry of any special classifications which may be appropriate to the document or record in question. Other uses of the data field include the designation of documents as limited distribution, i.e., confidential or proprietary. Specific codes and classifications are shown in the appropriate coded alpha table.

7.0 DATA ELEMENT NO. 7 - DOCUMENT TITLE/DESCRIPTION

The Document Title/Description (TID) data element will be a non-coded, free-form field to allow entry of the document or record title and/or textual information describing the document or record in an English language format. Since this is a non-coded, free-form data field, it allows total freedom in entering descriptive information for an index data record. The TID data element will be a mandatory data field.

8.0 DATA ELEMENT NO. 8 - ACCESSION NUMBER

The Accession Number (ANO) data element will be used to enter a controlled sequence number for each index data record. Use of an accession number is primarily an administrative control mechanism to provide a unique identification number for each identifiable document immediately upon receipt by the document control system for processing. The accession number will be comprised of two segments. The first segment will be the date of indexing of the document into the DCS. The second segment will be a sequential number 0001 through 9999 to provide a unique identity for up to 9999 documents indexed on a given day. The ANO data element will be a mandatory data field for each index data record. Documents can be listed by this number in hard copy format, that is the Accession Number will be a secondary key data element.

9.0 DATA ELEMENT NO. 9 - DOCKET NUMBER

The Docket Number (DKN) data element is a coded alpha item and is provided to allow entry of the docket identification number when applicable. In some cases, data entered in this field will be redundant with the File Location Level Numbers, discussed in following sections, depending on the type of document for which the index data record is being prepared. The DKN data element will be an optional data field. Three Docket Number fields are provided to allow entry of multiple docket numbers as is often required, especially for correspondence type documents.

10.0 DATA ELEMENT NO. 10 - DOCKET DATE

The Docket Date (DKD) data element is provided to allow entry of the official Docket Date for documents submitted and accepted into the NRC licensing process. It will utilize a Year-Month-Day format as was used for the DIS and DIX data elements, and it is an optional data element.

11.0 DATA ELEMENT NO. 11 - OTHER DOCUMENT I.D. NUMBER

The Other Document I.D. No. (ODID) data element is an optional data field for entry of a secondary and, in some cases tertiary, document identification number. The primary use of this data field will be to record the identification number given a document by an outside source. In many cases, especially in license application review, documents contain an identification number assigned by the applicant. A data element is required to record this document identification number. The ODID data element is an optional data field and will be interactively searchable as a secondary key.

12.0 DATA ELEMENT NO. 12 - LANGUAGE

The Language (LANG) data element is a coded alpha item provided for entry of a code representing the name of the language in which a report was written, if other than English. A list of languages commonly used in technical publications will be compiled to provide consistency in name identification for use in this data field.

13.0 DATA ELEMENT NO. 13 - NUMBER OF PAGES

The Number of Pages (NP) data element will have two basic use formats: one for correspondence items transmitting a document and the other for specific documents and records. For correspondence items which are transmitting a document or record, the format will include the number of pages in the item of correspondence plus the number of pages in the attachment(s). For a single document or record, the format will be the number of pages in the particular item. The NP data element is a mandatory data field for each index data record.

14.0 DATA ELEMENT NO. 14 - CONTRACT NUMBER

The Contract Number (CN) data element is provided for entry of a contract number, if applicable. The contract number to be used in this data field will be the official contract number as specified and used by the NRC procurement authority. The CN data field is a mandatory field when a document is related to contract operations and procedures will be implemented to obtain the necessary information to assure accurate and consistent use of this data element. This will require a formal communications channel between the NRC Document Control System operations and appropriate NRC procurement and/or contract administration authorities.

15.0 DATA ELEMENT NO. 15 - PRICE

The Price (PR) data element is normally used with the Data Element 14, Contract Number, to record a lump sum price or cost where applicable for a specific contract. In the future, certain restrictions may be placed on the use of this field since some price and cost information may be confidential, at least until bid comparison has been completed and contracts issued. In this event, Data Element 15 may be used in conjunction with Data Element 6, Security or Special Classification Code, to limit the access to this information or index data records containing this information via software control mechanisms. That is, if price information is entered in Data Element 15, and it is to be restricted to certain personnel, a special code entered in Data Element 6 would prevent reading of the index data record until a specific password has been entered via the CRT. The PR data element is an optional data field.

16.0 DATA ELEMENT NO. 16 - HARD COPY DOCUMENT LOCATION

The Hard Copy Document Location (HDL) data element is provided to allow entry of the primary hard copy document storage location in a coded format. At present, the two central hard copy document storage locations are the Central Files of the NRC and the Public Document Room. The filing of a hard copy document in either or both of these locations will be indicated by a "CF"

for the Central Files, a "PDR" for the Public Document Room and simply the term BOTH if the document is located in both primary storage files. The use of this data field is primarily to provide administrative control assistance in locating source documents. The HDL data element is a mandatory data field in all cases.

17.0 DATA ELEMENT NO. 17 - ARMS MICROFILM DOCUMENT ADDRESS

The ARMS Microfilm Document Address (AMDA) is provided to record the microfilm identification/location address for a document's image stored on microfiche for use in automated retrieval. The data element is comprised of two data fields, the first identified as the Beginning Frame I.D. No. (BFID) and the second as the Ending Frame I.D. No. (EFID). The field is provided for the entry of a microfiche identification number followed by a specific frame number on that microfiche, for both the beginning position and the ending position of a document on microfilm. The beginning and ending frame number locations are required because the filming of many documents will involve more than one microfiche. The microfilm document address provides a necessary linkage between the index data records and the ARMS hardware to allow automatic retrieval of microfiche document images for video distribution. It also provides the address necessary for manual access of individual microfiche. The AMDA data element is a mandatory data element for all documents to be put on microfiche.

18.0 DATA ELEMENT NO. 18 - OTHER MICROFILM DOCUMENT ADDRESS

The Other Microfilm Document Address (OMDA) is provided to record the microfilm identification/location address for a document's image stored on microfilm other than the ARMS microfiche. This will be a free-form field, subject to administrative procedural controls, for entry of microfilm identification or location data, such as required for aperture cards. It is an optional data element.

19.0 DATA ELEMENT NO. 19 - REFERENCE DOCUMENT IDENTIFICATION NUMBERS

The Reference Document Identification Numbers (RDI#1-RDI#3) data elements consist of three fields to allow comprehensive document cross-referencing for any given document. Each data field will be used to record the Document Identification Number of a reference document. These three data fields allow up to three cross-references to other documents to be encoded for each index data record. The data elements are optional and will be used during the Title List implementation phase, to list transmittal letters for text and drawings, and attachments to transmittal letter for correspondence.

20.0 DATA ELEMENT NO. 20 - FILE LOCATIONS

The File Location (FIL1-FIL3) data elements are coded alpha items and consist of three data fields to allow entry of the File Level codes currently used by the NRC PDR Document Accession Control System. The existing file coding system will be utilized with minor modification as required to provide consistency between ARMS and PDR document identification information.

21.0 DATA ELEMENT NO. 21 - TASK NUMBER

The Task Number (TASK) data element consists of a single data field to allow entry of the task number code as used by the DACS. The existing numbers and editing scheme will be utilized as required to provide consistency between ARMS and DACS.

22.0 DATA ELEMENT NO. 22 - DOCUMENT SIZE

The Document Size (SIZE) data element is a coded alpha, single data field to allow entry of a code for the physical size of the document. This information will be used for administrative control in the future.

23.0 DATA ELEMENT NO. 23 - DISTRIBUTION LIST

(Later)

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24.0 DATA ELEMENT NO. 24 - DISTRIBUTION DATE

(Later)

FORMAT OF DOCUMENT CONTROL SYSTEM (DCS) TAPES TO BE PROVIDED TO PDR

Format of MAINT produced tape: (INITIAL DATA BASE)

Tape will be 1600 BPI, unlabeled, with 1024 byte logical records blocked at 4 logical records per physical record of 4096 bytes.

Each logical record will contain the following:

- bytes 1- 801 - one DCS data base record (unpacked) as described in the COMREC file definition.
- 802- 976 - unused (nulls)
- 977-1020 - document control number (DCN)
- 1021-1022 - 16-bit binary integer (USER#MODE, 1=>create)
- 1023-1024 - 16-bit binary integer (FILE#NUMBER, 1=>DCS record)

Format of transaction file tape: (DAILY TAPES)

Tape will be 1600 BPI, unlabeled, with 1024 byte logical records blocked at 4 logical records per physical record of ~~824~~⁴⁰⁹⁶ bytes.

Each logical record will contain the following:

bytes · 1 - 801 - one DCS data base record (unpacked) as described in the COMREC file definition (attached)

802 - 954 - unused or garbage

955 - 957 - operators initials (USER#ID,alpha)

958 - unused (null)

959 - 964 - date record was filed (ascii,YYMMDD)

965 - 970 - time record was filed (ascii,HHMMSS)

971 - 974 - previous value of AVL if USER#MODE = change

975 - 976 - garbage

977 -1020 - document control number (DCN)
= previous DCN if USER#MODE = change

1021 -1022 - 16-bit binary integer (USER#MODE)
1 => create, 2 => change, 3 => delete.

1023 -1024 - 16-bit binary integer (FILE#NUMBER,1=>DCS record)

ITEM	START	U.	TYPE	LOC.	LENGTH	DESCRIPTION
1			99	1	1	DCN:OTC:1ST CHARACTER
2			99	2	1	DCN:OTC:2ND CHARACTER
3			99	3	4	DCN:OTC:3RD-6TH CHARACTERS
4			99	7	1	DCN:AA1:1ST CHARACTER
5			99	8	2	DCN:AA1:2ND-3RD CHARACTERS
6			99	10	5	DCN:AA1:4TH-8TH CHARACTERS
7			4	15	15	DCN:DIN
8			4	30	3	DCN:DPN
9			3	33	2	DCN:DRM
10		10	99	35	1	DCN:RA1:1ST CHARACTER
11		11	99	36	2	DCN:RA1:2ND-3RD CHARACTERS
12		12	99	38	5	DCN:RA1:4TH-8TH CHARACTERS
13		13	4	43	2	DCN:SUPPLEMENT NUMBER
14		14	99	45	1	AA2:1ST CHARACTER
15		15	99	46	2	AA2:2ND-3RD CHARACTERS
16		16	99	48	5	AA2:4TH-8TH CHARACTERS
17		17	99	53	1	AA3:1ST CHARACTER
18		18	99	54	2	AA3:2ND-3RD CHARACTERS
19		19	99	56	5	AA3:4TH-8TH CHARACTERS
20		20	4	61	5	AN1:PART1
21	134		4	61	15	AN1
22	21		4	66	10	AN1:PART2
23	22		4	76	5	AN2:PART1
24	135		4	76	15	AN2
25	23		4	81	10	AN2:PART2
26	24		4	91	5	AN3:PART1
27	136		4	91	15	AN3
28	25		4	96	10	AN3:PART2
29	26		99	106	1	RA2:1ST CHARACTER
30	27		99	107	2	RA2:2ND-3RD CHARACTERS
31	28		99	109	5	RA2:4TH-8TH CHARACTERS
32	29		99	114	1	RA3:1ST CHARACTER
33	30		99	115	2	RA3:2ND-3RD CHARACTERS
34	31		99	117	5	RA3:4TH-8TH CHARACTERS
35	32		4	122	5	RN1:PART1
36	137		4	122	15	RN1
37	33		4	127	10	RN1:PART2
38	34		4	137	5	RN2:PART1
39	138		4	137	15	RN2
40	35		4	142	10	RN2:PART2
41	36		4	152	5	RN3:PART1
42	139		4	152	15	RN3
43	37		4	157	10	RN3:PART2
44	140		3	167	2	DATE ISSUED:1ST-2ND CHARACTERS
45	38		5	167	6	DATE ISSUED
46	141		3	169	2	DATE ISSUED:3RD-4TH CHARACTERS
47	142		3	171	2	DATE ISSUED:5TH-6TH CHARACTERS
48	39		5	173	6	DATE INDEXED
49	40		5	179	6	DCCKET DATE
50	41		99	185	1	DKN1:1ST CHARACTER
51	42		99	186	2	DKN1:2ND-3RD CHARACTERS
52	43		99	188	5	DKN1:4TH-8TH CHARACTERS
53	44		4	193	3	DKN1:9TH-11TH CHARACTERS
54	45		99	196	1	DKN2:1ST CHARACTER
55	46		99	197	2	DKN2:2ND-3RD CHARACTERS
56	47		99	199	5	DKN2:4TH-8TH CHARACTERS
57						

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59	50	99	208	2	DKN3:2ND-3RD CHARACTERS
60	51	99	210	5	DKN3:4TH-8TH CHARACTERS
61	52	4	215	3	DKN3:9TH-11TH CHARACTERS
62	53	4	218	20	CONTRACT NUMBER
63	152	99	238	4	SALES AVAILABILITY
64	54	4	242	6	PRICE
65	55	99	248	3	LANGUAGE
66	56	99	251	4	AVAILABILITY
67	143	99	255	1	LPDR:YES/NO
68	57	99	256	3	SECURITY/SPEC CODE
69	58	99	259	2	DOCUMENT SIZE
70	59	4	261	15	OTHER DOC ID
71	60	3	276	6	ANO:DATE INDEXED
72	61	3	282	4	ANO:SEQ. NO.
73	62	99	286	2	TASK NUMBER - NRC ORGANIZATION
74	69	99	288	8	TASK NUMBER
75	63	9	296	5	BEGINNING FICHE #
76	64	9	301	3	BEGINING FRAME #
77	65	9	304	5	ENDING FICHE #
78	66	9	309	3	ENDING FRAME #
79	67	"	312	15	OTHER MICROFILM ADDRESS
80	144		327	20	FORMAL REPORT NUMBER
81	146	3	347	10	FILE PACKAGE # - 1
82	68	2	357	2	FILE PACKAGE # - 2
83	150	99	359	1	DIST. TYPE
84	71	5	363	6	DIST. DATE
85	72	99	369	4	DIST LIST
86	147	99	373	4	FCEN 1
87	73	99	377	5	FILE LEVEL 1:1
88	74	99	382	1	FILE LEVEL 1:2-1
89	75	99	383	2	FILE LEVEL 1:2-2
90	76	99	385	5	FILE LEVEL 1:2-3
91	77	4	390	20	FILE LEVEL 1:3
92	148	99	410	4	FCEN 2
93	78	99	414	5	FILE LEVEL 2:1
94	79	99	419	1	FILE LEVEL 2:2-1
95	80	99	420	2	FILE LEVEL 2:2-2
96	81	99	422	5	FILE LEVEL 2:2-3
97	82	4	427	20	FILE LEVEL 2:3
98	149	99	447	14	FCEN 3
99	83	99	451	5	FILE LEVEL 3:1
100	84	99	456	1	FILE LEVEL 3:2-1
101	85	99	457	2	FILE LEVEL 3:2-2
102	86	99	459	5	FILE LEVEL 3:2-3
103	87	4	464	20	FILE LEVEL 3:3
104	88	4	484	10	NUMBER OF PAGES
105	93	99	494	4	CA OUT FOR AA1-3
106	94	99	498	4	CA OUT FOR RA1-3
107	95	99	502	4	CA OUT FOR AA2-3
108	96	99	506	4	CA OUT FOR AA3-3
109	97	99	510	4	CA OUT FOR RA2-3
110	98	99	514	4	CA OUT FOR RA3-3
111	99	99	518	4	CA OUT FOR DKN1-3
112	100	99	522	4	CA OUT FOR DKN2-3
113	101	99	526	4	CA OUT FOR DKN3-3
114	145	99	530	4	CA OUT FOR AVL
115	102	99	534	4	CA OUT FOR FL1-4
116	103	99	538	4	CA OUT FOR FL2-4
117	104	99	542	4	CA OUT FOR FL3-4
118	107	99	546	4	CA OUT FOR FL1-1
119	108	99	550	4	CA OUT FOR FL2-1
120	109	99	554	4	CA OUT FOR FL3-1
...

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122	89	4	562
123	90	4	622
124	91	4	682
125	92	4	742
126	70	99	821
127	105	99	821
	106	99	821
	111	99	825
130	112	99	825
131	113	99	825
132	114	99	825
133	115	99	829
134	116	99	829
135	117	99	829
136	118	99	829
137	119	99	829
138	120	99	829
139	121	99	829
140	122	99	833
141	123	99	833
142	124	99	833
143	125	99	833
144	151	99	833
145	126	99	837
146	127	99	837
147	128	99	837
148	129	99	837
149	130	99	841
150	131	99	841
151	132	99	841
152	133	99	841

60	TITLE/DESCRIPTION - 2
60	TITLE/DESCRIPTION - 3
60	TITLE/DESCRIPTION - 4
60	CA OUT FOR TSK-1
4	CA OUT FOR DCN:DTC-1
4	CA OUT FOR DK1-1
4	CA OUT FOR DK1-2
4	CA OUT FOR FL1-2
4	CA OUT FOR FL2-2
4	CA OUT FOR FL3-2
4	CA OUT FOR AA1-1
4	CA OUT FOR AA2-1
4	CA OUT FOR AA3-1
4	CA OUT FOR DK2-1
4	CA OUT FOR FL1-3
4	CA OUT FOR FL2-3
4	CA OUT FOR FL3-3
4	CA OUT FOR AA1-2
4	CA OUT FOR AA2-2
4	CA OUT FOR AA3-2
4	CA OUT FOR DK2-2
4	CA OUT FOR FCEN
4	CA OUT FOR RA1-1
4	CA OUT FOR RA2-1
4	CA OUT FOR RA3-1
4	CA OUT FOR DK3-1
4	CA OUT FOR RA1-2
4	CA OUT FOR RA2-2
4	CA OUT FOR RA3-2
4	CA OUT FOR DK3-2

*** END OF DATA BASE REC

ADSEP format
Most up-to-date document-
ation on RECON ORNL
ADSEP format: source
for PROI conversion
tapes 3/14/79
from O.
Moseyhan
TIC

TIC Tapes are in "ASIS" format with two additional rules.

1. Field identifiers are not split over 80 character records.
2. Ignore trailing blanks in excess of 1 in 80 character records.

Obviously, magtape EOF conventions are used in lieu of "NINES" card convention.

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ADSEP Free Form Input

The ADSEP program, used by the U.S. Forest Service in compiling and maintaining its computer data bases, accepts input in both a FORTRAN format mode and a free form mode appropriate to remote terminal input. This set of instructions for free form input gives the syntax for correcting existing entries as well as for adding original entries.

I. Original Entries or Additions

The following specifications should be followed:

1. The input strings must be available as punched cards or as card images in a sequential data set.
2. Each entry must be preceded by '<n>' or '<n>' where n is an integer between 1 and 999999, inclusive, which is unique for each entry. For a given request (additions, corrections, etc.), the format must be all '<n>' or all '<>'.
3. Each field within an entry must be preceded by '<an>' where an is an alphanumeric (consisting of both letters and numbers) identifier of not more than eight characters, one of which must be alphabetic.
4. The field identifiers <an>, <>, or <n> must occur on one card image. All characters lying between <n> and <a1>, the first field identifier, are dropped. In each field all leading blanks are deleted, and trailing blanks are truncated to the nearest machine word. Two options are available concerning splitting words across a card image:
 - (a) Words are not split across a card - "default." In this case, ADSEP removes all blanks at the end of the card except one. If a word ends in column 80 (last column on a card), ADSEP will add a blank. The text is continued on the next card starting in column 1.
 - (b) Words can be split across a card - "ASIS" option. In this case, ADSEP stores the text exactly as it appears with no deleting or adding blanks at the end of a card.

Appendix A is an example of regular ADSEP input; Appendix B is an example of ADSEP input which must be processed "ASIS."

5. In numeric fields (mode = 1 for integer, or 2 for floating point), data elements are converted to internal binary numbers which are either fixed point (Integer* 4) or floating point (Real* 4) depending on the mode of the field.
 - (a) Successive data elements in a numeric field are separated by a user-supplied delimiter. No delimiter is necessary after the last data element in a field.
 - (b) Leading and trailing blanks are permitted between delimiters.
 - (c) The "number," to be converted may be in any form which can be read with a FORTRAN I, F, D, or E format.
6. The last entry of the data set must be followed by <999999>.

II. Corrections

Updating an existing entry can be done either by partial or total field corrections. In a total field correction, the data for the field is completely replaced by the incoming data, and the syntax of the input is exactly the same as an Addition (see Sect. I).

The general rules in Sect. I apply to corrections except that each correction entry must be preceded by '<n>' rather than '<>'.

1. Partial corrections to a text field (mode = 4) — the general form is <n><an>(Ø)@start@end@textc. The symbol Ø is the operand: S for substitution, R for repetitive substitution, D for delete, T for truncate, or I for insert. Specific variations of this form (see Table I) are defined below:

- (a) Substitution — <n><an>(S)@start@end@textc. Execution: In the entry designated by the access number, n, and in the field designated by the identifier, an, locate the substring starting with the first occurrence of the substring 'start' and ending with the first occurrence of the substring 'end' subsequent to the beginning of 'start' and replace it, including 'start' and 'end', by the substring 'text'. Variation: <n><an>(S)@start@textc implies <n><an>(S)@start@start@textc.
- (b) Repetitive substitution — <n><an>(R)@start@end@textc. Execution: Is the same as substitution, (S), including the variation, except that repetition occurs until the end of the original field is reached. A null text string is permitted to make repetitive deletions [see Example (i), Sect. III].

- (c) Delete - $\langle n \rangle \langle an \rangle (D) @ start @ end @$. Execution: Is the same as substitution, (S), with a null text string.
 - (d) Truncate - $\langle n \rangle \langle an \rangle (T) @ start @$. Execution: Locate the first occurrence of substring 'start' and delete from its beginning to the end of the field.
 - (e) Insert - $\langle n \rangle \langle an \rangle (I) @ start @ text @$. Execution: Locate the first occurrence of the substring 'start' and insert immediately thereafter the substring 'text' without deletion.
2. Partial corrections to a numeric field (mode = 1 or 2) - the general form is $\langle n \rangle \langle an \rangle (\emptyset) (i)$ old number; new number where ';' represents a user-supplied delimiter. Specific variations of this form (see Table II) are defined below:
- (a) Substitution - $\langle n \rangle \langle an \rangle (S) (i)$ old number; new number. Execution: In the entry designated by the access number, n, and in the field designated by the identifier, an, the i^{th} data item is checked to see if its value is equal to 'old number'. If it is, the i^{th} data item is replaced by the 'new number'.
 - (b) Deletion - $\langle n \rangle \langle an \rangle (D) (i)$ old number. Execution: The i^{th} data item is deleted if its value is equal to 'old number'.
 - (c) Insertion - $\langle n \rangle \langle an \rangle (I) (i)$ old number; new number. Execution: If the value of the i^{th} data item is equal to 'old number', the 'new number' is inserted immediately following the i^{th} data item.
3. Multiple corrections - making the same change to a range of entries can be done either by multiple partial or total field corrections. To designate a multiple correction, simply insert '(M)' immediately after ' $\langle n \rangle \langle an \rangle$ ' where n is the access number of the first entry to be updated. Examples are: $\langle n \rangle \langle an \rangle (M)$ data;
 $\langle n \rangle \langle an \rangle (M) (\emptyset) @ start @ end @ text @$; and
 $\langle n \rangle \langle an \rangle (M) (\emptyset) (i)$ old number; new number.

III. Examples

From the sample input below, the following examples illustrate the various correction operations to the ADSEP program.

Sample input:

<><PRN>FIDR-200<AUA>Hall, David J.; Wilson, Louis F.
<AFA>Wisconsin Department of Natural Resources, Madison, WI
<TLA>Within-tree distribution of the jack pine tip beetle,
I Conophthorus banksianae R McPherson, on jack pine <JT>Great
Lakes Entomologist <JP>89-93 <JV>7 <JI>3 <DA>1974
<TAXON>I Conophthorus banksianae R; I Pinus banksiana R
<KEYSUG>jack pine tip beetle; jack pine; light intensity; insect
control <GEO>Michigan, Wexford County <OVW>Adult jack pine beetles
deform the jack pine stems in Central Michigan.
<><PRN>FIDR-201<AUA>Hall, David J.; Wilson, Louis F.
<AFA>Wisconsin Department of Natural Resources, Madison, WI
<TLA>Within-generation mortality of the jack pine tip beetle, I
Conophthorus banksianae R McPherson, in Michigan
<JT>Great Lakes Entomologist <JV>7 <P>151-162 <DA>1974 <JI>4
<GEO>Michigan <OVW>Adult jack pine tip beetles injure jack pine shoots
and may deform trees in the Lake States. A wasp-like parasite causes
significant beetle mortality during the second stage of larval development.
This parasite was the <999999>

Example (1) <1><DA>1975 <TLA>(S)@bettle@@beetle
(S)@,I@son,@,(Conophthorus banksianae) McPherson,c
<TAXON>(R)@I@@(R)@R@@
<OVW>(D)@the@@ <KEYSUG>(R)@;@@,c

This example shows:

- A total field correction for the DA field (to change '1974' to '1975').
- A substitution with the same starting and ending string ('bettle') (to change 'bettle' to 'beetle') in the TLA field.
- A substitution with a different starting ('I') and ending ('son,') string (to place 'Conophthorus banksianae' in parentheses) in the TLA field.
- A repetitive substitution with a null text string in the TAXON field (to delete the two sets of 'I' and 'R').
- A deletion in the OVW field (to delete 'the' in 'the jack pine stems').
- And a repetitive substitution in the KEYSUG field (to substitute commas for the semicolons).

Example (2) <2><AFA>(I)OWI @12345c
<QVW>(T)@This parasite@ <GEO>
<999999>

This example shows:

- An insertion in the AFA field (to add the zip code '12345' after 'WI').
- A truncation in the QVW field (to delete the words 'This parasite was the').
- And the deletion of a complete field in the GEO field (to delete 'Michigan').

Example (3) <1><JT>(M)Journal of Range Management
<999999>

This example shows:

- A multiple addition if the field is missing or a multiple total field correction if it is present. In this case, because the JT field is present, the journal title 'Great Lakes Entomologist' will be replaced by 'Journal of Range Management'.

Example (4) <1><JT>(M)(I)@of@ Society ofc

This example shows:

- A partial multiple correction (to change 'Journal of Range Management' to 'Journal of Society of Range Management' whenever the former appears).

Appendix A. SAMPLE OF REGULAR ADSEP INPUT

◊
 <PRID>FIDR-200
 <AUAD>Hall, David J.; Wilson, Louis F.
 <AFAD>Wisconsin Department of Natural Resources, Madison, WI
 <TLAD>Within-tree distribution of the jack pine tip beetle, "I Conophthorus
 banksianae" R. McPherson, on jack pine
 <TYP>J
 <BL>AS
 <BI>MG-FIDR
 <JT>Great Lakes Entomologist
 <DA>1974
 <JP>89-93
 <JV>7
 <JI>3
 <DA>1974
 <REF>3-ref.
 <ILL>3 fig.; 1 tab.
 <FSCU>HC
 <RMU>2203
 <BIBC>000200010002
 <TEXC>000100070002
 <SP>FTIS: MAR/75
 <TAXON>"I Conophthorus banksianae" R.; "I Pinus banksiana" R.
 <KEYSUG>jack pine tip beetle; jack pine; light intensity; insect control
 <GEO>Michigan, Moxford County
 <QW>Adult jack pine tip beetles defoliate jack pines and are responsible for
 the culling of 2 to 12 percent of jack pine stems in Central Michigan.
 Forty-seven percent of the attacks occur in the top 10 inches of the crown
 and 88 percent occur in the top 25 inches. The beetles avoid tips smaller
 than 1/8" in diameter. Now that the beetles' method of attack and stand
 injury capability are more clearly understood, appropriate control strategies
 can be more readily devised.

◊
 <PRID>FIDR-201
 <AUAD>Hall, David J.; Wilson, Louis F.
 <AFAD>Wisconsin Department of Natural Resources, Madison, WI
 <TLAD>Within-generation mortality of the jack pine tip beetle,
 "I Conophthorus banksianae" R. McPherson, in Michigan
 <TYP>J
 <BL>AS
 <BI>MG-FIDR
 <JT>Great Lakes Entomologist
 <JV>7
 <JI>4
 <DA>1974
 <JP>151-162
 <REF>10 ref.
 <ILL>4 fig.; 4 tab.
 <FSCU>HC
 <RMU>2203
 <BIBC>000200010002
 <TEXC>000100070002
 <SP>FTIS: MAR/75
 <GEO>Michigan

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Appendix B. EXAMPLE OF ADSEP INPUT WHICH MUST BE PROCESSED "ASIS"

<><PRN>GM-76-2952<SID>PSUGK<SF>GM<CW>DCG-2576;J<ABA>C.T. Stewart<TYP>J<BL>AS
 <LOC>NAL:25055049053;GMPSU:5638<AUA>Talley, D.R.<APA>State University College of
 Forestry at Syracuse University<TLA>The effect of sevin (1-naphthyl N-methylcar
 banate) as a watershed pollutant<LA>En<JT>Dissertation Abstracts<JV>31<JI>10<JJ>
 6340<STK>DABBSA<DA>Apr 1971<NOTE>Order No. 71-7758<P>between 1966-1969, a study
 was conducted to determine the pollution effects of the insecticide Sevin, which
 was being used against the gypsy moth. The study analyzed water, insect and so
 il samples for the presence of the pesticide, or its breakdown product, 1-naptho
 LC-D50-R studies were conducted on-I Odonata-R to determine a general level
 of Sevin in the water needed to cause death.<TOPIC>Chemical control;Ecology
 <KEYSUG>control techniques;pesticides;Sevin effects/pollution;Sevin effects/inse
 ct populations;Sevin/breakdown product analysis<TAXON>-I Porthetria dispar-R<GEO>
 New York, Tully<><PRN>GM-76-2953<SID>PSUGK<SF>GM<CW>DCG-2577;J<ABA>C.T. Stewart
 <TYP>BK<JL>AMS<LOC>NAL:422C7611TH;GMPSU:5679<AUA>Franz, J.H.<AUM>ad<APA>Biol
 ogische Bundesanstalt fur Land-und Forstwirtschaft, Institut fur Biologische Schid
 lingsbekampfung, Darmstadt<AFM>International Congress of Entomology<TLA>Deficiti
 ons in biological control<TLM>XI. Internationaler Kongress fur Entozoologie, Verh
 andlungen 2 (7-14)<LA>En<CT>International Congress of Entomology, 11th<CD>17-25 A
 ug 1960<CP>Vienna<REF>12 serL.<DA>Aug 1962<JJ>670-674<PGM>ed<P>This 1962 article
 describes a philosophy of insect pest biological control which is based, among o
 ther things, on international cooperation betwe control agencies. Described a
 re natural and artificial factors which cause insect population reductions. Def
 ined are natural limitation factors. The concept of biological control in sever
 al socio-political systems is added.<TOPIC>Biological control;Control reports an
 d histories<KEYSUG>gypsy moth control factors;natural enemies;international biol
 ogical control philosophy;insect pest/natural limitation factors<><PRN>GM-76-2954
 <SID>PSUGK<SF>GM<CW>DCG-2578;J<ABA>C.T. Stewart<TYP>BE<BL>AMS<LOC>NAL:422C76
 11TH;GMPSU:5673<AUA>Gershenson, S.<AUM>ad<APA>ad<AFM>International Congress of E
 ntomology<TLA>Latency in insect viruses<TLM>XI. Internationaler Kongress fur Ent
 ozoologie, Band 2, sections 7-14<LA>En<LAS>En<CT>International Congress of Entono
 logy, 11th<CD>17-25 Aug 1960<CP>Vienna<DA>1962<JP>783-786<PGM>ad<P>Microorganism
 s often carry viruses without showing any pathological effects latency in virus
 es. Included is a discussion on some important research in this area, includin
 g the sigma virus in-I Drosophila-R. Also discussed is the nuclear polyhedrosis
 virus of-I Bombyx mori-R, which often occurs without any detectable infection.
 <TOPIC>Ecology<KEYSUG>virus discussion;insect virology;latent viruses;undetected
 viral infections effect/insect populations<TAXON>-I Bombyx mori-R;-I Lymantria so
 macha-R;-I Antheraea pernyi-R;-I Gallicia mellonella-R;-I Colia philodice eurythene
 R<><PRN>GM-76-2957<SID>PSUGK<SF>GM<CW>DCG-2579;J<ABA>C.T. Stewart<TYP>JE<BL>
 AS<LOC>NAL:99.90834;GMPSU:5710<AUA>Goes, Ernesto da Silva Reis<APA>Egenheiro Si
 lvicultor<TLA>Study of the predators and parasites of-I Lymantria dispar-R<LA>?t
 <LAS>En<OTL>Estudo dos depreadores e parasitas da-I Lymantria dispar-R L<REF>12
 ref.<JT>Publicaco Servicos Florestais e Aquicolas<JV>15<JI>1-2<JP>53-90<DA>1948
 <P>This Portuguese study of the predators and depreadores of the gypsy moth descr
 ibes that nation's efforts since 1945 to rid itself of the cork tree pest. Desc
 ribed are natural enemies of the moth's various life stages. Some that were new
 to Portugal, when this was published in 1948, are listed.<TOPIC>Biological cont
 rol;Ecology<KEYSUG>gypsy moth infestation areas/Portugal, 1948;favored foods/cor
 k;natural enemies;moth life stages<TAXON>-I Lymantria dispar-R;-I Apanteles rufus
 scelus-R;-I Apanteles porthetriae-R;-I Tachina larvarius-R;-I Trigolyga segregata-R;
 -I Comptosia concinnata-R;-I Stenobothrus scutellatus-R;-I Brachymeria intermedia-R;-I Sc
 hliothrips kwananae-R;-I Dermestes lardarius-R;-I Calosoma sycophanta-R;-I Anastatus dis
 paris-R;-I Dermestes erichsoni-R;-I Atagenus trifasciatus-R;-I Trochoderna verdicolo
 ra-R;-I Otezia serrae-R;-I Anthrenus sarcopulariae-R;-I Anthrenus verbasci-R;-I Anthre
 nus minutus-R;-I Ptilinus fur-R<GEO>Portugal<><PRN>GM-76-2965<SID>PSUGK<SF>GM<CW>

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