

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. AMENDMENT/MODIFICATION NO. Nine (9) 2. EFFECTIVE DATE FEB 18 1981 3. REQUISITION/PURCHASE REQUEST NO. RFFA SEC-79-449, Mod #9 4. PROJECT NO. 11-3001-0001

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

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

7. CONTRACTOR NAME AND ADDRESS
ACCESS Corporation
4815 Para Drive
Cincinnati, OH 45237

8. AMENDMENT OF SOLICITATION NO. _____
DATED _____ (See block 9)
 MODIFICATION OF CONTRACT/ORDER NO. NRC-17-79-449
DATED 1/31/79 (See block 11)

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.
Offers 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 changes 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	B&R No.	FIN No.	Amount
<u>31X0200.40</u>	<u>70-19-02</u>	<u>B6357</u>	<u>\$18,387.23</u>

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 administering office, appropriation data, etc.) set forth in block 12.
c. This Supplemental Agreement is entered into pursuant to authority of the "changes" clause and mutual agreement
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION
This Supplemental Agreement is issued pursuant to the "changes" clause and ACCESS Corporation's proposal dated January 23, 1981, to provide for an enhancement to the NRC Document Control System (DCS) conversion software.

This Supplemental Agreement results in the following changes/additions to the contract:

I. Under SECTION F - MANDATORY SPECIFICATIONS, DELETE Subsections F.6.1.1.b. and F.6.1.2. in their entirety and INSERT the following in lieu thereof:

F.6.1.1.b. Translator Program

Due to the dynamic nature of the NRC Document Control System (DCS) and changing PDR requirements, the DCS conversion software shall include a translator program maintainable by non-technical, PDR staff. The translator shall define the DCS data record and the PDR data record and shall contain a set of verbs by which DCS data can be manipulated. The program shall process keyname/keyvalue entries in the DCS data record, using filter rules and a series of logical statements that are data dependent, resulting in mapping to keyname/keyvalue entries in the PDR master data base. It shall allow for the mapping process to cross keyname boundaries; be irreversible; generic; or specific.

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

14. NAME OF CONTRACTOR/OFFEROR
Signature of person authorized to sign

17. UNITED STATES OF AMERICA
BY Craig D. Lebo
Signature of Contracting Officer

15. NAME AND TITLE OF SIGNER (Type or print)
KENT A. ARIEL
VICE PRES. COMM MGR

16. DATE SIGNED
2/10/81

18. NAME OF CONTRACTING OFFICER (Type or print)
Craig D. Lebo
DATE SIGNED
2/1/81

I. Under SECTION F - MANDATORY SPECIFICATIONS,

F.6.1.1.b Translator Program (continued)

There are two fields in the DCS data record that require additional processing specified in subsection F.6.1.2. "Automated Indexing". The first field is the free text Title Field; the second field is the File Level Field that may contain multi-level, hierarchical subject codes. The translator shall provide the PDR with the capability of specifying which sets of records shall be automatically indexed from the DCS Title and/or File Level Fields.

The update/load software, including all of the features described above, shall be capable of processing 360 typical DCS transactions per hour.

F.6.1.2. Automated Indexing

The purpose of automated indexing is to have the computer generate keyterms compatible with the PDR controlled vocabulary. The two sources of data for automated indexing are: (a) the File Level Field and (b) the Title Field of the DCS data record.

F.6.1.2.a. Indexing of the File Level Field

Some subset of the daily flow of DCS records on magnetic tape will contain a field with multi-level, hierarchical subject codes. Each level of the DCS code denotes a higher level of specificity of subject terms.

To be consistent with the PDR controlled vocabulary of subject keyterms, the PDR shall determine which keyterm or keyterms, if any, shall be generated for each level of code. Due to their specificity, some levels of code may not generate any keyterm entries. Likewise, due to their generality, some levels of code may generate several single or multi-word keyterm entries. The software shall provide the capability to automatically generate the matching keyterm entries in the PDR record whenever the subject codes are present in the DCS data record. The keyterms generated by this process shall then form part of their respective records and shall be inverted and searchable by Boolean logic.

The computer-stored dictionary of subject codes and their equivalent keyterm entries shall be easily maintainable by non-technical, PDR staff, that is, the dictionary shall be structured so that new entries can be easily added, modified and deleted.

Automated indexing of the DCS Title Field shall interface with the DCS Load and Translator programs so that tapes can be fully processed on a daily basis.

I. Under SECTION F - MANDATORY SPECIFICATIONS,

F.6.1.2 Automated Indexing (continued)

POOR ORIGINAL

F.6.1.2.b. Indexing of the Title Field

The Title Field of the DCS data record contains a maximum of 360 characters of free form text. The program(s) described herein shall be capable of processing each word of the Title Field as part of the DCS conversion software. The program(s) shall be executable by the PDR staff on Hewlett-Packard (HP) system hardware currently installed on-site.

The automated indexing program shall scan each word or group of words in the DCS data record Title Field, look up a word or word set in a computer-stored dictionary, and generate natural language keyterms for those words or word sets that have matching keyterm entries. The keyterms generated by this process shall then form part of their PDR system respective records and shall be inverted and searchable by Boolean logic.

The program shall be capable of:

- (1) standardizing word variant forms and abbreviations
- (2) converting synonymous terms to the computer-stored dictionary accepted entry
- (3) recognizing the longest string of words in the DCS text for which there is a matching entry in the computer-stored dictionary as the preferred entry and generating multi-word keyterms in the PDR data record if appropriate (e.g., If the DCS text includes a word string "nuclear power plants", and the computer-stored dictionary has entries for "nuclear power" and for "nuclear power plants", the program shall generate the multi-word keyterm "nuclear power plants" as a keyvalue in the PDR data record).
- (4) handling a stop list (words that shall be dropped because there are no keyterm(s) to be generated).
- (5) reporting new words in the title field for which no disposition (e.g., post keyterm(s) or drop) has been specified in the computer-stored dictionary.

The controlled vocabulary of subject keyterms currently used by the PDR is in hard-copy notebook form. It contains about 3,000 keyterms that will be keyboarded by the NRC on to magnetic tape. These keyterms will be word entries in the computer-stored dictionary. The computer-stored dictionary shall also include entries for other words as well and as such is a word recognition dictionary. It is expected that this dictionary will grow to about 5,000 entries. Some of these words and word sets shall have matching keyterm entries, so that whenever these words and word sets are read, the matching keyterm entries shall be generated as values in the PDR data record.

The contractor shall provide temporary software to assist the PDR in building the computer-stored dictionary so that it is as compatible with DCS title abstract terminology as possible. The development of the dictionary shall be a cyclical process in which the PDR uses feedback from statistical runs of DCS tapes to add words to the computer-stored dictionary until the disposition of at least 85% of DCS title words has been determined. Contractor-provided software shall provide the PDR staff with reports from sample runs containing frequency counts of matching word and word set entries, a listing of DCS title words for which there are no dictionary entries, and other information that may be required to complete the dictionary building cycle.

The computer-stored dictionary shall be easily maintainable throughout the systems life, that is, the software shall report DCS title field words and word sets for which there are no dictionary entries, and the dictionary shall be structured so that entries can be easily added, modified and deleted.

I. Under SECTION F - MANDATORY SPECIFICATIONS,

F.6.1.2 Automated Indexing (continued)

Automated indexing of the DCS Title Field shall interface with the DCS Load and Translator programs so that tapes can be fully processed on a daily basis.

A backfitting program shall also be developed to machine index the Title Field of all DCS records resident in the PDR data base (currently estimated at 245,000 records). This program shall be interruptable and continuable since processing must be interlaced with on-going system functions.

II. Special Application Software Enhancement, Automated Indexing, shall be performed in accordance with ACCESS Corporation's technical proposal dated January 23, 1981, attached hereto and incorporated herein by this reference.

III. Acceptance of the Automated Indexing, will be made by the Contracting Officer's Authorized Representative (COAR) after:

- 1) Mandatory specifications described in Subsections F.6.1.1.b. and F.6.1.2. have been met;
- 2) ACCESS Corporation's specifications described in its proposal referenced in item II hereof have been met.
- 3) All training relating to the ongoing operation of machine indexing and the ongoing execution of the backfit task have been satisfactorily completed;
- 4) Completion and delivery of system and user documentation; and
- 5) Daily Tlod with automated indexing and backfit have each successfully executed and operated for three (3) consecutive working days.

- IV. Under SECTION E - SPECIAL PROVISIONS, DELETE Subsection E.8.1.1. in its entirety and INSERT the following in lieu thereof:

E.8.1.1. Warranty Period

The Contractor shall furnish at no cost to the Government, maintenance (labor and parts), as specified in this contract, for a period of ninety (90) days beginning on the first day of the successful performance period.

Notwithstanding the preceding paragraph, the Automated Indexing software shall be warranted through March 31, 1982.

- V. On Page 3 of 3, Continuation Sheet, is revised as follows:

	<u>Item No.</u>	<u>Supplies/Services</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
<u>DELETE:</u>	2004	Special Application Software	1	lot	\$60,465.00	\$60,465.00
<u>INSERT:</u>	2004	Special Application Software	1	lot	\$78,852.23	\$78,852.23

- VI. 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>
<u>DELETE:</u>	2004	1 lot	July 30, 1979 - Data Decoder Program delivery within 85 days, installation within 90 days AED of Mod 6.
<u>INSERT:</u>	2004	1 lot	July 30, 1979 - Data Decoder Program delivery within 85 days, installation within 90 days AED of Mod 6 - Delivery and installation of the Automated Indexing Software, Training, System and User Documentation shall be in accordance with ACCESS Corporation's Proposal dated January 23, 1981.

- VII. Continuation Sheets and Installation Schedule Changes:

- 1) Page 3 of 3 is deleted in its entirety and Attachment 1, Page 3 of 3, Continuation Sheet shall be substituted in lieu thereof.
- 2) SECTION G - MANDATORY SUPPORT REQUIREMENTS, Subsection G.2.3.1. Installation Schedule is deleted in its entirety and Attachment 2 shall be substituted in lieu thereof.

- VIII. SECTION I - Unit Price Tables, are deleted in their entirety and Attachment 3 shall be substituted in lieu thereof.