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**QUALITY ASSURANCE
TEST OF CORIS
SOFTWARE
(POLISH VERSION)**

CLT 88/080

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JUNE 25, 1988**

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REPORT SUMMARY

The version of the CORIS software for personal computers tested under this contract is the result of a number of years of collaboration among the Foreign Trade Data Centre of Poland, various technology transfer agencies in developing countries and the technology transfer programme of UNIDO. The original version of CORIS, written in GW-BASIC was a pioneering effort in personal computer information system software for technology transfer data. The current dBASE III Plus version is a much more robust software package with the added benefit that it can be modified by any developer familiar with the dBASE language.

This alpha test of the software (see Background, page 1 for an explanation of the testing process and error categorization) was conducted using a test database of 210 data records on an IBM AT-compatible personal computer. The test was designed to check all functions of the software under all foreseeable conditions. Appendix 1 details the test database contents.

Approximately 63 Priority 1 and 2 errors were found during the testing process. These are detailed in the following pages. These errors must be corrected before the software is released for beta (pilot) testing. Various Priority 3 errors were also uncovered and should, in the long run, be corrected. Deficiencies in the documentation noted should be addressed before or during the beta test phase.

The effort required to correct this first release of the software should not be great. Correcting the problems now will go a long way toward making the implementations in TIES member countries a success. Software that produces reporting errors is a quick way to undermine user confidence in an information system package as was seen in the pilot implementation of the BASIC version of CORIS.

BACKGROUND OF THE TESTING PROCESS

Commercial software is subjected to a three stage quality assurance testing procedure. The first stage normally is carried out by the programmers/developers with a limited number of records during the development process.

The second level of testing, known as the alpha test, is carried out by an in-house quality assurance department or by a third party. The software is also often distributed within the organization to a large number of 'naive' users. The alpha test includes exhaustive review of all features of the software with a significant number of data records. This testing seeks to insure that the software meets the system specifications and to uncover errors, omissions and confusing instructions in the software. The documentation is checked against the software for clarity of explanation and accuracy. Problems found in alpha testing are corrected by the developers and the software then goes back to the quality assurance department for verification before it is released to customers. *This contract encompasses alpha testing of the CORIS software.*

The third level of software testing is the beta test. Once the software has passed a certain level of alpha testing it is installed at a handful of customer sites. These customers implement the software under 'real world' conditions - normally heavy use with a high volume of records.

Problems uncovered during beta tests are relayed to the software company on a daily basis. The company may re-install a corrected version of the software weekly until no significant errors are encountered in day-to-day operations. At that time the software product is deemed ready for release. *It is recommended that the CORIS software undergo such a pilot or beta test in a single user country.* The beta test country/client must be supported throughout the test period with corrected versions of software, as needed.

The following categorization is used for errors found during the testing process:

- | | |
|-------------------|---|
| Priority 1 | <p>Any error/activity which causes the system to lockup (prevent entry from the keyboard) or crash (shut down).</p> <p>Any activity required by system specs which cannot be carried out.</p> <p>Any error/activity which results in data loss or damage to the database.</p> |
| Priority 2 | <p>Any activity which results in involuntary exit from the application being tested.</p> <p>Any error/activity which causes reporting errors.</p> |

Priority 3

Inconsistencies between the software and documentation that do not affect data integrity.

Omissions from the documentation.

Cosmetic errors such as spelling, report or screen layout, or wording which do not affect system operation.

Known priority 1 and 2 errors must be corrected before the software is released for beta testing. The above categorization is used in the CORIS test.

METHODOLOGY

The testing procedure included three components: development of a test database, test of all system functions and reports, and review of the system specification and user manual.

A detailed explanation of the components of the test database is found in Appendix 1. Key features of the test database are:

1. 210 records
2. Data covers a three year period
3. Range of valid codes utilized
4. Data present in all categories
5. Invalid and omitted data items tested.

All features (menu items) of the software were tested with the test database. The installation, backup and restore procedure were tested against the written instructions. Results are detailed in the next section.

Time trials (benchmarks) are sometimes a part of alpha testing. Because there are no other comparable packages (to CORIS), and I did not have access to a wide variety of personal computer configurations for this test, the 'time-to-execute' notes I have made are very general.

The CORIS software was tested on an MDS386, 16MHZ personal computer with 1MB of main memory. The machine has an amber monitor, a 1.2MB floppy diskette drive, a 40MB hard disk and an Okidata Microline 92 printer. A Sony color monitor was also used for portions of the test. The MS-DOS version 3.3 and dBASE III Plus software packages were used.

FINDINGS

This section is organized in the same order as the menu items in the CORIS package. Omission of a section indicates that no errors or observations were found.

SOFTWARE INSTALLATION

The software was loaded according to the instructions on page 133 of the User Manual. Note that the loading procedure took approximately 15 minutes on the test machine.

**Priority 3 Error
Omission of Error
Message**

Was able to install CORIS (received message 'Install Completed Normally') even though DBASE was not in the correct directory (DB3P) to run CORIS. Suggest an error message "DBASE not found" during install procedure if DBASE not in the DB3P directory.

**Priority 1 Error
Unable to Create
Database**

While installing diskette 3 it is not entirely clear how to index the files. The user is presented with a heading 'Indexing Files', 'file name', 'Index name' and at the bottom of the screen; 'Confirm with Enter'. You are able to exit from this screen without indexing the files. The install will complete 'normally' even though no indexing was done. User will be unable to create a database.

The documentation must include more detailed instructions for this installation procedure. I suggest: "When you insert diskette 3 you will see the following screen (put a copy of the screen in the documentation), Press Enter to start the indexing process." "Once indexing is completed, press enter to continue loading the software." "You must index the files as part of the software installation process."

An error message should be generated if the user tries to install diskette 3 without indexing the files.

START-UP PROCEDURE

The system could be started up according to the directions on Page 14 of the User Manual.

Priority 2 Error Reporting Error Would be Caused

The documentation does not mention how to change the (default) recipient country code before data entry begins. Not changing the code would obviously result in reporting errors.

CORIS MENU ITEMS

1. DATA BASE

1. ENTERING CONTRACT CARD

Overall comments.

Design Suggestion

When an error is flagged it would be convenient if the cursor jumped to that field (the field where the error occurred) rather than to the first data item on the screen.

Design Suggestion

User is able to 'enter' a contract card (file number) without entering any data. While the file number is not entered in the registry, it would be nicer if an error message were generated stating which data must be entered before a card is put in the registry.

Nice feature!

When you exit CORIS you are returned to the DOS root directory.

Section 1. Recipient

Priority 3 Error Omission

Items 1.10 Level of Foreign Holding and 1.12 Equity Holding by Supplier Company can only be entered as whole numbers. That fact should be noted in the documentation.

Section 1. Recipient
(Continued)

**Priority 3 Error
Inconsistency**

In Item 1.8, UNCTC Company Code, the default entry is all capital letters. This is not the case for Item 2.4, UNCTC Company Code. The two fields should have the same default.

**Priority 2 Error
Reporting**

When entering the first contract card in the database; pressing 'page down' caused the fields to be filled with the word 'append'. See Exhibit 1. I was unable to reproduce this error.

**Priority 2 Error
Reporting**

Able to exit Screen 1 without entering an ISIC Code. An error message should be generated such as "You must enter an ISIC Code".

Section 3 - Contract

**Priority 1 Error
Doesn't meet spec**

In data item 3.9 (SITC product codes 1 and 2), user is unable to enter an alphabetic character in the last position of the data field. There are valid SITC product codes where the final character is alphabetic (123.12a or 123.12b for example).

**Priority 3 Error
Inconsistency**

Alphabetic entries in field 3.12.1 (Royalty B Level) should not be allowed.

**Priority 3 Error
Inconsistency**

In Item 3.12.3 (Reimbursable fees), if you enter any two: of month, day, or hour for the project manager you get the message "you can only enter one possibility". After pressing enter, the 'X' in the project manager field is deleted but not the Xs in the month, day or hour fields. It would be preferable for the month, day or hour fields (i.e. those in error) to be blanked out.

Section 3 Contract
(Continued)

**Priority 3 Error
Cosmetic**

On Screen 4, in data item 3.2.4 accommodation is misspelled as 'accomodation'. The word is also misspelled on the contract card printout. See Exhibit 2.

Section 4 - Project Data

Nice Feature!

Data entry is greatly facilitated by the ability to enter all estimated data at once.

**Priority 2 Error
Reporting**

If no data is entered in this section, zeros are recorded on printouts and included in monitoring reports. There must be a way to distinguish between blank fields and zero fields. Perhaps first checking for the presence of years (88, 89, etc.) in the section?

Section 5 Contract Evaluation

**Priority 2 Error
Reporting**

Entering data in data items 5.1.1 through 5.1.4 without entering the currency code does not cause an error condition.

**Priority 2 Error
Reporting**

No error message returned when the currency code entered

2. CORRECTING CONTRACT CARD

Priority 2 Error Reporting

Deleting or leaving a blank supplier country code on Screen 2 does not cause an error message.

Priority 2 Error Reporting

Deleting the currency code and years (88,89, etc) from Screen 5 (Project Data) does not cause an error message.

Design Suggestion

Ability to select field you wish to modify as in 'Go to xx(field number)'.
'

Nice Feature!

Ability to select the section you wish to correct; Section 1, 2, or 3, etc.. This saves a lot of time for a user who has a large amount of corrections to do. It is also very useful to be able to return to the menu of 'sections' to select another section in the same contract card.

Design Suggestion

Ability to modify another or even, the next record at the conclusion of modifying a given record.

Currently you must exit to the Database menu and re-enter the modification program. This is cumbersome if you have to make changes to a lot of records.

3. DELETING CONTRACT CARD

Priority 3 Error Wording

The message at the bottom of the deletion screen would be better re-worded as 'Do you want to delete this contract?' See Exhibit 3A.

Priority 3 Error Omission

The documentation should note the fact that data from a deleted contract card will not be included in reports but that the contract can still be displayed on the screen.

4. RECOVERING DELETED CONTRACT CARD

Priority 3 Error Wording

The message at the bottom of the deletion screen would be better re-worded as 'Do you want to recover this contract?' See Exhibit 3A.

6. DISPLAYING/PRINTING

Priority 1 Error System Hang

Attempt to print when no printer is attached to the system to hang. Unable to 'break' or 'escape' from this situation.

Similarly, if you type "Y" in response to the query 'is printer ready?', when the printer is not ready, the keyboard is locked up. An error message is needed ('Please check to see that the printer is turned on').

Priority 3 Error Spelling

In the error message 'That file no. is not in the register', registry is misspelled.

Priority 3 Error Omission

On the contract card printout the item number '1.4' is missing. (The description of principal economic activity is present, just the identifying number (1.4) is missing). See Exhibit 3.

Priority 3 Error Spelling

On the contract card under Item 3.3, equipment supply is misspelled as 'equiptment ' supply. See Exhibit 3.

2. CATALOGUES

FILE NUMBERS

Nice Feature!

The file catalog includes all contracts ever entered in the system. This is very convenient for audit purposes.

Priority 3 Error Inconsistency

File number order does not work correctly. Listed as 1 through 99, 1985 then A1/85, then 100, 1985. Alphanumerics should sort at the beginning or the end of the numerics, not in the middle. See Exhibit 4.

Priority 3 Error Spelling

On the file numbers catalog screen the word previous is misspelled as 'prvious'. See Exhibit 4.

ISIC CATALOGUE

Priority 3 Error Spelling

On the ISIC catalog screen the word previous is misspelled as 'prvious'. See Exhibit 5.

Priority 3 Error Wording

On the ISIC catalog screen used to add an ISIC code, the wording 'Enter ISIC code to add' would be preferable. See Exhibit 5.

On the ISIC catalog screen used to remove an ISIC code, the wording 'Enter ISIC code to remove' would be preferable. See Exhibit 6.

On the ISIC catalog screen used to remove an ISIC code, the wording 'next removing' should be re-worded as 'remove another ISIC code?' See Exhibit 6.

On the Country code catalog screens the following wording would be preferable:

'Add another country code?'
'Enter country code to add'
'Enter country code to modify'
'Do you want to remove this country code (Y/N)?'

ISIC CATALOGUE
(continued)

**Priority 3 Error
Wording**

See Exhibits 7, 8 and 9.

These comments apply to the corresponding currency catalog screens as well. The wording should be changed appropriately (i.e. substitute 'currency' for 'country').

**Priority 3 Error
Spelling**

On the country catalog screen, country is misspelled as 'contry'. See Exhibit 8.

3. INTERNAL MONITORING

GENERAL

NOTE: Reports in this section return results in 10 - 60 seconds.

**Priority 3 Error
Omission**

There should be an option to print the reports in this section (other than print screen).

2. SUMMARY OF DEPARTMENTS' INTERVENTIONS

**Priority 2 Error
Reporting**

Data (foreign exchange earnings, undesirable and desirable clauses) should **NOT** be calculated except for approved agreements. See Exhibit 10.

As the report is, the Foreign Exchange Earnings figure is extremely misleading (minus (-) 1,000,000). It implies an *increase* in foreign exchange payments which of course is not the case. In addition, undesirable clause figures are reported while desirables are omitted.

3. SUMMARY OF OFFICERS INTERVENTIONS

**Priority 2 Error
Reporting**

Same set of problems as those reported under 'Summary of Departments Interventions'. See Exhibit 11.

4. EVALUATION

NOTE: Reports in this section return results within 1 - 2 seconds.

In some cases the decision status of the agreements included in the reports in this section is not shown on the reports. This is misleading, when a report is entitled, 'List of contracts approved.....' and actually includes approved and conditionally approved agreements. Perhaps there should be an option to include only approved, only conditionally approved or both types of agreements in the reports, where appropriate.

1. LIST OF CONTRACTS REGISTERED WITH A GIVEN SUPPLIER

**Priority 3 Error
Documentation**

The documentation should note the fact that this report includes no-decision, conditionally approved and rejected agreements.

Design Suggestion

Display the total number of contracts found at the beginning of the list rather than at the end.

**Priority 2 Error
Reporting**

Erratic results in name search. If you enter any of the following letters: a, c, i, k, n, o, r or w the first agreement in the database is found. If you enter any of the letters d, m or t the record 1/87 is found.

A message should be displayed 'No agreements with that supplier' rather than returning random agreements.

2. LIST OF CONTRACTS REGISTERED WITH A GIVEN RECIPIENT

**Priority 3 Error
Cosmetic**

The documentation should note the fact that this report includes no-decision, conditionally approved and rejected agreements.

Design Suggestion

Display the total number of contracts found at the beginning of the list rather than at the end.

2. LIST OF CONTRACTS REGISTERED WITH A GIVEN RECIPIENT**(continued)****Priority 2 Error Reporting**

Erratic results in name search. If you enter any of the following letters: a, d, i, l, n, p or t ,the first agreement in the database is found. If you enter any of the letters c, e, g, r, or s the record 1/87 is found.

A message should be displayed 'No agreements with that recipient' rather than returning random agreements.

3. LIST OF CONTRACTS APPROVED WITH A GIVEN PRODUCT**Priority 2 Error Reporting**

Report includes conditionally approved agreements.

4. LIST OF CONTRACTS APPROVED WITH A GIVEN INDUSTRY**Priority 2 Error Reporting**

Conditionally approved agreements included in the report.

5. LIST OF CONTRACTS APPROVED WITH A GIVEN SUPPLIER**Priority 2 Error Reporting**

Conditionally approved agreements included in the report.

Priority 2 Error Reporting

Erratic results in name search. If you enter any of the following letters: a, c, i, k, l, n, o, r or w, the agreement 1/85 is found. If you enter any of the letters d, m or t the record 1/88 is found.

A message should be displayed 'No agreements with that supplier' rather than returning random agreements.

6. LIST OF CONTRACTS APPROVED WITH A GIVEN RECIPIENT**Priority 2 Error Reporting**

Conditionally approved agreements included in the report.

Priority 2 Error Reporting

Erratic results in name search. If you enter any of the following letters: d, i, l, n, p, or t the agreement 1/85 is found. If you enter any of the letters c, e, g, r, s the record 1/88 is found.

A message should be displayed 'No agreements with that recipient' rather than returning random agreements.

6. LIST OF CONTRACTS REJECTED WITH A GIVEN SUPPLIER**Priority 2 Error Reporting**

Erratic results in name search. If you enter any of the following letters: a, c, d, l, m, n, o, p, r, or t the agreement 1/87 is found.

A message should be displayed 'No agreements with that supplier' rather than returning random agreements.

6. LIST OF CONTRACTS REJECTED WITH A GIVEN RECIPIENT**Priority 2 Error Reporting**

Erratic results in name search. If you enter any of the following letters: a, c, d, e, g, i, l, n, o, r, s or t the agreement 1/87 is found.

A message should be displayed 'No agreements with that recipient' rather than returning random agreements.

5. MONITORING

NOTE: All reports in this section return results in 10 - 15 seconds.

An option to run these reports for conditionally approved, approved or both conditionally approved and approved agreements should be provided.

1. LIST OF CONTRACTS WHERE PROJECTED TARGETS WERE NOT REACHED

Priority 2 Error Reporting

Conditionally approved agreements are included in the report

Priority 2 Error Reporting

Actual data where no figures were entered is being considered as zero data and included in these reports. This is misleading. In the case of project data there must be a way to distinguish between zero results in a project and data not entered.

Priority 3 Error Omission

The User Manual should provide an explanation of how reports in this section are calculated with examples of each instance.

2. LIST OF CONTRACTS APPROVED WHERE PROJECTED TARGETS WERE EXCEEDED

Priority 2 Error Reporting

Conditionally approved agreements are included in the report

Priority 1 Error System Hang

When you enter 1988 - 88 as the period for contracts approved with targets exceeded in 1989, the system hangs. You are unable to enter any figure in production volume or any other field. Escape, break, E or backspace have no effect. No error message is displayed.

3. LIST OF CONTRACTS APPROVED WHERE PROJECT TARGETS WERE REACHED

Priority 2 Error Reporting

Conditionally approved agreements are included in the report

6. STATISTICS

Note: Reports in this section return results in 60+ seconds

Priority 2 Error Reporting (13 instances)

Reports include conditionally approved agreements without any mention thereof in the documentation. This is misleading. As a minimum there should be an option to run the reports for conditionally approved, approved or both types of agreements.

1. SUMMARY OF REGISTRY INTERVENTIONS

Priority 2 Error Reporting

Data as reported is inconsistent. Undesirable clause data includes conditionally approved agreements data. Desirable clauses contains only data on approved agreements. See Exhibit 12.

2. APPROVED CONTRACTS

2. SUPPLIER COUNTRY

Question

Why is POL listed as the first country on this report? See Exhibit 13.

Priority 3 Error Cosmetic

Countries should be listed in descending order of number of contracts so that countries with a large number of agreements do not end up in 'Others'. Alternatively they could be listed alphabetically. Please note that 'Others' is not printed on the report, it should be. See Exhibit 13.

5. PAYMENT TYPE

Priority 2 Error Reporting

Numbers returned for lump sum payment are incorrect. Since conditionally approved agreements are being included in the report the number should have been 150. See Exhibit 14.

Question

What is 'Other' as a payment type? Personnel expenses? If so, why not label it as such?

6. NUMBER OF CONTRACTS BY ROYALTY BASED ON NET SALES

Priority 3 Error Documentation Omission The documentation should explain how the total average royalty rate is calculated.

7. TOTAL CONTRACTUAL PAYMENTS

Note: This report only includes approved agreements.

Priority 3 Error Documentation Documentation should explain how Average Annual Approved Payments & Total Approved Payments are calculated.

Priority 3 Error Cosmetic Currency code missing from the printed report.

3. ECONOMIC EFFECTS OF APPROVED CONTRACTS

NOTE: Reports in this section take from 2 - 9 minutes to return results.

There should be a way to print these reports other than print screen.

Perhaps an option to include conditionally approved, approved or both types of agreements should be provided.

1. ESTIMATED ECONOMIC AND FINANCIAL EFFECTS OF CONTRACTS APPROVED IN XX FOR THE NEXT 5 YEARS

Priority 2 Error Reporting Data from conditionally approved agreements included in the data for years 88, 89, 90. See Exhibit 15.

Priority 2 Error Reporting Employment figure for 1986 is incorrect. It should be 10,000 not 31,625. See Exhibit 15.

2. ACHIEVED ECONOMIC & FINANCIAL EFFECTS OVER THE LAST 5 YEARS

Question? Would this report include conditionally approved agreements? (It shouldn't). See Exhibit 16.

2. ESTIMATED AND ACHIEVED ECONOMIC AND FINANCIAL EFFECTS OF THE CONTRACTS APPROVED IN XX

Priority 2 Error Reporting

Estimated figures include data from conditionally approved agreements. This is very misleading. See Exhibit 16.

Priority 2 Error Reporting

The actual R & D figure is incorrect. I cannot explain it. See Exhibit 16.

7. DATA EXCHANGE (TIES I)

Nice Feature! Ability to specify the TIES I data period (quarterly, biannual, yearly) will be very useful for historical and non-standard data exchange.

Priority 2 Error Reporting (7 instances) Reports 1 - 7 include data on conditionally approved agreements. ONLY data on approved agreements is exchanged via TIES.'

TABLE 2 - SPECIFICATION BY COLLABORATION TYPE

Priority 3 Error Spelling In the listing of collaboration types found at the bottom of this report, engineering is misspelled in item 8.

TABLE 6 - SPECIFICATION BY PAYMENT TYPE

Priority 2 Error Reporting Lumpsum figures are incorrect. Total should be 100. See Exhibit 17.

TABLE 8 - TOTAL CONTRACTUAL PAYMENTS

Priority 2 Error Reporting Currency code for the data on this report is not specified. Data should be reported in US dollars (i.e. the system should do a conversion to dollars) for TIES exchange. The data is erroneously reported as it was entered. See Exhibit 18

TIES I SYSTEM REVISIONS

During the 10th anniversary review of the TIES system held during the week of June 6 in Vienna several changes to the TIES I reports will be required. Those changes are as follows:

GENERAL: *The TIES I tables must only include data on **APPROVED** not conditionally approved agreements.*

TABLE 1 - COMPANY LIST

Delete SITC code from the table. The decision was made to no longer use the SITC product code in the TIES I data exchange. Insert the 'object of the contract' in it's place in the Table 1.

TABLE 5

Change the duration period intervals to the eight listed below:

- zero (0) years
- 0.01 - 2.99 years
- 3.00 - 4.99 years
- 5.00 years
- 5.01 - 9.99 years
- 10.00 years
- Greater than(>) 10 years
- Open

Zero duration is defined as any APPROVED agreement whose start and end dates are equal.

Open duration is defined as an APPROVED agreement with a start date but no (a blank) expiry date.

TABLE 6

Change the categories to:

- Fixed Royalty
- Variable Royalty
- Minimum Royalty
- Lumpsum Payment
- Personnel Fees
- Other

Note in the documentation that cost-plus contract payments should be reported in the lumpsum payment field.

NEW TABLE - CONTRACT CLASS

Add a table for contract class. Contact the UNIDO Programme Officer for the exact layout required.

DOCUMENTATION ADDITION

Note in the documentation that engineering agreements should be included in the technical assistance class.

SOFTWARE CHANGE

Modify the program & necessary reports to allow joint venture and one other choice to be entered for contract class. (No other two types can be checked; *only* joint venture and one other choice).

8. DATA EXCHANGE (TIES II)

- Nice Feature!** Ability to specify TIES II data period. Allows greater reporting flexibility.
- Priority 2 Error Reporting** At all levels of TIES II exchange only approved agreements should be included. Conditionally approved agreements are NOT exchanged via the TIES system.
- Nice Feature!** ID Key list for TIES II agreements.

1. GENERATING TIES IIM FILE

- Priority 2 Error Reporting** Once you have generated the TIES IIM file it does not seem to be possible to generate other TIES (A or B) files for the same period. The message 'No contracts for this period' is returned.
- Users should be allowed to generate multiple TIES files if they wish. TIES members may decide to exchange TIES IIM data at one point and later on, TIES IIA or B data.

TIES IIB

- 1. GENERATING TIES IIB**
- 2. RECOVERING TIES IIB**
- 3. PRINTING**

- Priority 2 Error Reporting** If you press R (recovering) then escape twice, (you've changed your mind and don't want to recover) the system recovers 150 records. Note that no date period was entered.
- A way must be provided to escape from any of the TIES II processes (generating, recovering, printing).
- Priority 3 Error Cosmetic** Contracts misspelled as 'contract's' on TIES IIB 'Printing File' screen. See Exhibit 20.
- Priority 3 Error Cosmetic** Paging is incorrect on TIES IIB printouts for 8-1/2 inch by 11 inch paper. It also seems too long for the A4 size.
- Question?** Only desirable clauses are included on the TIES IIB printout. Is that correct?

TIES IIB**1. GENERATING TIES IIB****2. RECOVERING TIES IIB****3. PRINTING**

(continued)

**Possible Error Please
Check**

When I ran TIES IIB 'generating file' for the second time (but for a different period) I got a brief message outside of CORIS (at the DOS level) - 'Bad command or file name'. I was returned to CORIS and the ID key was displayed (i.e. the file was generated). The same message was received before recovery. The file seemed to be okay.

**Priority 2 Error Lack of
Error Messages**

While printing a TIES IIB file the following behavior was observed:

1. Turning off the printer produces no error message.
2. Pressing the break key causes printing to pause but no error message is given.
3. 'Control-ALT-DEL' or 'escape' causes printing to resume.
4. When the printer runs out of paper no error message is given.

The inability to interrupt printing and the lack of error messages to that effect could cause users to turn off the machine in frustration and cause damage to the database.

9. FOREIGN DATA BASE

1. TRANSFERRING FOREIGN DATABASE FROM DISKETTE

Priority 3 Error Omission

User manual gives no explanation for requirements (diskette type, contents, order - must you recover TIES file before searching?) of searching foreign contracts? Is the file indexed?

When I tried to access the TIES T2.dbf file (that I had created) I got the message :No contracts for that country code (UNE). Tried to examine the file in dBASE - it contained no records.

2. PRINTING CONTRACTS FOR GIVEN CRITERIA

Unable to test.

A. ASSISTANT**Priority 2 Error Unable to Use Feature**

On a Samsung amber monitor (equivalent to a monochrome monitor), I was unable to see the dBASE highlight bands. They are visible with no problem when dBASE monitor directly from DOS.

Priority 2 Error Exit from Application

In the Assistant, if you try to set up a database from Drive A, you get the following sequence of messages:

'Not ready reading Drive A', Abort, Retry,Fail?

Fail brings up the message:

DO UNEM2
Called from c:UNEM.prg Drive A
Cancel,Ignore or Suspend.

Any response returns you to the DOS root directory.

All care must be taken to avoid throwing the user out of the CORIS application.

B. TOOLS**1. INDEXING FILES****Design Suggestion**

During indexing a 'Please Wait' message would be nice.

2. BACKUP PROCEDURE**Priority 1 Error Doesn't Meet Spec**

After pressing enter on the backup screen, you get the message 'Bad command or file name'. You get this message both with a formatted and unformatted diskette. Consequently I was unable to perform the backup as specified. The user manual gives no clues.

PASSWORDS**Priority 3 Error
Documentation**

The documentation is very unclear on how to change the passwords. Following the directions I was NOT able to change the passwords.

**Priority 3 Error
Inconsistency**

Functions that can be accessed with the various passwords do not correspond to the documentation (page 164 of the user manual).

CORISC allows access to all functions.
CORISD allows access to all functions except Monitoring, TIES I, II and the Assistant.
CORISE allows access to all functions except Monitoring, TIES I, II and the Assistant and tools.

**Priority 3 Error
Inconsistency**

The main menu received when you access CORIS via the password CORISE uses the word 'Assistance' for item A, the Assistant. See Exhibit 19.

ERROR SUMMARY

Total number of errors found, by category:

Priority 1	Doesn't meet specification	3
	System Hang	2
Priority 2	Reporting	56
	Exit from Application	1
	Unable to Use Feature	1
Priority 3	Omissions	12
	inconsistencies	6
	Cosmetic, Spelling, Wording	14

DOCUMENTATION

SYSTEM SPECIFICATIONS

I have reviewed the System Specifications, User's Manual and Programmer's Guide as a part of this alpha test.

System specifications are normally detailed requirements written prior to system design and programming. They are the foundation document for system design. They explain, in detail, what the system must encompass, what reports must be produced, for what purpose and the *criteria for inclusion in a report*.

For various reasons the CORIS system specifications were written after the system was designed and programmed. They are very weak on the purpose of the reports and include virtually no information on what data should and should not be included in a given report.

The System Specs are essentially an historical document. Unfortunately the omissions mentioned above make them only marginally useful for new users/system administrators and programmers.

USER'S MANUAL

The user's manual will serve as a good resource for CORIS system users. Certain areas require amplification. These are noted in the body of this report.

The following additions would make the user manual even more useful:

1. Explanations, with examples, of each report. It should explain what is supposed to be included in a report and why.
2. Descriptions of valid (and in-valid) data items with examples.
3. Explanations of error codes. What to do when a given error code occurs.
4. An Index.

PROGRAMMER'S GUIDE

The Programmer's Guide provides valuable insight into the structure and connections in the CORIS software. The general description of the system will be very useful in tracking down problems that might occur in system operation. Notes on the calculation of various data items could probably be included in the User's Manual as well. The description of the files and structures is clear and complete.

The following additions would improve the document as a resource for dBASE programmers seeking to modify the basic CORIS:

1. System diagram showing program connections and data flow.
2. Notes on substituting translated screens/reports for the standard English versions.
3. Details on the password security feature.
4. Notes on program sizes vis a vis dBASE III limitations.

Administrator's Guide

Normally an operations system, such as CORIS, is administered by one person known as the 'Systems Administrator'. This person is responsible for system set-up, maintenance, back-up and troubleshooting. A detailed manual for this person must eventually become part of the software documentation package.

The System Administrator's Guide should *detail*:

1. System Start-up Procedures
2. System sequences - what data must be entered before what other data; before which reports can be run, etc.
3. Troubleshooting guides; tips to repair database in the event of damage (in the dBASE Assistant). Suggestions for what to do in the event of a CORIS-caused system crash. What the database should and should not look like in The Assistant - i.e. how to spot a problem.
4. Backup and restore procedures (timing recommendations, sequences, hardware and diskette requirements)

Perhaps that document can be written as a result of the beta test in the first country where CORIS is installed. This would insure that all practical experience gained during the test is included in the manual.