OPEN ITEM TRACKING SYSTEM (OITS) VERSION 1.0 USER'S GUIDE

Prepared for

Nuclear Regulatory Commission
Contract NRC-02-88-005

Prepared by

Center for Nuclear Waste Regulatory Analyses
San Antonio, Texas

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1 INTRODUCTION

1.1 PURPOSE

The Open Item Tracking System (OITS) is an automated database management system for use by the Nuclear Regulatory Commission (NRC) staff to track the resolution status of regulatory, institutional, and technical uncertainties during the prelicensing and licensing phases of the high-level radioactive waste (HLW) repository program. The purpose of this document is to provide the procedures and guidelines for the NRC and for the Center for Nuclear Waste Regulatory Analyses (CNWRA) staff to use in operating the OITS.

1.2 BACKGROUND

The NRC staff have been identifying and tracking various types of technical, regulatory, institutional, and quality assurance (QA) open items for years using a variety of separate tracking systems. As a result, a large backlog of existing open items needs to be consolidated and entered into the OITS. Additionally, new open items are being identified on a continuing basis.

The staff recognized the need for a unified, consistent process, in the form of an automated database system, to track all open items and to facilitate the efficient accomplishment of their work. Such a policy was described in the Overall Review Strategy as one of the prelicensing review strategies.

The OITS was developed to accommodate the requirements set forth in the *Open Item Tracking System Requirements Definition*, Intermediate Milestone 5702-032-125, February 21, 1993, the CNWRA, San Antonio, Texas.

The following activities and events have been associated with the development of the OITS:

- Development of a prototype system
- Preparation of a draft *User's Guide*
- Demonstration of the system
- Review and use of the draft *User's Guide* and system prototype
- Preparation of the final *User's Guide*

The OITS will continue to be refined, as needed, on a continuing basis.

1.3 SCOPE AND CONTENT

The *User's Guide* gives procedures for input of and reporting of open items and guidance for use of the OITS. The guide also gives a general description of the process, but not the procedures, for identifying and resolving open items. The procedures for identifying and resolving open items are documented in NRC staff review plans and CNWRA technical operating procedures.

The current version of the OITS, as a distinct and separate database resident on the Southwest Research Institute (SwRI) mainframe computer, is being loaded with data from numerous source documents identified in Section 3, and it permits reporting of open item types only in the "concerns with the U.S. Department of Energy's (DOE) program" category of technical uncertainties. The OITS database

will be migrated from the SwRI mainframe computer to the CNWRA Local Area Network (LAN) Server in FY94 and interfaced to the Program Architecture Support System/Program Architecture Database (PASS/PADB) V3.0, which is being implemented on the same CNWRA LAN Server in FY93. This transfer will permit an OITS application user to load data for an open item from a broader set of source documents and to retrieve information from all the technical uncertainty categories.

The *User's Guide* is intended to give inexperienced users immediate access to computer database management tools that will support them in their management of open items.

The *User's Guide* consists of this introduction and sections organized as follows:

Section 2.0 - The Open Item Tracking Process and System Description

This section includes a description of the system concept, design approach, and primary functions.

Section 3.0 - The Open Item Tracking System Input Procedures

This section describes the OITS database contents and provides procedures necessary for data entry into the OITS.

Section 4.0 - Guidelines for Beginning Use of the Open Item Tracking System

This section:

1. Defines the minimum requirements for workstations accessing the OITS
2. Provides logon guidelines
3. Provides guidelines for helping a beginning user browse through an open item record or do a word search across the entire database and then select and browse through any of the open items found in the search
4. Describes how to select and print reports using report menus and prescribed formats

Section 5.0 - Guidelines for Advanced Use of the Open Item Tracking System

This section provides the guidance necessary for the user to:

1. Save files for downloading to the user workstation for further use following the end of an OITS session
2. Use additional OITS functions for searching and displaying information from the PADB

1.4 ASSISTANCE FOR OPEN ITEM TRACKING SYSTEM USERS

The beginning user of the OITS needs some insight into the potential ways the OITS is expected to be used. First, mistakes made at the workstation will not damage the OITS or introduce errors into the data in the PADB. Second, access to the OITS is restricted to the NRC and CNWRA staffs with appropriate User IDs (userid) since the database contains "privileged data." Therefore, care should be taken when data are displayed, saved, or printed. Throughout the *User's Guide,* the following typographical conventions are used:

- System prompts appear in solid caps
- System menu names appear with initial caps followed by a screen reference number
- Keystrokes appear within "less than" and "greater than" symbols (i.e., <F1>)
- User input appears in italics

There are a number of sources that provide assistance to the user.

Help Key - <F1>

<F1>, which is included in each screen display, can be pressed at any time during any OITS session to display definitions concerning the current display or for instructions about options for further processing.

Training

Training for all NRC and CNWRA staff will be provided. Additionally, periodic training for new staff and retraining for any other staff will be provided upon request.

Assistance

Telephone assistance will be available by calling the CNWRA Help Desk at (210) 522-5258.

2 OPEN ITEM TRACKING PROCESS AND SYSTEM DESCRIPTION

2.1 OPEN ITEM IDENTIFICATION AND RESOLUTION TRACKING PROCESS

Open items are formally identified and documented as part of the NRC staff's prelicensing activities and need to be resolved at the staff level by either the NRC or the DOE to support the license application (LA) reviews. The three types of open items are: (i) regulatory, (ii) institutional, and (iii) technical uncertainties (Figure 2-1).

Regulatory uncertainties stem from a lack of certitude as to the meaning of a regulatory requirement found in 10 CFR Part 60, or the adequacy, completeness, or necessity of the requirement itself. This type of uncertainty may be attributed to the lack of clarity in a statement, the omission of an essential requirement from the regulation, or the inclusion of requirements in the regulation that detract from or do not contribute to the regulatory program.

Institutional uncertainties are derived from a lack of certitude regarding the roles, missions, actions, and schedules of agencies with regulatory requirements that affect the HLW regulatory program.

To date, existing regulatory and institutional uncertainties have been identified by both the NRC and CNWRA staffs and are documented in two Commission papers (SECY-90-207 and SECY-91-225) and in CNWRA 90-003, *Identification and Evaluation of Regulatory and Institutional Uncertainties* in 10 CFR Part 60. Work in areas such as the License Application Review Plan (LARP), the Format and Content Regulatory Guide (FCRG) for the LA, prelicensing reviews, and interactions with the DOE and other regulatory agencies are potential sources for identifying additional regulatory and institutional uncertainties.

Staff evaluation of these regulatory and institutional uncertainties leads to a recommended approach for uncertainty resolution. The methods for resolving regulatory and institutional uncertainties include rulemaking — major or minor; guidance — staff position (SP), staff technical position (STP), FCRG, or LARP; or other.

Technical uncertainties are identified where there is a lack of certitude as to how to demonstrate (DOE action) or determine (NRC action) compliance with the regulation. This category includes a lack of certitude (or even controversy) about methods for obtaining information, methods for analyzing information, or the understanding of conditions or processes.

Technical uncertainties are further divided into three subcategories — (i) concerns with the DOE program, (ii) key technical uncertainties, and (iii) "other" technical uncertainties.

The first subcategory, concerns with the DOE program, can take the form of start-work objections, LA submittal objections, comments, or questions. Start-work objections pertain to concerns with activities that, if started, could cause significant and irreparable adverse effects on the site, the site characterization program, or the eventual usability of the data for licensing (programmatic fatal flaws). Because of the irreparable nature of objections, the NRC would recommend that the DOE not start work until the objections are satisfactorily resolved.

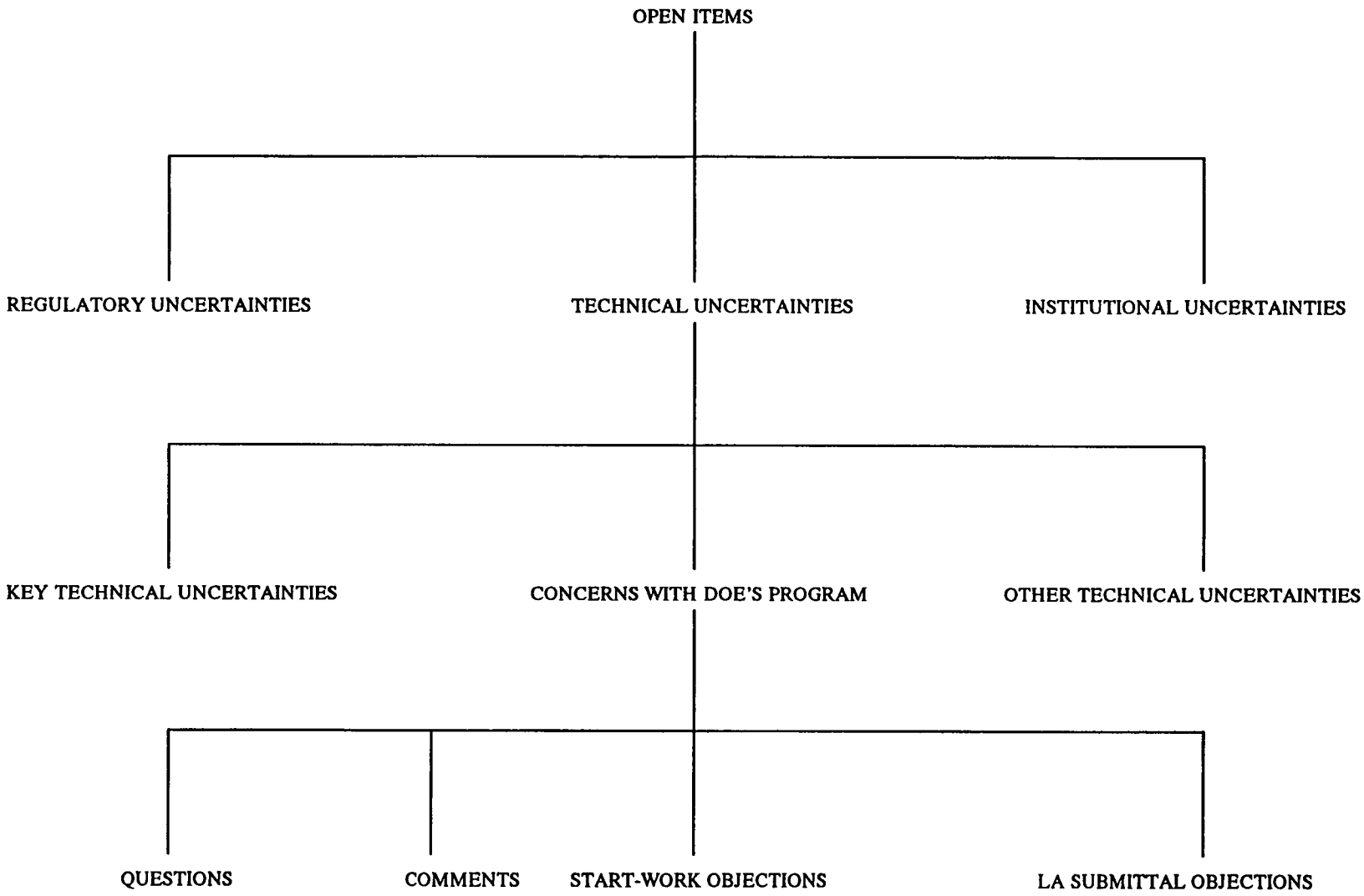

Figure 2-1. Types of open items

LA submittal objections are concerns with the DOE program critical to the staff's LA review. In this case, lack of acceptable DOE resolution would prevent the NRC from conducting a meaningful review and making a decision regarding construction authorization within the 3-year statutory time period. Concerns that need a long time to resolve, such as new or additional testing, or developing new or revised analytical methods, are examples of this type of objection.

Comments are concerns with the DOE program as presented in any DOE document that would result in an incomplete license application or a significant adverse effect on licensing if not resolved, but that would not cause irreparable damage if site characterization started before resolution. The DOE program could be modified in the future, with some risk to not having the necessary information for licensing; the adverse effects would be primarily related to the program schedule. Therefore, for these concerns, the DOE could start work, at its own risk, before resolving them with the NRC. The NRC would recommend timely resolution of its comments. If resolution is not achieved in a timely manner, comments could evolve into LA submittal objections.

Questions are major concerns with the presentation of the DOE program in any DOE document, such as missing information that should be in the document, level of detail, contradictions, and ambiguities that preclude understanding a part of the DOE's program — thereby precluding the NRC staff from being able to comment. In the case of questions, the NRC will recommend that the DOE provide clarification. If a question is related to a potential start-work objection, satisfactory resolution should be accomplished before work begins. If a question is not related to a start-work objection, then the DOE could choose to proceed with work, at its own risk, and resolve the questions in future reports. Questions should be reserved for major items; minor inconsistencies should not be included.

Identification of concerns with the DOE's program is performed by staff conducting technical reviews of the following DOE documents: Site Characterization Plan (SCP), study plans, semi-annual progress reports, topical reports, issue resolution reports, Annotated Outlines of the LA, technical reports, major design reports, performance assessment reports, Mission Plans, project decision schedules, and waste acceptance documents. Additional concerns also result from the staff's QA reviews and audits. All concerns are documented in the format specified in the SCP review plan and are transmitted by letter to the DOE.

After the staff has documented a concern with the DOE's program as an open item, it is the responsibility of the DOE, as part of its site characterization program, to resolve it. The staff will track the DOE's resolution of these open items as part of the ongoing technical and QA reviews. When the DOE has documented its resolution of an open item in a manner acceptable to the staff, the staff will document its agreement in a letter to the DOE stating that the open item has been resolved. New information may require further consideration of a previously resolved open item. In this case, the staff will document its concern as a new open item, with reference to the previously resolved item. It is important to emphasize that, consistent with 10 CFR 60.18, such resolution of open items is only at the staff level, and, therefore, the items can be reconsidered during the licensing process.

The second subcategory, key technical uncertainties (KTU), includes technical uncertainties that pose a high risk of noncompliance with a performance objective stated in 10 CFR Part 60. Through the preparation of the LARP using the Systematic Regulatory Analysis process, this type of uncertainty will be identified and documented during Compliance Determination Strategy (CDS) development.

While actual resolution of KTUs will be eventually accomplished by the DOE with the results of various activities of its site characterization program, the NRC staff will contribute to resolution in a number of ways. For all KTUs the staff will identify, in the LARP, the specific review strategies, review methods, and acceptance criteria it will use to review how each KTU should be addressed and resolved by the DOE in its LA. The staff may also support the LARP by focusing its independent analytical methods and research on KTUs. During prelicensing, primary guidance will be given in the form of prelicensing comments and consultation resulting from the staff using the draft LARP to review those parts of the DOE's program that address each KTU. The staff will comment on the DOE's resolution, and when it considers that the DOE has resolved the open item, the staff will document that it agrees with the DOE's documented resolution. For a few selected KTUs, STPs may be prepared to give the DOE additional detailed guidance for uncertainty resolution.

The third subcategory, "other" technical uncertainties, may be used to identify technical uncertainties that could arise in the HLW program in the future. Sources and resolution methods for this type of technical uncertainty will be identified in the future on a case-by-case basis.

The staff will track the resolution of all types of open items using the OITS. This computer database system will provide users with a rapid search and retrieval capability to generate summary and status reports on all open items. Included in this database for each open item will be a statement of the item, basis for the concern, resolution history, pertinent references, and cross-references to applicable 10 CFR Part 60 citations and individual review plans in the LARP. The status of open items will be formally reported in two ways. First, an annual summary report will be prepared of the status of all open items, and included in the quarterly progress report to the Commission for the last reporting period of each fiscal year. This report will also be given to the DOE and other interested parties. Second, a status report on concerns with the DOE's program will also be included in the staff's comments to the DOE on the SCP progress reports.

For those open items that are concerns with the DOE's program, the OITS implements the provision of 10 CFR 60.18 for identifying comments and objections with the DOE's prelicensing activities for a HLW repository and standardizes how these review concerns are documented, tracked, and resolved. The staff expects that the OITS will improve the efficiency of documenting their preLA reviews and improve communication of staff concerns to the DOE. The OITS is also intended to focus the attention of both the staff and the DOE on resolving concerns before the LA submittal. Finally, the OITS will help streamline the staff's LA review by making available all concerns, documenting how the DOE resolved them, and recording how the staff reviewed and accepted the resolution.

2.2 SYSTEM CONCEPT AND APPROACH

As mentioned previously, the NRC staff identifies and documents open items as it conducts its work. Once identified, the staff conducts appropriate activities to either directly resolve open items or review the DOE's resolutions. The OITS is a database designed to facilitate the NRC staff's work regarding open item management and resolution tracking. Using the automated system, the Open Item Administrator (OIA) and NRC staff enter the open items into the system, edit existing open items, search and retrieve specific open items, and generate required reports. With this capability, the OITS makes available to the NRC and the CNWRA staffs information concerning any open item and various summary and status reports on demand. In addition, a permanent record is available on all resolved open items for historical purposes.

Individuals who do not have data input privileges may interact with the system (in a read-only mode) to generate reports and conduct searches to determine if open items exist that are of particular interest or need action.

Only specifically identified personnel have a userid that permits them to effect changes (update-mode) to the database (e.g., updating, revising, inputing, etc.) All input will be controlled by the NRC OITS Administrator, including issuance of Open Item Tracking System Identification Numbers (OITSIDs) and input forms.

The menu screens that are presented to the user clearly specify the various options available and prompt the user on how to invoke the desired option. All screens have help text available (accessible by pressing a function key) that presents the user with more detailed instruction.

Available standard reports are invoked by menu selection. The system performs the necessary sorts and generates the standardized reports.

A prototype system has been developed that supports input of data (adding, changing, and deleting open items) on an OS/2 workstation. This prototype system is located on the fourth floor of the White Flint building, with controlled access using a single userid with both "write" and "read" password privileges in the OITS. This workstation will be used for making all input to open items in the OITS from the NRC headquarters location. NRC users in DHLWM with DOS workstations already available at White Flint are able to access the OITS open items to generate the output displays and reports ("read-only" capability).

2.3 SYSTEM CAPABILITIES

The OITS has both input and output capabilities. The output capabilities are further discussed in Section 2.3.1. The data for technical uncertainties (concerns with the DOE's program) will be input into the OITS either electronically or manually. If a computer file exists for a particular source document, then the data will be loaded electronically. If no computer file exists, the data will be entered manually into the system. When loading is done manually, input data will be filled in by NRC staff using the form in Figure 2-2a and Figure 2-2b.

The regulatory, institutional, and technical uncertainties will be loaded into the PADB. The OITS will interface with the PASS/PADB Version 3.0 in FY94 to extract data fields common to both systems to generate an Open Item Standard Report. Those fields that are unique to the Open Item Standard Report, and not currently present in the PADB, will be entered into the system manually. Once the OITS has been migrated from the SwRI mainframe computer to the CNWRA LAN, all of this information will be a part of the PADB.

Below is a list of the fields that compose an Open Item Standard Report as printed from the OITS database. Each of these fields is listed and defined in Appendix A.

OITSID
TOPIC OF THE UNCERTAINTY
RESPONSIBLE BRANCH/SECTION
UNCERTAINTY ACTION AGENCY

OPEN ITEM STANDARD REPORT

OITSID: REPORT DATE:

TOPIC OF THE UNCERTAINTY:

RESPONSIBLE BRANCH/SECTION:

UNCERTAINTY ACTION AGENCY:

IDENTIFICATION DATE:

SOURCE DOCUMENT:

UNCERTAINTY TYPE: STATUS:

SPECIFIC TECHNICAL TYPE:

UNCERTAINTY TEXT:

ITEM RATIONALE/BASIS:

RECOMMENDATIONS:

UNCERTAINTY RESOLUTION METHOD TYPE:

Figure 2-2a. Blank open item standard report

RATIONALE FOR UNCERTAINTY RESOLUTION METHOD SELECTION:

HISTORY:

UNCERTAINTY KEY WORDS:

CROSS REFERENCE

CITATION:

LARP NUMBER:

REFERENCES:

Figure 2-2b. Blank open item standard report (cont'd)

IDENTIFICATION DATE
SOURCE DOCUMENT
UNCERTAINTY TYPE
STATUS
SPECIFIC TECHNICAL TYPE
UNCERTAINTY TEXT
ITEM RATIONALE/BASIS
RECOMMENDATIONS
UNCERTAINTY RESOLUTION METHOD TYPE
RATIONALE FOR UNCERTAINTY RESOLUTION METHOD SELECTION
HISTORY
UNCERTAINTY KEY WORDS
CITATION
LARP NUMBER
REFERENCES

2.3.1 Primary Functions

This section discusses functions available to users of the OITS. Sections 4 and 5 discuss the retrieval of information from the OITS.

2.3.1.1 Search and Retrieval

There are two ways to search and retrieve data records using the OITS. The Open Item Tracking System Identification (OITSID) of the open item record may be used, or keywords may be entered to search the entire database. After a record(s) is selected, it can be displayed, printed, or saved.

2.3.1.2 Displaying Data

After being selected, a record can be displayed on the screen and subsequently scrolled through to permit viewing of the entire item. The record may then be either printed or saved. All reports are displayed on the screen to be viewed before printing or saving.

2.3.1.3 Printing Data

The following formatted reports are available for selection from report menus:

Open Item Standard Report

The Open Item Standard Report contains all of the fields for an open item record. (See example in Appendix B).

Open Item Topic Listing

The Open Item Topic Listing lists the OITSIDs and topics of the uncertainties.

Technical Uncertainties Summary Status Report

The Technical Uncertainties Summary Status Report is a summary report for technical uncertainties that lists the total number of technical uncertainties loaded by specific technical type and resolution status.

*** Regulatory/Institutional Uncertainties Summary Status Report**

The Regulatory/Institutional Uncertainties Summary Status Report is a summary report that lists the total number of regulatory and institutional uncertainties loaded by uncertainty type, uncertainty resolution method type, and resolution status.

*** Key Technical Uncertainties Summary Status Report**

The Key Technical Uncertainties Summary Status Report is a summary report of KTUs that lists the total number of KTUs loaded, the uncertainty resolution method type, and the resolution status.

Sorted Reports

Various sorted reports are available that list the OITSIDs and topics of the uncertainties sorted by different fields. (See Appendix C for a listing of these reports.)

* Will be available after migration to PASS/PADB Version 3.0.

2.3.1.4 Saving Data

When browsing through the database or making very specific queries for selected records, the user may save the data displayed to a file. That file can then be downloaded from the mainframe to a local computer for future use. The specific process for downloading files from the OITS and saving them onto a user workstation is further described in Section 5.2.2.

3 OPEN ITEM TRACKING SYSTEM INPUT PROCEDURES

The open item records are prepared and loaded into the database by designated, authorized, and trained individuals only. This section contains the input guidelines.

Only NRC-approved open items can be entered in the system. NRC approval is also required for making changes to existing open item records. Only OITS Administrator authorized users with "write" privileges for the OITS can add, change, or delete open item records.

The data fields are: OITSID, topic of the uncertainty, responsible branch/section, uncertainty action agency, identification date, source document, uncertainty type, status, specific technical type, uncertainty text, item rationale/basis, recommendations, uncertainty resolution method type, rationale for uncertainty resolution method selection, history, uncertainty key words, citation, LARP number, and references. Each open item record in the database has an OITSID assigned to it. This OITSID serves as an index to identify and retrieve open item records.

The technical uncertainties (concerns with the DOE's program) will have an OITSID in the following format:

a. The first character will be an "O" for all open items.

b. The next two or three characters will be the source type code representing the source document.

SCA	-	Site characterization Analysis of DOE's SCP
SP	-	NRC Reviews of Study Plans
PR	-	NRC Reviews of Semi-annual Progress Reports
TR	-	NRC Reviews of Topical Reports
IRR	-	NRC Reviews of Issue Resolution Reports
AO	-	NRC Reviews of Annotated Outlines of the license application
TCR	-	NRC Reviews of Technical Reports
MDR	-	NRC Reviews of Major Design Reports
PAR	-	NRC Reviews of Performance Assessment Reports
MP	-	NRC Reviews of Mission Plans
PDS	-	NRC Reviews of Project Decision Schedules
QA	-	NRC Reviews of Quality Assurance Documents
WAP	-	NRC Reviews of Waste Acceptance Documents

c. The next 0 to 7 characters may contain a code uniquely identifying the document if there are multiple documents.

d. The next character will be a "C" for Comment, "O" for Objection, or "Q" for Question.

e. The last two or three characters will be a numerical identifier for the comment, question, or objection.

Examples:

1. Comment 48 out of the SCA: OSCAC048

2. Question 2 out of Study Plan 8.3.1.17.4.11:
   OSP3117411Q02 (The leading 8 on study plans will be left off to accommodate the 13 character limit)

3. Comment 12 from Section 3221 of the Annotated Outline:
   OAO3221C12

These OITSIDs correspond to the document sources as indicated in the three examples.

The information for each open item record will be prepared by the assigned staff member and given to the person doing the loading. Once the person performing the loading function receives the information, he/she can load the data into the OITS using the prototype computer (located on the fourth floor at One White Flint North). The steps for entering data into the OITS are presented in the following section.

3.1 ENTERING A NEW RECORD DIRECTLY INTO THE OPEN ITEM TRACKING SYSTEM DATABASE

The steps for entering a new record into the OITS are listed below. Only technical uncertainties (concerns with the DOE's program) are loaded this way. The other types of uncertainties (regulatory, institutional, key technical, and other technical) are loaded into the PADB, using a PASS procedure.

To enter a new record:

1. Double-click the left mouse button on the 3270 emulator icon. The NRCVM2 logo screen will be displayed for logon.

2. Follow the logon procedure presented in Section 4.1.2.

3. Exit from the CNWRA Main Menu by pressing <F12> to get a blank screen (Ready/Running).

4. Double-click the left mouse button on the OITS icon.

5. Click the left mouse button on "Item" in the menu bar.

6. Click the left mouse button on "Create."

7. Select a **Responsible Branch/Section** by clicking the left mouse button over the square preceding the section. The branch will automatically be selected, because it is dependent on the section. Only one section may be selected. A section can also be selected by using the up or down arrow keys on the keyboard.

8. Press <Tab> to advance to each field.

9. Select the **Uncertainty Action Agency** by clicking the left mouse button over the square preceding the agency. Only one agency may be selected. An agency can also be selected by using the up or down arrow keys on the keyboard.

10. After selecting the **Responsible Branch/Section** and **Uncertainty Action Agency**, click the left mouse button on the "OK" box. To cancel the selections and return to the initial screen, click the left mouse button over the "Cancel" box. To access "Help" click the left mouse button over the "HELP" box. A **Responsible Branch/Section** and an **Uncertainty Action Agency** must be chosen or an error message will occur.

11. The Create Open Item Screen will be displayed with the **Responsible Branch, Section,** and **Uncertainty Action Agency** displayed at the top of the screen. Enter the **Topic of the Uncertainty**. The **Topic of the Uncertainty** is limited to 254 characters. Clicking the left mouse button over the up arrow or the down arrow on the right side of the box permits scrolling up and down in the **Topic of the Uncertainty** box.

12. Press <Tab> to advance to each field.

13. Enter the **Identification Date** in the format mm/dd/yyyy, where mm is the month, dd is the day, and yyyy is the year.

14. To select the **Status**, click the left mouse button over the down arrow on the right side of the "Status" box. This action will cause a list of valid choices to be displayed. Select one of the choices by clicking the left mouse button over the choice or by pressing <Enter> with the choice highlighted. To change the highlighted choice, use the up and down arrow keys on the keyboard. After a selection is made, it will appear in the "Status" box.

15. A **Specific Technical Type** can be selected using the same method discussed in Step 14. After a **Specific Technical Type** is selected, it will appear in the "Specific Technical Type" box.

16. Type in the **Source Document** following the same procedure used for entering data into the **Topic of the Uncertainty** field in Step 11. This field is also limited to 254 characters. The **Source Document** field should include the full citation of the referenced document (in accordance with the NRC style manual). When applicable, ensure that page numbers and specific comment, question, or objection number designators are included.

17. To enter the **Uncertainty Text**, double-click the left mouse button over the "Uncertainty Text" box. A WordPerfect screen will be displayed. Type the uncertainty text using all the features of WordPerfect, including spell checking. Do not change the font size or the margins. Also, avoid using any special characters (Ctrl-V symbols), because they will not transfer properly to the mainframe. After typing the text, press <F7> (Exit) and the text will be saved. The system will return to the Create Open Item screen.

18. Enter the remaining text fields (**Item Rationale/Basis, Recommendations, History**, and **References**) in the same manner as the uncertainty text. Ensure that the entire reference is stated in the **References** field (in accordance with the NRC style manual), including the full document date and NUDOCS accession number. At a minimum, **History** should contain rationale and initiator.

19. To enter **Uncertainty Keywords**, type each keyword in the "Keywords" box and click the left mouse button over the "Add" box to the right of the "Keywords" box. A keyword (or phrase) may not be longer than 50 characters.

20. Click on the "Add" box to add the keyword to a list of keywords. To see the list, click the left mouse button over the down arrow to the right of the "Keywords" box. This action will display the list of keywords that have been added. An unlimited number of keywords can be added.

21. Enter **Citations** in the same manner as keywords. A citation can be no longer than 40 characters. Enter the citation in the format 10 CFR 60 <space> 112 <space> (a) <Space> (1) as opposed to 10 CFR 60.112(a)(1). An unlimited number of citations can be entered.

22. Enter **LARP numbers** in the same manner as keywords and citations. More than one **LARP number** can be entered.

23. After all data are entered, click the left mouse button over the "OK" box. To cancel selections and return to the initial screen, click the left mouse button over the "Cancel" box. To access "HELP" click the left mouse button over the "HELP" box.

24. After all data are entered, select "OK," and the system will return to the initial OITS screen. The data entered will be displayed in the format of the standard report.

25. To send the data to the mainframe, click the left mouse button on the word, "Send" in the menu bar.

26. To end an OITS session, press <F3> or click the left mouse button over "Item" in the menu bar, and then click the left mouse button over "Exit."

3.2 UPDATING A RECORD

The steps for updating a record in the OITS are listed below. Regulatory, institutional, and technical uncertainties may be updated in this way, but only the fields unique to the OITS may be changed. The other fields will be displayed, but they cannot be changed. The technical uncertainties (concerns with the DOE's program, but not KTUs) may have all of the fields changed during the update process.

To update a record:

1. Double-click the left mouse button on the 3270 emulator icon. The NRCVM2 logo screen will be displayed for logon.

2. Follow the logon procedure presented in Section 4.1.2.

3. Exit from the CNWRA Main Menu by pressing <F12> to get a blank screen (READY/RUNNING).

4. Double-click the left mouse button on the OITS icon.

5. Click the left mouse button on the word "Item" in the menu bar.

6. Click the left mouse button on "Update."

7. The system will prompt the user for an OITSID. Enter the OITSID of the record to be updated.

8. The selected record will be displayed on the screen for updating. Update the record by selecting and entering the data in the same manner presented in Section 3.1.

9. After the record has been updated, click the left mouse button in the "OK" box. To cancel all selections and return to the initial OITS screen, click the left mouse button over the "Cancel" box. To access "HELP" click the left mouse button over the "HELP" box.

10. After all data are entered, select "OK," and the system will return to the initial OITS screen. The record will be displayed in the format of the standard report.

11. To send the data to the mainframe to update the record, click the left mouse button on "Send" in the menu bar.

12. To end an OITS session, press <F3> or click the left mouse button over "Item" in the menu bar, and then click the left mouse button over "Exit."

3.3 DELETING A RECORD

Only Open Items that are technical uncertainties (concerns with the DOE's program) may be deleted using this method.

To delete a record:

1. Double-click the left mouse button on the 3270 emulator icon. The NRCVM2 logo screen will be displayed for logon.

2. Follow the logon procedure presented in Section 4.1.2.

3. Exit from the CNWRA Main Menu by pressing <F12> to get a blank screen (READY/RUNNING).

4. Double-click the left mouse button on the OITS icon.

5. Click the left mouse button on "Item" in the menu bar.

6. Click the left mouse button on "Delete."

7. The system will prompt the user for an OITSID. Enter the OITSID of the record to be deleted.

8. To end an OITS session, press <F3> or click the left mouse button over "Item" in the menu bar and then click the left mouse button over "Exit."

4 GUIDELINES FOR BEGINNING USE OF OPEN ITEM TRACKING SYSTEM

Familiarity with the OITS primary functions presented in previous sections prepares the user to operate within the OITS database.

4.1 GETTING STARTED

To get started, the user must have a proper workstation (as described in Section 4.1.1) and must execute the correct logon procedures. While using the OITS, various system status messages may be displayed. The computer alerts the user of its current status with messages that appear in the lower corners of the screen. The wording of the messages, what they mean, and what should be done when they appear are shown in Table 4-1.

Table 4-1. System status messages

Message	Meaning	Action
CP READ	The computer is waiting for a command.	Enter either of the following: *B* or *Begin* to continue session.
VM READ	Computer is waiting for operator action.	Enter a command; for example, *PASF*
RUNNING	Computer is working or waiting for operator input.	Enter a command or wait for the word "MORE..." to display
MORE...	Computer has more that it wants to display.	Press the "clear" key (usually <Pause>) to see more or press <Enter> to hold the present screen. If you press <Enter>, the computer changes "MORE..." to "Holding."
Holding	<Enter> was pressed when the computer had more to display.	Press the "clear" key (usually <Pause>) for further display.
X System	Computer is working.	Do not press anything until this message disappears.
NOT ACCEPTED	Computer is processing last request and cannot accept more input.	Wait, and then enter the command again.
X-? or X-f	Computer keyboard is locked up. Usually caused by user trying to type in an illegal area.	Press the "reset" key (usually <Alt> + <F12>).

4.1.1 Minimum Workstation Requirements for Using the Open Item Tracking System

1. IBM PS/2, Model 90 with 4 MB RAM, 120 MB hard disk
2. VGA Monitor
3. DOS 3.1
4. IBM 3270 Entry Emulator, Version 1.2

4.1.2 Logon Procedures

The OITS is supported on the SwRI IBM 4381 mainframe in San Antonio, Texas. The CNWRA staff in San Antonio is connected to the mainframe computer via the fiber-optic network and a 3174 controller at SwRI. The NRC staff and the CNWRA Crystal City staff are connected to the mainframe computer via a 56 kbps leased line to the IBM 9370 in White Flint.

A first time user must have a userid and password, and be familiar with the appropriate logon procedures.

4.1.2.1 Obtaining Userid and Password

To obtain a userid and password, contact the CNWRA Information Management System (IMS) staff. A request for a userid and password is forwarded to the SwRI Central Computer Facility, where the userid is actually assigned, and the necessary disk space is allocated to the user. This procedure usually takes 1 to 2 days.

The convention used for assigning userids is to take the user's first initial and the first six characters of his or her last name. For example, the userid for Rawley Johnson would be "RJOHNSO." All new users are initially assigned "SWRI*" as their password. Users should change their passwords the first time they enter the system. To accomplish this:

1. Enter assigned userid and press <Enter>
2. Enter the default password, *SWRI**, and press <Enter>. The system will respond with a "READY" message.
3. To change a password, type *password* and press <Enter>. The system will prompt the user for his/her current password.
4. Enter the current password and press <Enter>. The system will prompt the user for his/her new password.
5. Enter a new password consisting of four to eight letters and/or numbers and press <Enter>. The system will prompt the user to re-enter the new password.

6. Enter the new password again and press <Enter>.

At this point, the user's new password is in effect. Subsequent logons will require the assigned userid and the new password. This precaution assures that the user's account is secure from unauthorized use.

4.1.2.2 The Center for Nuclear Waste Regulatory Analyses San Antonio Office Logon

The following logon procedure should be followed when accessing the mainframe computer directly:

1. Press <Alt> + <Esc> to toggle to the SwRI logo screen.

2. Type in userid and press <Tab>.

3. Type in password and press <Enter>. The system will display a "READY" message.

4. At the "READY" message, type *PASF* and press <Enter>. The CNWRA Main Menu should come on screen.

To logoff:

1. Press <F12> at the CNWRA Main Menu. The system will display a "READY" message.

2. At the "READY" message, type *Logoff* and press <Enter>.

3. Press <Enter> again, to return to the SwRI logo screen.

4.1.2.3 Nuclear Regulatory Commission Logon

To logon from the NRC:

1. Access the NRCVM2 System logo screen on AUTOS LAN (press <Alt> + <Esc> to toggle to the NRCVM2 logo screen). On the logo screen for NRCVM2, the word "NRCVM2" is displayed in multiple characters to make a large display, and "RUNNING" and "NRCVM2" are displayed in the lower right corner of the screen.

2. Press <Tab> (or arrow keys) to move the cursor to the line "COMMAND===>" and type *D PVM*. Leave the "Userid" and "Password" fields blank. Press <Enter>. The pass-through menu should appear. If it does not, call the CNWRA Help Desk at (210) 522-5258. On the pass-through menu, the words "PASS-THROUGH" are in the top left corner of the screen.

3. Press <F4> to pass to the SwRI logo. If, after pressing <F4>, the phrase "NRCVM2 to SwRI link is not connected" appears, then the connection between NRC and SwRI is not active. Call the CNWRA Help Desk at (210) 522-5258. At the SwRI logo, the word

"SWRI" appears in multiple characters to make a large display and "RUNNING" and "SWRI" appear in the lower right corner of the screen.

4. Enter userid and password on the appropriate lines and press <Enter>. There are now several displays that may appear. The usual display contains, within the first few lines, "LOGON AT time weekday date." If this message appears, wait for a "Ready; t=...," then proceed to Step 5.

If the system had gone off-line and was then restarted, the message "RECONNECTED..." will appear in the top left of the screen and "CP READ" will appear in the lower right.

- Type *B* and press <Enter> twice. If the word "MORE..." appears in the lower right, press clear (<Pause>). The screen will be restored to the point at which the connection was interrupted.

If the message, "INCORRECT PASSWORD" appears:

- Type *Logoff*, press <Enter> twice, and then logon again.

If the message, "NOT IN CP DIRECTORY" appears, check to see that "SWRI" appears in the lower right. If it is not there, the wrong system is being accessed, probably NRCVM2 or NRCVM1.

- Type *Logoff* and press <Enter> twice.

If the pass-through menu appears, proceed beginning with Step 3 above.

If the NRCVM2 logo appears, proceed beginning with Step 2 above.

If the SWRI logo appears, an incorrect userid may have been entered.

- Type *Logoff*, and press <Enter> twice, and then logon again.

- If this condition persists and the correct userid was typed, call the CNWRA Help Desk at (210) 522-5258. The password used probably has expired [passwords must be changed every 90 days. (See Section 4.1.2.1)].

5. Start PASS by typing *PASF* and pressing <Enter>.

To logoff:

- Type *Logoff* at the "READY" prompt and press <Enter>. This action will log the user off the SwRI IBM and disconnect the pass-through session with the NRC 9370.

4.1.2.4 The Center for Nuclear Waste Regulatory Analyses Washington Office Logon

To logon from the CNWRA Washington Office:

1. Press <Alt> + <Esc> to toggle to the NRCVM2 logo screen. Check the lower left of the screen to ensure that the characters, "4-A" and a box are displayed. This prompt is an indication that there is a connection to the controller. If it is not present, call the CNWRA Help Desk at (210) 522-5258.

Check just to the right of "4-A" display. If any symbols are shown try the reset function (<ALT> + <F12>) to clear the display. If symbols or numbers are shown and cannot be cleared by reset, the logon cannot proceed. Call the CNWRA help desk at (210) 522-5258.

On the NRCVM2 logo screen , "NRCVM2" is displayed in multiple characters to make a large display, and "RUNNING" and "NRCVM2" are displayed in the lower right of the screen.

2. Press <Tab> (or arrow keys) to move the cursor to the line, "COMMAND ===>" and type *D PVM*. Leave the "Userid" and "Password" fields blank. Press <Enter>. The pass-through menu should appear. If it does not, call the CNWRA Help Desk at (210) 522-5258. On the pass-through menu, the words, "PASS-THROUGH," are in the top left corner of the screen.

3. Press <F2> to pass to the SwRI logo. If, after pressing <F2>, the phrase, "LINE SWRI IS DOWN," appears, the connection between the NRC and SWRI is not active. Call the CNWRA Help Desk at (210) 522-5258. At the SwRI logo, the word "SWRI" appears in multiple characters to make a large display, and "RUNNING" and "SWRI" appear in the lower right.

4. Type userid and password on the appropriate lines, and press <Enter>. One of several displays will appear. The usual display contains, within the first few lines, "LOGON AT time weekday date." If this display appears, wait for a "Ready; t=...," then proceed to Step 5.

If the line had dropped and was then restarted, the message "RECONNECTED..." will be displayed in the top left, and "CP READ" will show in the lower right.

- Type *B* and press <Enter> twice. If the word "MORE..." appears in the lower right, press <Pause> to clear. The screen will be restored to the exact place at which the connection was interrupted.

It is possible that the message, "INCORRECT PASSWORD," will appear, so:

- Type *Logoff*, press <Enter> twice, and then logon again.

If "NOT IN CP DIRECTORY" appears, check to see that "SWRI" appears in the lower right. If it is not there, the wrong system is being accessed, probably NRCVM2 or NRCVM1.

- Type *Logoff* and press <Enter> twice. The pass-through (proceed beginning with Step 3 above) menu or the NRCVM2 logo (proceed beginning with Step 2 above) may appear.

If the SWRI logo appears, an incorrect userid may have been entered.

- Type *Logoff*, press <Enter> twice, and then logon again.

- If this condition persists and the correct userid was typed, call the CNWRA Help Desk at (210) 522-5258. The password used probably has expired [a password must be changed within 90 days. (See Section 4.1.2.1)].

5. Start PASS by typing *PASF* and pressing <Enter>.

To logoff:

- Enter *Logoff* at the "READY" prompt. This action will log the user off the SwRI IBM and disconnect the pass-through session with the NRC 9370.

4.1.3 Initial Open Item Tracking System Menus

Once logged on to the SwRI computer, the CNWRA Main Menu will be displayed. At this point it is possible to access and use the procedures in Section 4.2 for searching, selecting, and displaying records.

The steps in each procedure are numbered and provide the screen name and screen number of each display. This identification permits easy correlation of the individual screens with the written screen descriptions and procedures. The description of each screen tells which keys to press on the keyboard and which parameters to enter or select, as appropriate.

4.1.3.1 The Center for Nuclear Waste Regulatory Analyses Main Menu

The first menu to appear after logon is the CNWRA Main Menu (EPQP00). This menu permits the selection of the general category of programs and data to be used in the overall PASS system. For example, pressing <F1> will permit access to PROFS personal services for office automation, from which the user can choose calendars (<F4>) and E-mail (<F2>). Pressing <F7> from the main menu allows access to the Document Indexing and Review system. Pressing <F9> permits access to the OITS.

Function Keys 1, 6, 7, 8, 9, and 12 are active in this menu, and one of these keys must be pressed to move to another menu.

Pressing <F12> at this point, will clear the screen and display a "READY" prompt. From the "READY" prompt, *Logoff* can be typed to terminate the session or *PASF* to return to the CNWRA Main Menu (EPQP00) screen.

Pressing <F9> from the CNWRA Main Menu (EPQP00) screen will facilitate access to the OITS Main Menu (V2OIT051) screen.

- Press <F9> to move to this primary screen for the OITS.

4.1.3.2 The Open Item Tracking System Main Menu

The OITS Main Menu (V2OIT051) is the first menu that will appear after selecting OITS (<F9>) from the CNWRA Main Menu (EPQP00). This menu permits access to open item records or to select printed reports.

Function Keys 1, 2, 4, 6, 10, and 12 are active in this menu. One of these keys must be pressed to move to another menu.

<F1> : Pressing <F1> at this point will display "HELP."

<F12>: Pressing <F12> at this point will return the system to the CNWRA Main Menu (EPQP00).

<F2> : Pressing <F2> from the OITS Main Menu (V2OIT051) screen permits searching for and access to one or more open item records by providing keywords.

<F4> : Pressing <F4> from the OITS Main Menu (V2OIT051) screen enables the entry of the OITSID of a single open item record for display.

<F6> : Pressing <F6> from the OITS Main Menu (V2OIT051) screen displays a listing of all of the open items that are currently loaded.

<F10>: Pressing <F10> from the OITS Main Menu (V2OIT051) screen takes the system to the OITS Reports Menu I (V2OIT052) screen.

4.2 SEARCHING FOR RECORDS IN THE OPEN ITEM TRACKING SYSTEM DATABASE

There are two basic ways of searching and retrieving data records from the database, as discussed below. A more advanced searching capability is described in Section 5.1.

The most direct method to retrieve a record is to use its unique OITSID. A second method for searching and retrieving open item records from the database involves the use of keywords. When open item records are entered into the database, the keywords specified by the analyst are entered into a keyword index. In addition to these specified keywords, the significant words in other fields of the open item record are also automatically indexed. Thus, a user may search for and retrieve OITS records by looking for occurrences of appropriate keywords in the keyword index. This method of retrieving records from the database is less direct, but more flexible, than retrieval by OITSID. Typically, several records will match the keyword search, and the topics of the uncertainties matching the selection criteria will be displayed in a selection list for review and selection by the user.

4.2.1 Using a Keyword to Select and Retrieve Records from the Database

To search for and retrieve OITS records by keyword, press <F2> from the OITS Main Menu (V2OIT051). This action will cause the Search for Open Item Records (V2OIT800) screen to be displayed (See Figure 4-1).

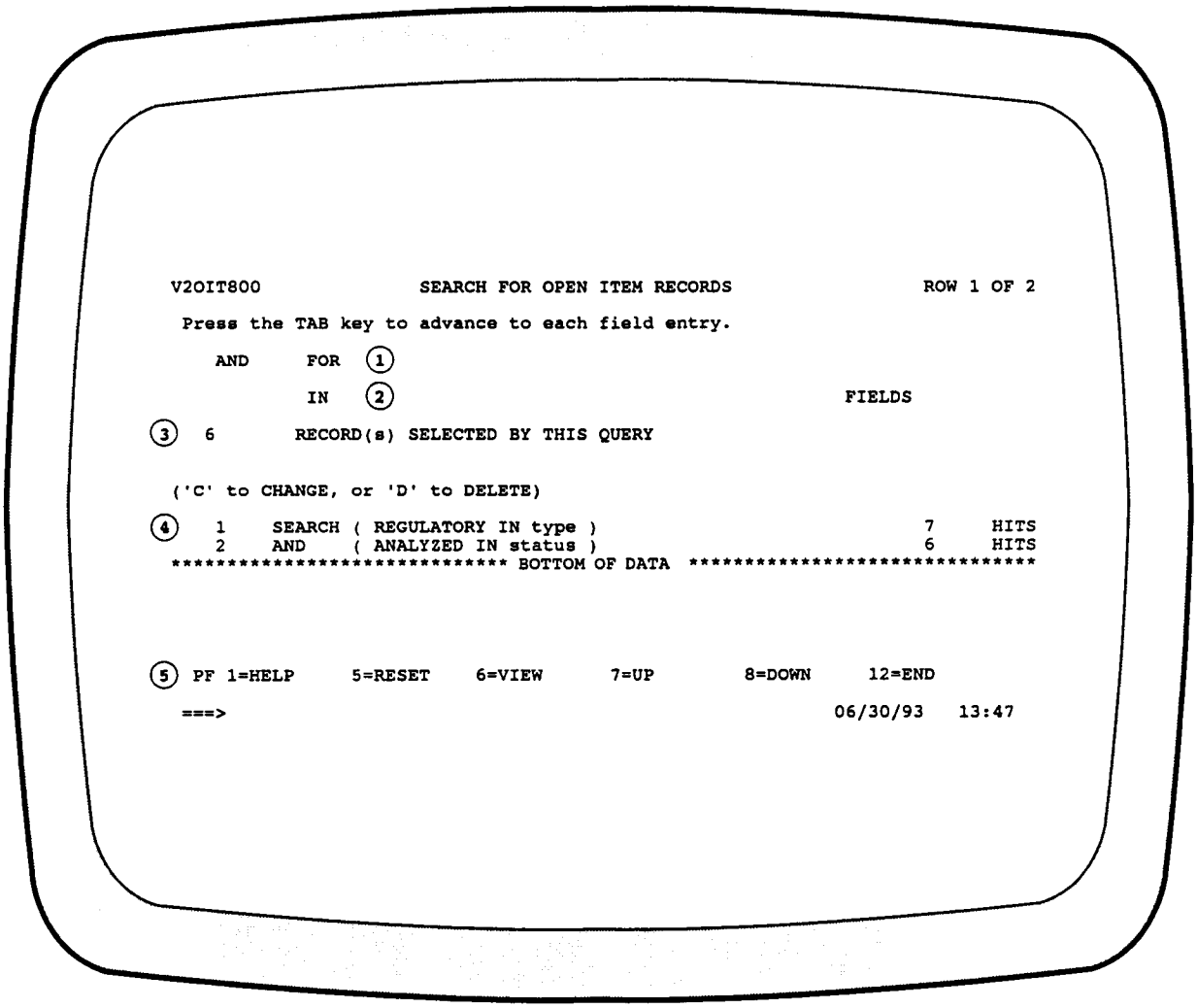

Figure 4-1. Search for open item records

(1) Place to enter keyword to be searched
(2) Place to enter specific field to limit the search
(3) Displays the number of records found for the search after search is executed
(4) Displays the list of previous search requests
(5) Function Keys:

<F1> - Display the Help screen
<F5> - Reset and erase all previous search requests
<F6> - View the topics of all selected records
<F7> - Scroll up through the list of search requests
<F8> - Scroll down through the list of search requests
<F12> - End and return to the OITS Main Menu

This screen permits the user to enter the desired keyword and, optionally, the name of the data field containing the keyword. The following discussion of the keyword search facility will concentrate on how to retrieve records by entering a single keyword. The keyword search facility actually has a number of other more advanced capabilities, and these are discussed in Section 5.1 of the *User's Guide*.

The entry screen for the search request is structured so that the completed query will read like a normal sentence. For example, a completed search request might read as follows:

Press <Tab> to advance the cursor to the correct starting place for each entry field.

SEARCH	FOR	*containment*	
	IN	*topic*	FIELDS

This search request would look for "containment" occurring in the **Topic of the Uncertainty** field of any open item record.

Similarly, if the FIELD type is not specified, then the search request will find occurrences of the specified keyword in any field. Therefore, the following request:

SEARCH	FOR	*containment*	
	IN		FIELDS

would retrieve all occurrences of "containment" in any field in any open item record.

Once a search request is typed, press <Enter>, and the search will be executed. While the search request is being processed, the screen will be cleared, and an advisory message "Searching for Open Item Records" will appear at the center of the screen. At the completion of the search, the Search for Open Item Records (V2OIT800) screen will appear again. Two areas of the screen change after a search:

i) The number of records that satisfied the search request will be updated [See Figure 4-1].

ii) The current search request will be added to the list of previous search requests, which is maintained in the scrollable table area of the screen (See Figure 4-1).

To view the results of the search request, press <F6>. This action will cause the List of Selected Records (V2OIT550) screen to be displayed as shown in Figure 4-2. User instructions for this screen are found in Section 4.2.3 of the *User's Guide*.

At the bottom of the screen, there are descriptions of five other function keys:

<F1> Press <F1> to display a Help. Upon exiting from the Help screen, the List of Selected Records (V2OIT550) screen will be displayed again.

<F5> Pressing <F5> will reset and erase all previous search requests.

<F7> Pressing <F7> moves backward in the file by one screen. When the beginning of the file is reached, pressing <F7> again will result in the same screen being displayed because the "top" has already been reached.

<F8> Pressing <F8> moves forward in the file by one screen. When the end of the file is reached, pressing <F8> again will result in the same screen being displayed because the "bottom" has already been reached.

<F12> Press <F12> to terminate the List of Selected Records (V2OIT550) screen. The selection list will be discarded, and the previous screen will be displayed again.

4.2.2 Using an Open Item Tracking System Identification to Retrieve a Single Record

If the OITSID of a specific OITS record desired is known, press <F4> from the OITS Main Menu (V2OIT051). This action will cause the Open Item Selection Screen (V2OIT50) screen to be displayed. This screen permits entry of the OITSID of the desired OITS record. If the requested open item record is in the database, it will be selected and retrieved. Otherwise, an error message will be displayed, and the user will be permitted to enter the OITSID of another OITS record.

4.2.3 Selecting Records from the List of Selected Records

There are several methods for selecting OITS records from the database. In general, any search or selection method that can result in more than one record being selected will present the topics of the selected records on the List of Selected Records (V2OIT550) screen.

This screen displays the OITSIDs and topics of all of the selected records as a scrollable table. (See Figure 4-2). The number of the first record being displayed and the total number of records in the table are displayed at the upper right corner of the screen. The first screen will display the first two records that were selected.

As the user scrolls through the table of OITSIDs and topics of uncertainties, the number of the current record will be updated to denote its position in the table. Scrolling forward or backward through the table is accomplished by pressing either <F7> or <F8>:

- Pressing <F8> moves the screen forward in the table by one (two records). When the end of the table is reached, pressing <F8> again will display the first record in the table.

- Pressing <F7> moves the screen backward in the table by one (two records). When the beginning of the table is reached, pressing <F7> again will display the last record in the table.

A 1-character selection field is to the left of each entry (See Figure 4-2). This selection field is used to indicate the method of presentation desired for the data. Press <Tab> to advance the cursor to the selection field of the desired record. Enter an *S*, a *P*, or an *A* in the selection field, and this action will determine which presentation method is selected for the data.

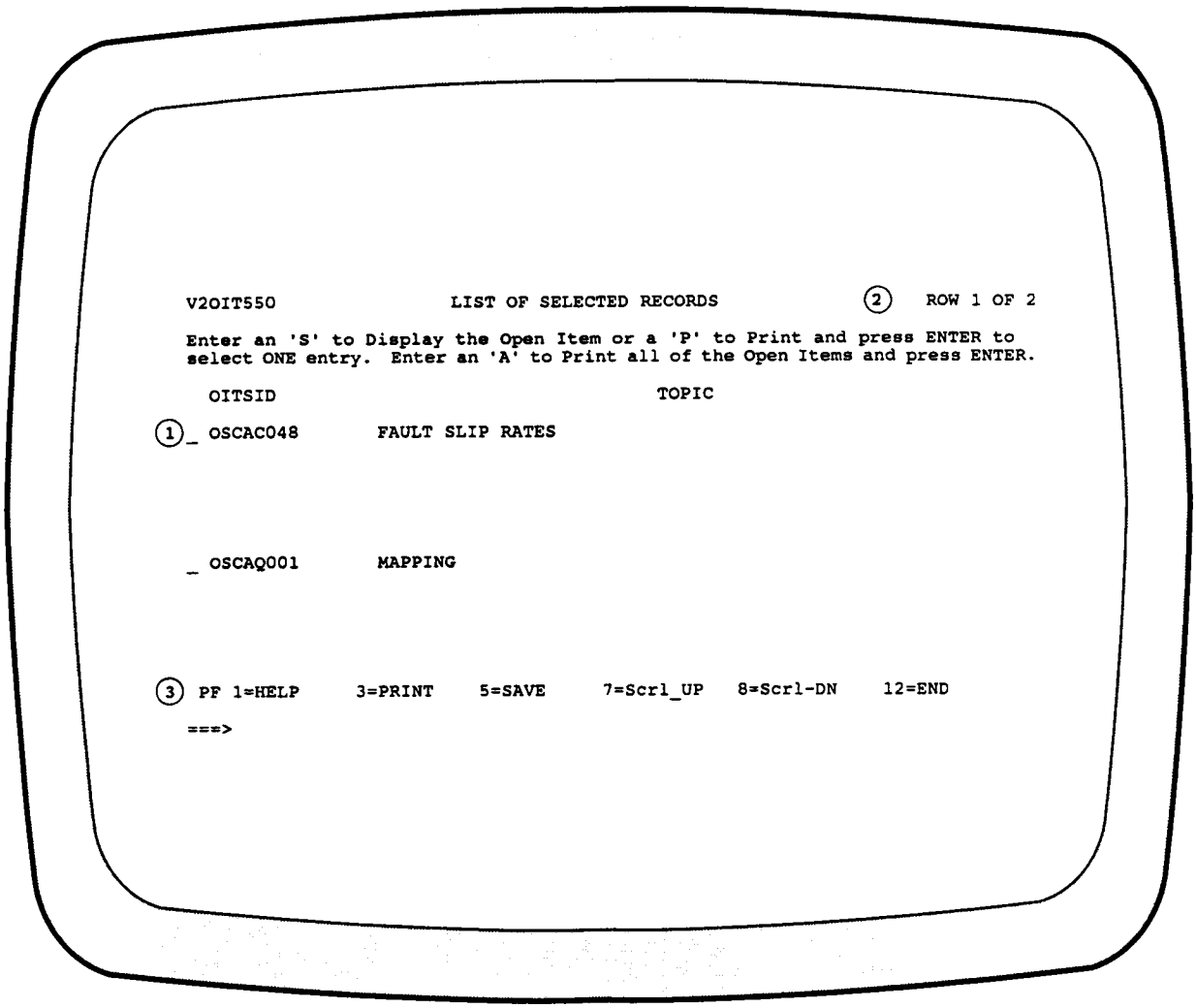

Figure 4-2. List of selected records

(1.) Entry line for choice of "S" to display the record, "P" to print the standard report for the record, or "A" to print the standard report for all of the records. Use the tab keys to move to another item.

(2.) Displays the current record number and the total number of records found.

(3.) Function Keys:

<F1> - Display the Help screen
<F3> - Print the list of selected records
<F5> - Save the result of the search to a work file
<F7> - Scroll up through the list of topics
<F8> - Scroll down through the list of topics
<F12> - End and return to previous screen

- Enter *S* in the selection field, press <Enter>, and the data record will be retrieved and displayed. (For a further description of the data display, see Section 4.3 of the *User's Guide*.)

- Enter *P* in the selection field, press <Enter>, and the standard report for the data record will be printed.

- Enter *A* in any selection field, press <Enter>, and the standard report for all of the selected data records will be printed.

At the bottom of the screen there are descriptions of four other function keys:

<F1> Press <F1> to display Help. Upon exiting from the Help screen, the List of Selected Records (V2OIT550) screen will be displayed again.

<F3> Press <F3> to print the list of selected records on the printer.

<F5> Press <F5> to display a menu with various options to save a copy of the data that appear in the selection table. (For a further description of the SAVE facility, see Section 5.2 of the *User's Guide*.)

<F12> Press <F12> to terminate the List of Selected Records (V2OIT550) screen. The selection list will be discarded, and the previous screen will be displayed again.

4.3 DISPLAYING OPEN ITEM TRACKING SYSTEM RECORDS

When an OITS record has been selected to display, the Text File Browse Facility (V2MSA802) screen will be displayed (See Figure 4-3). This screen displays the data for the selected open item record. The page number is displayed in the upper right corner of the screen.

As the user scrolls through the record, the page number will be updated to denote position in the file. Scrolling forward or backward through the file is accomplished by pressing either <F7> or <F8>.

- Pressing <F8> moves forward in the file by one screen. When the end of the file is reached, pressing <F8> again will result in the same screen being displayed because the "bottom" has already been reached.

- Pressing <F7> moves backward in the file by one screen. When the beginning of the file is reached, pressing <F7> again will result in the same screen being displayed because the "top" has already been reached.

At the bottom of the screen, four other functions are defined. These functions are:

<F1> Press <F1> to display a Help screen. Upon exiting the Help screen, the Text File Browse Facility (V2MSA800) screen will be displayed again.

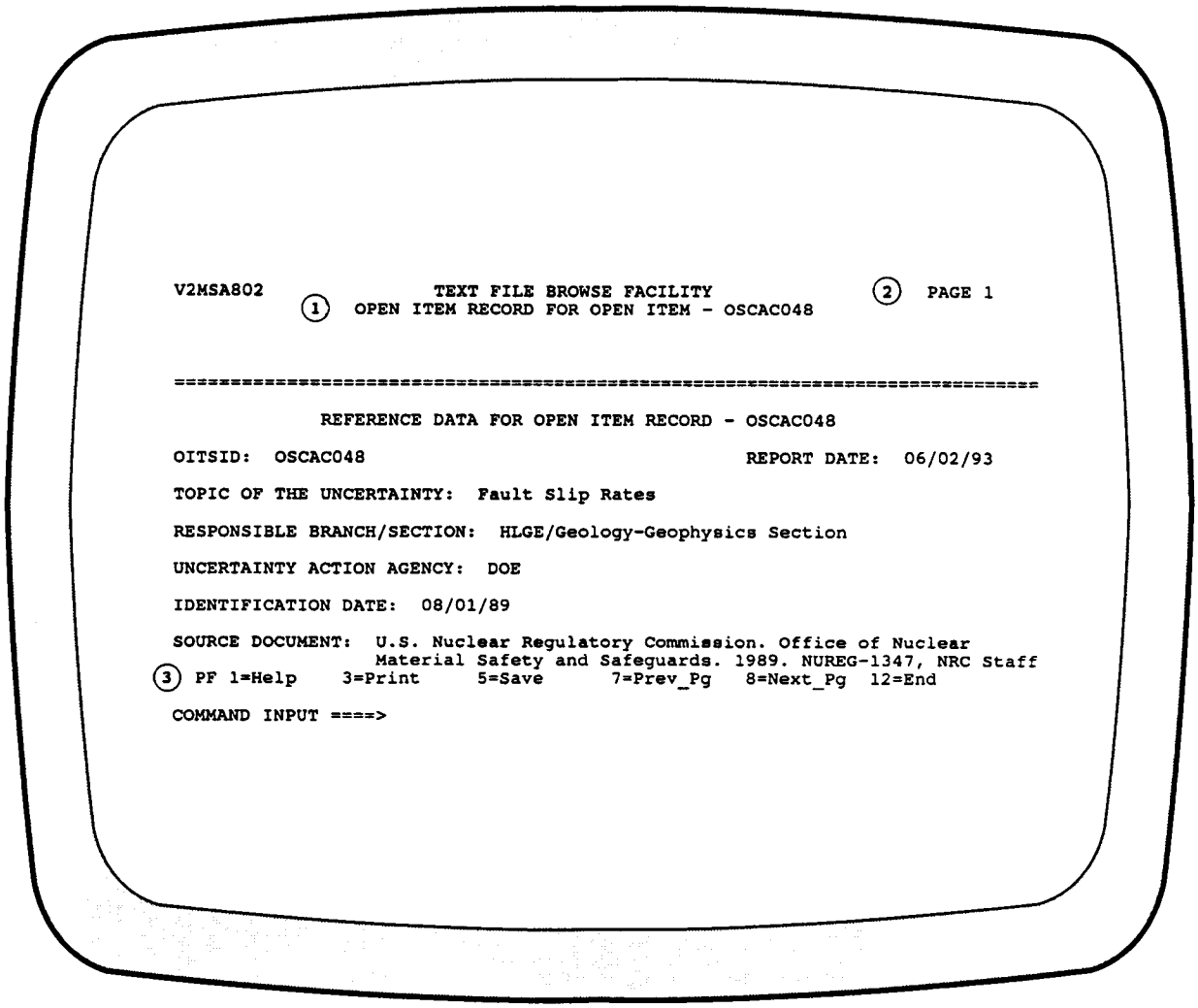

Figure 4-3. Text file browse facility

(1.) Identifies the record being displayed
(2.) Displays the page number
(3.) Function Keys:

<F1> - Display the Help screen
<F3> - Print the data
<F5> - Save the data to work file
<F7> - Scroll up through the data
<F8> - Scroll down through the data
<F12> - Exit and return to the previous screen

<F3> Press <F3> to print the standard report for the open item.

<F5> Press <F5> to display a menu with various options to save a copy of the data that appear in the record. (For a further description of the SAVE facility, see Section 5.2 of the *User's Guide*.)

<F12> Press <F12> to terminate the Text File Browse Facility (V2MSA800) screen. The previous screen will be displayed again.

4.4 REPORTING DATA

The OITS offers a number of reports from which to choose. There are two reports menus. The OITS Reports Menu I (V2OIT052) screen can be accessed by pressing <F10> on the OITS Main Menu (V2OIT051) screen. (An example of an Open Item Standard Report is supplied in Appendix B.)

The OITS Reports Menu I (V2OIT052) presents several reports to choose from by pressing the appropriate Function key (See Figure 4-4).

<F2> Press <F2> to display the Open Item Selection Screen (V2OIT350) where the OITSID of the desired open item is entered to send to a printer. After entering the OITSID, the standard report for the open item record selected will be printed.

<F3> Press <F3> to display the Technical Uncertainties Summary Status Report.

<F4> Press <F4> to display the Regulatory/Institutional Uncertainties Summary Status Report. (Not available until migration to PASS/PADB Version 3.0.)

<F5> Press <F5> to display the Key Technical Uncertainties Summary Status Report. (Not available until migration to PASS/PADB Version 3.0.)

<F9> Press <F9> to display the OITS Reports Menu II (V2OIT053) screen. At the bottom of the screen two other function keys are described:

<F10> Press <F1> to display a Help screen. Upon exiting from the Help screen, the OITS Reports Menu I (V2OIT052) screen will be displayed again.

<F12> Press <F12> to terminate the OITS Reports Menu I (V2OIT052) screen. The previous screen will be displayed again.

The reports contained in the OITS Reports Menu II (V2OIT053) screen list the OITSID and topic of the uncertainty for all of the open items in the OITS sorted by various fields.

The choices in the OITS REPORTS MENU II (V2OIT053) screen are listed below (See Figure 4-5).

<F2> Press <F2> to display the topic report sorted by **Responsible Branch.**

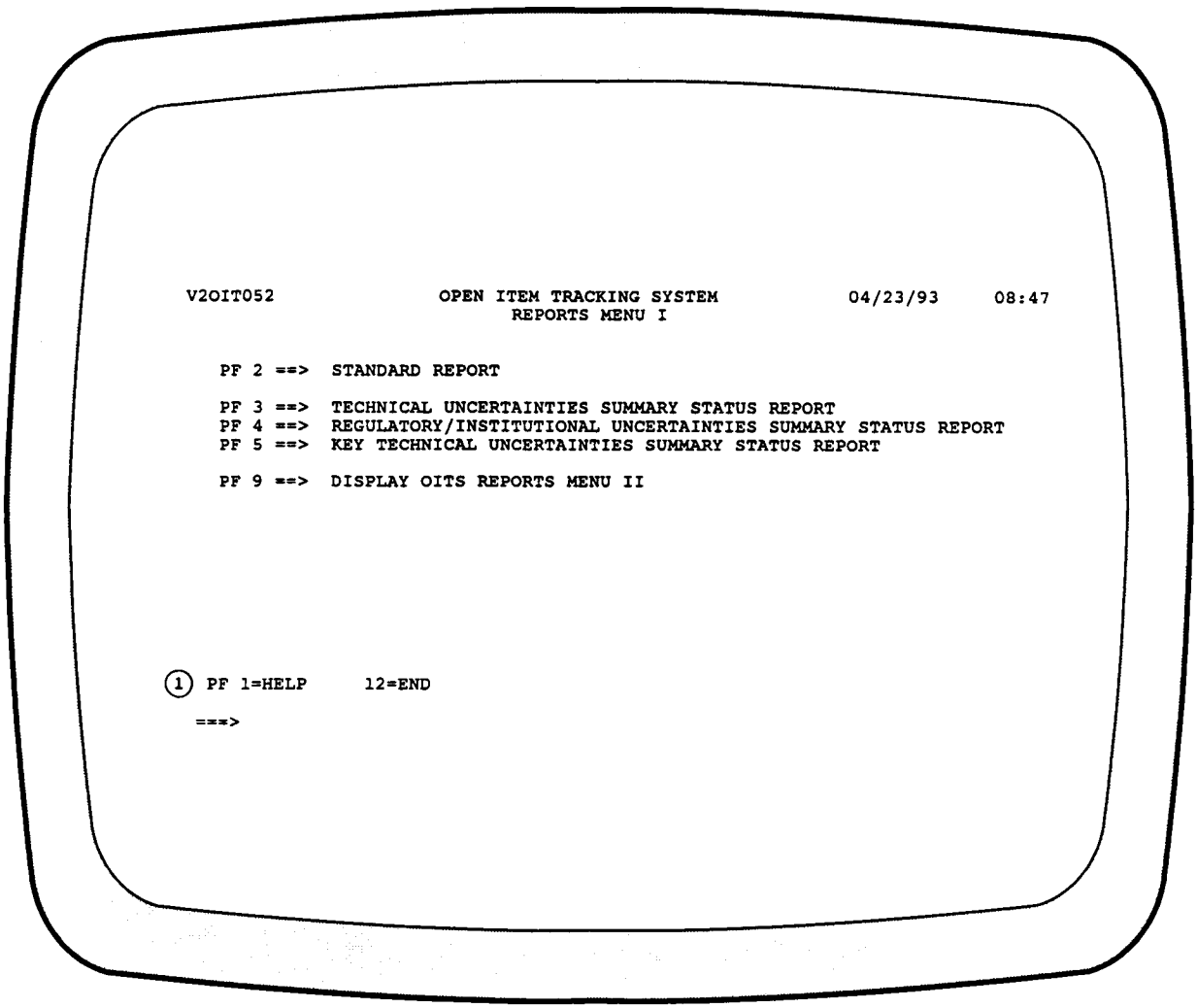

Figure 4-4. OITS reports menu I

(1.) Function Keys:

<F1> - Display a Help screen
<F2> - Display a standard report
(see example in Appendix D)
<F3> - Display the Technical Uncertainties Summary Status Report
<F4> - Display the Regulatory/Institutional Summary Status Report
<F5> - Display the Key Technical Uncertainties Summary Status Report
<F9> - Display the Reports Menu II screen
<F12> - Exit and return to the previous screen

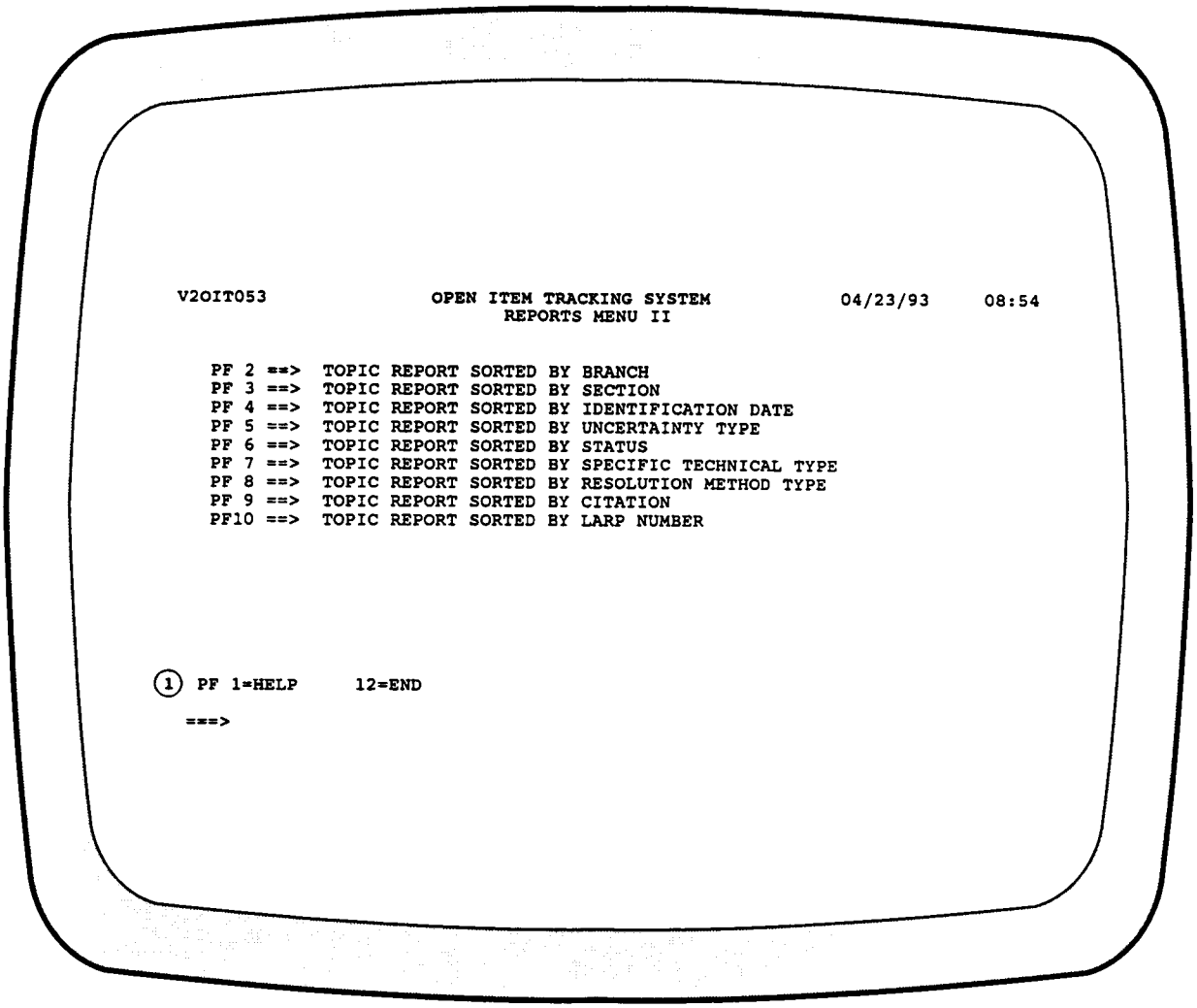

Figure 4-5. OITS reports menu II

(1.) Function Keys:

<F1> - Display a Help screen
<F2> - Display a topic listing sorted by **Responsible Branch**
<F3> - Display a topic listing sorted by **Responsible Section**
<F4> - Display a topic listing sorted by **Identification Date**
<F5> - Display a topic listing sorted by **Uncertainty Type**
<F6> - Display a topic listing sorted by **Status**
<F7> - Display a topic listing sorted by **Specific Technical Type**
<F8> - Display a topic listing sorted by **Resolution Method Type**
<F9> - Display a topic listing sorted by **Uncertainty Citation**
<F10> - Display a topic listing sorted by **LARP Number**
<F12> - Exit and return to Reports Menu I

<F3> Press <F3> to display the topic report sorted by **Responsible Section.**

<F4> Press <F4> to display the topic report sorted by **Identification Date.**

<F5> Press <F5> to display the topic report sorted by **Uncertainty Type.**

<F6> Press <F6> to display the topic report sorted by **Status.**

<F7> Press <F7> to display the topic report sorted by **Specific Technical Type.**

<F8> Press <F8> to display the topic report sorted by **Uncertainty Resolution Method Type.**

<F9> Press <F9> to display the topic report sorted by **Citation.**

<F10> Press <F10> to display the topic report sorted by **LARP Number.**

At the bottom of the screen, two other function keys are described:

<F1> Press <F1> to display a Help screen. Upon exiting the Help screen, the OITS Reports Menu II (V2OIT053) screen will be displayed again.

<F12> Press <F12> to terminate the OITS Reports Menu II (V2OIT053) screen. The OITS Reports Menu I (V2OIT052) screen will be displayed again.

5 GUIDELINES FOR ADVANCED USE OF OPEN ITEM TRACKING SYSTEM

5.1 SEARCH TECHNIQUES

Section 4.2.1 described the process for performing basic searches using keywords in the OITS records. This section describes an advanced searching capability that may be used to improve the selectivity of the search process.

When the search facility is selected, a screen will be displayed that permits entry of the search parameters. Each search command that is entered is called a query predicate. A search may be composed of a single query predicate or multiple query predicates that are connected by the "AND" logical operator. In general, the user must supply two of the three following pieces of information for each query predicate:

1. SEARCH COMMAND - This command tells the search facility what the user wants to do. This field may contain one of two values:

   - The word "SEARCH" to begin a new search. The "SEARCH" command is only valid for the first search predicate in a query.

   - The word "AND" to connect the current search predicate in an "AND" relationship with the results of all prior search predicates.

2. SEARCH TERM - This term identifies the actual data that the user is trying to locate in the OITS. Certain rules apply to the search data, depending upon which data field is expected to contain the information. When searching for an **Identification Date**, the date must be entered in the format "yyyymmdd".

3. FIELD NAME - This is the name of the data field that will be searched to find the data. If the field name is omitted, then the search facility will default to looking for the search term in all fields that have been automatically processed for keywords.

5.1.1 Entering Multiple Search Predicates

The search facility permits the user to enter multiple search predicates. As each predicate is entered, the system will determine the number of records that satisfy the current search criteria and the number that satisfy the combination of all search predicates that have been entered for the current query. The number of records that meet the cumulative criteria of all search predicates is indicated in a line in the middle of the screen. For example, the following message would indicate that a cumulative total of 24 records has been selected by the combination of all the query predicates in the current query:

24 RECORD(s) SELECTED BY THIS QUERY

As each query predicate is processed, the query parameters are displayed in a scrollable table of query predicates along with an indication of the number of records that satisfied that particular query

predicate. For example, the following table illustrates a 3-predicate query that resulted in a single record being selected:

_	1	SEARCH (Containment IN Topic)	4 HITS
_	2	AND (Regulatory IN Type)	2 HITS
_	3	AND (Guidance IN Resolution Method)	1 HITS

After a query has been formulated, individual predicates may be selected and modified to change and re-execute the query. A selection field is provided at the left of each query predicate in the query table, and the following values may be entered in the selection field for any of the prior query predicates. Use <Tab> to move among the query predicates.

- Entering a *C* in the selection field for a particular query predicate moves the selected predicate into the top part of the screen where it may be modified and executed again.

- Entering a *D* in the selection field for a particular query predicate deletes the selected predicate.

5.1.2 Data Fields That May Be Searched

The following listing indicates the various acceptable field identifiers that may be entered in the search predicate for open item records. The capitalized portion of the field identifier is what the program is actually checking, so abbreviations to that level are permitted. For example, specifying "ID" or "DATE" is the same as specifying "IDENTIFICATION DATE." Similarly, specifying "STA" is the same as specifying "STATUS."

OITSID
TOPic of the uncertainty
Responsible **BRA**nch
Responsible **SEC**tion
Uncertainty action **AGE**ncy
IDentification **DATE**
Uncertainty **TYP**e
STAtus
Specific **TECHNICAL** Type
Uncertainty **RES**olution method type
CITation
LARP number
Uncertainty **KEY**word

If no field name is entered, the system will assume that a general keyword search is desired, and it will retrieve all occurrences of that keyword in all fields that have been automatically processed for keywords. This type of general keyword search should be used with caution for two reasons:

1. Only selected fields are processed for keywords. For example, the **Uncertainty Type** field is not automatically processed for keywords; therefore, searching for an uncertainty type without specifying the field to be searched will not find any open items.

2. Searching for a common word without specifying which field to search will result in all occurrences of that keyword being retrieved. This action may result in a very large number of open items being retrieved, which can seriously degrade both a user's ability to locate the desired information and the performance of the system.

5.1.3 Search Terms

The search term is used to define the actual data that the user wishes to find.

5.1.3.1 Simple Search Terms

Most search predicates will use simple search terms composed of single words. For example, a user could search for the word "environmental" by entering that word in the search term and then entering an appropriate field name to define in which field you wanted to search for "environmental."

5.1.3.2 Search Terms That Use Wildcard Characters

Search terms may also contain an asterisk (*) which serves as a wildcard character. For example, the search term "earthquake" would start a search only for words that exactly matched the search term in the specified field. Using the wildcard character permits searching for inexact matches. For example, the search term "earth*" would look for all words beginning with the characters "earth" regardless of what follows. This term would return "earth," "earthquake," "earthquakes," etc.

5.1.3.3 Complex Search Terms

Slightly more complex search terms may be constructed by joining two words with the "and" or "or" logical operators. For example, the user could enter the search term *environmental and containment* and an appropriate field name to find all records that contained both the words "environmental" and "containment" in the specified field. The "OR" operator should be used sparingly because it can seriously degrade the performance of the system.

5.1.4 Search Terms for Dates

Some special search facilities have been implemented for dates. In searching for an identification date, it is important to remember that all dates are stored internally in the database in a sortable form. The internal format of all dates is "yyyymmdd" where

yyyy	is a 4-digit year
mm	is a 2-digit month
dd	is a 2-digit day

In the internal representation of a date, the year subfield should always be present, but the month and day subfield(s) may be omitted by entering a *00* in either or both subfields.

To search for the date May 23, 1991, the user would enter the search term as *19910523*.

5.1.4.1 Simple Date Search Terms

Many date queries can be accomplished using simple date search terms composed of a single date. For example, the user could enter *19910523* in the search term and *DATE* in the field name to search for all records with an identification date of May 23, 1991. Similarly, the user could enter *19910500* in the search term and *DATE* in the field name to search for all records with an identification date of May 1991 (i.e., the day subfield was not specified when the identification date was entered).

5.1.4.2 Date Search Terms That Use Wildcard Characters

Date search terms may also contain an asterisk (*), which serves as a wildcard character. For example, if the user enters *199005** in the search term and *DATE* in the field name, the system would retrieve all records with an identification date of May 1990 regardless of the contents of the day subfield. Similarly, if the user entered *1990** in the search term and *DATE* in the field name, the system would retrieve all records with an identification date of 1990 regardless of the contents of the month or day subfields.

Wildcard search terms should be used very carefully with date fields to avoid retrieving very large numbers of open items.

5.1.4.3 Complex Date Search Terms

Three additional features are provided for date search terms that permit retrieval of records BEFORE a specified date, AFTER a specified date, or BETWEEN two dates.

- Search Terms Before A Specified Date

A user may enter the keyword *BEFORE* followed by a date, with or without a wildcard character, to retrieve all dates that preceded the specified date. For example, if the user entered *BEFORE 19900523* in the search term and *DATE* in the field name, the system would retrieve all records identified prior to May 23, 1990.

- Search Terms After a Specified Date

A user may enter the keyword *AFTER* followed by a date, with or without a wildcard character, to retrieve all dates that follow the specified date. For example, if the user entered *AFTER 19900523* in the search term and *DATE* in the field name, the system would retrieve all records identified after May 23, 1990.

- Search Terms Between Two Specified Dates

A user may enter the keyword "TO" between two dates [either of which may or may not contain a wildcard character (*)] to retrieve all dates that fall between the first and second date. For example, entering *19900523 TO 19900601* in the search term and *DATE* in the field name, would retrieve all records that contain identification dates between May 23, 1990 and June 1, 1990.

The "BEFORE," "AFTER," and "TO" commands also work with the OITSID field.

5.1.5 Special Considerations for Keyword Searches

Certain data fields are automatically processed to extract keywords at the time that the records are entered into the database. This automatic keyword processing involves scanning the data field and extracting all "significant" words, which are then stored as keywords. Common prepositions and conjunctions, such as "and," "or," "of," "before," "to," etc. are ignored in this process. Keywords are automatically raised to upper case. The searches, however, are not case sensitive. Searching for "CONTAINMENT" or "Containment" or "containment" are all equivalent. Thus, "significant" words in selected data fields may be located through this keyword method.

The following fields are automatically processed for keywords:

TOPIC OF THE UNCERTAINTY
RESPONSIBLE BRANCH
RESPONSIBLE SECTION
STATUS
SPECIFIC TECHNICAL TYPE
UNCERTAINTY RESOLUTION METHOD TYPE
UNCERTAINTY KEYWORD

When retrieving records using a search term that has been processed as a keyword, the search term may be entered in either upper or lower case; the appropriate field name also should be entered. If no field name is entered, the system will search for all occurrences of that keyword in all fields that have been processed for keywords. This comprehensive search may significantly increase the size of the answer set as well as the time required to retrieve and process it.

In general, wildcard characters (*) should be avoided when searching fields that have been processed for keywords, because there are a very large number of keyword entries in the database, and the retrieval and processing time may be excessive.

5.2 SAVING DATA

During an OITS session, any data can be saved to a work file to utilize later. On each of the display screens, there is an option to save data, usually associated with <F5>. If a user elects to save the data to a work file, the Data Save Options (V2MSA810) screen will appear (See Figure 5-1). This menu gives several options to choose from to manage work files.

5.2.1 Saving Data Files

The current work file will be displayed at the top of the Data Save Options (V2MSA810) screen. The first time a data file is saved, the default file will be "PASS SRAWORK A." A user can create as many work files as he/she wants. If the same file name is used to save data several times, the new information will be appended to the bottom of the file. All of the options discussed below will apply to the current work file that is displayed at the top of the screen.

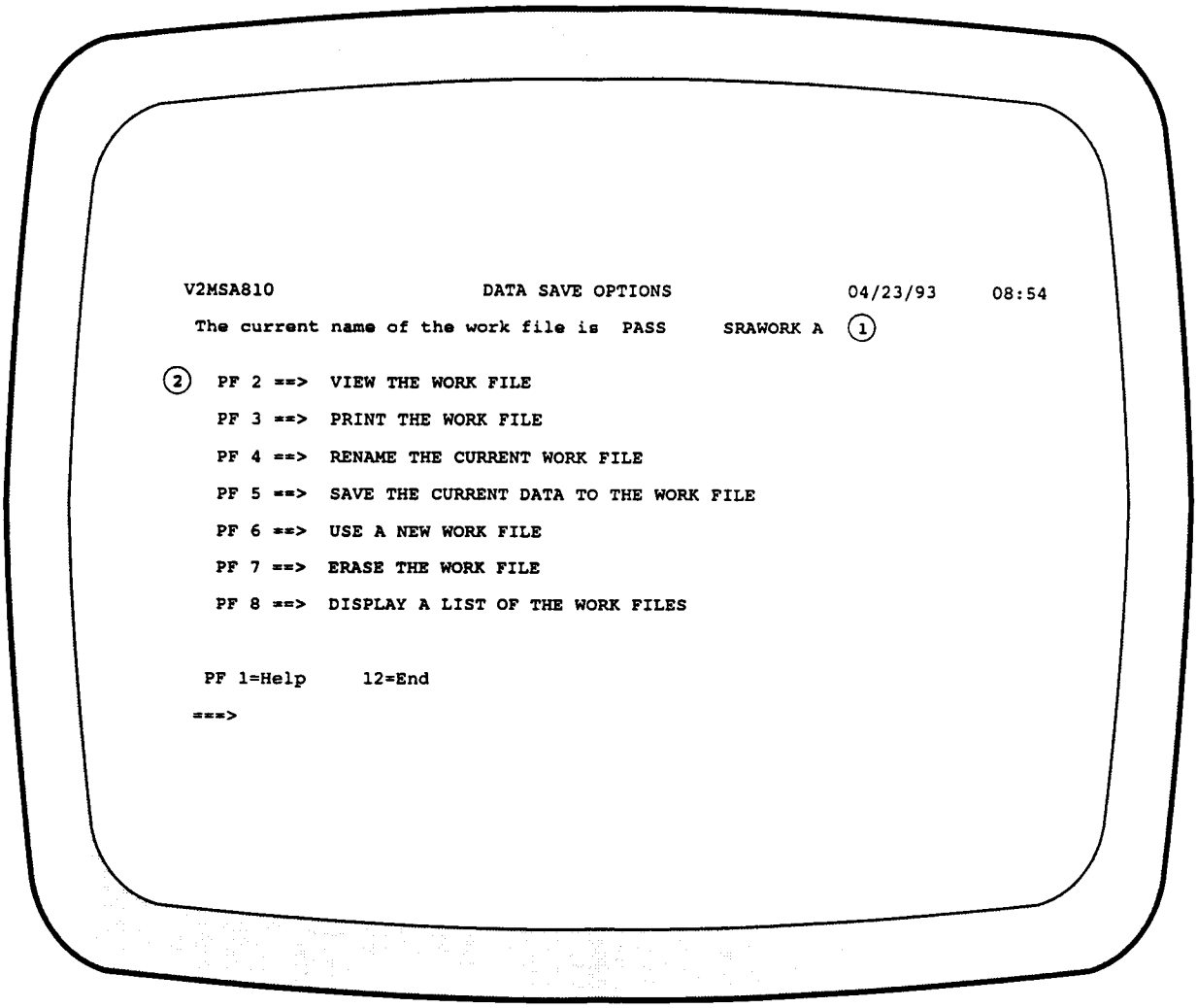

Figure 5-1. Data save options

(1) The current work file ID is displayed at the top of the screen.
(2) Function Keys:

<F1> - Display a help screen
<F2> - Display the current work file so that it can be paged through to look at the entire file
<F3> - Print out a copy of the current work file
<F4> - Change the name of the current work file. If selected, the system will prompt to enter the new file name
<F5> - Save the current data to the current work file. Each time new data are saved to the same work file they are appended to the bottom
<F6> - Select a different file. If selected, the system will be prompt to enter the file name of the file that is desired to work with
<F7> - Erase the current work file
<F8> - Display a list of all the work files
<F12> - Exit this menu and return to the previous screen

<F2> To view the current work file at any time, select <F2>. The file will be displayed in a browse facility that can be paged through.

<F3> To print the current work file at any time, select <F3>.

<F4> To rename the current work file at any time, select <F4>. Choosing <F4> will cause the File Rename Options I (V2MSA811) screen to appear (See Figure 5-2). The current file will be displayed at the top of the screen, and a blank will appear in which to enter the new file name. The file name cannot be longer than 8 characters. Once the new file name is entered, press <Enter>. The system will be returned to the Data Save Options (V2MSA810) screen with the new file name displayed as the current file. If the new file name already exists, then the File Rename Options II (V2MSA812) screen will appear (See Figure 5-3). At this screen, choose what to do with the file that already exists. Choose to erase the old version of the file and continue with the renaming by selecting <F2>, or append the current file to the bottom of the new file by selecting <F3>. Pressing <F12> will cancel the request, and the system will return to the Data Save Options (V2MSA810) screen.

<F5> To save the current data to the current work file, select <F5>.

<F6> To work with a different file at any time, select <F6>. Choosing <F6> will cause the New File Options I (V2MSA813) screen to appear (See Figure 5-4). The current file will be displayed at the top of the screen, and a blank will appear in which to enter the new file name. The file name may not be longer than 8 characters. After the new file name is entered, press <Enter>. The system will return to the Data Save Options (V2MSA810) screen with the new file name displayed as the current file. If the new file name chosen already exists, the New File Options II (V2MSA814) screen will appear (See Figure 5-5). At this screen the user can choose what is to be done with the file that already exists. The user can choose to erase the current version of the new file and create a new one by selecting <F2>, or he/she could choose to work with the current version of the new file by selecting <F3>. Pressing <F12> will cancel the request and return the system to the Data Save Options (V2MSA810) screen.

<F7> To erase the current work file, select <F7>. IF A WORK FILE IS ERASED, IT WILL BE GONE AND CANNOT BE RECOVERED, EXCEPT THROUGH ANOTHER SEARCH SESSION.

<F8> To display a list of all work files, select <F8>. Choosing <F8> will cause the Work File Display (V2MSA815) screen to appear (See Figure 5-6). A list of work files will be displayed with the options of viewing or deleting them.

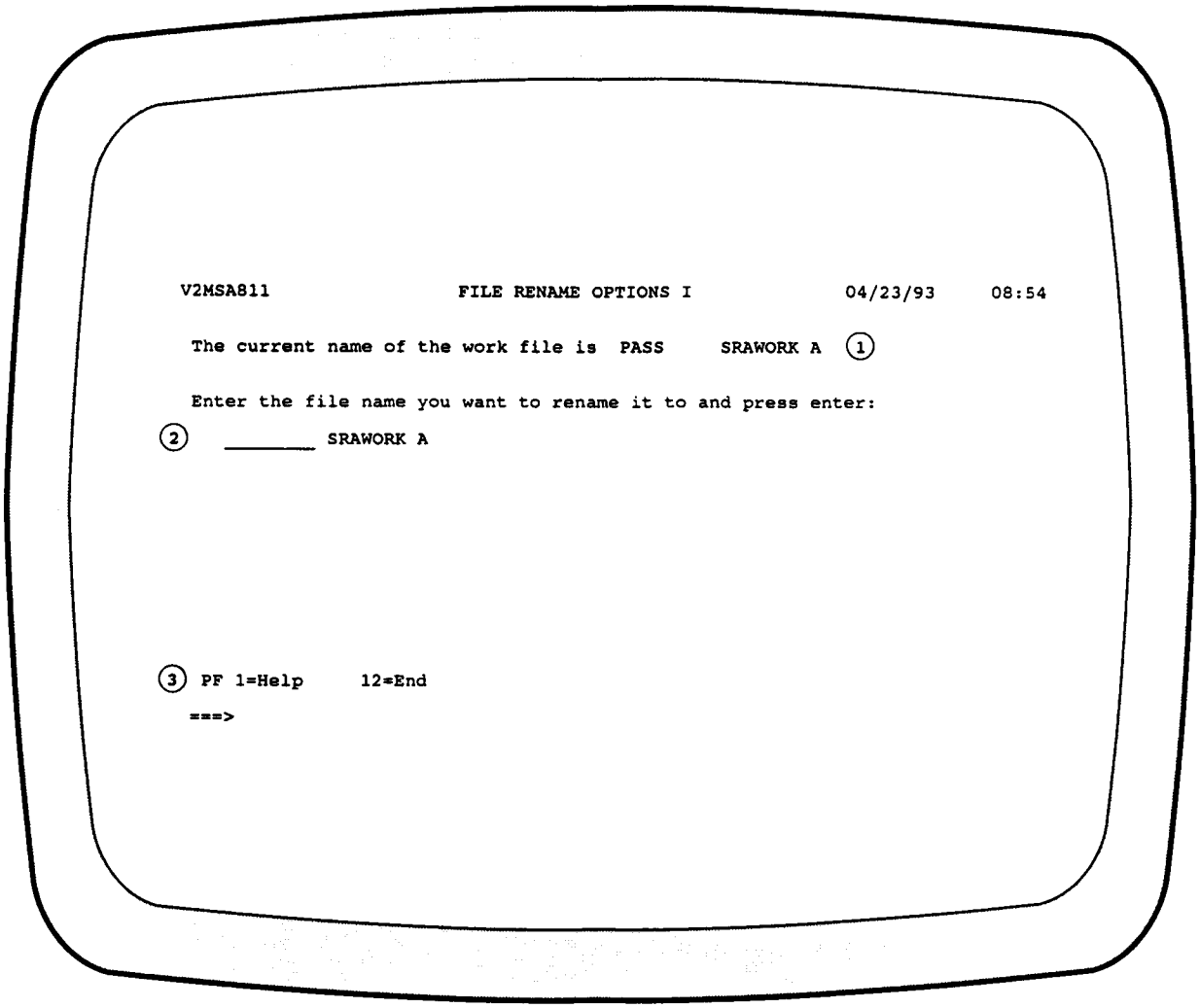

Figure 5-2. File rename options I

(1) The current work file is displayed at the top of the screen.

(2) A blank is provided to enter the new file name. When the new file name has been typed, press Enter.

(3) Function Keys:

<F1> - Display a Help screen
<F2> - Exit this menu and return to the previous screen

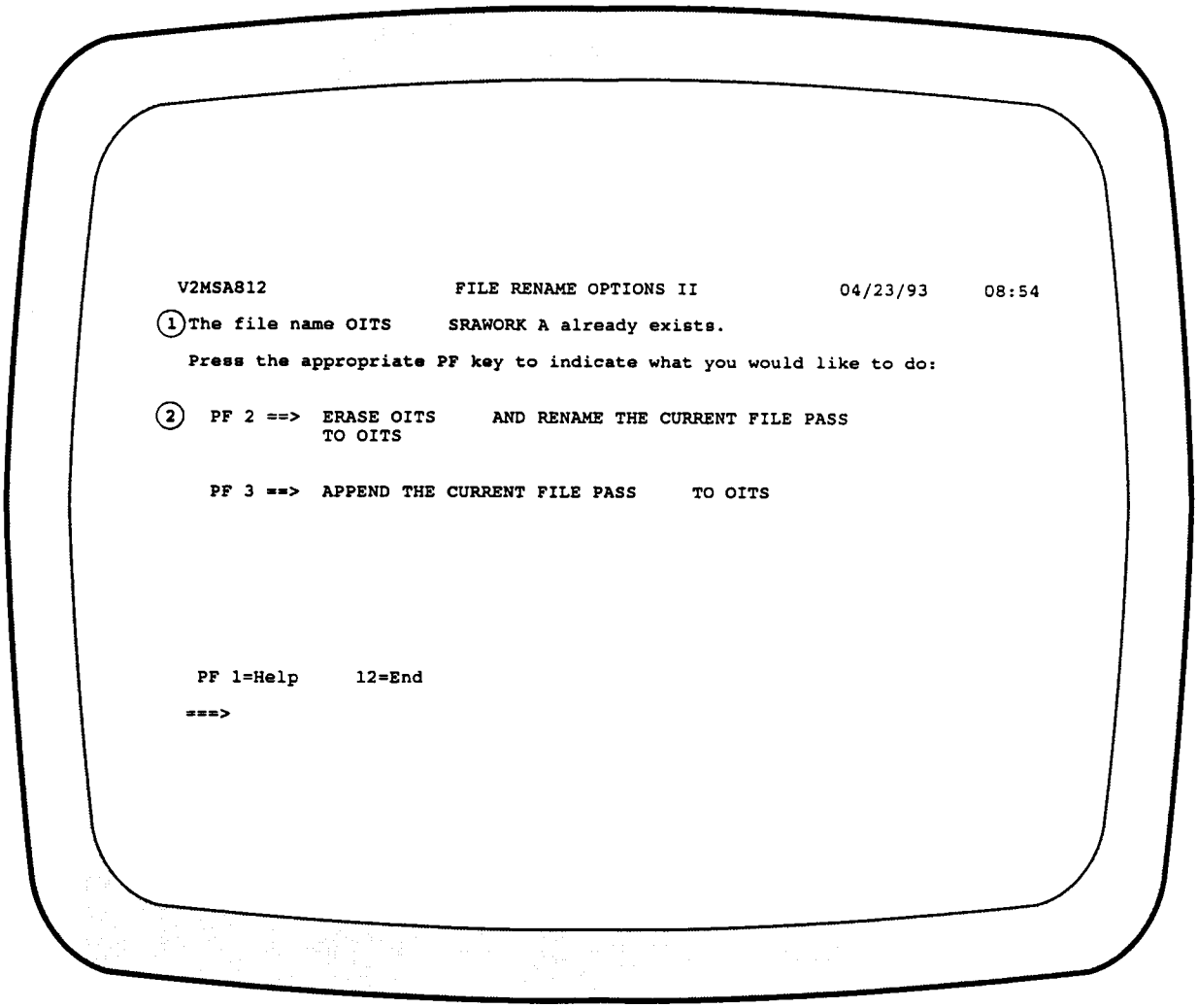

Figure 5-3. File rename options II

1. The new file name you entered to rename to is displayed at the top of the screen because the file already exists.
2. Function Keys:

   <F1> - Display a Help screen
   <F2> - Erase the current version of the file name entered and rename the current file
   <F3> - Append the current file to the end of the file name entered
   <F12> - Exit this menu and return to the previous screen

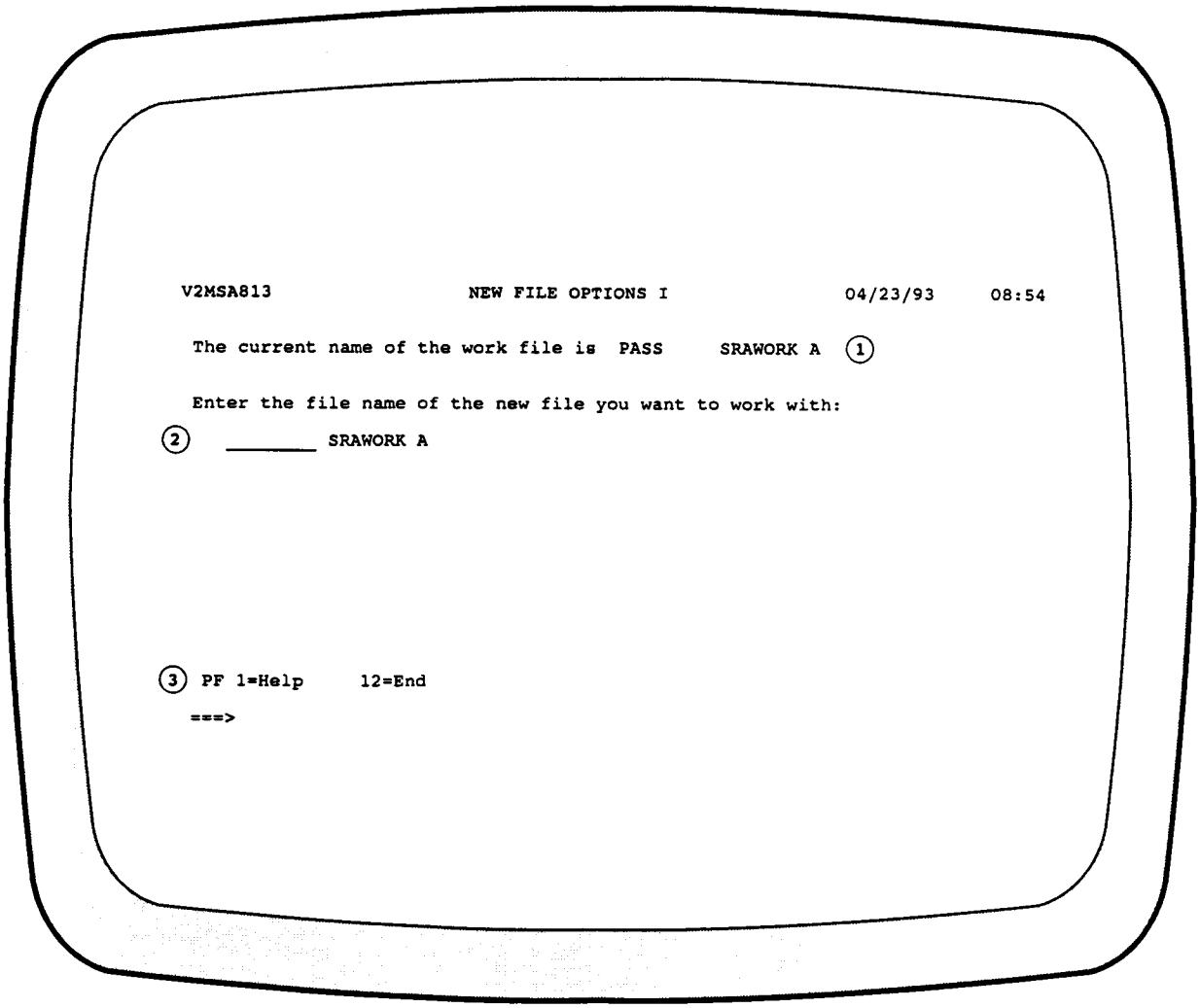

Figure 5-4. New file options I

(1.) The current work file is displayed at the top of the screen.

(2.) A blank is provided to enter the new file name. When the new file name has been typed, press <Enter>.

(3.) Function Keys:

<F1> - Display a Help screen
<F12> - Exit this menu and return to the previous screen

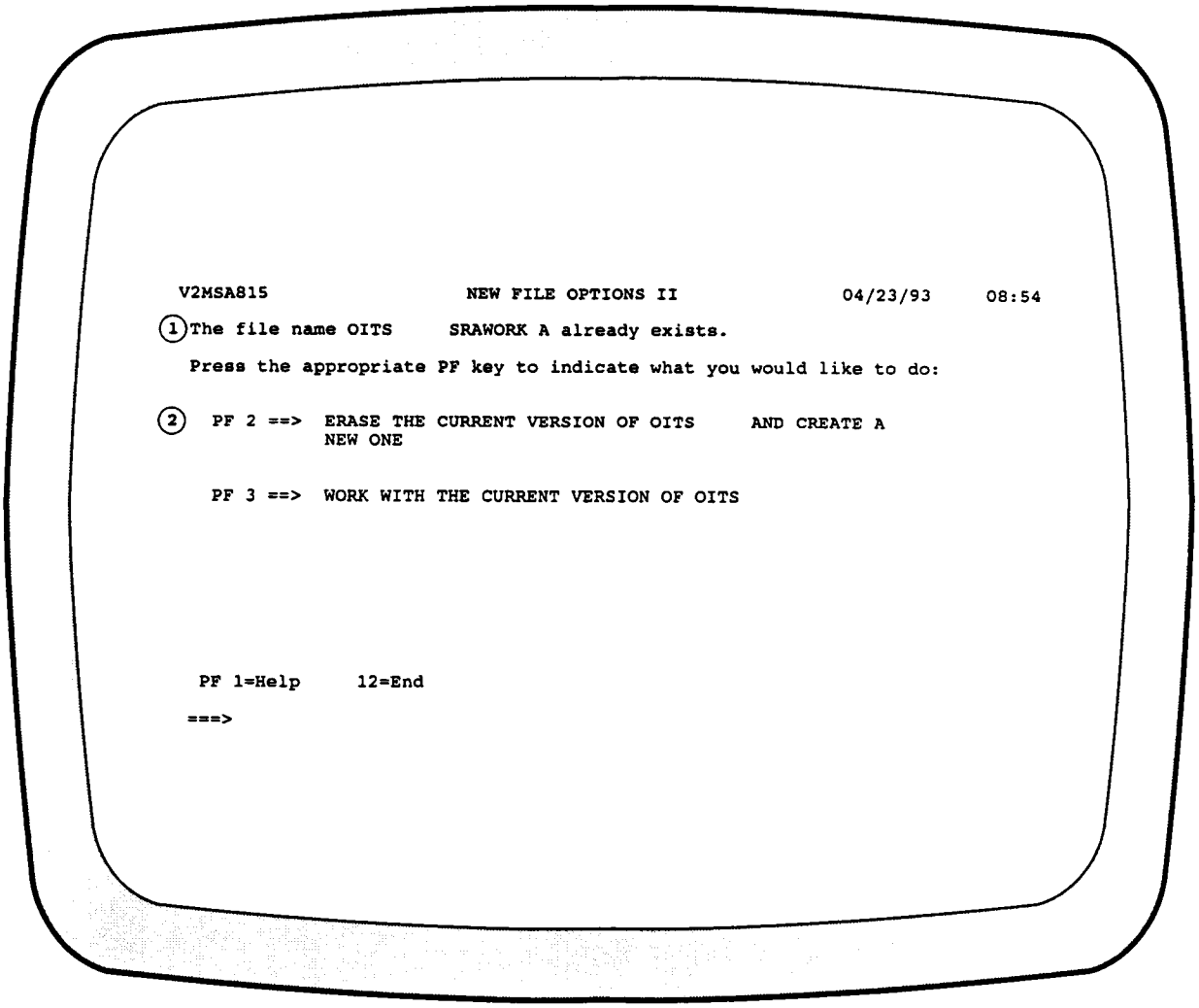

Figure 5-5. New file options II

1. The new file name entered to work with is displayed at the top of the screen because the file already exists.
2. Function Keys:

<F1> - Display a Help screen
<F2> - Erase the current version of the file name entered and create a new file with the same name
<F3> - Enables the user to work with the current version of the file name entered
<F12> - Exit this menu and return to the previous screen

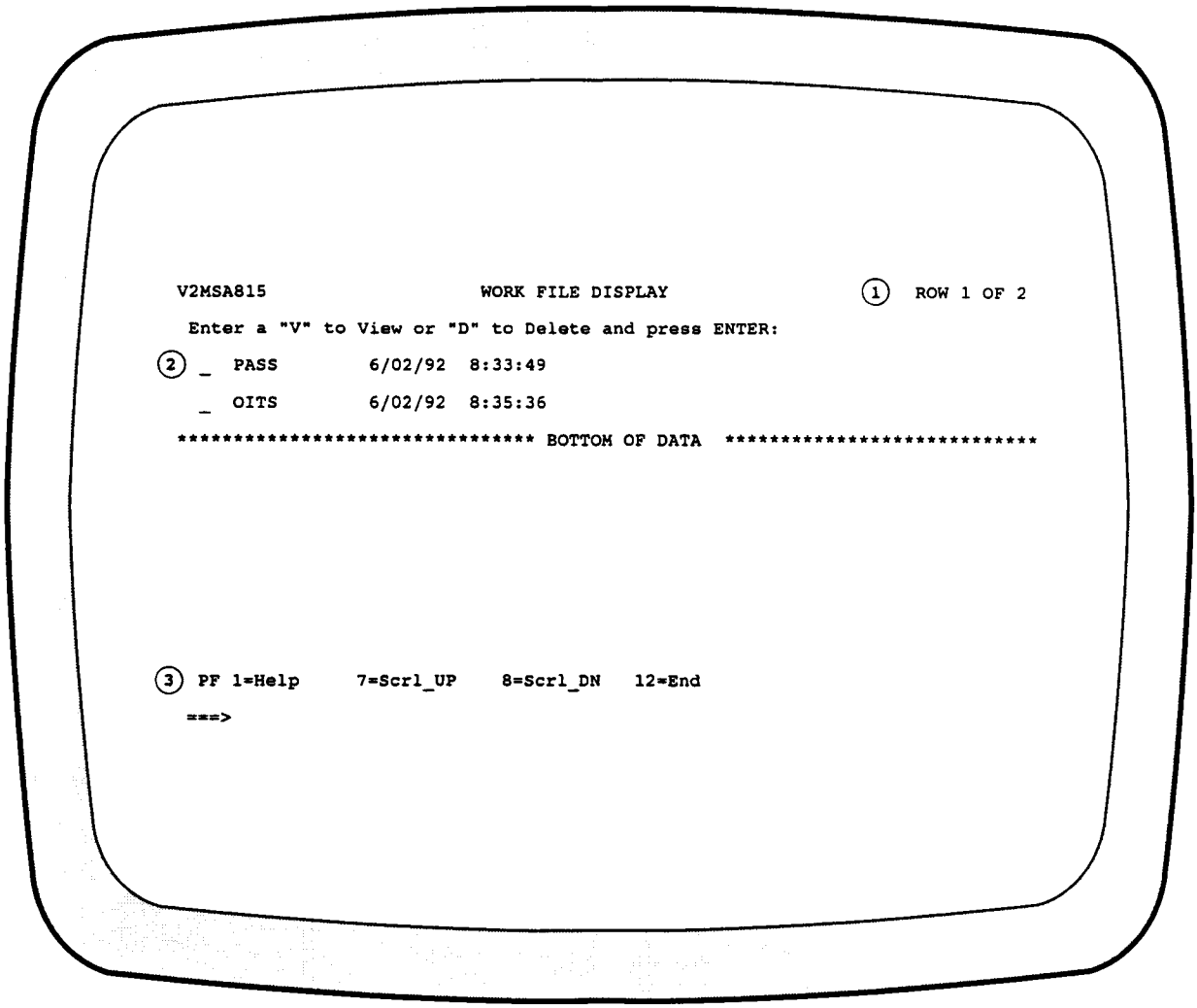

Figure 5-6. Work file display

(1.) Identifies the current row number and the total number of work files.

(2.) A *V* or a *D* may be typed in the preceding blank of a file name to View the file or Delete the file.

(3.) Function Keys:

<F1> - Display a Help screen
<F7> - Scroll up through the list
<F8> - Scroll down through the list
<F12> - Exit this menu and return to the previous screen

5.2.2 **Downloading Saved Data Files** (Capability currently unavailable due to software configuration on NRC workstations.)

Any of the work files created during an OITS session can be downloaded to the user's workstation to be worked with locally on a PC.

To download files:

1. Verify that the workstation is logged on to the mainframe computer. A blank CMS screen with "RUNNING" in the bottom right corner and "READY" in the top left should be displayed. If any of the menus is displayed, press <F12> to get the blank CMS screen.

2. Press <Alt> + <Esc> to toggle to the PC.

3. The user must have a DOS screen to download a work file using 3270.

4. Change to the 3270 subdirectory by typing the following:

   C:> cd\3270 and press <Enter>.

5. Type the "receive" command as follows, and then press <Enter>:

   C:\3270> receive [d:][path]pcfn.ext hfn srawork a(ascii crlf

where,

[d:][path] represents the drive specified and path where the file is to be stored on the PC (e.g., "c:\wpfil" to store it in the WordPerfect subdirectory, or "a:" to store it on a floppy).

pcfn.ext represents the file name and extension the file is to have on the PC (e.g., oits.wrk).

hfn represents the name of the file on the mainframe (e.g., oits).

The string at the end of the receive command, that is, "srawork a(ascii crlf will always be the same. The "srawork" represents the file extension on the mainframe, the "a" represents the mainframe disk the file is stored on, and the "(ascii crlf" indicates that the file that is being downloaded is an ASCII file.

Examples:

Copy the file OITS SRAWORK to the wpfil subdirectory on a PC and call it oits.wrk:

C:\3270> *receive c:\wpfil\oits.wrk oits srawork a(ascii crlf*

Copy the same file to a diskette, in drive A:

C:\3270> *receive a:\oits.wrk oits srawork a(ascii crlf*

While the file is being transferred, the screen will display the number of bytes being transferred to the PC. The system will indicate that the file transfer is complete.

APPENDIX A

DEFINITIONS

OPEN ITEM TRACKING SYSTEM DATA FIELD DEFINITIONS

CITATION - The alphanumeric identifier of the applicable 10 CFR Part 60 requirement.

HISTORY - A history of major events for each open item from the time it was identified to the present. Major events would include preparation of the identification document, receipt of letters from the DOE or other parties, transmittal of a comments letter from the NRC, date of draft and final resolution for documents, and records of interactions with the DOE.

IDENTIFICATION DATE - The date of the document that records the uncertainty (e.g., date of the SCA, Study Plan comment letter to the DOE, CNWRA report, SECY paper, approved CDS, etc.).

ITEM RATIONALE/BASIS - The staff's rationale for the open item.

LICENSE APPLICATION REVIEW PLAN (LARP) NUMBER - The number of the individual review plan(s) to which the open item is related.

OITS IDENTIFICATION NUMBER (OITSID) - A number used to uniquely identify open item records. For a further description of the OITSID, see Section 3.

RATIONALE FOR UNCERTAINTY RESOLUTION METHOD SELECTION - The staff's rationale for choosing the resolution method for the open item.

RECOMMENDATIONS - Any staff recommendations for resolving the open item.

REFERENCES - Any references used in the text or the rationale for the open item.

RESPONSIBLE BRANCH/SECTION - The NRC Branch/Section that is responsible for the open item.

SOURCE DOCUMENT - The NRC document that records the uncertainty. This document will be in the form of an NRC letter transmitting the open item to the DOE for resolution. (Documents include SECY-90-207, SECY-91-225, and the Site Characterization Analysis of the DOE's SCP. Also included are comments on reviews of Study Plans, Semi-Annual Progress Reports, Topical Reports, Issue Resolution Reports, Annotated Outlines of the License Application, Technical Reports, Major Design Reports, Performance Assessment Reports, Mission Plans, Project Decision Schedules, Quality Assurance Documents, and Waste Acceptance Documents.)

SPECIFIC TECHNICAL TYPE - The specific type of the technical open item (e.g., concerns with the DOE's Program — Start work objection, LA submittal objection, Comment, Question, KTU, or other). This field is only valid for technical uncertainties.

STATUS - The current status of the open item [e.g., open or resolved for technical (concerns with the DOE's program) or open, analyzed, resolved-draft, or resolved for regulatory/institutional and key technical].

TOPIC OF THE UNCERTAINTY - The principal subject of a given uncertainty.

UNCERTAINTY ACTION AGENCY - The agency responsible for resolution of the open item.

UNCERTAINTY KEYWORDS - Individual words or brief phrases that concisely identify the important subjects contained in a record or set of records. Keywords are used to search large quantities of textual records to identify, locate, and/or correlate significant treatments of a given subject. Keywords are restricted to those subjects that receive meaningful treatment in the record(s) of interest.

UNCERTAINTY RESOLUTION METHOD TYPE - The type of resolution method for the open item (e.g., rulemaking-major, rulemaking-minor, guidance-SP, guidance-STP, guidance-FCRG, guidance-LARP, analytical methods, research results, or other).

UNCERTAINTY TEXT - The statement of the open item.

UNCERTAINTY TYPE - The type of the open item (e.g., technical, regulatory, or institutional).

OTHER DEFINITIONS

INSTITUTIONAL UNCERTAINTY (UN) - Lack of certitude regarding the roles, missions, actions, and schedules of agencies with regulatory requirements that affect the HLW regulatory program, their impacts, or their integration with the NRC regulatory program.

OPEN ITEM TRACKING SYSTEM (OITS) - An automated database management system used to track the resolution status of regulatory, institutional, and technical uncertainties within the Division of High-Level Waste Management (HLWM) during the prelicensing and licensing phases of a HLW repository.

OPEN ITEMS - Regulatory, institutional, and technical uncertainties that have not been resolved.

REGULATORY UNCERTAINTY (UN) - Lack of certitude as to what is meant by a regulatory requirement, or the adequacy, completeness, or necessity of the requirement itself. Regulatory uncertainty may stem from a lack of clarity in the quoted statement, the omission of an essential requirement from the regulation, or the inclusion of requirements in the regulation that detract from or do not contribute to the regulatory program.

SYSTEMATIC REGULATORY ANALYSIS (SRA) - That process which assesses the statutory and regulatory responsibilities of the NRC in a comprehensive, structured manner. This assessment is controlled by appropriate technical operating procedures. SRA begins with the identification of statutory and regulatory requirements relevant to the HLW management system. The SRA proceeds through the development of strategies and methods for assessing compliance with the requirements, the identification and evaluation of uncertainties that may be associated with the requirements, and the development of methods for resolving such uncertainties.

TECHNICAL UNCERTAINTY (UN) - Lack of certitude as to how to demonstrate (DOE action) or determine (NRC action) compliance. This term includes lack of certitude (even controversy) about: (i) methods for obtaining information; (ii) methods for analyzing information; or (iii) the understanding of conditions or processes. It also includes staff concerns with the DOE's program documented as objections, comments, or questions.

APPENDIX B

EXAMPLE OF OPEN ITEM TRACKING SYSTEM STANDARD REPORT

EXAMPLE OF OPEN ITEM TRACKING SYSTEM STANDARD REPORT

OITSID: OSCAC048 REPORT DATE: 07/15/93

TOPIC OF THE UNCERTAINTY: Fault Slip Rates

RESPONSIBLE BRANCH/SECTION: HLGE/Geology-Geophysics Section

UNCERTAINTY ACTION AGENCY: DOE

IDENTIFICATION DATE: 08/01/89

SOURCE DOCUMENT: U.S. Nuclear Regulatory Commission. Office of Nuclear Material Safety and Safeguards. 1989. NUREG-1347, NRC Staff Site Characterization Analysis of the Department of Energy's Site Characterization Plan, Yucca Mountain Site, Nevada, p. 4-46.

UNCERTAINTY TYPE: Technical STATUS: Open

SPECIFIC TECHNICAL TYPE: Concerns with DOE's Program-Comment

UNCERTAINTY TEXT:
The use of fault slip rates to determine the level of hazard posed to repository facilities by faults does not appear to be a conservative approach and may result in overly optimistic predictions about the effects of faulting on system performance.

ITEM RATIONALE/BASIS:

- The concern expressed by this comment reiterates and expands on CDSCP Comment 37.
- In the response to CDSCP Comment 37, the DOE indicates that the "goals established for performance measures properly distinguish between faults within and outside the waste emplacement areas, take into account for present uncertainties in slip rates and appear to be readily achievable." The NRCstaff does not consider that the approach for distinguishing similarly oriented faults in the geologic setting based on their location is a reasonably conservative approach because it appears to overlook alternative models of faulting that could physically link faults with higher apparent slip rates with faults with lower apparent slip rates.
- Section 8.3.1.8 (p.8.3.1.8-27) indicates that since faults in the area of the repository have "very low slip rates" then it can be demonstrated that offset of 5 cm in 1,000 years is a very low probability. Therefore, 5 cm was determined as a value at which displacement becomes significant over a 1,000 year period.
- Slip rates average offset along faults over a series of events and appear to obscure the episodicity of fault events and relatively high offsets that could be expected in single event. For example, the last major episode of movement (Holocen in age) on one strand of the Windy Wash fault zone (slip rate estimated to be .0015mm/yr, p. 1-133) had approximately 10 cm of vertical offset.

- The use of slip-rates is likely to obscure the uncertainty in the total offset on a fault due strike-slip motion.

- The statement made in 8.3.1.8 (p. 8.3.1.8-27) that faults in the area have "very low slip rates" suggests that fault characteristics have been pre-judged prior to the completion of site characterization. However, the SCP acknowledges that the lateral component on most faults in the area has not been assessed.

RECOMMENDATIONS:

HISTORY:
August 1989 - Identified comment as a result of staff review of DOE's Site Characterization Plan (Reference 1) and documented concern in the Site Characterization Analysis (Reference 2).

December 14, 1990 - DOE transmitted written response to staff comment (Reference 3)

July 31, 1991 - After reviewing DOE's response the staff concluded that the comment should remain open (Reference 4)

October 3,1991 - After reviewing Study Plan 8.3.1.17.4.6 the staff cited the open item and the need for resolution with respect to that study (Reference 5)

UNCERTAINTY KEY WORDS: Slip Rates
Alternative Models
Faulting

CROSS REFERENCE

CITATION: 10CFR60 122 (a) (2) (ii)
10CFR60 122 (c) (4)
10CFR60 21 (c) (1)

LARP NUMBER:

REFERENCES:
1. Department of Energy (DOE). 1988. Site Characterization Plan: Yucca Mountain site, Nevada Research and Development Area, Nevada. Office of Civilian Radioactive Waste Management, DOE/RW-0199.

2. U.S. Nuclear Regulatory Commission. Office of Nuclear Material Safety and Safeguards. 1989. NUREG-1347, NRC Staff Site Characterization Analysis of the Department of Energy's Site Characterization Plan, Yucca Mountain Site, Nevada, p. 4-46.

3. Department of Energy (DOE). 1990. DOE transmitted response to Comment.

4. U.S. Nuclear Regulatory Commission. 1991. Review of DOE response.

5. NRC letter (Linehan to Shelor). 1991. Phase I Review of Study Plan 8.3.1.17.4.6, "Quaternary Faulting Within the Site Area".

APPENDIX C

LIST OF AVAILABLE REPORTS WITHIN THE OPEN ITEM TRACKING SYSTEM

LIST OF AVAILABLE REPORTS WITHIN THE OPEN ITEM TRACKING SYSTEM

OPEN ITEM STANDARD REPORT (See Example In APPENDIX B)

OPEN ITEM TOPIC LISTING

TECHNICAL UNCERTAINTIES SUMMARY STATUS REPORT

REGULATORY/INSTITUTIONAL UNCERTAINTIES SUMMARY STATUS REPORT (Not available until migration to PASS/PADB Version 3.0.)

KEY TECHNICAL UNCERTAINTIES SUMMARY STATUS REPORT (Not available until migration to PASS/PADB Version 3.0.)

OPEN ITEM TOPIC LISTING BY RESPONSIBLE BRANCH

OPEN ITEM TOPIC LISTING BY RESPONSIBLE SECTION

OPEN ITEM TOPIC LISTING BY IDENTIFICATION DATE

OPEN ITEM TOPIC LISTING BY UNCERTAINTY TYPE

OPEN ITEM TOPIC LISTING BY STATUS

OPEN ITEM TOPIC LISTING BY SPECIFIC TECHNICAL TYPE

OPEN ITEM TOPIC LISTING BY UNCERTAINTY RESOLUTION METHOD TYPE

OPEN ITEM TOPIC LISTING BY CITATION

OPEN ITEM TOPIC LISTING BY LARP NUMBER