A SYSTEM FOR SELECTING COLLEAGUE REVIEWERS OF TECHNICAL REPORTS PREPARED BY THE U.S. GEOLOGICAL SURVEY, WATER RESOURCES DIVISION

by D.A. Aronson, J.L. Harrington and K.P. Griffin

U.S. GEOLOGICAL SURVEY
Open-File Report 89—412

Reston, Virginia
1989

DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information contact:

Regional Hydrologist,
Northeastern Region
U.S. Geological Survey
433 National Center
Reston, VA 22092

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by David A. Aronson, J. Lee Harrington, and Kimberly P. Griffin

ABSTRACT

This report describes a system for selecting colleague reviewers of technical reports prepared by the Water Resources Division (WRD) of the U.S. Geological Survey. The system, termed the Colleague-Reviewer Selection System, is a computerized, menu-driven system for identifying WRD personnel with the expertise needed to review technical reports of colleagues in other WRD offices. The system also can be used to identify individuals who could provide advice on technical aspects of project activities.

INTRODUCTION

The U.S. Geological Survey's primary medium of information transfer to the public is written reports (U.S. Geological Survey, 1986, p. 13). These reports must undergo at least two technical reviews prior to submission for approval by the Director of the Geological Survey and their subsequent release to the public. For interpretive reports, at least one of these reviews must be by a colleague outside the originating office (U.S. Geological Survey, 1986, p. 92). The out-of-office colleague review is the cornerstone of the Geological Survey's report-review system.

In the present system of selecting colleague reviewers, many Geological Survey scientists are not given the opportunity to review technical reports because of a presumed lack of experience in their field and (or) in techniques of report review. Similarly, experienced individuals may be bypassed because the author or supervisor selects reviewers who are recognized experts in their field. These experts may be asked to review many manuscripts during the year because of their ability to provide high-quality technical reviews, possibly to the detriment of their own projects and to the thoroughness of the reviews.

In an effort to improve the present system for selecting technical colleague reviewers in the U.S. Geological Survey, WRD, a system was developed to provide an automated means for identifying the expertise of most technical personnel in the Division, and for selecting reviewers having a specific technical expertise. The system is termed the Colleague-Reviewers Selection System (CRSS). The CRSS also can be used to identify experts who could provide advice on technical project activities. Presently, the system is intended for use only by District Offices in the Northeastern Region of the WRD. If the system is used successfully at the regional level, it could be implemented by the WRD for nationwide use.

This report describes a computerized, menu driven system for identifying personnel within the WRD of the U.S. Geological Survey with the expertise needed to review technical reports prepared by colleagues in other WRD offices.

OVERVIEW OF COLLEAGUE-REVIEWER SELECTION SYSTEM

The CRSS is a menu-driven set of computer programs[1] that accesses and updates data bases containing information on potential report reviewers and on report reviews. The CRSS provides for the storage, upkeep, and retrieval of information about reviewers in the WRD.

The CRSS is intended for use by three categories of users: USERS, MANAGERS, and SUPERUSERS. USERS are persons who have been entered into the CRSS data base as colleague reviewers and can only retrieve certain types of information. MANAGERS are persons who are responsible for entering data and for maintaining and updating the data base for their District. Initially, each District Chief and State Office Chief is classified as a MANAGER. This person may then appoint other people to be MANAGERS. SUPERUSERS, who include the authors of this report and selected Headquarters personnel, have access to all functions of the CRSS, including the capability to update information in the data bases of all Districts.

[1] The programs were written by J. Lee Harrington, formerly with the Illinois District of the WRD. The system is supported by Kimberly P. Griffin of the Northeastern Region, WRD, Reston, Va.

SETTING UP THE DATA BASE

The data base is set up by entering information on potential colleague reviewers. This is done by each District. All potential colleague reviewers fill out a form listing their technical expertise and other pertinent data. (A blank form and a completed form are shown as appendixes 1 and 2, respectively.) Because the aim of compiling the CRSS reviewer file is to develop as large a pool of talent as possible, all persons having technical expertise and knowledge of field and laboratory techniques, instrumentation, and other skills pertinent to report review should complete the form. All names entered in the CRSS must be in the form of the Geological Survey's Prime[2] user names to avoid problems associated with variations in abbreviation and punctuation. The CRSS accepts upper- and lower-case letters in any combination, although all entries are stored in the data base in upper-case letters only.

The CRSS has 13 subsystems--one for each District and one for the Northeastern Region[3]. The following menu will appear when the CRSS is accessed:

```
**********************************************
*      The Colleague Reviewer Selection System has     *
* 13 subsystems for entering and updating data.        *
* Please enter and update data by choosing the         *
* subsystem of your District. To use other             *
* functions, choose CRSS.                              *
*                                                      *
*   1. ILLINOIS          8.  NEW YORK                  *
*   2. INDIANA           9.  NORTHEASTERN REGION       *
*   3. MICHIGAN          10. OHIO                      *
*   4. MID-ATLANTIC      11. PENNSYLVANIA              *
*   5. MINNESOTA         12. WEST VIRGINIA             *
*   6. NEW ENGLAND       13. WISCONSIN                 *
*   7. NEW JERSEY        14. CRSS                      *
*                                                      *
*                ENTER CHOICE: _____                   *
*                                                      *
**********************************************
```

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[2] The use of brand names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

[3] Because only one user is allowed access to the main CRSS at any given time, the use of subsystems permits the simultaneous entry of data by users in more than one District.

Each District MANAGER will enter and update information on the District's reviewers using the appropriate subsystem. Each time someone selects CRSS (enters[4] '14') at the opening screen, the data are merged from the District subsystems into the main CRSS data base, at which time they become available to all Districts in the Northeastern Region by use of the main CRSS.

ENTERING THE SYSTEM

A person wishing to access the system must be registered on QVARSA[5] and must have authorized access to the system. (MANAGERS are authorized to use the system. When reviewers are entered in the data base as USERS by MANAGERS, reviewers are automatically authorized to use the system.) Enter the CRSS as follows:

1. Log in to the local computer system.
2. Connect to QVARSA by entering **'NETLINK -TO QVARSA'**
3. LOG IN TO QVARSA
4. ENTER **'CRSS'**.

When a person enters the 'CRSS' command, his/her Prime user name, which was entered to log into QVARSA, is compared to the list of Prime user names of USERS and MANAGERS in the CRSS. If a match is made, the person will be greeted and given access to the CRSS. If a person attempts to access the CRSS without being entered as a USER or MANAGER, a statement will appear on the screen requesting the name of that person's District (see appendix 3). The system as a USER will then appear. As mentioned previously, all District and State Office Chiefs are registered

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[4] In this report, keyboard entries are enclosed in single quotes; the quotes are not entered.

[5] HEADQUARTERS, VIRGINIA, RESTON COMPUTER SYSTEM A. Personnel not registered on QVARSA should request to be registered by contacting Gail Kalen (GEKALEN), National Site Administrator, by electronic mail.

MANAGERS; MANAGERS may appoint other MANAGERS. All reviewers are USERS. As noted previously, one has to be entered into the CRSS as a reviewer by a MANAGER in order to become a USER. If, for some reason, a USER can not be considered for colleague review, the MANAGER should not enter an expertise for that person. The USER could then find a qualified reviewer without being available for colleague review.

MENU OPTIONS

The CRSS has 16 options. Certain options are available only in the District subsystems and are used primarily for data input and modification. Other option are available in the main CRSS and are used primarily for finding and assigning reviewers (these options can be accessed by entering **'14'** at the prompt in the District subsystems menu). An option is selected by entering its number at the prompt in the options menu.

District Subsystem Menu

The following options are available to Districts to enter, update, and retrieve information in the data base of reviewer information in their subsystems. These options can not be used to enter information into, or retrieve information from, the subsystems of other Districts. The appropriate list of options for a USER, MANAGER, or SUPERUSER appears on a screen according to the status of the system user.

USERS

Option
4. List reviewers
7. List MANAGERS
99. Quit CRSS

MANAGERS

Option
1. Enter reviewer information
2. Update reviewer information
5. Appoint a MANAGER
7. Remove a MANAGER
98. Data report for error checking

SUPERUSERS

All of the above options, plus--

3. Delete reviewer

Main System Menu

The following options are available for finding and assigning reviewers in the main CRSS data base. Options marked by an asterisk pertain to a MANAGER'S District only.

USERS

Option 8. Find qualified reviewer
11. Look up reviewer/report reviewed
99. Quit CRSS

MANAGERS

All of the above, plus:

Option 9. Assign reviewer*
10. Update review status*

SUPERUSERS

All of the above options, plus--

Option 12. Add new area of expertise
13. Delete area of expertise
14. Reset current-reviews counter

Each of the menu options is described below.

Description of System Options

1. Enter Reviewer Information

Option 1 is used to enter data on reviewers into the system, using the completed questionnaires described in the section "Setting Up the Data Base." Any data may be updated or changed using the **UPDATE REVIEWER INFORMATION** option (option 2). Only MANAGERS and SUPERUSERS can enter reviewers in the system. Only WRD employees should be entered. Appendix 1 is the input form to be filled out by reviewers. A sample completed form is provided in appendix 2.

The input form asks for the following information:

1. REVIEWER (Prime user name): This is the login name of the reviewer, usually consisting of the initial(s) and last name, without spaces.

2. REVIEW CONTACT: Last name, first name, and middle initial. This is the person who is to be contacted for permission to use the reviewer. This name can be that of the District Chief, State Office chief, Subdistrict Chief, an assistant to the Office Chief, or a Section chief, depending on the preference of the reviewer's office. Before entering this name, the reviewer should ascertain the name of his/her review contact (see "Summary of Key Steps," item 4).

3. DISTRICT: Enter the District name only. Do not enter the State Office name in the case of multistate Districts. Exclude the word "District." This item can not be left blank.

4. OFFICE: Name of city and, for offices in multistate Districts, State postal abbreviation--for example, RICHMOND, VA.

5. TITLE: This is the GS- or GM-series job title--for example, Hydrologist.

6. GRADE: Enter the GS- or GM-series grade--for example, 11 (do not enter GS-11).

7. NUMBER OF YEARS IN WRD: Round up to next whole year[6]. (This number is updated automatically at the beginning of each new calendar year.)

8. NUMBER OF REPORTS WRITTEN: Include only interpretive reports and papers; exclude abstracts and data reports. (Data reports do not require out-of-office colleague review and, therefore, ordinarily will not be assigned to an outside reviewer.)

9. NUMBER OF REPORTS REVIEWED: Include only interpretive reports and papers; exclude abstracts and data reports.

10. AREAS OF EXPERTISE: The following screen will appear to enter AREA, TOPIC, and SUBTOPIC of expertise for a reviewer. The MANAGER will be prompted for the AREA, TOPIC, and SUBTOPIC of expertise, and the number of years of expertise in the TOPIC (if no SUBTOPIC is entered) or SUBTOPIC. The appropriate codes for these items can be obtained from the list of expertises in appendix 4, or lists of expertises can be displayed on the screen.

```
                          *****
ENTER AREA:       ____    *
                          *
ENTER TOPIC:      ____    * ENTER CODE, LI TO LIST CODES, OR EX TO EXIT
                          *
ENTER SUBTOPIC:   ____    *
                          *****
EXPERIENCE        ____
```

When entering the number of years during which experience in a particular expertise was gained at the EXPERIENCE prompt, round up to the next whole year.

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[6] In order to avoid the tendency to select reviewers on the basis of the number of years they have been employed by the WRD or their grade, which may bear little relation to the ability to perform a colleague review, this information is not provided when using the **FIND QUALIFIED REVIEWER** option.

Once the codes have been entered correctly, the following display appear:

1. QUIT AND SAVE ENTRY
2. QUIT WITHOUT SAVING ENTRY
3. CONTINUE AND SAVE ENTRY
4. CONTINUE WITHOUT SAVING ENTRY

ENTER NUMBER:

Enter information for additional reviewers by selecting item 1 and entering **'Y'** at the prompt. Continue entering expertises for the same reviewer by selecting item 3. Any number of expertises may be entered.

2. Update Reviewer Information

Option 1 is used to modify or update information entered using the **INPUT REVIEWER INFORMATION** option, such as type of expertise or years of experience. Reviewer information should be updated by District MANAGERS at least once each year, preferably after the annual update of the lists of expertises (see description of option 12). After the MANAGER enters the reviewer's name, a screen will appear showing information for that reviewer as entered in the **INPUT REVIEWER INFORMATION** option (option 1). Each data field is numbered. Select the field number to be changed, then enter the correct data. In order to add or delete an AREA, TOPIC, or SUBTOPIC of expertise for a reviewer, select field 9, then enter number of expertise to delete, or **'-1'** to add a new expertise.

3. Delete Reviewer

This option is used only if a person transfers to another District or leaves the Geological Survey. It can be used only by a SUPERUSER.

4. List Reviewers

This option provides the names of all registered reviewers in a District. A USER or MANAGER may examine the list of reviewers in any District.

5. Appoint a MANAGER

This option is used to appoint one or more District MANAGERS to operate and maintain the CRSS. A MANAGER may appoint other MANAGERS. It is strongly recommended that the number of MANAGERS be kept to a minimum. All District and State Office Chiefs in the Northeastern Region are registered as MANAGERS.

6. Remove a MANAGER

This option is used to delete someone from the list of MANAGERS; however, this person will remain in the CRSS data base as a USER. It can be used only by a MANAGER of the applicable District or by a SUPERUSER. This option can not be used if a District of State office has only one MANAGER. In this case, a new MANAGER would have to be appointed before the old MANAGER could be deleted.

7. List MANAGERS

This option provides the names of all registered MANAGERS in a District. A USER or MANAGER may examine the list of MANAGERS in any District.

8. Find Qualified Reviewer

A person who has been entered into the CRSS as a reviewer by a MANAGER becomes a registered USER and may search for a colleague reviewer. The USER selects the **FIND QUALIFIED REVIEWER** option from the main menu and follows prompts to select all desired AREAS, TOPICS, and SUBTOPICS of expertise. Appendix 4 lists the available categories of expertise and their data-entry codes.

When the **FIND QUALIFIED REVIEWER** option is selected, the USER will be presented with a list of the AREAS of expertise. The USER enters the two-letter code for the AREA. Any TOPICS under that AREA will then be displayed; the code for the TOPIC is then entered. Any SUBTOPICS under the TOPIC will then be displayed; the code for the SUBTOPIC is then entered.

A SUPERUSER can add and delete expertises, but once the system is operational, changes to the lists of expertises will be made only at the time of the annual update of reviewer information.

When searching for a reviewer, note that there is unavoidable overlap between some AREAS, TOPICS, and SUBTOPICS of expertise. For example, "Ground Water" is listed as a separate AREA and as a SUBTOPIC under the AREA "Statistical Analysis"/TOPIC "Measurement Techniques." Accordingly, more than one search may be necessary for some TOPICS and SUBTOPICS of expertise.

Once the desire expertise has been selected, a prompt will appear asking whether the identified reviewers are to be displayed on the screen or sent to a file (which can be printed). If the USER has a printer that can be controlled from the terminal, "**screen**" should be selected. If "**file**" is selected, a prompt for the site name will appear. This is the name of the node on the Distributed Information System network of the USER's computer--for example, DILCHM or QVARSA. The information relating to identified reviewers, as noted above, will be transferred to the USER's or MANAGER's FTS_DEPOT directory as USERNAME.RV.LIST[7]. This file can then be printed at the USER's or MANAGER's node.

A sample of output for a reviewer is shown in appendix 5. Note that the line containing the requested SUBTOPIC of expertise is marked by an asterisk (*). Additional explanation of the information follows:

1. REVIEWER NAME: The Prime user name of the reviewer.

2. TITLE: Title of the reviewer.

3. REVIEW CONTACT: The first name, middle initial, and last name of the person authorized to give permission for the selected reviewer to perform the review. The review contact of the reviewer should maintain liaison with the review contact of the author after report review begins (see "Summary of Key Steps," item 4).

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[7] USERNAME and Prime user name are synonymous.

4. DISTRICT: Name of reviewer's District.

5. OFFICE: City in which reviewer's office is located.

6. LAST UPDATED: The date of the most recent data entry, revision, or update.

7. REPORTS WRITTEN: The total number of interpretive reports and papers written while employed by the WRD.

8. REVIEWS THIS YEAR: Number of reports reviewed during the current calendar year. This number will be incremented automatically when the MANAGER uses the **ASSIGN REVIEWER** option (option 10) after a reviewer is assigned a report. After a reviewer has been assigned two reports, a flashing bold number **"2"** will appear and a beep will sound, indicating that another reviewer should be selected (unless, or course, the identified reviewer and his District Chief agree to an additional report review). At the end of each calendar year, this number will be reset to **"0"** by a SUPERUSER.

9. AREAS OF EXPERTISE: All of the expertises of a reviewer will be displayed. The name of each expertise will be displayed along with the two-letter or number code of the AREA, TOPIC, and SUBTOPIC listed. Candidate reviewers will be displayed one at a time. The RETURN key must be pressed to display the next reviewer.

9. Assign Reviewer

Once the USER has selected someone to review a report and arrangements for the review have been made through proper channels, a MANAGER must enter the name of the reviewer and information pertaining to the report using this option. This is done to increment the number of reports assigned to a reviewer and to provide a means of tracking the report review. Do not use this option until the report has actually been sent to the reviewer. After the MANAGER selects this option, the following input form appears on the screen.

ASSIGN REVIEWER

REVIEWER: _____ OFFICE: _____
(Prime User Name)

DISTRICT: _____

PRINCIPAL OFFICE: _____

AUTHOR: _____ DISTRICT: _____

TITLE: _____

DATE ASSIGNED: ___/___/___

Explanation of the requested information follows:

1. REVIEWER: The Prime user name of the person assigned to review the report. This person must be entered in the CRSS data base. Only reports assigned to reviewers who are WRD employees should be entered in the system.

2. PRINCIPAL AUTHOR: the Prime user name of the senior author of the report. If the author is a WRD employee, this person must be entered in the CRSS data base. If the author is not a WRD employee, this person should be (but does not have to be) entered in the CRSS as a reviewer. If the person is entered in the CRSS as a reviewer, the District and office (city) of the author will be displayed. If the person is not entered in the CRSS as a reviewer, the District and office of the principle author must be entered.

3. TITLE: This entry can not exceed 50 characters. use abbreviations if necessary.

4. DATE ASSIGNED: The date the report was sent to the reviewer. Pressing the RETURN key will default to current date, which will be entered automatically. The format for the date is mm/dd/yy, where mm is the number of the month, dd is the day of the month, and yy is the last two digits of the year. Leading zeros are not required, but slashes must be inserted between numbers.

10. Update Review Status

Option 10 is used to change or update information entered using the **ASSIGN REVIEWER** option. The MANAGER must identify either the author or the reviewer of the report. Then, a list of reports associated with that author or reviewer is displayed, and the correct report can then be selected. A screen will appear showing information for that report. Each data field is numbered. A change can be made by selecting the field number to be changed and then entering the correct data. This option is used primarily to enter the completion date of the review.

11. Look Up Reviewer/Report Reviewed

Option 11 is used to identify the out-of-office reviewer of a report or the principal author and title or a report assigned to a reviewer. The USER must identify either the author or the reviewer of the report. Then, a list of report titles associated with that author or reviewer is displayed, and the correct report is selected. A screen will appear showing information for that report, including title, author, reviewer, date assigned,and date the review was completed.

12. Add New Area of Expertise

Option 12 is used to add a new AREA, TOPIC, or SUBTOPIC of expertise to the CRSS. Modification of the list of expertises, if required, will be done by a SUPERUSER at the end of each calendar year. District and State offices will be notified of any changes to the lists of expertises by a SUPERUSER at the end of the calendar year, before the annual update of reviewer information by District MANAGERS.

13. Delete Expertise

Option 13 is used to delete an AREA, TOPIC, or SUBTOPIC of expertise. (See option 12.) this option can be used only by a SUPERUSER.

14. Reset Current Reviews Counter

Option 14 resets the number of reviews done by a reviewer in the current calendar year to zero. It is used by a SUPERUSER at the end of a calendar year. (See descriptions of options 8 and 9.)

98. Data Report for Error Checking

Option 98 is used to list all reviewer and expertise information that was entered in the District subsystem using the **INPUT REVIEWER INFORMATION** option. this report can be used for error checking during initial data entry by District MANAGERS. This option is available only in the District subsystems and can be used only by MANAGERS and SUPERUSERS.

99. Quit CRSS

Option 99 is used to exit the CRSS.

SUMMARY OF KEY STEPS

1. The Office Chief accesses the CRSS by entering his District subsystem. The District subsystem menu will appear.

2. The Office Chief appoints one or more MANAGERS using option 5 of his District subsystem. MANAGERS can appoint other MANAGERS.

3. The Office Chief notifies the MANAGER(S), of the names of the persons (the review contacts) in his office who are authorized to give permission to use reviewers. The MANAGER should ensure that the name of a review contact is provided to each person entered in the reviewer data base.

4. Requests to a person's review contact should be made by the review contact of the author, unless a different procedure is specified by the Office Chief.

5. MANAGERS supply DATA INPUT forms to all potential reviewers, provide the name of the review contact for each reviewer, and set a deadline for completion of the forms.

6. MANAGERS enter information on the forms in their District subsystem.

7. The author or his/her review contact uses option 8 of the main CRSS menu to search for a reviewer. The author's review contact then phones the reviewer's review contact for permission to use the reviewer.

8. After a report has been sent to a reviewer, the MANAGER in the author's District uses option 9 of the main CRSS menu to assign the reviewer to the report.

9. When the reviewer returns the report, the MANAGER in the author's District uses option 10 of the main CRSS menu to update the status of the review.

10. MANAGERS must update reviewer information for their office at the beginning of each calendar year to maintain the accuracy of the data base.

RESPONSIBILITIES OF DISTRICTS

The success of the CRSS depends on compliance of the Districts with the following procedures and concepts:

1. Data must be entered into the system accurately and in a timely manner--particularly when assigning a reviewer or updating the status of the review. Because the system is expected to be in continual use, updates to the data base using options 9 (**ASSIGN REVIEWER**) and 10 (**UPDATE REVIEW STATUS**) should be made as quickly as possible.

2. At the beginning of each calendar year, the MANAGERS in Districts and State offices should update the reviewer-information data base by distributing DATA INPUT forms and then entering the data in the respective District subsystem.

3. MANAGERS should inform a SUPERUSER of possible changes to the lists of AREAS, TOPICS, and SUBTOPICS of expertise before the annual update of these lists by a SUPERUSER (see description of option 12).

4. For the time being, the CRSS will be used only by districts in the Northeastern Region of the WRD. Ideally, reviews of reports produced in each Region should be apportioned to each of the other Regions equally, so that Districts in the Northeastern Region, for example, would be expected to review approximately 25 percent of reports produced by the Northeastern Region, 25 percent of the reports produced by the Southeastern Region, and so on. However, the ease of use of the system and the large number of potential reviewers that may be identified could cause a tendency to overuse colleague reviewers in the Northeastern Region. To avoid this possibility, each District should use the CRSS to obtain about 25 percent of the out-of-office colleague reviewers needed; the remaining reviewers should be obtained from other Regions.

5. Reports and papers should be edited before colleague review so that the reviewer can concentrate on their technical quality. (An additional edit may be required after revisions are made following colleague review).

6. Unless a different procedure is specified by an Office Chief, requests for the services of a reviewer should be made by the author's review contact to the reviewer's review contact.

7. After a colleague reviewer is selected, the review contact should make every effort to ensure that the person selected can do the review in a timely manner. If circumstances preclude a timely review by an individual, the requester must be informed of this fact as quickly as possible so that an alternative reviewer can be selected.

8. Districts should consider sending complex multidisciplinary reports to more than one out-of-office colleague review.

9. The number of requests that a District can expect to receive for the services of a reviewer will be approximately proportional to the number of individuals in the District that have been entered in its colleague-reviewer data base. For this reason, large Districts should expect a larger number of requests than smaller Districts. However, large Districts usually produce more reports than smaller Districts, and the number of requests received by a District and the number of requests made by a District should more or less balance.

10. After a review has been completed and the report returned to the author, the author and his/her Section Chief should evaluate the quality of the colleague review. The reviewer's Office Chief should be notified, preferably in writing, as to the quality of the colleague review. A competent and comprehensive review is a credit to the reviewer. If the review was unsatisfactory, however, the reviewer's Office chief has the option of deleting one or expertises from the reviewer's list of expertises, deleting the reviewer from the system, providing training to the reviewer in colleague review, or taking other corrective action.

SYSTEM SAFEGUARDS

It is of utmost importance to safeguard against accidental or deliberate misuse of the system. In order to reduce the possibility of unauthorized use, District Chiefs should assign the responsibility of being a MANAGER to as few persons as possible, and designated MANAGERS should maintain vigilance over the data bases. In order to guard against a major loss of data in the various data bases, the CRSS data bases are backed up (duplicated) daily. This ensures that no more than 1 day's entries will ever have to be reentered. Additional safeguards are the inability of a MANAGER or USER in a District to modify data of another District, or to modify AREAS, TOPICS, or SUBTOPICS of expertise.

REFERENCE CITED

U.S. Geological Survey, 1986, WRD Publications Guide--Policy and text preparation: U.S. Geological Survey Open-File Report 87-205, 429 p.

APPENDIX 1

INSTRUCTIONS FOR REVIEWER: Complete this form and return to the CRSS Manager in your District. When entering expertise information, be as specific as possible. If you enter a code for a TOPIC of expertise, it is not necessary also to enter the code for the associated AREA of expertise (for example, if you enter the code for Applications, a topic under Computers/Data Bases, you do not have to enter the code for Computers/Data Bases). Likewise, if you enter a code for a SUBTOPIC, it is not necessary also to enter the codes for the associated AREA and TOPIC of expertise.

REVIEWER: _____
(Prime User Name)

REVIEW CONTACT:

LAST NAME: _____

FIRST NAME: _____

INITIAL: _____

DISTRICT: _____

OFFICE: _____

TITLE: _____ GRADE: _____

NO. OF YEARS IN WRD: _____

NO. OF REPORTS WRITTEN: _____

NO. OF REPORTS REVIEWED: _____

AREAS OF EXPERTISE

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
AREA	__	__	__	__	__	__	__	__
TOPIC	__	__	__	__	__	__	__	__
SUBTOPIC	__	__	__	__	__	__	__	__
YEARS	__	__	__	__	__	__	__	__

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
AREA	__	__	__	__	__	__	__	__
TOPIC	__	__	__	__	__	__	__	__
SUBTOPIC	__	__	__	__	__	__	__	__
YEARS	__	__	__	__	__	__	__	__

DIRECTIONS FOR MANAGER ENTERING INFORMATION INTO THE SYSTEM:

1. Log in to QVARSA.
2. Type CRSS and press <RETURN>.
3. Select the appropriate District subsystem.
4. Select menu option ENTER REVIEWER INFORMATION (option 1).

APPENDIX 2

COMPLETED DATA INPUT FORM

INSTRUCTIONS FOR REVIEWER: Complete this form and return to the CRSS Manager in your District. When entering expertise information, be as specific as possible. If you enter a code for a TOPIC of expertise, it is not necessary also to enter the code for the associated AREA of expertise (for example, if you enter the code for Applications, a topic under Computers/Data Bases, you do not have to enter the code for Computers/Data Bases). Likewise, if you enter a code for a SUBTOPIC, it is not necessary also to enter the codes for the associated AREA and TOPIC of expertise.

REVIEWER: JHVANCE
(Prime User Name)

REVIEW CONTACT:

LAST NAME: SMITH
FIRST NAME: THOMAS
INITIAL: L

DISTRICT: MID-ATLANTIC
OFFICE: RICHMOND, VA
TITLE: HYDROLOGIST GRADE: 11

NO. OF YEARS IN WRD: 5
NO. OF REPORTS WRITTEN: 3
NO. OF REPORTS REVIEWED: 3

AREAS OF EXPERTISE

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
AREA	GW	SW	SW	WQ				
TOPIC	3	3	5	1				
SUBTOPIC	2		2	1				
YEARS	2	2	4	2				

	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
AREA								
TOPIC								
SUBTOPIC								
YEARS								

DIRECTIONS FOR MANAGER ENTERING INFORMATION INTO THE SYSTEM:

1. Log in to QVARSA.
2. Type CRSS and press <RETURN>.
3. Select the appropriate District subsystem.
4. Select menu option ENTER REVIEWER INFORMATION (option 1).

APPENDIX 3

MESSAGE FOR UNREGISTERED USERS

YOU MUST BE ENTERED INTO THE "COLLEAGUE REVIEW" DATA FILES AS AN AUTHORIZED USER BEFORE YOU CAN ENTER THE SYSTEM!

1	ILLINOIS
2	INDIANA
3	MICHIGAN
4	MID-ATLANTIC
5	MINNESOTA
6	NEW ENGLAND
7	NEW JERSEY
8	NEW YORK
9	NORTHEASTERN REGION
10	OHIO
11	PENNSYLVANIA
12	WEST VIRGINIA
13	WISCONSIN

ENTER YOUR DISTRICT: ____

APPENDIX 4

DATA ENTRY CODES FOR AREAS, TOPICS, AND SUBTOPICS OF EXPERTISE

AREA	TOPIC	SUBTOPIC
CS COMPUTERS/DATABASES		
	1 APPLICATIONS	
	2 ARTIFICIAL INTELLIGENCE	
	3 CONCEPTS	
	4 DATA-INPUT PROCEDURES	
	5 DATA PROCESSING	
	6 DATABASE MANAGEMENT/ RETRIEVALS	
		1 BIBLIOGRAPHIC DATA
		2 HYDROLOGIC DATA
	7 GIS	
	8 IMAGE PROCESSING/GRAPHICS	
	9 INFO	
	10 NWIS	
		1 ADAPS
		2 BASIN CHARACTERISTICS
		3 GWSI
		4 WATSTORE
	11 SOFTWARE	
	12 SYSTEM DESIGN	
GP GEOPHYSICS		
	1 BOREHOLE	
		1 CALIPER
		2 ELECTROMAGNETIC
		3 FLOW METERS
		4 GAMMA
		5 RESISTIVITY
		6 SPONTANEOUS POTENTIAL
		7 TEMPERATURE
		8 VERTICAL SEISMIC PROFILING
	2 DELINEATION STUDIES	
		1 DELINEATION OF AQUIFERS
		2 DELINEATION OF CONTAMINANT PLUMES
	3 EQUIPMENT/TECHNIQUES (SEE ALSO GW)	
	4 MODELS/COMPUTER PROGRAMS	
	5 MARINE	
		1 ACOUSTIC
		2 SEISMIC

6 SURFACE

1 DC RESISTIVITY
2 ELECTROMAGNETIC
3 GRAVITY
4 INDUCTIVE RESISTIVITY
5 MAGNETIC
6 RADAR
7 SEISMIC

GW GROUND WATER

1 AQUIFER TESTING/WELL HYDRAULICS

1 CONFINED UNITS
2 FRACTURED ROCK
3 UNCONSOLIDATED CONFINED UNITS
4 UNCONSOLIDATED UNCONFINED UNITS

2 AREAL ASSESSMENTS, BY RASA STUDY AREA

1 ALLUVIAL BASINS
2 ALLUVIAL BASINS-OREGON, NEVADA, AND CALIFORNIA
3 APPALACHIAN VALLEYS AND PIEDMONT
4 ATLANTIC COASTAL PLAIN
5 CARIBBEAN ISLANDS AQUIFER
6 CENTRAL MIDWEST
7 CENTRAL MIDWEST (CARBONATES)
8 EDWARDS-TRINITY AQUIFERS
9 CENTRAL VALLEY
10 COLUMBIA PLATEAU
11 FLORIDIAN AQUIFER
12 GREAT BASIN-NEVADA AND UTAH
13 GULF COASTAL PLAIN
14 HIGH PLAINS
15 ILLINOIS BASIN
16 INDIANA-OHIO AQUIFERS
17 MICHIGAN BASIN
18 NORTHEAST GLACIAL VALLEYS
19 NORTHERN GREAT PLAINS
20 NORTHERN ROCKIES
21 NORTHERN ROCKIES INTERMONTANE BASIN
22 OAHU
23 PECOS RIVER BASIN

24 PUGET-WILLIAMETTE TROUGH
25 SAN JUAN BASIN
26 SNAKE RIVER BASIN
27 SOUTHEASTERN COASTAL PLAIN
28 SOUTHWEST ALLUVIAL BASIN
29 UPPER COLORADO

3 AREAL ASSESSMENTS, BY PHYSIOGRAPHIC PROVINCE (FENNEMAN)

1 ADIRONDACK
2 APPALACHIAN PLATEAUS
3 BASIN AND RANGE
4 BLUE RIDGE
5 CASCADE-SIERRA MOUNTAINS
6 CENTRAL LOWLAND
7 COASTAL PLAIN
8 COLORADO PLATEAUS
9 COLUMBIA PLATEAU
10 CONTINENTAL SHELF
11 GREAT PLAINS
12 INTERIOR LOW PLATEAUS
13 LOWER CALIFORNIA
14 MIDDLE ROCKY MOUNTAINS
15 NEW ENGLAND
16 NORTHERN ROCKY MOUNTAINS
17 OUCHITA
18 OZARK PLATEAUS
19 OZARK PLATEAUS
20 PIEDMONT
21 ST. LAWRENCE VALLEY
22 SOUTHERN ROCKY MOUNTAINS
23 SUPERIOR UPLAND
24 VALLEY AND RIDGE
25 WYOMING BASIN

4 COAL HYDROLOGY

1 EASTERN COAL FIELDS
2 WESTERN COAL FIELDS

5 CONTAMINATION (SEE ALSO TH, WQ)

1 NONPOINT SOURCE
2 POINT SOURCE

6 DISCHARGE (SEE ALSO MH)

1 EVAPOTRANSPIRATION
2 SEEPAGE TO SURFACE WATER
3 UNDERFLOW

7 EFFECTS OF WITHDRAWALS (SEE ALSO MH)
8 FIELD TECHNIQUES/ INSTRUMENTATION
- 1 INFILTROMETERS
- 2 SAMPLING DEVICES/ PROCEDURES
- 3 TRANSDUCERS

9 FLOW
- 1 ALONG PATHS OF PRIMARY PERMEABILITY
- 2 ALONG PATH OF SECONDARY PERMEABILITY
- 3 MULTIPHASE FLOW
- 4 SALTWATER INTRUSION
- 5 THEORY
- 6 TRACER/TRITIUM TESTS
- 7 UNSATURATED ZONE

10 GASES
- 1 CONCEPTS
- 2 SATURATED ZONE
- 3 UNSATURATED ZONE

11 HYDROTHERMAL STUDIES (SEE ALSO SW)
- 1 THERMAL-ENERGY STORAGE

12 MODELS
- 1 BOUNDARY ELEMENT
- 2 FINITE DIFFERENCE
- 3 FINITE ELEMENT
- 4 MULTIPHASE FLOW
- 5 PARAMETER ESTIMATION
- 6 PARTICLE TRACKING
- 7 SALTWATER INTRUSION
- 8 SATURATED/UNSATURATED FLOW
- 9 SOLUTE TRANSPORT/ DISPERSION/ DIFFUSIVITY (SEE ALSO WQ)

13 OBSERVATION-WELL NETWORK ANALYSIS
14 RECHARGE (SEE ALSO MH)
- 1 ARTIFICAL--INJECTION WELLS
- 2 ARTIFICIAL--RECHARGE BASINS
- 3 DELINEATION OF RECHARGED AREAS
- 4 INDUCED INFILTRATION
- 5 ZONE OF CONTRIBUTION TO WELL

15 RESOURCE EVALUATION
16 STATISTICAL ANALYSIS
1 SPATIAL
2 TEMPORAL
17 WATER LEVELS
1 FLUCTUATIONS
2 POTENTIOMETRIC SURFACES/MAPS
18 WELL-DRILLING PROGRAM (SEE ALSO TH)
1 HAZARDOUS-WASTE SITES/ SAFETY PROCEDURES
2 MARINE
3 SEDIMENT/CORE SAMPLING
4 WELL CONSTRUCTION

MH MISCELLANEOUS--HYDROLOGY
1 AQUATIC ECOLOGY
2 BOTANY
3 GROUND-WATER/SURFACE WATER RELATIONS
4 METEOROLOGY/CLIMATE
5 PALEOHYDROLOGY
6 PALEOCLIMATE
7 PEDOLOGY/SOIL WATER (SEE ALSO WQ)
1 CHEMISTRY
2 CONCEPTS
3 FIELD TECHNIQUES
8 URBAN HYDROLOGY
9 WATER BUDGET/HYDROLOGIC BALANCE (SEE ALSO GW)
1 PROBLEM ASSESSMENT
2 RAINFALL-RUNOFF
3 RUNOFF QUALITY (SEE ALSO WQ)

MO MISCELLANEOUS--OTHER
1 ENVIRONMENTAL SCIENCE
2 GEOMORPHOLOGY
3 PALYNOLOGY
4 PETROLOGY
5 STRATIGRAPHY
6 STRUCTURAL GEOLOGY

RS REMOTE SENSING/TELEMETRY
1 AIRCRAFT
1 SLAR
2 DCP
3 DRGS
4 ELECTROMAGNETIC-RADIATION SYSTEMS
5 ELECTRO-OPTICAL SYSTEMS
6 IMAGE PROCESSING
7 PHOTOGRAPHIC SYSTEMS

8 SPACECRAFT

1 GOES
2 SIR
3 SLR

SA STATISTICAL ANALYSIS

1 NETWORK ANALYSIS

1 GROUND WATER
2 SURFACE WATER
3 WATER QUALITY
4 WATER USE

2 TECHNIQUES

1 CLUSTER ANALYSIS
2 DESCRIPTIVE STATISTICS
3 FACTOR ANALYSIS
4 FREQUENCY ANALYSIS
5 GENERALIZED LEAST-SQUARES AND ROBUT REGRESSION
6 KRIGING
7 MONTE CARLO ANALYSIS
8 MULTIPLE REGRESSION/ CORRELATION
9 NONPARAMETRIC ANALYSIS
10 PRINCIPAL-COMPONENTS ANALYSIS
11 TIME-SERIES ANALYSIS

3 TREND ANALYSIS

1 CLIMATOLOGICAL DATA
2 GEOPHYSICAL DATA
3 GROUND-WATER DATA (SEE ALSO GW)
4 SURFACE-WATER DATA (SEE ALSO SW)
5 THEORY
6 WATER-QUALITY DATA (SEE ALSO WQ)
7 WATER-USE DATA (SEE ALSO WU)

SE SEDIMENT

1 BASIN STUDIES
2 CHANNEL GEOMORPHLOGY

1 CHANNELIZATION
2 SCOUR
3 SEDIMENT YIELD

3 FIELD TECHNIQUES/ INSTRUMENTATION

1 SEDIMENT SAMPLERS

- 4 GEOCHEMISTRY (SEE ALSO WQ)
  - 1 CHEMICAL PARTITIONING
  - 2 CHEMICAL REMOBILIZATION
  - 3 MICROBIAL ACTIVITY
  - 4 SIZE FRACTIONATION
  - 5 STREAMBED MATERIAL
  - 6 SUSPENDED SEDIMENT
  - 7 WATER COLUMN
- 5 GEOMORPHIC PROCESSES
  - 1 DEBRIS FLOWS
- 6 MODELS
- 7 RETENTION/DETENTION
  - 1 LAKES/PONDS
  - 2 SETTLING STRUCTURES
  - 3 RESERVOIRS
  - 4 WETLANDS
- 8 TRANSPORT
  - 1 BEDLOAD
  - 2 CONCEPTS
  - 3 MODELS
  - 4 SUSPENDED SEDIMENT

SW SURFACE WATER

- 1 BIOLOGICAL STUDIES (SEE ALSO MH, WQ)
- 2 CONCEPTS
- 3 CONTAMINATION (SEE ALSO TH, WQ)
  - 1 NONPOINT SOURCE
  - 2 POINT SOURCE
- 4 ESTUARIES
  - 1 MODELS
  - 2 QUALITY (SEE ALSO WQ)
- 5 FIELD TECHNIQUES/ INSTRUMENTATION
  - 1 ACOUSTIC VELOCITY METERS
  - 2 ELECTROMAGNETIC METERS
  - 3 MONITORING/RECORDING DEVICES
  - 4 STATION LOCATION AND CONSTRUCTION
  - 5 TELEMETRY/SATELLITE DATA RELAY
- 6 FLOODS
  - 1 DEBRIS-FLOW FLOODS
  - 2 DELINEATION STUDIES
  - 3 ESTIMATION
  - 4 FEMA/FLOOD-PLAIN STUDIES
  - 5 FREQUENCY ANALYSIS (SEE ALSO SA)

- 6 MEASUREMENT
- 7 PALEOFLOOD HYDROLOGY

7 FLOW MEASUREMENT/ HYDRAULICS

- 1 CHANNEL STORAGE/ DISCHARGE RELATIONS
- 2 FLOW DURING DROUGHTS
- 3 FLOW THROUGH CONTROL STRUCTURES
- 4 FLOW UNDER ICE
- 5 INDIRECT METHODS
- 6 STEP-BACKWATER COMPUTATION
- 7 SOFTWARE DEVELOPMENT (SEE ALSO CS)

8 FLUID MECHANICS

9 GENERAL AREA ASSESSMENTS/ RESOURCE EVALUATION

10 HYDROTHERMAL STUDIES (SEE ALSO GW)

- 1 THERMAL BUDGETS
- 2 THERMAL-ENERGY DIFFUSION
- 3 THERMAL-ENERGY STORAGE

11 LAKES/PONDS

- 1 LEVELS
- 2 MODELS
- 3 PLAYA LAKES
- 4 QUALITY (SEE ALSO WQ)
- 5 SALINE LAKES
- 6 THERMAL STUDIES
- 7 WATER/CHEMICAL BUDGETS

12 LOW FLOW/BASE FLOW

- 1 ESTIMATION
- 2 FREQUENCY ANALYSIS
- 3 MEASUREMENT
- 4 QUALITY (SEE ALSO WQ)

13 NETWORK ANALYSIS (SEE ALSO SA)

14 QUALITY (SEE ALSO WQ)

15 REGIONALIZATION OF STREAMFLOW CHARACTERISTICS

16 RESERVOIRS

- 1 EFFECTS OF STREAMFLOW
- 2 MODELS
- 3 QUALITY (SEE ALSO WQ)
- 4 THERMAL STUDIES

17 TRAVELTIME/DISPERSION/ REAERATION STUDIES

18 WATERSHED/STREAMFLOW MODELS
- 1 ADVECTION/DISPERSION
- 2 HYDRAULIC
- 3 HYDROLOGIC
- 4 RAINFALL/RUNOFF
- 5 TRANSPORT

19 WETLANDS
- 1 SEDIMENT RETENTION (SEE ALSO SE)
- 2 WATER/CHEMICAL BUDGETS

TH TOXIC/HAZARDOUS WASTES

1 BIODEGRATION/FATE OF CONTAMINATION
- 1 RADIOACTIVE WASTES
- 2 SATURATED ZONE
- 3 SEWAGE/SLUDGE LAGOONS
- 4 SURFACE WATER
- 5 SLUDGE SPREADING
- 6 UNSATURATED ZONE

2 DISPOSAL SITES/LANDFILLS

3 ECOLOGICAL/BIOLOGICAL EFFECTS

4 FIELD TECHNIQUES/ INSTRUMENTATION

5 MICROBIOLOGICAL ASPECTS

6 SAFETY/SITE EVALUATION (SEE ALSO GW)

7 SPILLS
- 1 CHEMICAL
- 2 PETROLEUM PRODUCTS

8 WATER-QUALITY/ GEOCHEMICAL EFFECTS

WQ WATER QUALITY

1 AQUATIC BIOLOGY/ECOLOGY
- 1 STREAMS
- 2 LAKES
- 3 MICROBIOLOGY--GW
- 4 MICROBIOLOGY--SW
- 5 BIOASSAYS

2 ATMOSPHERIC DEPOSITION/ ACIDIFICATION/DRYFALL (SEE ALSO SW)
- 1 AIR QUALITY
- 2 LAKES/PONDS
- 3 RESERVOIRS
- 4 STREAMS
- 5 THROUGHFALL CHEMISTRY

3 CHEMISTRY

- 1 CORROSION/TRACE-METAL LEACHING
- 2 DEICING SALTS
- 3 FUNGICIDES
- 4 FERTILIZERS
- 5 HERBICIDES
- 6 INORGANIC CONSTITUENTS
- 7 INSECTICIDES
- 8 NUTRIENTS
- 9 ORGANICS
- 10 PETROLEUM PRODUCTS (SEE ALSO TH)
- 11 PRIORITY POLLUTANTS
- 12 RADIOELEMENTS
- 13 STABLE ISOTOPES
- 14 TRACE ELEMENTS
- 15 VOLATILE ORGANICS

4 CONTAMINATION (SEE ALSO TH, SW, GW)

- 1 NONPOINT SOURCES
- 2 POINT SOURCES
- 3 SOURCE IDENTIFICATION

5 EFFECTS OF LAND USE/ BASIN CHARACTERISTICS

- 1 AGRICULTURE
- 2 COAL MINING
- 3 GEOLOGIC ENVIRONMENT
- 4 URBANIZATION (SEE ALSO MH)

6 FIELD TECHNIQUES/ INSTRUMENTATION

- 1 ESTUARINE SAMPLING
- 2 GROUND WATER
- 3 LIMNOLOGIC SAMPLING
- 4 PRECIPITATION
- 5 SURFACE WATER
- 6 TOXIC/HAZARDOUS WASTES (SEE ALSO TH)
- 7 URBAN-RUNOFF SAMPLERS

7 GENERAL AREAL ASSESSMENTS

- 1 GROUND WATER
- 2 PRECIPITATION
- 3 SURFACE WATER

8 GEOCHEMISTRY

- 1 AQUEOUS
- 2 INORGANIC
- 3 ORGANIC
- 4 PHASE PARTITIONING/ SORPTION DESORPTION
- 5 SOIL/SEDIMENT (SEE ALSO SE, MH)
- 6 SOLID PHASE

9 LABORATORY TECHNIQUES
- 1 BED MATERIALS
- 2 BIOLOGIC
- 3 INORGANIC
- 4 ISOTOPIC (RADIOCHEMICAL)
- 5 ISOTOPIC (STABLE)
- 6 ORGANIC
- 7 SUSPENDED SEDIMENT
- 8 TISSUE

10 MODELS
- 1 GEOCHEMICAL
- 2 SOLUTE TRANSPORT--GW
- 3 SOLUTE TRANSPORT--SW

11 QUALITY ASSURANCE/CONTROL
- 1 USEPA POLICIES/ STANDARDS/PROCEDURES
- 2 USGS POLICIES/ STANDARDS/PROCEDURES

12 STATISTICAL ANALYSIS (SEE ALSO SA)
- 1 SPATIAL
- 2 TEMPORAL

13 SURFACE-WATER LOADS
- 1 CHEMICAL BUDGETS
- 2 STREAM-CHEMISTRY DYNAMICS

WU WATER USE

1 CONSERVATION
2 CONSUMPTIVE USE
3 DATA QUALITY ASSURANCE
4 ECONOMICS
5 ESTIMATION TECHNIQUES/ COEFFICIENTS
- 1 GROUND WATER
- 2 SURFACE WATER

6 INTERBASIN TRANSFERS
7 MEASUREMENT TECHNIQUES
- 1 GROUND WATER
- 2 SURFACE WATER

8 MODELING
9 RECYCLING
10 STATISTICAL SAMPLING TECHNIQUES
- 1 GROUND WATER
- 2 SURFACE WATER

11 SUPPLY/AVAILABILITY
12 TREND ANALYSIS (SEE ALSO SA)
13 WATER BANKS

APPENDIX 5

SAMPLE OUTPUT USING "FIND QUALIFIED REVIEWER" OPTION

NAME: JHVANCE
TITLE: HYDROLOGIST
REVIEW CONTACT: THOMAS L. SMITH
DISTRICT: MID-ATLANTIC
OFFICE: RICHMOND, VA
LAST UPDATE: 3/15/1989
REPORTS WRITTEN: 3
REVIEWS THIS YEAR: 0
AREAS OF EXPERTISE

AREA	TOPIC	SUB	YRS	EXPERTISE
GW	3	2	2	APPALACHIAN PLATEAUS
SW	3		2	CONTAMINATION (SEE ALSO TH, WQ)
*SW	5	2	4	ELECTROMAGNETIC METERS
WQ	1	1	5	STREAMS

NAME: MAHILL
TITLE: COMPUTER SPECIALIST
REVIEW CONTACT: NANCY L. JOHNSON
DISTRICT: WEST VIRGINIA
OFFICE: CHARLESTON
LAST UPDATE: 3/15/1989
REPORTS WRITTEN: 19
REVIEWS THIS YEAR: 0
AREAS OF EXPERTISE

AREA	TOPIC	SUB	YRS	EXPERTISE
CS	6	1	15	BIBLIOGRAPHIC DATA
CS	6	2	17	HYDROLOGIC DATA
CS	12		10	SYSTEM DESIGN