DOE F 1325.8

United States Government — Department of Energy

memorandum

DATE: AUG 18 1987

REPLY TO ATTN OF: RW-33

SUBJECT: Combination of the September and November Technical Code Coordination Group (TCCG) Meeting

TO: Distribution

WM Record File 109 | WM Project 1 | Docket No. | PDR ✓ | LPDR

Distribution: Kennedy RBB | Still Tana | RDM MJB | Youngblood JOB | (Return to WM, 623-SS) Ballard

As a result of a number of organizational changes within OCRWM Headquarters offices in Washington, several programmatic activities are in the process of being reassigned. During the period while these changes are being implemented, it seems appropriate to combine the meetings of the Technical Code Coordination Group (TCCG) which were scheduled for September 2 and 3 and November 11 and 12 into a single meeting. In order to minimize any inconvenience to the group members or others who had planned to attend these meetings, we will hold this single meeting as previously announced for November 11 and 12 in Las Vegas, Nevada.

On an interim basis, I will be serving as Acting Chairman for the Technical Code Coordination Group. The secretary of the group, Mr. Greg Hartkopf from Roy F. Weston, Inc., will be assisting in arranging for the next meeting. Please contact him on (202) 646-6623 if you have any questions regarding this meeting.

Attached you will find a copy of the minutes of the previous Plenary Meeting of the TCCG held on May 21, 1987 and the Executive Meeting held on May 20-21, 1987 (TCCG member only).

H. Jackson Hale

H. Jackson Hale
Systems Integration
Office of Storage and
Transportation Systems
Office of Civilian Radioactive
Waste Management

Attachment

87233877
WM Project: WM-1
PDR w/encl
(Return to WM, 623-SS)

WM Record File: 109
LPDR w/encl

TECHNICAL CODE COORDINATING GROUP (TCCG)
MINUTES OF THE SPRING 1987 "PLENARY" MEETING
MAY 21, 1987
WASHINGTON, D.C.

As a result of the discussions during the course of the May 21 TCCG meeting, the following action items were identified. The action item numbers are referenced in the Summary of Discussion to place them in proper context.

Action Item 1 - Transmit a copy of the NRC software glossary and code compendium

Responsible: John Voglewede

Action: Transmit to Hal Steinberg a copy of the NRC software glossary that he referenced and a copy of the NRC code compendium when it becomes available.

Action Item 2 - Transmit OCRWM Technical Code Compendium to the NRC

Responsible: Hal Steinberg

Action: Transmit to John Voglewede a copy of the OCRWM Technical Code Compendium when it is completed and available for distribution.

TCCG PLENARY MEETING
Washington, DC
May 21, 1987

SUMMARY OF DISCUSSIONS

DISCUSSIONS

A copy of the announcement and agenda for this plenary meeting is included in Attachment A. The agenda was basically adhered to, the meeting began at about 8:30 a.m. and was adjourned at about 12:30 p.m., May 21, 1987.

Each participant introduced himself. Hal Steinberg, chairman of the TCCG, stated that the purpose of the plenary meeting was to provide a forum for exchange of information between the TCCG membership, the NRC and interested public groups. Hal Steinberg then asked the non-TCCG participants if they wished to make any opening or introductory remarks. J. Roberts (NRC) noted that the branch of the NRC which he represented is primarily involved with at-reactor interim storage licensing and, as a result, they do not directly interact with the DOE/OCRWM program. No other opening remarks were made. Hal Steinberg then presented a review of the TCCG's objectives and activities. Attachment B contains a copy of the overhead slides used for this presentation.

Hal Steinberg noted in his presentation that the objectives and purposes of the TCCG are to provide a mechanism for coordination of technical code 'life-cycle' activities (including information exchange) and to make recommendation to OCRWM management regarding these activities. He noted that the TCCG is an advisory group and is not funded to perform major technical-code-related activities. Mr. Steinberg reviewed the OCRWM offices and contractors represented in the TCCG and the TCCG's organization. He also reviewed the ongoing and near-term planned activities of the TCCG; namely, the code compendium activities, the technical code distribution center activities, and the software quality assurance (SQA) activities.

Copies of the TCCG distribution list, the code center purpose and functions paper, and the compendium survey questionaire were distributed (included in Attachment C).

Discussion on Software QA (SQA) activities followed Hal Steinberg's presentation. S. Ailes described the need for SQA requirements in OCRWM and the TCCG's role of formulating ideas and raising the awareness for the need for SQA. A question was raised as to the schedule for development of OCRWM SQA requirements. Hal Steinberg answered the question by noting that a Field Work Proposal had been drafted that would, as its initial tasks, identify an OCRWM SQA review committee and would utilize that committee to oversee development of a document that would-starting with Supplement 2.7 of NQA-2-draft the SQA requirements for licensing-related OCRWM codes. A second task would be to prepare a set of SQA 'guidelines' to be used by the ORCWM Program participant organizations in developing [or determining whether existing] SQA programs are consistent with the 'requirements' of the approved SQA requirement document ('Plan'). NRC representatives indicated that submission to the NRC of an OCRWM SQA plan should be done as soon as possible. They also noted that there is currently no formal NRC SQA guidance document in preparation.

Hal Steinberg then reviewed a number of ongoing OCRWM technical code activities, such as the ORIGEN-type code 'assessment' project, in which the TCCG is not directly involved. NRC representatives asked whether the TCCG reviewed the existing field office SQA program for these ongoing OCRWM activities. Hal Steinberg noted that, at least for current Systems Integration technical code activities including intercode comparisons and assessmsents of validation and verification status, benchmarking, and user workshop type activities on previously developed codes-formal SQA programs are not required. A formal SQA program is, however, being developed to control the upcoming ORIGEN-type-code validation activities at ORNL, which are supported primarily by OGR.

Discussion then turned to benchmarking codes and the issue that "real" data is not always available to perform benchmarking, and what should one do when "real" data is very time consuming extremely costly, or impossible to develop. The discussion concluded in the general recognition that when "real" data for benchmarking is not available or cannot be readily developed then, the need for and importance of rigorous SQA is clearly evident, and will play an important role in the NRC's review.

Next, John Voglewede (NRC) gave a presentation (handout in Attachment D). He first reviewed the relevant organizational structures of OCRWM and NRC. He then presented a review of code related activities in his area of the NRC. Among other items, he reviewed the NRC code center activities and a recent NRC survey of internal codes. He pointed out that the NRC survey differs from the ongoing OCRWM code survey in that their survey was NRC-wide (versus just OCRWM). The status of the NRC survey is that data analysis is nearly completed and validation of the data is underway. Completion of a draft report is currrently planned for September 1987 and copies could be made available to the TCCG at that time (Action Item No. 1) Hal Steinberg also agreed to send copies of the OCRWM Technical Code Compendium to interested NRC representatives when it is completed (Action Item No. 2). John Voglewede noted that Ms. Malinda Maloy is the NRC contact for NQA-1 and NQA-2 questions, Ms. Karen Van Duser is the NRC contact for code survey activities inquiries, and Alan Duncan is the NRC contact for high-level waste QA issues.

John Roberts (NRC) followed John Voglewede with a presentation of technical code activities in his area. He discussed the code development activities at Los Alamos National Laboratories (LANL) and Battalle Pacific Northwest Laboratory (PNL) on FIRAC (fire accident model) and EXPAC (chemical explosion model).

General discussion followed on the issue of OCRWM using codes that have been previously accepted by NRC, such as ORIGEN-S. The NRC representatives pointed out that while there is a significant amount of data available that validates ORIGEN-S for near-term predictions, use of ORIGEN-S for very long-term repository related predictions, where data to validate the model is not available, may be problematic. It was also pointed out that the greatest concerns that the NRC will have will be with new codes that they have not previously seen or used and which predict very long-term effects. An example mentioned was models that predict ground-water travel time over tens of thousands of years.

Another issue discussed was the use of peer review to validate codes. John Voglewede (NRC) indicated that peer review is not a substitute for data validation and/or quality QA procedures. He noted that the NRC does consider peer review a necessary and important part of the overall validation of a code.

Open discussion followed on the general subject of acceptance of codes by NRC and when, during the evaluation of a code, should its documentation process begin. Questions also centered on the value of documentation of the historical development of a code versus showing the final validated code with final documentation. No firm resolution of these questions was established other than that the more complete the documentation and the earlier it starts in the evaluation, the better off it is from a licensing viewpoint. Hal Steinberg summarized the discussion by stating that it is best to share with the NRC, early in the code development process, its associated SQA plan and software specification.

Hal Steinberg raised the issue of developing a consistent glossary (of terminology). NRC representatives indicated that they have developed a glossary of technical code terminology used in NUREG's and that it could be made available to the TCCG (Action Item No. 1).

Hal Steinberg noted that the discussions during the meeting were very useful and open exchanges of information between the NRC and TCCG should benefit all the parties. He then indicated that draft minutes from the meeting would be made available to each active participant so they could review the statements for accuracy.

The agenda was then opened up to outside parties attending the meeting to discuss any items of interest or to make any comments. Sami Andrea (EWA/YIN) indicated that his comments will be made available to the TCCG.

Tentative plans for the next TCCG meeting were made for August 26-27, 1987 in Idaho Falls, Idaho with the morning of the 27th as the plenary meeting and a tour of the Idaho/EG&G facility planned for the afternoon of the 27th.

The plenary meeting was then adjourned.

List of Attachments

A. Announcement letter and agenda

B. Hal Steinberg's Presentation on the Objectives and Activities of the TCCG.

C. TCCG Distribution List; Code Center Purpose and Functions paper; Code Compendium Survey Questionaire.

D. Presentation by J. Voglewede (NRC).

Attachment A

(1244)

United States Government — Department of Energy

memorandum

DATE: May 11, 1987

REPLY TO ATTN OF: RW-33

SUBJECT: Final Agenda, Spring 1987 Technical Code Coordinating Group (TCCG) Meeting

TO: TCCG Membership

Attached please find the 'final' (but subject to revision) agendas for both the upcomming 'executive' and 'plenary' TCCG meetings to be held at Roy F. Weston headquarters' 8th floor conference room, 955 L'Enfant Plaza, Washington, DC. The dates for these meetings are, respectively, Wednesday, May 20 and Thursday, May 21. The meeting site is at the L'Enfant Plaza exit of Metro's Orange Blue and Yellow train lines. For questions concerning the meeting location please contact either Larry Clem [(202) 646-6693] or myself [(202) 586-5616].

Hal Steinberg

Hal Steinberg, Chairman
Technical Code Coordinating Group

Attachments

cc Jack Hale

Agenda, 'Executive' TCCG Meeting, May 20, 1987, Washington, DC
[Weston 8th Floor Meeting Room, 955 L'Enfant Plaza, Washington, DC]

08:30 a -09:30 a	Review and approval of the minutes of the previous (Denver) TCCG meeting minutes and review of status of outstanding TCCG action items (Larry Clem/Hal Steinberg).
09:30 a -10:30 a	Update on OCRWM Code Center, including a presentation of the finalized, TCCG-recommended code-center criteria (Jim Creer/Hal Steinberg). A NESC representative is being invited to describe that facility, how it could assist OCRWM, and to answer any questions the membership might have.
10:30 a -10:45 a	Coffee Break
10:45 a -11:30 a	Status report on the Software QA project (Hal Steinberg/Mike Shay/Sid Ailes).
11:30 a -12:00 a	Status report on the Technical Code Compendium (Bill Roddy).
12:00 a -1:00 p	Lunch Break
1:00 p -2:00 p	General membership discussion of 'where do we go from here?' which would include a revisit of the ideas transmitted in the last TCCG mailing. Possible topics here include: personal computers (PCs) and technical codes written for PCs and how to control their use in the OCRWM Program; guidlines for which codes to accept into a 'code center'; non-licensing related codes and how these should be dealt with by the various TCCG programs; technical code workshops.
2:00 p -3:00 p	Discussion and agreement of the membership on a format for the 'Open' meeting on Thursday and for subsequent open meetings. Any proposed open-meeting format will no doubt evolve with 'lessons learned'. [If Wednesday's schedule is drawn out, this discussion can be relegated to a post-open-meeting discussion to be held after the open meeting concludes on Thursday.]
3:00 p -3:15 p	Coffee break.
3:15 p -4:00 p	????[Ideas from the membership will be entertained for this 'prime' time slot.]
4:00 p -5:00 p	Discussion/acceptance of the 'TCCG charter according to Dave Langstaff' (assuming a redrafted charter available in time) (D. Langstaff).
5:00 p (approx)	Executive meeting adjourned.

Agenda, Plenary Technical Code Coordinating Group (TCCG) Meeting
May 21, 1987, Washington, DC

[Weston 8th Floor Meeting Room, 955 L'Enfant Plaza, Washington, DC]

08:30 a -09:00 a	Introductions and introductory remarks.
09:00 a -10:15 a	A review of the major ongoing and near term OCRWM technical code activities fostered by TCCG recommendations to OCRWM management. Included here are summaries of the May 20 meeting agenda items (Hal Steinberg and others).
10:15 a -10:30 a	Coffee break.
10:30 a -11:30 a	Presentation by NRC staff of their technical code activities/programs of potential interest to the OCRWM Program (John Vogelwede, John Roberts, John Cook)
11:30 a -12:30 p	Informal discussions between the TCCG membership and 'public' (e.g., State, Tribal and NRC) participants. Note that, appropriate comments from participants will be entertained throughout this plenary meeting.
12:30 p	Concluding remarks.

**********TCCG Members Only**********

1:30 p -?	Please reserve afternoon after the plenary meeting for a TCCG 'exit' meeting. The need for this exit meeting will depend on whether State/Tribe/NRC comments made during the AM session warrant TCCG-membership discussion and/or to reflect on lessons learned from this plenary meeting .

Attachment B

TECHNICAL CODE COORDINATING GROUP

COMMUNICATION/COORDINATION - TARGETS FOR OPPORTUNITY

THE NATURE OF THE TECHNICAL ISSUES ADDRESSED BY OCRWM AND THE ORGANIZATIONAL STRUCTURE OF THIS PROGRAM CREATE A COMPLEX, POTENTIALLY REDUNDANT ENVIRONMENT FOR CODE DEVELOPMENT AND USE.

SCOPE

The Role of the Technical Code Coordinating Group is Advisory.

The TCCG Promotes Coordination of Technical Code Activities Used by Or Useful to More Than One Program Element.

The Information Resource Management Coordination Group is Responsible for Administrative Software.

BACKGROUND

Technical, Analytical Codes Currently in Use are Quite Diverse.

Many Alternative Codes Have Been Developed and Used.

OCRWM Potentially Gains:

IF Each OCRWM Organization is Made Aware of Existing Code Capabilities, and

IF the Software QA Requirements Can Be Standardized Within OCRWM.

PURPOSE

1) To Provide a Mechanism
For Communication and Coordination

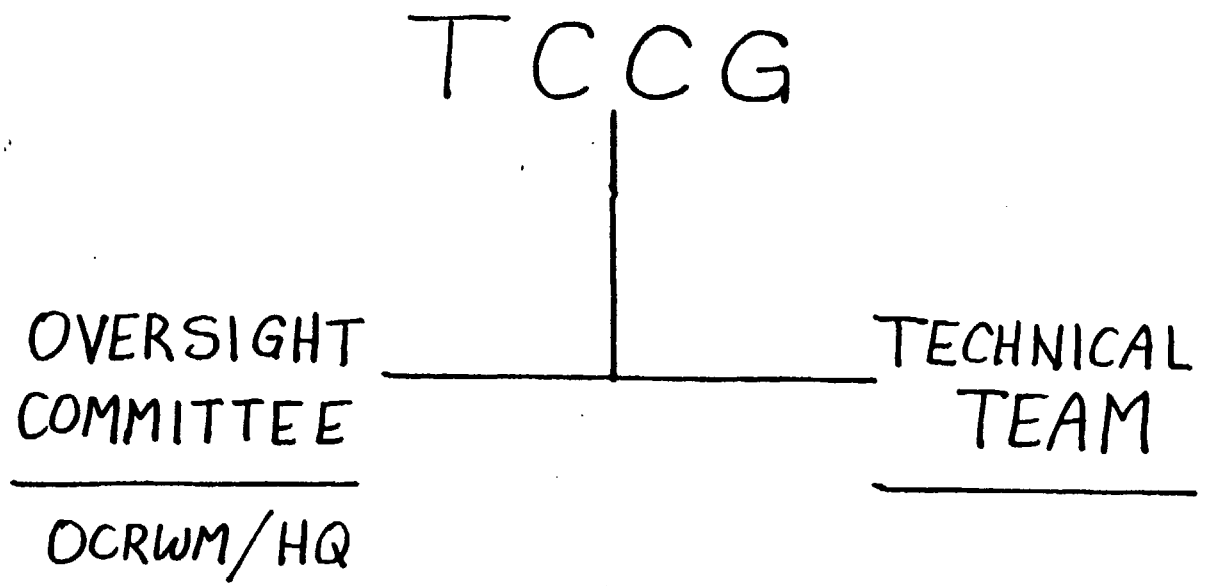
and 2) To Make Recommendations
To OCRWM MANAGEMENT,
Regarding Code Activities.

RESPONSIBILITIES

1) Develop Appropriate Vehicles and Forums To Achieve Coordination Through Information Exchange.

2) Provide Recommendations to Management To Achieve or To Enhance Coordination of OCRWM Code Activities.

ORGANIZATION



MEMBERSHIP

OCRWM/HQ - OGR, OPO, ORM, OSTS

OCRWM Repository Project Offices

Supporting Operations Offices, National Laboratories and Contractors

OPERATING PROCEDURES

Appropriate procedures are extracted from paragraph 4.3.2 of the OGR Operating Procedures No. 1 on Coordinating Group Charters and Meetings.

PRODUCTS, RECOMMENDATIONS, ACTIVITIES

PRODUCTS: Meeting Minutes, Activity Status Reports

RECOMMENDATIONS: Actions to Meet OCRWM Program Needs

ACTIVITIES: Gather, Review, and Disseminate Information To Support OCRWM Program Objectives

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Attachment C

OCRWM TECHNICAL SOFTWARE DISTRIBUTION CENTER

PURPOSES

- Serve as a source of controlled versions of OCRWM technical computer codes and their associated data bases and documentation packages, and assist users with selection and use of software.

BASIC FUNCTIONS

- Distribute codes and associated data bases, documentation, and errata sheets. (The software center will establish a clearing house between authors/custodians and users to receive and distribute all appropriate materials and to provide updates as needed.)

- Assure codes and associated data libraries are operational on an appropriate computer system. (By running a sample problem(s) with each software package on an appropriate computer system the software center will assure that the software is operational.)

- Assist in matching available software to user's needs and, where appropriate, refer users to authors/custodians for in-depth assistance. (In many cases the software center will be able to provide adequate assistance to users; however, in some instances users will be referred to authors/custodians for complex problem solving.)

- Provide consultation on operational aspects of software if practical. (The software center will provide, when practical, assistance to users in getting software operational on the user's system. Sample problems/runs will be provided by the center to verify proper operation.)

- Maintain traceability and reproducibility to assure codes, data bases, and documentation are consistent and are properly updated (configuration control). (Where practical, the software center will assure that authors/custodians provide codes, data bases, and documentation that are well defined and consistent with one another, and that configuration control is maintained within the center for all software versions.)

- Establish, maintain, and document a feedback system of experience files. (The software center will develop and maintain a system to record user experiences and document literature reviews performed by the software center. A newsletter will be published to transfer this information to OCRWM users and to continually update abstracts of software not included in the initial OCRWM code compendium.)

COMPUTER CODE QUESTIONNAIRE
(Office of Civilian Radioactive Waste Management, OCRWM)

The program to site, design, construct, operate, and eventually decommission a system which will safety move nuclear waste material from current sources to their ultimate burial in mined geological repositories represents a major technical effort that has been assigned to the Office of Civilian Radioactive Waste Management (OCRWM), within DOE. Because of the extended organizational structure and schedules and licensing considerations imposed on OCRWM by the Nuclear Waste Policy Act of 1982 (NWPA), there is a need to make available timely information on the nature and status of technical codes (those codes with an engineering or physical basis) that have been developed and/or are being used in associated design, analytical and/or licensing-related activities of the Program.

This need for timely and comprehensive technical code information transfer, identified by the Waste Systems Integration team within the Office of Storage and Transportation Systems (OSTS), OCRWM, has been subsequently reinforced by the Technical Code Coordination Group (TCCG). The TCCG membership at its May meeting, unanimously agreed ~~on the need~~ for a comprehensive compendium of technical code information to be made available to OCRWM Program participants. The Oak Ridge National Laboratory (ORNL) has been asked to prepare this technical code compendium. The attached questionnaire is the instrument by which this needed information will be collected. The questionnaire is to be completed by that person (or persons) within your organization most knowledgeable regarding technical codes.

The requested information ~~has been limited~~ in an attempt to minimize respondent burden of completing the questionnaire. Where possible, questions are posed in a yes/no or check-off format. A separate sheet should be completed for each technical code available and used by your organization for OCRWM activities. Please return the completed questionnaire to J. William Roddy by October 1, 1986.

The returned questionnaires will be collated and QA'd to generate an informative technical code compendium. When completed, the compendium will be made available to each participating organization on a no-charge basis. It is planned to also develop a computerized version of the compendium, including provision for sorting and/or keyword searches. The compendium will subsequently be updated on a regular basis. Space has been provided in the questionnaire for comments regarding the nature, format, contents, etc., of the questionnaire. Additional questions or comments may also be addressed to J. William Roddy (ORNL) at FTS: 626-8348 or to Harold Steinberg, DOE/Headquarters, at FTS: 252-5616.

COMPUTER CODE QUESTIONAIRE

A separate "Computer Code Questionnaire" should be completed by the "custodian" for each unique technical code used or likely to be used by your organization between 1984 and 1988. While each organization participating in this effort has been sent several dozen forms for this purpose, additional forms may be copied where technical code usage exceeds the number of forms sent. For definitions of "technical code," "custodian," and "organization," as well as specific instructions for each of the questions below see the reverse side of this questionnaire.

1. CODE NAME AND VERSION: _____
2. OUTDATED OR MINOR CODE VARIANTS: _____
3. RESPONDENT (CUSTODIAN) NAME: _____
   ORGANIZATION: _____
   PHONE #: _____
4. FEDERAL WASTE MANAGEMENT PROGRAM USAGE:
   A. LICENSING RELATED:
   ____ EA ____ SCP ____ EIS ____ SAR/LA
   ____ OTHER (DESCRIBE) _____
   B. APPLICABILITY:
   ____ DESIGN ____ WASTE PACKAGE ____ SITE MEDIUM
   ____ MRS ____ TRANSPORTATION ____ INTERIM STORAGE
   ____ REPOSITORY PRECLOSURE ____ REPOSITORY POSTCLOSURE
   ____ OTHER (DESCRIBE) _____
5. TYPE OF CODE:
   ____ RA ____ PA ____ LOGISTICS ____ TRANSPORTATION
   ____ TSLCC ____ STATISTICAL ____ OPERATIONS ____ THERMAL/HEAT TRANSFE
   ____ SOURCE TERM ____ SYSTEM LOGIC ____ SHIELDING ____ STRUCTURAL
   ____ GEOCHEMISTRY ____ GEOSPHERE TRANSPORT ____ DOSE TO MAN/WORKER ____ DOSE TO MAN/PUBLIC
   ____ SURFACE HYDROLOGY ____ GROUNDWATER HYDROLOGY ____ ROCK MECHANICS ____ AIR DISPERSION
   ____ BIOSPHERE TRANSPORT ____ ISOTOPE MIGRATION ____ SPENT FUEL/WASTE PROJECTIONS
   ____ OTHER (DESCRIBE) _____
6. LANGUAGE(S)
   ____ BASIC ____ FORTRAN VERSION ____ PL/1 ____ PASCAL ____ "C"
   ____ OTHER (DESCRIBE) _____
7. COMPUTER(S) USED FOR CODE:
   ____ MAINFRAME ____ IBM ____ CDC ____ CRAY ____ UNIVAC
   ____ MINI ____ VAX ____ OTHER (DESCRIBE) _____
   ____ PERSONAL COMPUTER ____ IBM COMPATIBLE ____ OTHER (DESCRIBE) _____
8. DOCUMENTED ASSESSMENT(S);
   ____ QA ____ VERIFICATION ____ VALIDATION ____ TECHNICAL REVIEW
   ____ INDEPENDENT PEER REVIEW ____ NONE ____ OTHER (DESCRIBE) _____
9. INTERFACES WITH OTHER TECHNICAL CODES: ____ YES ____ NO
   IF "YES," GIVE: ____ PRE, CODE NAME(S) _____
   MODE AND NAME(S): ____ POST, CODE NAME(S) _____
10. ARE EXTERNAL TECHNICAL DATA FILES/BASES REQUIRED TO RUN CODE? ____ YES ____ NO
    IF YES, SUPPLY NAMES _____
11. CODE AVAILABILITY:
    ____ YES, NONPROPRIETARY ____ YES, BUT USAGE FEE REQUIRED ____ YES, BUT RUN ACCESS ONLY
    ____ NO, PROPRIETARY ____ NO, INCOMPLETE
    ____ OTHER (DESCRIBE) _____
12. DOCUMENTATION AVAILABLE:
    ____ TECHNICAL REFERENCE MANUAL ____ USER'S GUIDE ____ PROGRAMMER'S GUIDE
    ____ OTHER (DESCRIBE) _____
13. BRIEF DESCRIPTION OF CODE: _____
14. ANY COMMENTS REGARDING CONTENTS, FORMAT, SCOPE, ETC., OF THIS TECHNICAL CODE QUESTIONNAIRE
15. KEYWORDS: _____

DEFINITIONS

- *Technical Code*: An organized set of programming instructions that models a physical system or process. If multiple variants of a technical code exist, the respondent need only describe in separate forms, those major variants currently in use or which are likely to see future usage. Outdated variants or variants which differ only inconsequentially from the code listed in Question #1 which still reside at your site can be listed in Question #2. Administrative data base management codes or support software (e.g., compilers, assemblers, editors, testing programs, word processors, etc.) are not considered "technical" codes for purposes of this questionnaire.
- *Custodian*: Preferrably, the person within the organization most knowledgeable regarding the "technical code" described.
- *Organization*: The general organization by whom the respondent is employed.

EXPLANATION OF INDIVIDUAL QUESTIONS

1. List complete technical code name and acronym (if applicable).
2. List code variation as described above.
3. Give the name, telephone #, and general organizational affiliation of the respondent. The respondent should be the individual in the listed organization most knowledgeable about the code listed in response to Question #1.
4. Is/has the code (been) used for licensing-related activities? For which major OCRWM program area(s) has the code been used?
5. Check the appropriate box(es) for type of code. Note: "RA/PA" refers to risk or performance assessment codes; "STATISTICAL" box should be checked if the code uses a probabilistic or "Monte Carlo" estimation method.
6. Code is available in this/these language(s) in your organization.
7. Code is run on this/these computer(s) in your organization.
8. Check each applicable box: QA—developed/used under a QA program; Verification—software performs as intended; Validation—model is correct representation of physical process; Peer Review—a "Technical Review" of a novel-approach code.
9. If yes, please specify other major technical code(s) to which pre- or post-linkages have been effected. Do not list simple pre- or post-processor software that are not technical codes as defined above.
10. Are distinct external data bases/files needed to run the related code?
11. Is code available for distribution, or is it proprietary or only available for a fee?
12. List documentation prepared for use with or adjunct to the code:

    "Technical Reference Manual" a document that describes the logic of the code and discusses its assumptions. Assessment activities performed on the code may also be described.

    "User's Guide" Documentation that supplies application information and facilitates the preparation of input data and interpretation of output.

    "Programmer's Guide" A document intended to assist a programmer to understand the flow and logic of the code, thereby permitting its modification and/or enhancement.
13. Please summarize in 50 words or less, the basic use(s) and logic of the code.
15. Please supply appropriate keywords for use in the compendium.

All questions or comments regarding this questionnaire should be addressed to DOE/Headquarters, at FTS: 252-5616.

****PLEASE RESPOND BY DECEMBER 1, 1986****

Mail responses to:

J. W. Roddy
Oak Ridge National Laboratory
P.O. Box X
Oak Ridge, TN 37831

Attachment D

NRC PRESENTATION TO

THE DOE

TECHNICAL CODE COORDINATING GROUP

MAY 21, 1987

RC UPDATE TO DOE/TC G

Software QA Handbook Revised

J.L. Bryant and N.P. Wilburn, Handbook of Software Quality Assurance Techniques Applicable to the Nuclear Industry, *Draft* NUREG/CR-4640 (PNL-5784) dated March 1987 (previous draft dated February 1986).

Contact: NRC Quality Assurance Branch

NQA-1 and NQA-2 Amendments

NRC continuing to participate in NQA-1 and NQA-2 amendments dealing with computer software.

Contact: NRC Generic Issues Branch

NRC Code Center Contracts Consolidated

Administration of generic agency contracts with NESC, RSIC and TDMC now conducted by Office of Administration and Resources Management.

Contact: NRC Information Technology Services Branch

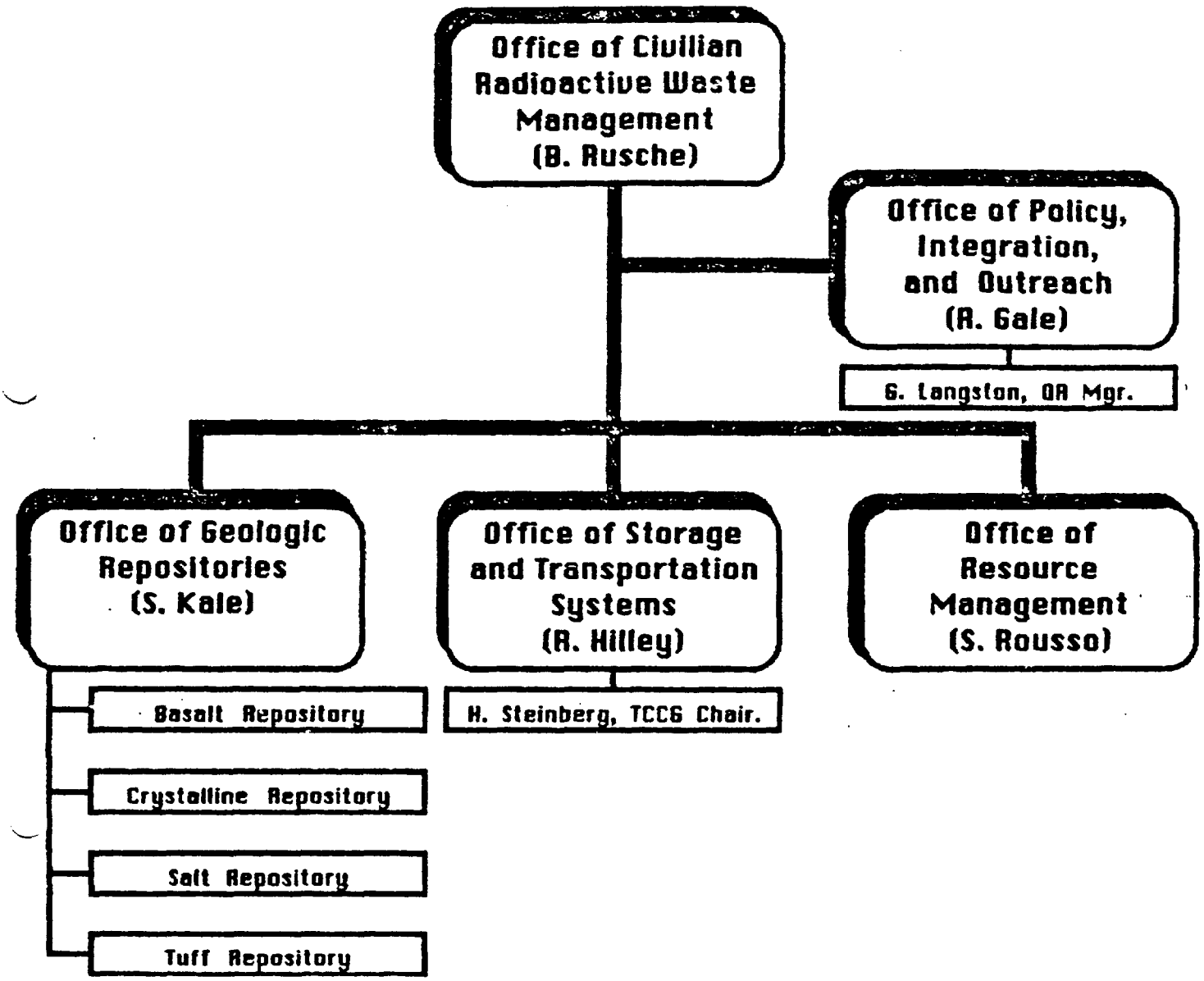
Software Survey Conducted

Survey of NRC staff and contractor computer codes conducted in October 1986. Data are currently under analysis and are expected to be released after confirmation with NRC program offices.

Contact: NRC Information Technology Services Branch

NRC VIEW OF DOE

(A WASTE MANAGEMENT PERSPECTIVE)



RW-1 Office of Civilian Radioactive Waste Management (OCRWM)
Deputy Director/E. Kay

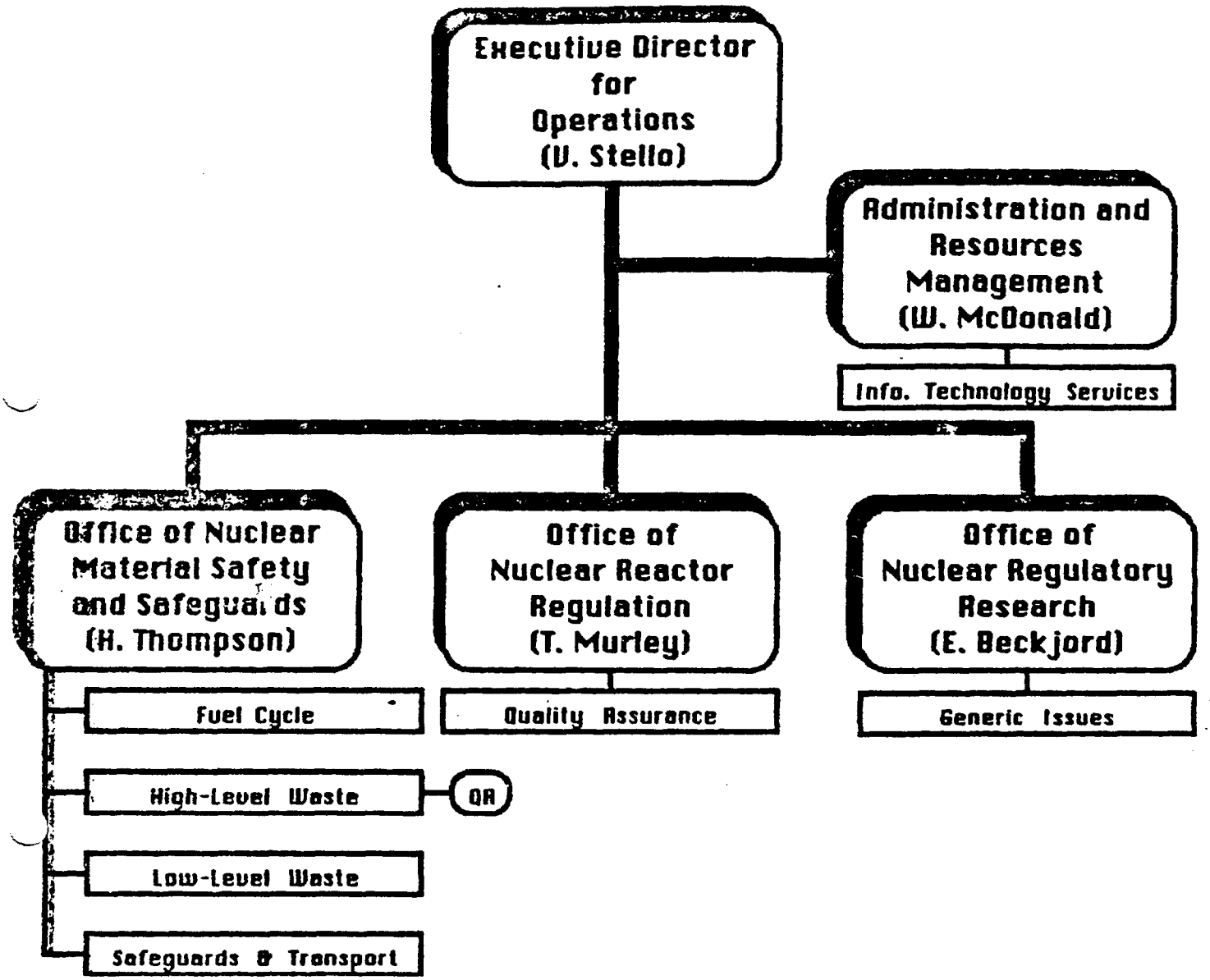
RW-10 Office of Resource Management (ORM)
Funding & Administration

RW-20 Office of Geologic Repositories (OGR)
Repository Project Offices

RW-30 Office of Storage & Transportation Systems (OSTS)
Storage (MRS), Transportation, and Systems Integration

RW-40 Office of Policy, Integration, & Outreach (OPO)
Quality Assurance

DOE VIEW OF NRC



AN AMERICAN NATIONAL STANDARD

Quality Assurance Program Requirements for Nuclear Facilities

ANSI / ASME NQA - 1 - 1983 EDITION

SPONSORED AND PUBLISHED BY

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Form NRC
(1-73)

Published in advance of incorporation in
NRC Manual Chapter 0904
File and retain in Manual until superseded.

UNITED STATES NUCLEAR REGULATORY COMMISSION
NRC MANUAL

BULLETIN

NO. 0904-3 **DATE:** January 21, 1987

SUBJECT: NRC COMPUTER SOFTWARE POLICY

This Bulletin sets forth NRC policy on the acquisition/development, modification, copying and distribution, use, and disposal of NRC computer software, particularly microcomputer software. It provides overall agency policy which should serve as the basis for Office/Region internal control of both microcomputer and mainframe software development and use, including development and use by both NRC staff and contractors.

William G. McDonald
Deputy Executive Director
for Operations/IRM

3. Distribution

Distribution of contractor-developed applications software and documentation will be performed under the guidance of IRM. IRM will assure that programmatic distribution requirements are met for public and non-public software. At present, most NRC software is being distributed by the National Energy Software Center at Argonne National Laboratory under a DOE laboratory agreement administered by IRM. Under certain circumstances, an NRC contractor or DOE laboratory may distribute scientific applications software while in the development or maintenance stages provided that:

a. The required distribution activities are explicitly specified in the contract or DOE laboratory statement of work;

b. The contract or DOE laboratory agreement specifies that the software and associated documentation will be transmitted to the NRC in approved form (per sections 1-4 of this attachment) upon termination of the contract or DOE laboratory agreement;

c. The Program Division Director has approved, in writing, the need for deviation from the standard distribution procedures;

d. The Director, Division of Information Support Services, IRM, has approved, in writing, the contract or DOE laboratory statement of work wherein the distribution activities are described.

Before release for distribution, NRC-sponsored software must be appropriately reviewed, tested, documented and approved for release by the sponsoring NRC office. It is the responsibility of the sponsoring NRC office to determine whether or not a computer code is ready for distribution and to clearly define the limitations to be imposed on said distribution (e.g., USA only, unlimited, a specific distribution list, etc.). However, the sponsoring NRC office is advised that once information regarding a computer code has been published (e.g., in a NUREG report), members of the public may request a copy of the code and, under normal circumstances, the NRC must be prepared to distribute the code. Thus, the preparation of a distribution submittal package for the computer code and the publication and distribution of a NUREG(s) associated with the computer code should coincide. In order to prepare to meet these requirements once the contract is complete, the statement of work should include, as a requirement, the preparation of the submittal package necessary for requesting distribution by the National Energy Software Center (NESC). Copies of the NESC submittal forms, distribution procedures and advice regarding submittal package preparation may be obtained by calling the ITS Support Center on 492-4160 or FTS-492-4160. A copy of the NESC release form, signed by the Division Director of the sponsoring NRC office, should be sent to the Chief, Information Technology Services Branch, at the time the submittal package is sent to NESC.

Exhibit 1
NRC SOFTWARE LOCATOR INFORMATION FORM

1. F/: ____ 2. SOFTWARE TITLE: _____

3. ACRONYM: _____ 4. VERSION #: _____

5. FULL SYSTEM (Y/N): _____ 6. MACRO/SUBROUTINE (Y/N): _____

7. CLASSIFICATION: (Check one)
___ SCIENTIFIC CODES
___ ADMINISTRATIVE SUPPORT (Budget,Travel,Personnel, etc.)
___ GENERAL PURPOSE (Management Information,Tracking, etc.)
___ TECHNICAL INFORMATION
___ PERSONAL PRODUCTIVITY

8. SENSITIVE (Y/N): _____ CLASSIFIED (Y/N): _____

9. STATUS (A=active,I=inactive,N=not used,U=under devel/test,P=planned): _____
If 9. STATUS=I or N: 9a. LAST USED YEAR: _____ 9b. SUPERSEDED (Y/N): _____
If 9b. SUPERSEDED=Y: 9b1. BY WHAT? ACRONYM: _____
VERSION #: _____

10. REQUIRES FURTHER DEVELOPMENT, MODIFICATION, OR UPDATE (Y/N): _____
10a. CURR FY EFFORT: CONTRACT $: _____(K) NRC STAFF YEARS: _____
10b. NEXT FY EFFORT: CONTRACT $: _____(K) NRC STAFF YEARS: _____

11. NRC SPONSOR: OFF _____ DIV _____ BR _____
SPONSOR CONTACT: LAST: _____ FIRST: _____ MI: ___

12. DEVELOPER: (Check one)
___ NRC DATA PROCESSING STAFF (RM/D)
___ NRC EMPLOYEE OTHER THAN RM/D
NAME - LAST: _____ FIRST: _____ MI: ___
___ NRC CONTRACTOR OR DOE LABORATORY - if checked provide:
CONTRACTOR NAME: _____ FIN #(s): _____, _____, _____
CONTRACTOR CONTACT - LAST: _____ FIRST: _____ MI: ___
PHONE: _____
___ VENDOR/OFF THE SHELF
___ PUBLIC DOMAIN, SHAREWARE, OR FREEWARE

13. USERS: (Check all that apply)
___ NRC STAFF ___ NRC CONTRACTOR (including DOE laboratories)
___ APPLICANT/LICENSEE ___ OTHER (specify) _____

14. REGULATORY APPLICATION AREA (Check all that apply to this software):
___ licensing application related to 10 CFR Part _____
(e.g., 50 if reactors, 60 or 61 for waste disposal facilities,etc., see instructions for further examples)
___ operational data analysis
___ event or accident analysis
___ emergency response
___ inspection/enforcement
___ research on _____
___ other (Describe): _____

15. PAST OR PRESENT LICENSING USE (Check all that apply to this software):
___ Has been used or is being used by NRC staff or NRC contractor in the licensing process
___ Is identified in the Standard Review Plan, Section _____
___ Has been specifically cited by the NRC in official correspondence (e.g., Safety Evaluation Reports)
___ Is identified in an NRC Regulatory Guide, Number _____
___ Is identified in a Branch Technical Position. Specify _____
___ Is specified in other regulations. Specify _____
___ Is specified in an industry code or standard. Specify _____
___ Other licensing use. Describe _____

16. KEYWORDS (See instructions): _____

17. DESCRIPTION (See instructions): _____

18. APPLICATION HAS RECEIVED PEER REVIEW/QA (Y/N): _____
If 18. PEER REVIEW/QA=Y, DESCRIBE HOW AND BY WHOM: _____

19. DOCUMENTATION:
NUREG #(s) _____, _____, _____
LATEST NUREG PUBLICATION DATE (MM/DD/YY): _____
USER'S GUIDE (Y/N) _____ UP-TO-DATE (Y/N): _____
PROGRAMMER'S GUIDE (Y/N) _____ UP-TO-DATE (Y/N): _____

20. DISTRIBUTION:
By NRC/IS (Y/N): _____ By NRC/ITS (Y/N): _____
IS System No: _____ ITS Control No: _____

By NESC (Y/N): _____ By RSIC (Y/N): _____
NESC No: _____ RSIC No: _____

If "N" to ALL of the above complete the following:
20(A). BY WHOM: LAST: _____ FIRST: _____ MI: _____
ORGANIZATION: _____ (If NRC, provide Branch abbrev.)

20(B). If NESC or RSIC is marked as "Y", please provide the following:
External Availability Category
___ UNLIMITED
___ U.S. ONLY
___ U.S. GOVERNMENT
___ SPECIAL

NTIS/DOE No.
PB No. _____
DE No _____

21. COMPUTER ON WHICH INSTALLED OR TO BE INSTALLED (Check any that apply):

NRC MICRO	NRC MINI	NRC-ACCESSIBLE MAINFRAME
___ P1 (PC 256K)	___ B1 (DG6000)	___ A1 (NIH)
___ P2 (PC 640K)	___ B2 (DG8000)	___ A2 (ORNL)
___ P3 (XT 256K)	___ B3 (OTHER DG)	___ A3 (BNL)
___ P4 (XT 640K)		___ A4 (INEL)
		___ O (OTHER) Specify _____

___ CONTRACTOR COMPUTER:
Computer Vendor Name _____ Model _____

22. LANGUAGES/PACKAGES (Mark Primary [P] once and any others as [S] Secondary)

___ BASIC	___ RAMIS	___ dBASEIII
___ FORTRAN IV	___ SYSTEM 2000	___ DOS
___ FORTRAN 77 (V)	___ WYLBUR	___ LOTUS 1-2-3
___ COBOL	___ MARKIV	
___ PL/1		- OTHER (SPECIFY) _____

23. NRC CONTACT: (Name of NRC employee who filled out this form)

LAST: _____ FIRST: _____ MI: _____
OFF _____ DIV _____ BR _____ PHONE: _____
SIGNATURE: _____ DATE: _____