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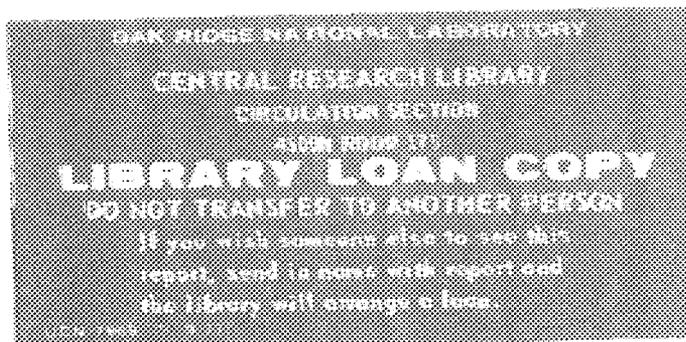
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MARTIN MARIETTA

**Chemical Stockpile Emergency
Preparedness Program Focus Groups:
A Manual**

S. A. Carnes
C. A. Garkovich
T. E. Shriver, Jr.



MANAGED BY
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FOR THE UNITED STATES
DEPARTMENT OF ENERGY

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**CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM
FOCUS GROUPS: A MANUAL**

by

**S. A. Carnes
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T. E. Shriver, Jr.**

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ABBREVIATIONS AND ACRONYMS

ACP	access control point
ARC	American Red Cross
CAIRA	Chemical Accident/Incident Response and Assistance (Plan)
CSDP	Chemical Stockpile Disposal Program
CSEPP	Chemical Stockpile Emergency Preparedness Program
DA	U.S. Department of the Army
DHHS	U.S. Department of Health and Human Services
DOD	U.S. Department of Defense
EBS	Emergency Broadcast System
EIS	environmental impact statement
EMS	emergency medical services
EOC	emergency operations center
EPA	U.S. Environmental Protection Agency
EPZ	emergency planning zone
FEMA	Federal Emergency Management Agency
FPEIS	Final Programmatic Environmental Impact Statement (in this publication, for the CSDP)
GA	nerve agent tabun (N,N-dimethyl phosphoramidocyanidate, ethylester)
GB	nerve agent sarin (methyl phosphonofluoridate, isopropyl ester)
H	sulfur mustard agent (Bis(2-chloroethyl)sulfide)
HD	distilled sulfur mustard agent H
HT	sulfur mustard agent containing about 60% HD and 40% "T" or Bis-[2(2-chloroethylthio)ethyl]ether
ICCBs	intergovernmental consultation and coordination boards
IRZ	immediate response zone
JIC	Joint Information Center
LEPC	Local Emergency Planning Committee

MOU	Memorandum of Understanding (in this publication, between the Department of the Army and the Federal Emergency Management Agency to collaborate on the emergency preparedness aspects of the Chemical Stockpile Disposal Program)
NDA	National Defense Area
NDMS	National Disaster Medical System
NEPA	National Environmental Policy Act
OSHA	Occupational Safety and Health Administration
PAR	population at risk
PAZ	protective action zone
PZ	precautionary zone
RDD	random digit dialing
SCBA	self-contained breathing apparatus
SERC	State Emergency Response Commission
SARA	Superfund Amendments and Reauthorization Act of 1986 (Title III is the "Emergency Planning and Community Right-to-Know Act of 1986," which requires the establishment of SERCs and LEPCs)
VX	nerve agent S-(diisopropyl aminoethyl) methyl phosphonothiolate, O-ethyl ester

**CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM
FOCUS GROUPS: A MANUAL**

ABSTRACT

While completing a congressionally mandated destruction of the U.S. stockpile of unitary chemical weapons, the U.S. Army decided that enhanced emergency planning was needed to reduce the consequences of an accidental release of agent. This decision is being implemented cooperatively by the U.S. Department of the Army and the Federal Emergency Management Agency in the form of the Chemical Stockpile Emergency Preparedness Program (CSEPP), with additional cooperation from other federal agencies and affected state and local governments.

This manual supports that effort by providing information about a commonly used qualitative data and information gathering technique, focus group interviewing, that may be used to design public education materials and otherwise enhance communication among CSEPP providers and users. The focus group technique is characterized by structured discussions on a specific topic among a carefully selected group of participants.

This manual provides background information on the CSEPP and the current management plan for the CSEPP. It describes the focus group technique and how it may be applied, either by itself or in conjunction with other appropriate research techniques, by state and local government officials to investigate many of the behavioral and organizational impacts of the CSEPP. Sample questions and probes that may be useful in designing and conducting specific CSEPP focus groups are also provided. The manual also includes a list of suggested readings and other reference material that may be useful in designing focus groups.

1. INTRODUCTION

1.1 PURPOSE OF THE MANUAL

This manual is designed for use by state and local government officials in setting up and conducting focus group meetings to elicit information that may be useful in designing public education materials and otherwise refining the planning and implementation of the Chemical Stockpile Emergency Preparedness Program (CSEPP). This manual provides background information on the CSEPP and the current management plan for the CSEPP. It describes the focus group technique and how it may be applied, either by itself or in conjunction with other appropriate research techniques, by state and local government officials to investigate many of the behavioral and organizational impacts of the CSEPP. A list of suggested readings and other reference materials is included.

1.2 MANUAL OVERVIEW

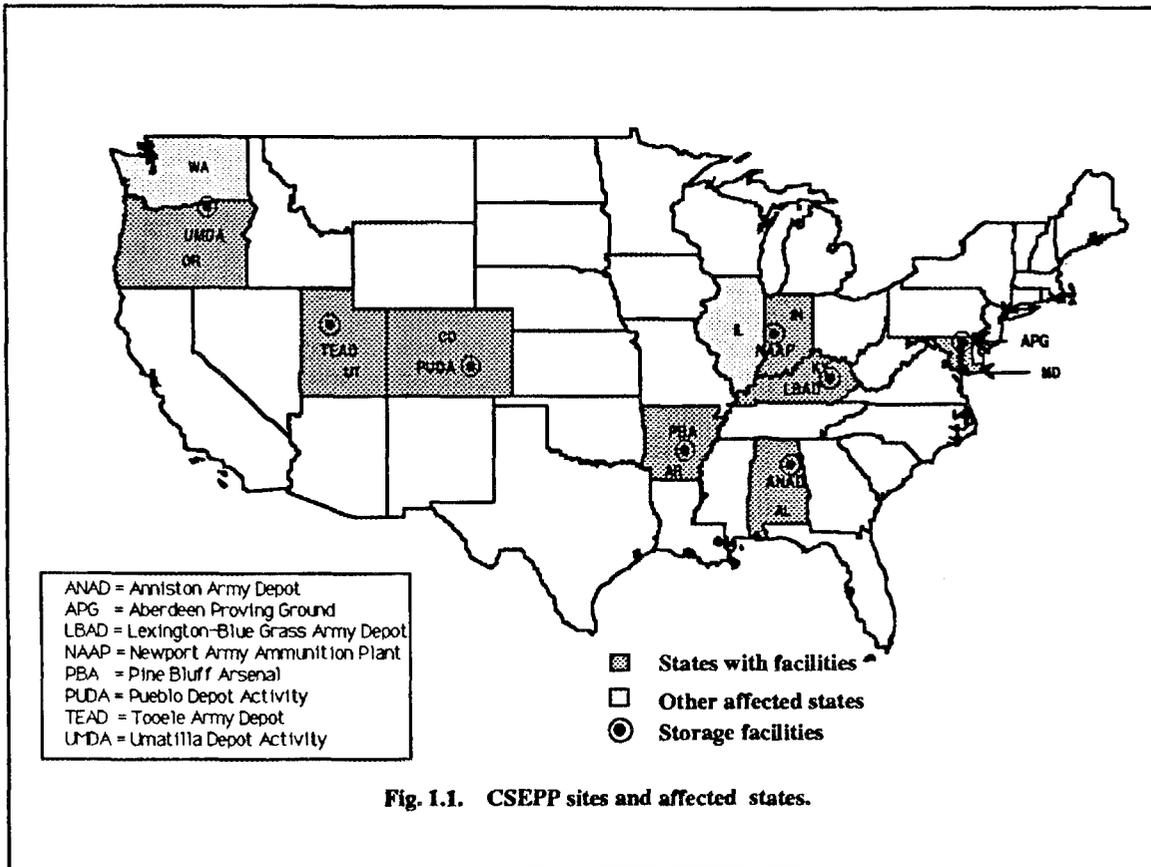
Basic information on the focus group technique and steps in the design and use of focus groups are provided in Sect. 2. Section 3 provides guidance regarding the use of the technique specifically for the CSEPP. A preliminary categorization of potential focus groups and the issues and concerns that likely pertain to them are identified in Sect. 3. Questions that might be used in focus groups to elicit participants' views on those issues and concerns are identified as a first step toward implementing the technique by state and local government officials. A summary of the manual and references are found in Sects. 4 and 5, respectively. A list of suggested readings and reference materials pertaining to the CSEPP and the focus group technique is provided in Sect. 6. Finally, an annotated glossary is found in Sect. 7 of this manual (a list of commonly used acronyms is provided at the beginning of this document).

1.3 BACKGROUND OF THE CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM

The United States' unitary chemical stockpile, which consists of nerve and blister agents stored in bulk containers and as munitions, poses a potentially serious hazard to both people and the environment. In 1985, Congress ordered the U.S. Department of Defense (DOD) to destroy the U.S. stockpile by September 30, 1994 (Public Law 99-145); this date has been extended to 1997 as a result of the U.S. Army's request to incorporate lessons learned from the disposal program at the Johnston Island site before implementing the program in the continental United States (Carnes 1989). In 1988, after selecting on-site incineration as its programmatic decision, the U.S. Department of the Army (DA) committed itself to enhanced emergency preparedness for both interim storage and destruction of the stockpile in its Chemical Stockpile Disposal Program (CSDP). Although the Army will be required to operate its incinerators at safety levels established by the U.S. Department of Health and Human Services (DHHS) and within limits established by various permit requirements (e.g., Clean Air Act and Resource Conservation and Recovery Act), there is a low probability of an accidental release of chemical agent that could result in death and environmental contamination.

The legal impetus for the CSEPP derives from two sources. First, upgrading emergency preparedness is part of the Army's effort to mitigate potential adverse impacts of the CSDP as identified in its Final Programmatic Environmental Impact Statement (FPEIS) (U.S. Army 1988). Second, in the National Defense Act of 1986 (Public Law 99-145), Congress directed that the disposal program provide maximum protection for the public, post personnel, and the environment.

By request of the Army, the Federal Emergency Management Agency (FEMA) agreed in 1988 to coordinate efforts with the Army in the design, development, and implementation of the CSEPP. Thus, the



CSEPP is a joint DA/FEMA program, requiring the active participation of affected state and local governments to guide the development of effective emergency response capabilities for the surrounding jurisdictions at each of the eight stockpile locations that could be affected by any chemical agent release associated with stockpile storage and destruction (i.e., CSDP) activities (see Fig. 1.1). The joint program was initiated with a Memorandum of Understanding (MOU) in which FEMA assumed responsibility for off-post emergency planning activities. The MOU normally will be implemented through a Joint Steering Committee. The Joint Steering Committee was established to serve as a focal point for project oversight for CSEPP planning efforts.

To ensure that decision-makers at all levels have the best available advice, the Joint Steering Committee has established six subcommittees (Planning Standards and Criteria, Reentry/Restoration, Training, Exercises, Public Affairs, and Automated Emergency Management and Simulation

Modeling), one for each of the specialized areas within the CSEPP. The subcommittees are charged by the Joint Steering Committee with responsibility for collecting and analyzing relevant information and ideas in their assigned topic areas, developing workable alternatives for the appropriate decision-makers, and regularly reporting their findings and recommendations to the Joint Steering Committee for review, comment, and, where necessary, decision.

Technical support to CSEPP is provided by the DHHS and the U.S. Environmental Protection Agency (EPA). Both are active members of the Joint Steering Committee. The DHHS has developed and begun conducting training courses for emergency medical personnel serving areas near each of the storage locations. DHHS expertise will also be sought to ensure that health and safety issues are adequately addressed during the emergency planning process.

The EPA is concerned with ensuring that the emergency planning and commu-

nity right-to-know provisions of Title III of the Superfund Amendments and Reauthorization Act (SARA) are adequately addressed. EPA's expertise is being used to ensure that environmental matters are integrated into the emergency planning process and that planning for chemical emergencies is coordinated and integrated at federal, state, and local levels.

The CSEPP involves the coordinated efforts of the federal, state, and local governments. The management plan (Argonne 1990) is merely a framework within which states and the communities adjoining the eight storage sites can work to improve their response capabilities for emergencies involving chemical weapons. The overall CSEPP management plan is comprehensive, and it depends on the cooperation of all agencies and government jurisdictions in and around the installation sites.

As custodian of the chemical weapons, the Army is the only entity experienced in handling them. The Army is also the principal source of funding for emergency preparedness activities associated with the CSDP.

If needs arise for human or material resources beyond the immediate capabilities of the responsible governmental agency, a variety of contractors in the emergency preparedness field are available. Expert assistance is available for hazard analysis, emergency planning, training, preparation for and evaluation of exercises, and other aspects of emergency preparedness program development.

1.4 THE ROLE OF PUBLIC INFORMATION AND EDUCATION IN THE CSEPP

The effectiveness of the CSEPP is ultimately tied to the extent to which officials and the public are aware of the program and their responsibilities in the event of an accidental release of agent. Regardless of how carefully crafted an emergency plan might be, if its contents are not effectively communicated to affected officials and the public (and if its design does not reflect an appreciation of officials' and the public's concerns regarding response to an accident), it may not succeed.

Many mechanisms could be designed and implemented to facilitate the effective communication of CSEPP information and materials among affected officials and the public. Some, including in-depth interviews, participant observation, group- or community-based assessments, and focus groups and other formal group techniques (e.g., nominal groups, Delphi panels), are particularly well suited to an exploration of the meaning or perception that individuals or groups of individuals bring to a problem (Moore 1987; Morgan 1988; Stewart and Shamdasani 1990). The Delphi technique was used in preliminary assessments of the effectiveness of alternative protective actions (Rogers et al. 1990; Carnes et al. 1989a-h). Other approaches, including public meetings, workshops, brochures and pamphlets, and training programs, are best suited for communicating information to individuals or groups of individuals. Whatever mechanisms are chosen, however, must be flexible and adaptable and must accommodate the complexity of the CSEPP and its reach to many different groups composed of people with (1) diverse backgrounds, roles, and responsibilities related to emergency planning, preparedness, and response and (2) previous levels of awareness of the stockpile and its storage and proposed destruction.

1.5 FOCUS GROUPS

Originally called focused interviews, the focus group technique became widely accepted in the 1940s and has been used by social scientists ever since as an important research method for applied scientists working in communications, public policy, marketing, and program evaluation. The term "focus" in the title means that attention is limited to few issues, while "group" means a number of people interacting on common interests (Stewart and Shamdasani 1990). Put simply, a focus group can be defined as a well planned or structured discussion designed to elicit perceptions on a specified topic.

The focus group approach offers several advantages. First, focus groups provide a substantial body of data expressed in the participants' own words. Artificiality of

response is minimal with focus groups, as compared with survey questionnaires that may ask for responses expressed in constrained response categories. Focus groups also allow respondents to qualify their responses, which is much more difficult in survey questionnaires. A second advantage of focus group discussions is that the data gathered resemble information that would arise from a normal conversation. These data are only minimally imposed by the researcher or research setting, in contrast to methods such as survey research and other approaches requiring data manipulation that use research categories created by the researcher(s) and, thus, tend to represent the researcher's imposed view of the situation. Third, focus group discussions allow the moderator or discussion leader to interact face-to-face with the respondents. This allows the researcher to clarify responses, ask follow-up questions, and probe into deeper discussion. Flexibility for further exploration is often not possible with more structured approaches such as survey research. Although individual interviews could similarly permit probing and clarification, they would be tedious to administer and quite costly on a per-person basis. Fourth, focus group discussions allow respondents to react to the responses of other group members. A comment by one individual can trigger a chain of responses from several other participants. This may result in the production of information that might not have been identified in individual interviews. Fifth, the required information can be gathered in a relatively short period of time (a focus group discussion typically lasts 1-2 hours) as compared to other mechanisms. A final advantage is that focus group results are reasonably easy to analyze and understand. This is not always the case with other forms of research, which can require complex statistical analysis.

Although focus groups are valuable research tools with many advantages, they do have some disadvantages that should be acknowledged and planned for. First, the moderator may bias discussion by inadvertently providing cues about "desirable" responses and answers. Second, the small number of respondents that participate in typical focus groups significantly limits

generalization of the results to a larger population. If generalizability is the desired result, other approaches, such as survey research, would be more appropriate. Third, the results obtained in a focus group may not adequately reflect the group's or all participants' perceptions because of a very dominant or opinionated group member. More reserved group members may feel inhibited and refuse to talk. Fourth, the focus groups must be held in an environment conducive to group interactions and discussions. The participants must feel at ease in the environment. These factors may present problems, depending on the available locations. By contrast, individual interviews can be conducted in a location that the interviewee chooses, where s/he feels comfortable. Fifth, focus groups can vary considerably in their dynamics and interactions, which makes them somewhat unpredictable. One group can be dull, boring, and quiet, while the next may be exciting and excessively talkative. Because of differences in groups, the moderator never knows for certain what to expect until the discussion begins.

1.6 USE OF FOCUS GROUPS IN THE CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM

Focus group discussions can provide valuable information for the CSEPP. First, focus group discussions can indicate the level of knowledge the participants have about the CSEPP and problems facing the CSEPP. Second, focus group discussions can allow the moderator to answer questions and clarify misunderstandings surrounding the CSEPP. This will educate the respondents and may alter (reduce or increase) their perception of risk. Third, the discussions can stimulate insights into participants' use of language or vocabulary about the CSEPP, such as the extent to which terms with extensive subjective and emotional content are used by participants to describe their perceptions of risk and the extent to which the CSEPP can alter risk; this use of the focus group technique would facilitate the development of other research instruments (e.g., survey research ques-

tionnaires) that might be used to gain an understanding of the distribution of perceptions found in an entire population. Fourth, discussions can help determine the credibility of the various organizations involved in the CSEPP, including the extent to which some organizations are more trusted than others. Fifth, the discussions may give some indication of the extent of consensus versus dissension regarding the CSEPP's overall ability to reduce risk and, perhaps as important, the ability of individual CSEPP elements to reduce risk. Finally, discussions will provide information on participants' preferences for CSEPP's direction. This will enable them to express their concerns over the CSEPP, which is, after all, intended to protect and serve them.

2. BASIC STRUCTURE AND ELEMENTS OF THE FOCUS GROUP TECHNIQUE

A focus group meeting appears to be fairly simple—a bunch of people gathered in a room talking about something. Planning a focus group meeting so that it produces useful information and the actual conduct of such a meeting, however, are a bit more complex. This section outlines and discusses briefly the basic structure of the focus group technique and steps in the design and conduct of focus groups. The discussion follows a temporal sequence, from initial planning to the analysis, interpretation, and reporting of focus group discussions (see Fig. 2.1). Information related to the application of the focus group technique to the CSEPP is found in Sect. 3.

2.1 PURPOSE OF THE FOCUS GROUP

The first step is to determine the need for a focus group. Traditionally, focus groups have been used to provide information to decision-makers about a program before, during, or after a program or service is provided (Krueger 1988). Focus groups can be useful for orienting individuals to a new field, generating hypotheses based on participants' insights, evaluating the insights or perceptions of different groups or popu-

lations, developing other data-collection instruments (e.g., interview schedules and questionnaires), and obtaining participants' interpretations of results from previous studies (i.e., a means of validating prior research) (Morgan 1988). Answers to the questions "what information is needed," "who needs the information," and "why is the information needed" drive the definition of focus group purpose. Depending on the answers, it may be necessary to conduct more than a single focus group or series of focus groups. This would particularly be the case if the range of information needed is extensive and if specialized information is needed—such a situation, in fact, would indicate that the program being studied, planned, or implemented is complex and involves diverse program providers and "consumers" (aspects that may well be characteristic of the CSEPP).

Conducting focus groups before a program or service is provided can assist in planning, needs assessment, program design, and other preliminary activities in implementing a program (Krueger 1988; Stewart and Shamdasani 1990; Buttram 1990). Focus groups can reduce the probability that the program will make egregious

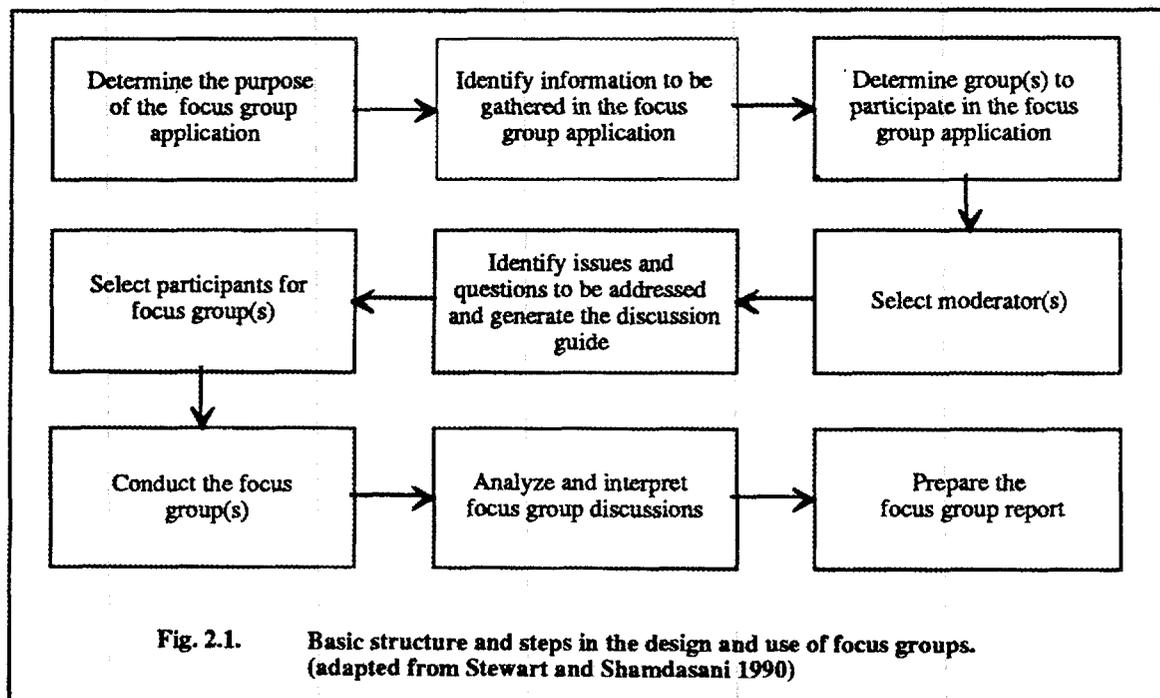


Fig. 2.1. Basic structure and steps in the design and use of focus groups. (adapted from Stewart and Shamdasani 1990)

mistakes by having potential providers or consumers evaluate the program before it is fully designed, staffed, and implemented. It is not unusual for experts to become so involved with a program and its design that they lose perspective; a significant dimension of the program or its implementation may be overlooked, or certain interaction effects of program elements may not have been fully considered. Focus groups can serve as a quality assurance check that is similar to pretesting a questionnaire in survey research, prototyping software, or bench-scale or pilot testing of proposed industrial or manufacturing processes and machinery.

Focus groups can also be used during the implementation of a program or delivery of a service to determine if its implementation or delivery is being conducted in an optimal manner. Are the anticipated results being obtained, and if not, why not? Could the same results be achieved at less cost (whether measured in dollars, adverse impacts, staff time, or some other metric), or could better results be achieved by modifying the program? Put simply, focus groups can be used to evaluate a program so that corrective measures can be identified and taken.

Finally, and perhaps of least concern to the CSEPP, focus groups can be used after completion of a program to determine what went right and what went wrong. This particular use is most helpful when similar programs are being considered for implementation, when such an evaluation would identify lessons learned that might assist in the design of future programs.

2.2 INFORMATION TO BE GATHERED

In addition to the temporal dimension of the purpose of focus groups, it is critical to identify what information is desired, why, and for whom. Information may be needed about the basic thrust of a program, specific elements, whether the basic thrust and/or specific elements are responsive to consumer needs and concerns, and whether the program is compatible with the existing knowledge or capabilities of both program providers and consumers. To the extent that focus groups are conducted and ana-

lyzed before the program's details are finalized, results may be used to modify preliminary program plans to fit the existing need or, alternatively, to expand the program to provide the required knowledge and capabilities to program providers and consumers.

2.3 IDENTIFYING FOCUS GROUPS

Identifying who can provide the required information is driven in large part by the purpose of the focus group. If both program providers and consumers have information that is needed, then both groups may need to participate, albeit in different focus groups. If the decision-makers can meaningfully differentiate program providers and consumers into more discrete units (e.g., elected officials, administrative staff, and field staff among program providers; consumers differentiated by age, geographic location, or some other relevant variable), then different focus groups for these discrete units may be appropriate (Morgan 1988).

Compared to quantitative survey methods, the number of different respondents and groups involved in a focus group study is small. It is important to bear in mind that the purpose of focus groups is not to make generalizations about the population but to provide insightful knowledge about how participants feel about a program (Morgan 1988; Stewart and Shamdasani 1990). In determining the actual number of groups to plan for, note that dangers exist in planning for only one focus group discussion per population segment (i.e., program provider or consumer). First, this makes the effort vulnerable if a group does not run as scheduled. Second, a group may display little more than the group dynamics of a particular set of participants. Third, any particular group may contain one or more people who knowingly or unknowingly disrupt the focus group environment. A general rule of thumb is to plan for at least two focus group discussions per population segment (e.g., emergency medical and special populations). Using more than two focus group discussions per population segment may result in redundancy and will increase time and money spent on this project.

2.4 SELECTING A MODERATOR

An important aspect of collecting data from focus group discussions is an effective moderator or discussion leader. In leading the focus group, the moderator guides the discussion within the intended topic areas and controls the dynamics of the group discussion. The moderator works with participants to establish a personal rapport and is part of the group structure without becoming obtrusive to the discussion. The moderator investigates meanings of expressed comments. While discouraging control of the group by any individual, the moderator encourages all group members to participate. Also, the moderator supports open dialogue while simultaneously bringing marginally relevant issues back into the focus of the discussion.

The fundamental role of the moderator in focus groups is to conduct the group discussion. However, the moderator's contribution is more valuable when s/he is involved in planning the study, drafting the discussion guide (see Sect. 2.5), assisting with the analysis, and writing the report on the findings (see Sects. 2.8 and 2.9, respectively). When the moderator is part of the total effort, greater continuity in the overall task reduces the loss of important information.

If the focus group is conducted by an individual independent of the issue (e.g., a consulting or research firm), it is important that s/he is adequately briefed for the study. The moderator should be familiar with the background of the program; topic issues surrounding the program; the program's providers and consumers; and especially with what information is desired, by whom, and for what purposes.

By informing the moderator of the program's overall agenda, s/he is better able to identify relevant cues and comments made by the focus group participants and then ask meaningful follow-up questions to probe further the issues of interest. Giving the moderator prior information on the program reduces the possibility of exploring certain issues already decided or not relevant to the purpose of the focus group.

Moderating requires preparation, mental discipline, and group interaction

skills. The success of the focus group rests largely with the quality of questions asked of the group members. However, even the most well-developed questions will fall short of the research goal with an unskilled moderator. Therefore, one key to collecting valid and useful information from focus groups is an effective moderator.

The moderator can be selected from among program providers or consumers, a consulting or research firm, or a self-employed focus group professional. Using program providers or consumers as moderators may inhibit some group participants from discussing sensitive issues. However, an advantage of selecting someone involved in the program is the level of knowledge of the program. Some focus group practitioners do note that a second moderator can be used (i.e., participate in the discussion) to take either a "dueling" or "complementary" role. The former may legitimize different points of view and invite supporting arguments from the participants, whereas the latter approach may be desirable if one moderator is a generalist expert in focus groups or group dynamics and the other is a specialist in the area under discussion (Krueger 1988).

The informed moderator can direct questions requiring technical or factual information. On the other hand, a professional focus group moderator is already trained in utilizing the interviewing skills and group discussion techniques necessary to conduct an effective focus group. In deciding about contracting with professional focus group moderators, cost is usually the primary factor to consider.

Educational background, training, and the amount of moderating experience are important areas to examine when selecting a moderator. Certain types of educational background, such as those in marketing, psychology, or other social sciences, are useful preparation for a moderator. Previous experience in working with groups or training in group processes indicates potential candidates for leading focus group discussions.

Researchers agree on the very general characteristics for focus group moderators. Although these characteristics are important to consider when selecting discussion

leaders, they are difficult to measure objectively. These qualities include the ability to:

- establish rapport quickly with the group;
- encourage free expression from respondents;
- be an attentive, sensitive listener, truly interested in respondents as human beings;
- be alert to nonverbal responses;
- be able to think and react quickly to unexpected occurrences;
- be instinctive and intuitive; and
- be objective and capable of detaching oneself from personal feelings about a subject.

An important aspect in moderator selection is the question format of the topics. Although a discussion guide is usually prepared by the planners of the focus group application and moderator before the meeting, the moderator must anticipate dialogue that strays from the topic and rely on a natural ability to redirect questions back to the focus of the meeting. The way questions are asked by the moderator determines the type of answer given and sets the tone for the group interaction.

The composition and purpose of the focus group will often determine the style of interviewing required by the moderator. A more structured approach to focus groups may be necessary when the objective of the interview is to generate hypotheses or to determine potential problems with a new program or service. When the topic is sensitive in nature, the moderator needs to be in control of the discussion and continue probing relevant issues to stimulate the direction of conversation among group members.

To limit problems of conflict, tension, or arguments among focus group members, the moderator needs to be familiar with the substantive problem, group dynamics, and the topic to be discussed. An understanding of the substantive problem and discussion topics allows the moderator to maintain control of the discussion if disruptive behavior ensues among group members. By anticipating the group dynamics that

could emerge as a result of the group composition, the moderator is more prepared for the discussion outcome.

2.5 IDENTIFYING FOCUS GROUP ISSUES AND QUESTIONS AND PREPARING THE DISCUSSION GUIDE

Put simply, the focus group discussion focuses on the information needs on which the meeting is predicated, and these needs form the basis for identifying questions and issues to put to the group. The questions and issues provide the framework for the group's deliberations. The discussion guide is simply the agenda to be used by the moderator; it includes introductions, an explanation of the purpose of the meeting, a brief description of the program under examination, an explanation of the focus group approach (including procedures to be followed), and questions that the moderator will ask in sequence to structure the discussion (the actual questions are usually not provided to focus group participants in advance but are asked by the moderator in sequence).

Discussion issues and questions are derived from an analysis of the information needs of decision-makers. Questions may address the fundamental purpose of the program; how the program is structured to satisfy that purpose; behavioral, organizational, technical, and financial aspects of the program; and the roles and responsibilities of program providers and consumers. The selection of questions should be guided by the overall purpose of the focus group meeting.

The sequence of the questions is important to the discussion outcome. In general, the questioning route begins with the more broad and general questions and moves gradually to more specific questions. The moderator would begin with general overview questions and progress into more narrowly defined questions.

A prepared discussion guide maintains some logical sequence to the issue areas. The moderator has the flexibility of altering issue areas and question patterns depending upon the direction of responses and the composition of the group. The

entire focus group discussion usually lasts from 1 to 2 hours, although the time allotted may be expanded if participants' schedules permits and if the additional time is necessary.

An example of a discussion guide is shown in Fig. 2.2. This guide serves primarily as an outline for the moderator. During the introduction, the moderator should explain his or her role in the program (if any, other than as moderator) and the purpose of the focus group. The moderator should point out s/he is not present to comment on or provide answers to the questions but only to facilitate the discussion; in the case of CSEPP focus groups, however, an educational purpose may be served by having the moderator (or an assistant) provide answers to questions from participants regarding the CSEPP to ensure accurate and systematic understanding of the program. A brief description of the program is appropriate to focus the discussion.

Although the purpose of the focus group may be straightforward, the focus group environment may need some elaboration. The group should be reminded that no "right" or "wrong" answers exist. It should be stressed that the focus group has been assembled to gather opinions and attitudes on the program and not to quiz the participants on their knowledge of the program (although gaining an understanding of the range of knowledge about the program maybe an indirect but important outcome of the discussion).

The last section of the introduction involves the respondent introductions. The group members are encouraged to use first names only (name tags may be helpful) to keep the setting as informal as possible. Asking respondents to tell what city they live in and something about themselves should help to make everyone comfortable before the actual questions begin. As indicated in Fig. 2.2, one may also request the participants to ask an introductory question or make an introductory comment. This allows the participants to get a preliminary start on the substantive aspects of the meeting and may alert the moderator to participants' key concerns. The second part of the discussion guide includes the key points of interest to be presented by the

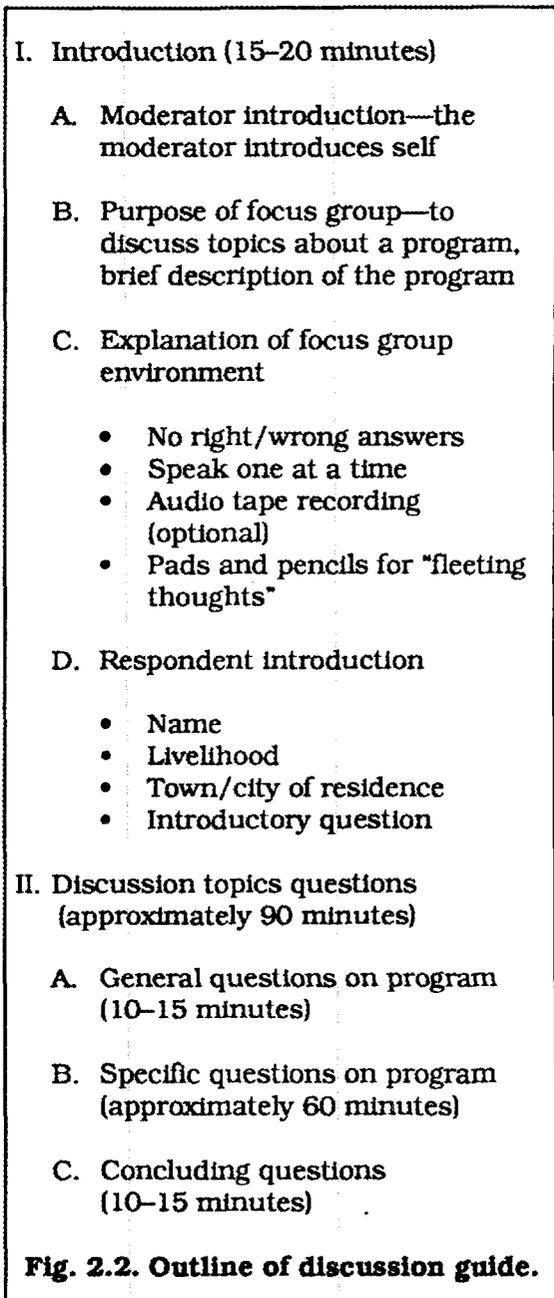
- 
- I. Introduction (15–20 minutes)
 - A. Moderator introduction—the moderator introduces self
 - B. Purpose of focus group—to discuss topics about a program, brief description of the program
 - C. Explanation of focus group environment
 - No right/wrong answers
 - Speak one at a time
 - Audio tape recording (optional)
 - Pads and pencils for "fleeting thoughts"
 - D. Respondent introduction
 - Name
 - Livelihood
 - Town/city of residence
 - Introductory question
 - II. Discussion topics questions (approximately 90 minutes)
 - A. General questions on program (10–15 minutes)
 - B. Specific questions on program (approximately 60 minutes)
 - C. Concluding questions (10–15 minutes)

Fig. 2.2. Outline of discussion guide.

moderator. Each discussion topic should be introduced with a general question followed by more specific questions. The question of whether to provide participants with the full list of questions to be addressed during the meeting at the very beginning, versus identifying the questions in sequence as they arise, is not easily answered—there are advantages and disadvantages to each. By providing the full list of questions at the beginning, the participants may gain a fuller appreciation of the issues to be discussed and the desired eventual specificity of the

discussion. On the other hand, providing the list early may deflect the discussion from the desired progression from more general questions to the more specific. If the decision is made not to provide the full list at the beginning of the meeting, the moderator may still provide a reasonably detailed identification of the kinds of issues to be explored and retain some flexibility to rearrange or omit questions.

2.6 SELECTING FOCUS GROUP PARTICIPANTS

Identifying and recruiting participants for a focus group are important steps in the overall process. As would be expected, the kinds of information needed affect the number and types of focus groups to be conducted (see Sect. 2.3), and the number and types of groups, in turn, affect the identification and recruitment of participants. Aside from this fairly general guidance, however, a number of characteristics of focus groups may also affect the identification and recruitment of participants.

2.6.1 Group Compatibility

Group compatibility is the extent to which members of a group have similar personal characteristics (e.g., demographic, personality, and attitudes) and functional responsibilities (e.g., program providers and consumers). Generally speaking, highly compatible groups perform assignments more efficiently than less compatible groups, because less time goes into the maintenance of the group. This is not to say that focus groups should consist only of people who agree with one another, but it does suggest that groups composed of persons with opposed ideas may function less efficiently (Stewart and Shamdasani 1990).

Although many focus group practitioners fully support homogeneous focus groups, some feel that heterogeneous groups are more effective because a greater variety of attitudes, skills, and knowledge can be brought to bear on the discussions. Conformity and leadership are closely related to effective performance of group tasks. Some suggest that there is a higher level of confor-

mity among members of heterogeneous groups than among members of homogeneous groups because of the greater concern about interpersonal relations. Leadership traits are more likely to arise in heterogeneous groups than in homogeneous groups, and leadership behavior usually facilitates effective task accomplishment through interpersonal influence and effective communication. This suggests that heterogeneous groups are more effective in encouraging group participation and problem solving than homogeneous focus groups.

2.6.2 Recruiting Participants

Recruiting participants for focus group discussions requires the same care and attention associated with other types of research. Participants can be recruited in a number of ways, including convenience sampling, telephone screening, and snowball sampling. The best recruiting technique for each focus group may depend on the available resources.

Convenience sampling uses existing lists and contacts existing groups. Examples of existing lists include lists of clients; those who use the services of organizations; civic and religious organizations; and employee lists. Many existing lists are updated regularly and reflect address changes helpful in recruiting participants. When choosing participants from existing lists, it is helpful to draw a systematic sample. For example, to choose a sample of 10 participants from a list of 100 names, one could pick every tenth name that appears on the list. Similarly, a random sample could be drawn by using a random number table to draw a sample of 10 from the list of 100 (Krueger 1988).

A second way to use convenience sampling is to contact existing groups for names. When existing groups in the relevant universe (i.e., program providers and consumers) have members who meet the desired characteristics and these groups are willing to give out members' names, this is very effective both in terms of time and money. Many existing groups may be hesitant to give out names of their members. In cases involving a public program, however, cooperation will be more likely if the

recruiter explains the public purpose of these focus group discussions.

An alternative to using existing lists and groups is to use telephone screening. This process begins by obtaining a random selection of names. This can be done by random digit dialing (RDD) or by manually selecting random telephone numbers from a telephone directory. Once the names are selected, a few brief screening questions can be used to determine whether the individuals meet the requirements for participating in the focus group discussions. This recruiting device is very common, but it may not be the most appropriate if the information needs are quite specific.

A less systematic recruiting technique for participants is snowball sampling. With this approach, one of the other recruiting techniques is used, but every selected participant is asked to bring a friend. This approach may save time and money.

A variation of snowballing is a "contracting" approach. With this procedure, a number of persons are recruited to participate in focus group discussions. At the focus group discussions, these participants are then asked for names of others who might also be willing to participate in subsequent focus groups. Participants often give names of friends or associates who meet the desired characteristics.

2.6.3 Number of Participants

Focus group discussions work best with 6 to 12 participants. Focus groups with more than 12 participants are not recommended because they limit each participant's opportunity to express her/his opinions. Also, more than 12 participants in discussion makes it difficult for the moderator to manage the group. Focus groups with less than 6 participants are not recommended for two reasons. First, the discussion begins to lose some of the richness of group dynamics when the group becomes too small. Second, using fewer than 6 participants means that the range of opinions and information represented is less extensive.

In general, it is recommended to overrecruit when planning for each individual focus group discussion.

Overrecruiting is necessary because often persons will not attend. A rule of thumb is to assume that one or two persons will not attend the discussion. Overrecruiting participants can save canceling a focus group discussion because too few persons are present. Overrecruitment may not be necessary to the extent that recruitment includes follow-up reminders to persons agreeing to participate or that participation may be considered a part of their employment.

2.7 CONDUCTING THE FOCUS GROUP

Although the prior planning and preparations already identified should enhance the probability of a successful focus group meeting, a number of other important issues may affect the success of the focus group meeting. These include the location of and physical arrangements for the meeting, the discussion style (including the moderator's responsibilities), the desirability of observers or assistants, and record keeping.

2.7.1 Location and Physical Arrangements

The location of the meeting is an important factor to consider when planning for a focus group. Travel time is an important planning consideration. The closer the location to people's homes or places of work, the easier it will be to depend on scheduled attendance. The discussions should be held in a setting where participants feel comfortable. For instance, some participants may perceive a city hall or other public institution as threatening, and this may deter participation. A neutral setting is suggested for best results. Examples of neutral settings are meeting rooms at local universities and in shopping malls or community centers.

If a neutral setting is not available, it is possible to conduct focus group discussions in participants' homes. Whether this is a plausible option depends on the participants in that group. This setting may work well if all the participants are friends or members of the same organization, but it

may not be appropriate if participants are strangers.

The actual physical arrangements should also be considered in planning for focus groups. The ideal room contains a large round table where all participants can easily sit and face each other (see Fig. 2.3). If a large table is not available, then a circle of chairs can be formed to emulate the round table. Although they are not essential, refreshments (e.g., coffee, tea, juice, and soft drinks) might be made available to show appreciation for attendance.

2.7.2 Moderator Responsibilities

Conducting the focus group discussion falls primarily on the moderator. An effective moderator is crucial in gaining the maximum amount of information from each group discussion. Therefore, great care should go into selecting the moderator (see Sect. 2.4). The moderator needs to set the

tone in the beginning of the discussion. The moderator should make everyone feel comfortable by introducing him or herself and by outlining how the focus group will operate, as identified in the discussion guide. The moderator then allows all participants to introduce themselves. Introductions ease some of the tension and help everyone feel more comfortable for the discussion.

2.7.2.1 Generate participation

It is important that all members of the discussion are encouraged to talk. The moderator needs to stress the important role each participant plays in the success of the group. Without full participation from each member, the focus group discussion will be less effective in addressing the concerns of the program. Encouraging participation at the beginning of the session sets the tone for the discussion.

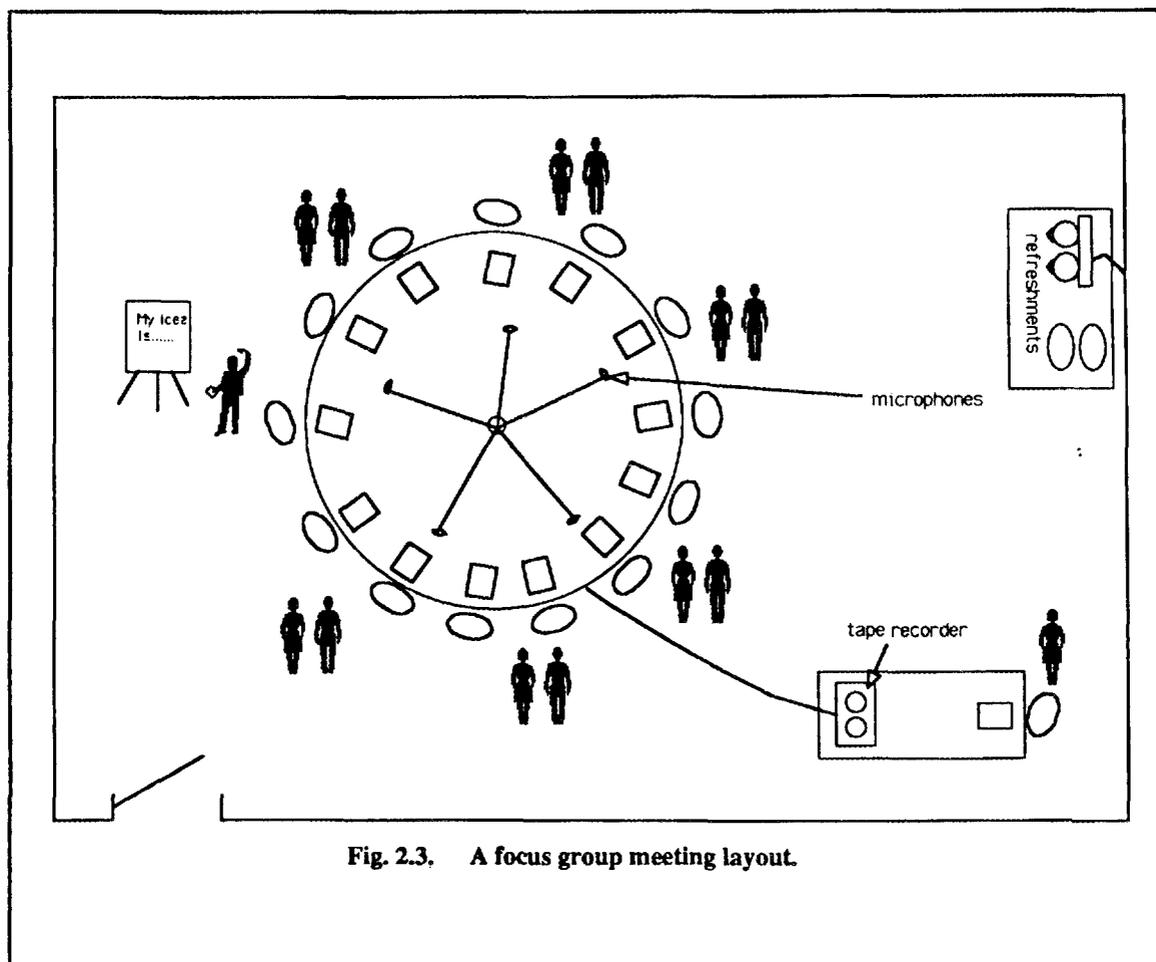


Fig. 2.3. A focus group meeting layout.

Certain participants may be more reserved and less willing to speak. When this occurs, the moderator needs to work harder to ensure their participation by directing questions to these members or asking each participant for her or his opinion in sequence. Either of these options will help elicit comments by reluctant participants.

2.7.2.2 Manage discussion time

An important responsibility of the moderator is to manage time effectively. Focus group discussions typically last only between 1 and 2 hours, so it is not efficient to allow a discussion of one topic to last for an hour. As stated earlier, the moderator must have a sense of when to probe for more information and when to move on to the next question or topic. The moderator's knowledge of the program and the overall information needed from the focus group is critical in knowing which questions on the agenda are most important and which questions require minimal discussion.

2.7.2.3 Probe topic areas

A probe or follow-up question extracts more information on a topic when participants make vague comments or simply agree with a comment. The probe helps clarify comments and encourage participants to explain "why" they agree with a particular comment. Probing conveys the necessity of participants making their comments clear and precise.

2.7.2.4 Conclude the discussion

The moderator has several options for concluding the focus group. In addition to a note of appreciation, the moderator may give a brief summary of the main points and ask if this perception is accurate. If the group does not feel the summary is accurate or adequate, the moderator may ask the participants for clarification. Alternatively, the moderator may restate the purpose of the discussion and ask for any omissions that could be addressed before concluding the discussion. This type of conclusion could uncover some helpful concerns not

considered in either the question agenda or in the discussion (Krueger 1988).

2.7.3 Observers and Assistants

Persons other than the moderator and recruited participants may need to be present at the focus group meeting to provide support to the moderator and the meeting itself (e.g., to take notes for meeting participants, to note key ideas on newsprint pads and tape them to the wall for the group's later reference, to run a viewgraph or slide projector, and to replenish refreshments) or to observe and take notes of the discussion for later interpretation and analysis. When others are involved, they should be introduced at the beginning of the discussion, and their role(s) should be explained. Being forthright about everyone's roles may minimize undue suspicion. When an observer or assistant is present, he or she should sit away from the group as a reminder that she or he is observing and not participating in the discussion itself.

2.7.4 Record of the Discussion

One aspect of the focus group technique that differentiates it from an informal conversation or discussion is that a record of the exercise is necessary. Depending on the purpose of the focus group, the information needed from the discussion, the sensitivity of the issue, and the sensitivity of the participants, the record can be written or taped, although written notes are a minimum requirement. Generally, the moderator and an assistant both take notes. The moderator takes brief notes to help with later discussion and the concluding remarks, while the assistant tries to take more complete notes of the entire discussion for later interpretation and analysis. The assistant's notes should be complete enough to substitute for the taped record (if the meeting is taped) in the event of equipment failure.

Those persons planning the focus group might plan to either audiotape or videotape the focus group meeting. This more complete record permits more detailed interpretation and analysis subsequent to the meeting; if, however,

meeting planners know that sufficient time or resources do not exist for such detailed analysis later on, there is little reason to audiotape or videotape the session (and the written notes become even more important). Little evidence exists that either type of taping will alter responses or offend anyone (Krueger 1988; Stewart and Shamdasani 1990), but it should still be explained beforehand. The moderator should assure everyone that the recording will be confidential and will be circulated only to those involved in analyzing the focus group effort. If any participant objects to the recording, s/he should be given a chance to leave before the discussion begins; if more than one participant objects, the moderator might reevaluate the necessity of the audiotape or videotape in light of reduced participation. *Under no circumstance should a focus group be recorded without participants' knowledge.*

2.7.5 Potential Problems

Generally focus group discussions run smoothly, but a number of problems may arise. Those conducting the focus groups, especially the moderator, should be aware of some of the more common problems. Other, less common problems may also appear and will have to be dealt with as they arise.

2.7.5.1 Hostile participants

Some programs are sensitive or raise sensitive issues for persons participating in a focus group. A participant may become angry or even hostile during a discussion. If this occurs and the moderator judges that the problem is not going to resolve itself naturally, the moderator may call a short break and discuss it with the person individually. It should not be assumed, however, that conflict in a focus group is necessarily bad—it may help achieve a better understanding of the intensity of participants' feelings about particular issues. If kept within reason, conflict may also serve to focus other participants on issues that are particularly contentious.

2.7.5.2 The "expert"

It is not uncommon in a focus group to have self-proclaimed "experts," and these individuals can inhibit other participants from taking part in the discussion. Stewart and Shamdasani (1990) suggest that the moderator can make it clear that s/he is interested in the views of all the members of the group. If this fails, the moderator may become more assertive, take on the role of "expert" himself or herself, ask others in the group for their perceptions, avoid eye contact with the "expert," or not recognize the individual's wish to speak.

2.7.5.3 The "rambler"

The rambling participant may feel very comfortable talking and feel an obligation to say something about virtually anything and everything. S/he may go off on a tangent, which is counterproductive to the purpose of the discussion (Krueger 1988). The moderator can, as with the "expert," discontinue eye contact, look bored, or interrupt the rambler to ask for others' perceptions. The point is to keep the discussion on track.

2.8 INTERPRETING AND ANALYZING FOCUS GROUP DISCUSSIONS

The analysis of focus group data requires considerable judgment and care as with other scientific approaches. There are two basic approaches to the analysis of focus group data: a strictly qualitative or ethnographic summary and a systematic coding via content analysis (Morgan 1988). The former approach relies more on direct quotes from the discussion, while the latter produces numerical descriptions of the data. Whichever approach is selected (note that it is possible to combine them), it is essential to understand that the unit of analysis is the group and that it is difficult and dangerous to ascribe or generalize the results to a larger population (Krueger 1988).

If the focus group discussion has been audiotaped or videotaped, a first step prior to analyzing focus group data can be to transcribe the entire discussion. If a decision is made to transcribe the discussion, note that incomplete sentences, missing

words, and grammatical mistakes will be in the transcription because that is how people talk. The amount of editing done to the transcription to make it more comprehensible is a matter of preference and resources. If editing is deemed necessary, one should be aware of some potential problems. Too much editing may lose some of the information gathered. For example, if part of the research is to determine how language and words are used regarding a program, editing respondents' words out would adversely affect the analysis. Ideally, the editing would make the transcripts more readable while paying particular attention not to lose any useful information. A decision to transcribe the discussion should be made with care—it is an extremely labor-intensive process and should be done only when considered critical to the analysis or the development of an official record of the meeting.

If possible, the moderator and any observers or assistants should participate in the analysis because of their firsthand familiarity with the focus group discussions. This is particularly the case if audiotapes or videotapes are not made of the focus group meeting and, even more so, if other non-attendees participate in the analysis. Additionally, individuals with a comprehensive and, where appropriate, technical knowledge of the topic addressed by the focus group should participate in the analysis.

For both the ethnographic summary and content analysis approaches to analyzing focus group data, it is important to become thoroughly familiar with the contents of the focus group discussion (Morgan 1988; Stewart and Shamdasani 1990). This is achieved by reviewing the notes, transcript, or taped version of the proceedings, perhaps several times. The analyst develops categories of topics or interests that should proceed from the questions and the participants' responses. For both the ethnographic and content analysis approaches, codes are developed for summarizing the data.

For the ethnographic summary approach to analyzing the data, a cut-and-paste procedure ensures that for each question/topic area the full range of responses is

represented. The cut-and-paste method is suggested for the analysis of focus group data for most applications. It is the most common analytical technique among focus group researchers. In addition, it is both quick and cost effective. The coded information may be sentences, phrases, or long exchanges between individual respondents. After the coding process is finished, the total discussion (transcript or notes) may be cut apart. Each piece of coded material can be cut out and sorted so that all material relevant to any particular topic is placed together. These sets of sorted materials provide the basis for developing a summary report. Each topic is treated in turn with a short introduction. The various pieces of transcribed materials can be used as supporting materials and incorporated within an interpretation.

The cut-and-paste method is very useful, but it relies heavily on the judgment of those who analyze it. The analyst determines which segments are important, develops category topics and selects the representative statements regarding these topics from the transcript or notes, and finally develops an interpretation of what it means. It is very useful, where possible, to use multiple analysts. This provides an opportunity to check reliability of coding, at least with respect to the major themes and issues (Stewart and Shamdasani 1990).

For the content analysis approach, counting procedures are developed to identify numerical summaries of the responses. Whether the coding is done manually or with a computer (e.g., with a word processing program capable of finding, sorting, and counting key words or phrases), the key is to develop a set of items that can be counted. When using this approach, it is best to quantitatively summarize the data with a few fairly simple tables to summarize basic information related to the focus group application and not to overwhelm the user with quantitative analyses, because such sophistication may go well beyond the validity of the analysis in any case.

2.9 PREPARING THE FOCUS GROUP REPORT

An effective report communicates useful research results. Emphasis must be placed on the needs of the decision-maker when delivering information. Although the report is intended to serve the immediate needs of the decision-maker, another purpose is to provide reference for future studies and program decisions.

The process of preparing the report helps develop a logical description of the overall focus group application. Writing a report forces a clear arrangement of the purpose, method, results, conclusions, and recommendations in an appropriate sequence. Although written reports may well improve the quality of the information and allow independent review of the focus group application, sometimes focus group reports can and perhaps should be presented orally; oral reports can encourage dialogue between the researcher and the decision-maker or target audience and permit the timely resolution of misunderstandings.

A recommended outline includes the following:

- (1) *Summary of findings or executive summary.* Describe briefly why focus groups were conducted and list conclusions and recommendations.
- (2) *Statement of the problem and focus group methods.* Describe the purpose of the focus group application and include a brief description of the focus group discussion(s). Include an explanation of the methods for selecting the groups, the number of groups, other information pertaining to sampling, and the discussion guide, including questions put to the focus group(s).
- (3) *Results.* Organize results around the major topic areas discussed in the focus group discussions. Present results by using actual quotes of comments made by the participants, being sure to present the range of comments expressed by participants on each relevant topic area and using descriptive summaries or interpretative explanations.
- (4) *Limitations and alternative explanations.* Briefly mention those aspects of the focus group application that limit the generalizability of the findings and the use of procedures that prevent conclusive statements about the program.
- (5) *Conclusions and recommendations.* Conclude the report with summary statements on the findings. Provide suggestions for utilizing the results.
- (6) *Appendix (for written reports).* Include the actual discussion guide(s), focus group questions, and other materials used to stimulate discussion.

3. FOCUS GROUPS FOR THE CSEPP

The ultimate success of the CSEPP depends largely on the extent to which program planners (i.e., those persons developing program guidance, standards, and other implementing procedures), program providers (i.e., those responsible for providing CSEPP support when and if an accidental release occurs), and program users or consumers (i.e., those persons who will avail themselves of CSEPP support) have a common understanding of the program and its various components. Focus groups can assist in developing such a common understanding.

3.1 POTENTIAL PURPOSES OF CSEPP FOCUS GROUPS

As mentioned in Sect. 1.5, focus group discussions can provide valuable information for the CSEPP. They can

- address the level of knowledge that providers and users/consumers have on the CSEPP and problems facing the CSEPP;
- answer questions and clarify misunderstandings surrounding the CSEPP;
- stimulate insights into participants' use of language or vocabulary about the CSEPP;
- help determine the credibility of the various organizations involved in the CSEPP;
- indicate the extent of consensus regarding the CSEPP's overall ability to reduce risk and, perhaps as important, the ability of individual CSEPP elements to reduce risk; and
- provide information on participants' preferences for the CSEPP's direction.

Public attitudes are a crucial factor in developing the CSEPP. Attitudes can convey valuable information about what is expected from the program and what impacts are anticipated from the CSEPP. Some of the CSEPP impacts predicted by researchers in environmental impact statements (EISs) and elsewhere are based on public comments made at various public

meetings, including CSDP scoping meetings and public hearings, and on social science research. Less often, such predictions have been made on the basis of purposive and in-depth interactions with members of the affected publics.

Traditional mechanisms for public involvement in emergency planning have been established to provide a communication link between local communities and emergency planning agencies, such as FEMA. Theoretically, local citizens and officials can express their concerns and request information on emergency preparedness through their Intergovernmental Consultation and Coordination Board (ICCB). Other available methods are the state emergency response commissions (SERC) and local emergency planning committees (LEPC), established under SARA Title III. Although these avenues of communication are available to communities, their use often depends on the concerted effort of a group of people mobilized around a particular issue. Individual members of a community could find that approaching emergency agencies is an intimidating and futile experience. Even emergency response providers (e.g., police, emergency medical support, and voluntary organizations) may find that existing mechanisms and avenues are not conducive mechanisms for providing input to emergency planners.

Traditionally, emergency management has not systematically incorporated public concerns into the planning process. Thus, government agencies must make concerted efforts to encourage the public to take part in the emergency planning process.

A consequence of inadequate provider and user/consumer involvement in emergency planning is a lack of understanding by emergency planners of how providers and the public will accept and respond to the CSEPP. Designing emergency preparedness efforts based on misperceptions of providers' capabilities and consumers' needs could result in inadequate response in the event of an accidental release of chemical agent. Avoiding fatalities is obviously the most important objective of CSEPP;

however, this goal can only be achieved if the preparedness strategies are workable and publicly acceptable.

Emergency workers and community members have legitimate concerns to convey, and it is important that their views are included in developing emergency preparedness programs. Their involvement in the planning process encourages cooperation among agencies and citizens and a greater understanding of the interconnectedness of the overall management plan. Increased understanding helps to establish rapport and communication among emergency workers, the community, and CSEPP planners necessary to program implementation. Program planners need to acknowledge and listen to the public's expressed concerns.

Focus group interviews can serve as one communication link among the public, emergency workers, and emergency planners. By listening to consumers of the CSEPP and those who will be responsible for providing emergency services, emergency planners can learn how both groups conceptualize the CSEPP. Data gathered from focus groups can be used as a gauge to measure how well CSEPP plans are meeting the expectations and needs of the program. They can also be used, of course, to familiarize participants with the unique aspects of the CSEPP.

Focus groups provide a rich, detailed amount of data about feelings, perceptions, attitudes, and impressions of group members on a given topic. Just as the CSEPP plans are multifaceted and interrelated, so too are the issues surrounding the program. The group discussions can focus on the following topic areas concerning CSEPP:

- knowledge about the program,
- attitudes toward the program,
- perceptions of risk and the impacts of the program on those perceptions, and
- preferences about program design.

Expressed attitudes are not always accurate indicators of how people will act in a situation. However, what can be determined from personal opinions is some idea of intended behavior. Anticipation on how

emergency workers and the public will respond to the management plans of the CSEPP before implementation enhances the program's capability to integrate the existing community structure and meet public needs.

An example of public attitudes toward the program involves discussion of the advantages and disadvantages of the CSEPP plans, such as protective action strategies, warning, communication systems, reentry, decontamination, and public education and information. Feelings expressed in focus groups about program costs and benefits indicate areas of satisfaction or contention. Dissatisfied participants will not likely accept the program plans, nor will they follow them correctly when implemented. Planners should not ignore attitudes that appear negative in nature. Conflicts between emergency workers or the public and emergency planners can result from discounting people's concerns. Emergency workers and the public will only become frustrated and express their concerns more aggressively if they feel their views have been ignored by risk managers.

Citizens' concerns about CSEPP are influenced by their perceived risks of a chemical event. Despite the low probability of occurrence, the release of nerve or blister (vesicant) agent may be perceived by the public to result in serious consequences. Focus group interviews can address perceptions of risk by discussing the experiences group members have had with other hazardous emergencies. Another area to explore is whether and to what extent anxiety is imposed by implementing the emergency preparedness program and the program's effect on perceptions of risk. In other words, does perception of risk increase or decrease as a result of introducing protective action strategies, warning, public education, and other information on preparedness?

Knowledge about the program can be derived from questions on specific program activities. For example, a discussion on perceived roles of the Army, FEMA, the community, and other emergency management agencies provides insight to the level of knowledge focus groups and their members have about the CSEPP management plan. Any discrepancy between actual and

expected roles could also suggest other preferences held by groups about the program design. For instance, group interviews may reveal that the primary authority and responsibility for program implementation should be distributed differently among the governmental agencies. Other program preferences could be solicited from the focus groups by initiating discussion on the credible sources of information currently available to the public in case of an emergency.

3.2 INFORMATION RELEVANT TO CSEPP FOCUS GROUPS

As suggested above, state and local officials may gather useful information from both emergency workers and members or representatives of the public—program providers and users/consumers—about basic elements or components of emergency planning and preparedness. The remainder of this section is devoted to a description of the planning considerations that compose the foundation on which CSEPP standards and criteria are currently being determined. Oak Ridge National Laboratory and Schneider Engineers (1990) *Planning Guidance for the Chemical Stockpile Emergency Preparedness Program, Final Interim Draft*, provides descriptions of the emergency preparedness program considerations for the CSEPP. The guidance also contains preliminary standards and criteria for use by federal authorities in evaluating local emergency programs.

The discussion of each planning consideration deals briefly with the specific roles and responsibilities of involved governmental, public, and private sector parties within the context of the function and organizational structure of the plans. This information can be used to develop focus group questions and follow-up probes for the different potential CSEPP focus groups.

3.2.1 Command and Control

An effective first response to an accidental release of chemical agent is the responsibility of the installation/CSDP authority, because it will be the unit that recognizes that an unplanned release with

the potential for off-site consequences has occurred. Beyond that first response and the accompanying need for notifying other cognizant authorities, however, the other cognizant authorities must develop an analytical capability, procedures, facilities, and management structure and capability to coordinate response actions and mobilize resources. Command and control of the off-post emergency response will be coordinated from an emergency operations center (EOC) located off-post. Central management is provided through the highest ranking local elected official or other authorized official. The EOC staff includes elected officials as well as emergency management coordinators and representatives from law enforcement, fire, medical, schools, transportation, media, social service organizations, and relevant private sector organizations.

The command and control organizational structure must effectively coordinate the use of immediately available resources. The most critical function is to provide timely and accurate public alert, notification, and information for timely public response.

3.2.2 Communications

Because emergency information must be transmitted quickly and accurately, the emergency communication system must have direct, reliable, and redundant communications between the Army and the off-post EOCs (both primary and alternate) of all affected off-post jurisdictions, direct and reliable interjurisdictional EOC communications for all off-post areas as well as links with state emergency services or related agencies, and direct and reliable communications between and among all off-post EOCs and their field units. Once the off-post agencies receive initial information, they must communicate with and activate and mobilize response units such as police, fire, emergency medical, rescue, and other public safety resources as well as governmental, health, school, and other special facility authorities.

3.2.3 Chemical Event Emergency Notification

The responsibilities associated with the chemical event assessment process and the related standard emergency notification system belong primarily to the Army installations. The goal of these responsibilities is accurate, complete, and timely communication of critical chemical event information to local officials to allow them to recommend appropriate response(s).

3.2.4 Protective Action Decision-Making

Public officials have to make decisions rapidly when a chemical agent emergency occurs. Emergency planning seeks to anticipate possible emergencies and needed resources and identifies the circumstances, conditions, and procedures for making decisions during a chemical agent emergency.

3.2.5 Protective Actions and Responses

Once the protective action options are selected for the specific circumstance and conditions, jurisdictions and the potentially affected public must prepare to implement these actions. Options for protecting the public from exposure to a chemical agent release are primarily evacuation and in-place sheltering. These may be used with other protective measures, such as using respirators and pressurized equipment. Several technical studies developed for the CSEPP evaluate all of these options (Sorensen 1988; Carnes et al. 1989a-h; and Rogers et al. 1990), and others are ongoing.

3.2.6 Public Alert and Notification

Emergency planning must provide for one or more methods of alerting the public. These methods must cover all persons in the emergency planning zones, be reliable, and be capable of instantaneous activation [particularly within the immediate response zone (IRZ)]. The alert and notification system must attract the public's attention and provide information on appropriate protective actions.

A combination of indoor and outdoor warning, with route alerting procedures as a back-up system, is the most effective warning system for the IRZ. Within most areas of the protective action zone (PAZ), given the greater warning time available, a different combination can be designed for specific applications to population centers, institutions, and other special facilities. Coupled with media and emergency broadcast system (EBS) announcements, route alerting would provide effective warning within most areas of the PAZ.

3.2.7 Access and Traffic Control

In the event of an emergency, access into the affected area must be controlled to prevent additional exposures as well as to protect property within the area. Access control points (ACPs) must be planned for locations that permit adequate traffic flow from the restricted area, while allowing essential response personnel to enter the area. Official, uniformed personnel may be required at the ACPs. Also, off-post law enforcement officials may be needed to assist on-post security personnel in the event a National Defense Area (NDA) is declared off the installation.

In any mass evacuation, traffic control is crucial to the timeliness and efficiency of the evacuation, especially in urban areas where potential for traffic congestion is greater. Traffic control depends less upon uniformed law enforcement personnel for effectiveness than access control, because traffic controllers do not have a security function. Personnel and equipment from public works or highway departments represent resources readily available and ideal for controlling traffic. Close coordination between on-post and off-post officials is important in minimizing problems associated with evacuation.

For those individuals who have reason to reenter the restricted area and are authorized to do so, protective equipment will likely be required. Criteria and procedures for reentry should also be clearly stated (Watson and Munro 1990; DHHS 1990).

3.2.8 Special Populations

An emergency response program must provide for individuals and groups both in and out of institutions who require special consideration in emergencies. These special populations include, but are not limited to, the sensory-, mobility-, or mentally-impaired; unattended children; children in preschool facilities, school students; hospital patients; nursing home residents; individuals in correctional facilities; individuals living at home with special equipment needs because of medical conditions; chronically ill persons particularly susceptible to agent exposure; people who do not own or have access to an automobile; and residents of private care or convalescent homes.

The focus group planner's first task involving special populations is to identify these individuals and groups. Institutionalized populations are usually easy to locate; however, noninstitutionalized persons can be very difficult to identify. Focus group planners should look to the typical agencies dealing with the elderly, day-care youth, exceptional children, the homeless, people with language differences, and the mentally and physically disabled when trying to identify special population groups. In addition to their identification, the principal tasks involving special populations include (1) alerting and notifying them and (2) providing recommendations for and implementing appropriate protective actions. Although these tasks are similar to those for other populations, the extraordinary needs of special populations and their vulnerability mean that these tasks require extra attention.

3.2.9 Emergency Worker Protection

Emergency workers need to take appropriate protective actions themselves when implementing emergency operations in a contaminated or potentially contaminated area. Workers responding to emergencies involving hazardous materials are required by Occupational Safety and Health Administration (OSHA) standards to be protected. State, county, and municipal employees such as police, emergency medical person-

nel, and fire fighters with local fire departments will be covered by the regulations issued by the 25 states operating their own OSHA-approved safety and health programs, and EPA regulations based on OSHA's standard will cover employees in states without programs.

Many emergency workers already have protective equipment like "turnout" gear and self-contained breathing apparatus. Currently, little information is readily available on the level of protection afforded against chemical agent by such commercial equipment (Daugherty, Watson, and Vo-Dinh, in review). No approved protection equipment exists for civilian response personnel. Although the Army stockpiles clothing and equipment that provide an extremely high degree of protection against agent exposure, no agreement has been reached to allow use of this equipment by civilian personnel (if such agreement were forthcoming, users of the equipment would require training).

The Army has also developed various methods and kits for the self-administration of nerve agent antidote drugs. However, the legality and practicality of providing antidote drug kits to civilian emergency workers are critical issues. In any case, civilian personnel designated to receive such kits would require intensive training in agent recognition, exposure symptoms, administration, dosage, and contraindications (Munro et al. in press). Training modules for medical workers are currently being developed by the Centers for Disease Control (July 16, 1990, Center for Environmental Health and Injury Control, Centers for Disease Control, 1600 Clifton Road NE, Atlanta, GA 30333).

3.2.10 Emergency Medical Services

The emergency medical services (EMS) system should be able to accommodate and treat victims of an emergency while maintaining service to the community at large. EMS providers could assist in the evacuation of health care facilities and their special populations.

Plans should be made to stockpile nerve agent antidotes for the largest number of nonfatal casualties considered possible. Plans should extend the concept

of triage to accident victims. Administering agent antidotes by EMS personnel caring for exposed patients and similar training for other medical providers are issues that must be addressed in EMS planning. No antidote exists for mustard agent exposure; immediate decontamination is required to minimize adverse health effects.

Where insufficient local EMS resources exist, regional and other local EMS resources can be coordinated for a response to a chemical agent release. Existing community resources, such as schools, churches, social service agencies, or other potential facilities could be utilized as emergency treatment centers. Military medical resources could be mobilized to supplement and relieve civilian EMS providers. Also, the National Disaster Medical System (NDMS) can provide medical care needs in large-scale disasters requiring a longer recovery phase. Finally, other DHHS resources may be available.

3.2.11 Transportation

Transportation of people and resources becomes critical during an emergency, especially one in which evacuation is one of the protective actions chosen. Planning should anticipate providing adequate transportation for special populations. Types of transportation to consider in an evacuation are school or transit buses and charter bus companies. Besides buses, other community resources exist for transportation purposes. For instance, trucks and vans with hydraulic lifts can be placed near nursing home ramps for moving bed-ridden patients to an evacuation center. In addition, some military installations may be able to provide transportation resources and personnel.

3.2.12 Community Resource Coordination

In a chemical emergency, preplanning for special response and resource requirements becomes especially critical and should be coordinated with respect to planning zones and their related protective actions. Emergency preparedness will initially depend upon local resources to carry out its

activities. Planning issues for resource coordination will vary somewhat from zone to zone. Of special concern throughout resource planning is the support that one EPZ can offer another. Because the IRZ is at the greatest risk and may in many cases be the only zone affected by a chemical event, consideration must be given to priority use of resources within the PAZ. Major resources may be more readily available within the PAZ. Similarly, the precautionary zone (PZ) may provide resources for the PAZ and the IRZ.

Throughout the planning effort, local officials must include federal and state government resources. Chemical event response may well require highly specialized decontamination capabilities likely to be found primarily in the Army or some National Guard units. Also, arrangements for use of additional resources from other sources, such as other jurisdictions or the private sector, should be formalized.

3.2.13 Public Education and Information

This CSEPP planning consideration includes both preemergency public education and information to be communicated at the time of an emergency. The emergency public information is information that needs to be communicated to the public in the event of a chemical agent release along with a strategy for disseminating this information rapidly. The goal of emergency preparedness is to promote public actions that will reduce casualties. Individuals can successfully respond to a chemical emergency only if they understand what protective actions are most effective and have the knowledge and motivation to implement those actions quickly.

To provide information needed for emergency preparedness to all individuals living, working, or traveling through a community, program planners must consider the target audiences, what information to present, and methods of presentation. This effort requires the development and use of strategies similar to those employed in other public awareness programs. Whenever possible, target audiences should be involved in determining the appropriate information

and media for implementing the public education and information program.

3.2.14 Evacuee Support

Two primary components of an evacuee support system are reception and mass care. Reception is the process of receiving evacuees, determining their needs, and assigning them to appropriate resources. Mass care is providing shelter, food, and family reunification. Ordinarily, evacuees report to a reception center where their needs are determined and then referred to a mass care center. Reception and mass care facilities are sometimes combined when a smaller number of evacuees are involved.

In the event of any emergency, the American Red Cross (ARC) is responsible for operating mass care centers. Planners need to verify that ARC and the local government have pursued a formal agreement to operate a mass care center at the local level. Also, ARC will assist with family reunification and tracking of missing persons.

3.2.15 Agent Detection and Monitoring

From a civilian perspective, a critical aspect of monitoring is the ability to rapidly and safely monitor conditions to permit officials to make the most appropriate protective action decisions. Such monitoring should rely on readily available and dependable equipment for detecting chemical agents in the atmosphere; to date, protocols and "reentry" concentrations are not determined for any media other than air. Monitoring equipment and personnel should be periodically exercised in simulated emergencies.

Off-post activities will probably be an extension of on-post activities that the Army will conduct. Planning must specify how the responsible community and Army officials will coordinate agent detection and monitoring activities off-post. At a minimum, monitoring information provided to off-post agencies should include the nature of the release, current meteorological conditions, and the projected impact on off-post areas.

3.2.16 Decontamination

Although most research regarding decontamination has been militarily oriented, guidance could safely be applied to civilian workers associated with the stockpile program (e.g., see Sidell 1990). Training in safe and effective decontamination procedures is necessary for all emergency response personnel. Local government must formalize plans for coordinating efforts with the Army for environmental as well as personal decontamination. Also, planning must include procedures for informing the public on decontamination.

3.2.17 Reentry

In the event of an unplanned release of chemical agent during storage or any disposal activities, the potential exists for contamination of drinking water, forage crops, grains, garden produce, livestock, and real estate. Authorizing reentry to suspect or contaminated areas and safe access to resources or properties is, ultimately, the responsibility of local elected officials together with state officials acting for the governor. Reentry can be considered in phases as controlled (e.g., monitoring crews outfitted with protective equipment) or uncontrolled (e.g., unrestricted public access). The persistent agents, VX and the mustards, pose the greatest concern. Local planning authorities will have to rely on federal and state health and environmental authorities for guidance and interpretation of federal and state regulatory standards before reaching these critical decisions (Watson and Munro 1990).

Public pressure from citizens wanting to return home will no doubt increase with time. Livestock and pet owners' concerns for animals left behind during evacuation will also contribute to increasing pressures to reenter the evacuated areas. In addition, local planning bodies must at least anticipate the implication of relocating many members of their communities for an indefinite period of time. Local officials will have to work closely with federal and state military, health, and environmental agencies for guidance on reentry and resettlement.

3.2.18 Training and Exercises

Two important functions of an effective emergency preparedness program are training and exercises. Training must be tailored to the emergency plan and the personnel who will implement the plan. All personnel should receive training designed to ensure they can perform the functions for which they are responsible. Training plans will be developed through the coordinated efforts of federal, state, and local officials. The local emergency management organization will primarily be responsible for administering the local training program. Guidance and assistance will be provided by the FEMA CSDP training director. Specific state and local training plan guidance will be contained in a federal training plan.

The local training plan will be based on a needs assessment that will identify requirements for the various personnel. Training areas will include: off-post EOC operations, protective action decision-making and implementation, exposure control, medical intervention and decontamination, agent exposure symptoms, and self-contamination control.

Drills and exercises are an integral component of an effective emergency management program. The exercise program rehearses response functions and roles and provides planners and response personnel a detailed critique of the emergency response system. A drill is an activity that develops, maintains, and tests skills specific to a single response activity. An exercise program will, by utilizing drills and tabletop, functional, and full-scale exercises, enable a community to adequately critique and evaluate all the elements of its emergency management system.

3.3 POTENTIAL GROUPS FOR CSEPP FOCUS GROUPS

For the CSEPP, the population of interest is within those states with CSEPP sites located in their boundaries and bordering states that would be impacted in the event of an accidental chemical release of agent (see Fig. 1.1). Emergency preparedness measures are determined for specific portions of the area surrounding the stor-

age facility using the emergency planning zone (EPZ) concept (Carnes 1989; Carnes et al. 1989a-h). This method identifies three emergency planning zone areas, the IRZ, PAZ, and PZ, according to the threat posed by the stockpile at a given installation, the amount of time available to implement effective protective actions, and differing protective actions persons or organizations within each zone could take in the event of a chemical agent release. Recommended EPZs for the eight installations are given in Carnes (1989).

The universe of groups within the EPZ that may provide potentially useful information to the CSEPP planning process include providers, users or consumers, and providers/users (groups that fit in both categories). It may be useful to consider members of the planning development team, as discussed in Oak Ridge National Laboratory and Schneider Engineers (1990), as potential members of the focus groups. This membership, similar to that suggested for the Local Emergency Planning Commission established under SARA Title III, includes elected officials; local emergency management, police, fire, emergency medical services, and other key municipal and county agencies; state emergency management, environmental, and public safety agency officials; chemical agent storage/disposal site command and technical personnel; volunteer agency representatives (e.g., ARC); community organization, school, hospital, and long-term care facility representatives; and media representatives.

The first category of groups, providers, includes representatives of agencies with assigned responsibilities in emergency response, including but not limited to law enforcement or police, fire, emergency medical, and relevant voluntary organizations such as the ARC. The second category of groups, users, includes representatives of the populations, special populations (institutional and noninstitutional), and organizations potentially affected by an accidental chemical agent release who must take protective actions to reduce the probability and/or magnitude of their exposure to the release. Such populations, special populations, and groups can include residents of communities within the various

emergency planning zones (i.e., IRZ, PAZ, and PZ); sensitive populations (i.e., infants, children, and the elderly) within those zones; transient populations within those zones (including persons in the area temporarily for various recreational, business, or employment purposes); schoolchildren; children in day-care facilities; hospitalized patients; residents of nursing homes and convalescent centers; incarcerated prisoners; noninstitutionalized persons requiring special attention in the event of an emergency (e.g., the sensory, mobility, and mentally impaired); and persons at work or otherwise located at business, industrial, or commercial facilities. The third category of groups, providers/users, can include local elected officials and representatives of the media, business, and various interest groups. In addition to requiring protection themselves, these groups have a fiduciary responsibility or have some other obligation to protect their workers, consumers, or members.

Conducting a focus group with representatives of each of the above populations, special populations, and other organizations is clearly an ambitious and likely expensive task. The remainder of this manual, therefore, focuses on the concept of aggregating groups where possible and reasonable. Thus, for example, one focus group might be held with program providers, one with users, and one with providers/users (recognizing the need for a second, back-up, meeting for each to validate the results of the primary focus group).

3.4 MODERATOR SELECTION

Selecting a moderator for a CSEPP focus group should follow the general guidance found in Sect. 2.4, as much as possible. As noted there, the moderator for a focus group related to the CSEPP could be selected from a reasonably wide array of individuals, including representatives of program providers or consumers, a consulting or research firm, or a self-employed focus group professional. Using program providers or consumers as moderators may inhibit some group participants from discussing sensitive issues. However, an advantage of selecting

someone involved in the program is the level of knowledge of the program.

The moderator should have reasonable knowledge of the CSEPP. Suggested documents and readings that the moderator should be familiar with are identified in Sect. 6, although some are clearly more important than others. These may include *Planning Guidance for the Chemical Stockpile Emergency Preparedness Program, Final Interim Draft*; *Site-Specific Emergency Response Concept Plans for the Chemical Stockpile Disposal Program: A Comparative Summary*; *Emergency Response Concept Plans* (site-specific); *Reentry Planning: The Technical Basis for Offsite Recovery Following Warfare Agent Contamination*; *The Environmental Professional*, Volume 11, 1989; and the *Final Programmatic Environmental Impact Statement for the Chemical Stockpile Disposal Program*. Depending upon the specific topic of the focus group, other documents could also be useful (e.g., a focus group dealing with concerns related to protective action decision-making or protective actions and responses would likely benefit from familiarity with *Evaluating Protective Actions for Chemical Event Emergencies*).

Adequate knowledge of the overall management plan and background issues relevant to the stockpile gives the moderator the ability and confidence to keep the discussion within boundaries of the topic areas. Another advantage of increased knowledge is that valuable information can be exchanged in the focus group if the moderator is able to correct misunderstandings or rumors. Ideally, the moderator should allow information to be exchanged among group members to test how knowledgeable members of the groups are on relevant activities.

Some disadvantages arise from increasing moderator knowledge of the CSEPP. For instance, if the moderator is perceived by the group members as an expert, discussion may be somewhat inhibited. Participants may view the moderator as the authority on CSEPP issues and become intimidated by the question topics. Emphasizing the role of knowledge focuses attention on the discussion leader, which could result more in the moderator providing information

Table 3.1. Potential questions for focus group meeting involving CSEPP providers

- What concerns do you have about doing your job in the event of an off-site release of chemical agent?
- Do these concerns differ from your concerns about doing your job in other emergencies?
- In what ways might you have to do your job differently for a chemical agent release than for other emergencies?
- What can you do to reduce or modify your concerns?
- Are there other people (or organizations) who could reduce or modify your concerns?
- What can other people or organizations do to reduce or modify your concerns?
- What concerns do you have about implementing CSEPP?
- What might be done to modify or reduce these concerns?

to group members rather than obtaining participants' responses to the focus group questions (see Sect. 3.5).

3.5 CSEPP ISSUES, QUESTIONS, AND FOCUS GROUP DISCUSSION GUIDE

Discussion topics for the focus groups can be developed from an analysis of concerns held by CSEPP providers and users—emergency response personnel, the local population (and various subgroups within the population), and special populations—with respect to the CSEPP, their understanding of the CSEPP, the compatibility between the CSEPP and existing emergency preparedness and response roles and responsibilities, and potential impacts

Table 3.2. Potential questions for focus group meeting involving CSEPP users

- What concerns do you have about responding effectively in the event of an off-site release of chemical agent?
- Do these concerns differ from your concerns about responding to other emergencies?
- What concerns do you have about your family (and any others who may be under your care) responding effectively to a release of chemical agent?
- Do these concerns differ from your concerns about them responding effectively to other emergencies?
- What can you do to reduce or modify these concerns?
- Are there other people (or organizations) who could reduce or modify these concerns?
- What can other people or organizations do to reduce or modify these concerns?
- What concerns do you have about implementing CSEPP?
- What might be done to modify or reduce these concerns?

of the CSEPP. Some preliminary questions relevant to the concerns of CSEPP providers, users, and providers/users are listed in Tables 3.1–3.3. A more complete listing of questions, differentiated by specific groups and predicated on specific CSEPP planning considerations (see Sect. 3.2), is found in Appendix A.

Questions such as those found in Tables 3.1–3.3 can be integrated into the generic discussion guide (see Sect. 2.5) in a natural, logical sequence. The sequence of the questions is important to the discussion outcome. The questioning route begins

Table 3.3. Potential questions for focus group meeting involving CSEPP providers/users

- What concerns do you have about the ability of your constituents, charges, consumers, and/or other users to respond effectively in the event of an off-site chemical agent release?
- Do these concerns differ from your concerns about their ability to respond to other emergencies?
- What limitations, if any, do your constituents, charges, consumers, and/or users have that may affect their ability to respond to a chemical agent release?
- What can you do to reduce or modify your concerns?
- Are there other people (or organizations) who could reduce or modify your concerns?
- What can other people or organizations do to reduce or modify your concerns?
- What concerns do you have about the implementing CSEPP?
- What might be done to modify or reduce these concerns?

with the more broad and general questions and moves gradually to more specific questions. The moderator would begin with general overview questions and move to more narrowly defined questions.

As noted in Sect. 2.5, the discussion guide serves primarily as an outline for the moderator. During the introduction, the moderator explains his or her role in the CSEPP project and the purpose of the focus group. A brief description of the CSDP and CSEPP may be appropriate to distinguish the focus of the discussion topics between the CSEPP and preparedness and response

- I. Introduction (15-20 minutes)
 - A. Moderator introduction—the moderator introduces self
 - B. Purpose of focus group—to discuss topics about CSEPP related to this group, brief description of CSDP and CSEPP
 - C. Explanation of focus group environment
 - No right/wrong answers
 - Speak one at a time
 - Audio tape recording (if applicable)
 - Pads and pencils for “fleeting thoughts”
 - D. Respondent introduction
 - Name
 - Livelihood
 - Town/city of residence
 - Introductory question
 - II. Discussion topics questions (approximately 90 minutes)
 - A. General questions on emergencies (10-15 minutes)
 - B. Specific questions on CSEPP considerations, as applicable (approximately 60 minutes)
 - C. Concluding questions (10-15 minutes)
 - III. Conclusion
- Fig. 3.1. A generic CSEPP focus group discussion guide.**

for other emergencies. It should be stressed that the focus group is for gathering opinions and perceptions on the situation and not to quiz the audience on its knowledge of the CSEPP. At the end of the question/discussion period, the moderator might conclude with a wrap-up that summarizes the major findings of the session and indicates what will be done with the findings. An outline for a discussion guide for CSEPP focus groups might resemble Fig. 3.1.

3.6 RECRUITING CSEPP FOCUS GROUP PARTICIPANTS

Identifying and recruiting participants for a CSEPP focus group involves considering the number and types of group discussions to be conducted (see Sect. 2.6). As noted in Sect. 2.6, focus group discussions work best when composed of 6 to 12 participants. Conducting focus groups with 6 to 12 participants from *all* potential CSEPP groups, however, would be an ambitious and costly undertaking. A more reasonable approach for selecting participants may be to aggregate groups based on the compatibility of their concerns, roles, and responsibilities regarding the CSEPP. For instance, one focus group composed of program providers, another with consumers, and yet another with persons who fit into both categories could be utilized to gather information from affected emergency workers and members or representatives of the public. Then, to validate the results of the primary focus group, a second discussion for each group could be implemented.

Once the composition and number of focus groups has been determined, participants may be recruited from the universe of relevant groups within the EPZ. Although the most appropriate method for recruiting each CSEPP focus group ultimately depends on the available resources, variations of convenience sampling, telephone screening, and snowball sampling could be used to select group participants (see Sect. 2.6.2).

Convenience sampling could adequately recruit participants for focus groups of providers, users, and providers/users. A more systematic method of recruitment is to use telephone screening. This technique may be more appropriate when there is a recognized need to sample the general knowledge of the CSEPP from the "average" citizen or to gather very specialized information or data.

Because of the public nature of the CSEPP, providers and provider/consumers are often obliged to participate in the focus group discussion. For instance, emergency and local government personnel are public service workers and cannot participate in the focus group independent of their position. Likewise, some consumer groups'

representatives may also be considered captive, as in the case of those with fiduciary responsibilities for institutionalized populations. A conscious effort may be made to recruit participants from among those citizens known to be interested in the CSDP and CSEPP as well. Also, it should be recognized that there is a need to sample the general knowledge of the CSEPP from the "average" citizen to develop some baseline appreciation of the public's understanding of the program and to develop appropriate education programs.

3.7 CONDUCTING THE CSEPP FOCUS GROUP MEETING

In addition to prior planning and preparations mentioned previously, a number of important issues may affect the success of the CSEPP focus group meeting. As stated previously (see Sect. 2.7.1), focus group discussions work best when held in a neutral setting. For the CSEPP focus groups, neither program providers or users should be expected to actively participate in a discussion held in a potentially threatening environment. For example, program users may feel threatened and inhibited if they are asked to participate in a focus group held at a program provider's work place (e.g., city hall) and may be more comfortable in other surroundings (e.g., community meeting rooms, church social halls, or even a meeting room rented at a local hotel or motel).

The CSEPP focus groups are similar to other focus groups in that the burden of conducting the discussions falls primarily on the moderator. The moderator(s) for the CSEPP focus group(s) should be able to generate participation, probe topic areas, and manage discussion time. To do these things effectively, the moderator needs to have a comprehensive understanding of the CSEPP (see Sect. 3.4).

In conducting the CSEPP focus group discussions, observers and /or assistants may be useful (see Sect. 2.7.3). Program providers may want to observe a discussion to gain insights for later CSEPP focus group meetings or to receive firsthand information from participants.

To interpret and analyze CSEPP focus group discussions, some record must be

kept. Videotaping is one popular way of recording a focus group discussion (see Sect. 2.7.4), but given the sensitive nature of the CSEPP, videotaping may inhibit discussion. Alternatives to videotaping the CSEPP focus group discussions include using audiotapes or written notes (written notes may be considered a minimum requirement for recording the CSEPP focus group discussions). Recording the CSEPP focus group discussions using audiotape or written notes will permit a detailed interpretation of the meeting(s), while being only minimally intrusive to the discussions. Participants in the CSEPP focus groups should always be notified if audio or videotape is being used. Even if the meeting is taped, some written notes should always be taken in case of equipment failure.

3.8 ANALYZING AND INTERPRETING CSEPP FOCUS GROUP DISCUSSIONS

As discussed previously (see Sect. 2.8), two basic approaches to analyzing the CSEPP focus group data are a strictly qualitative or ethnographic summary and a systematic coding via content analysis. Given the purpose of these CSEPP focus groups, transcribing the entire discussions may not be necessary. Transcribing the entire CSEPP focus group discussions would be expensive and impractical. Instead, the analyst may listen to the audiotape (several times if necessary) and review the written record (e.g., notes, flip charts used during the focus group discussion to document participants' views).

If possible, the CSEPP moderator and any observers and assistants should participate in analyzing the focus group data. These persons have firsthand familiarity with the CSEPP discussions and should have a comprehensive knowledge of CSEPP. Analysis by persons who do not have direct involvement in or knowledge of the CSEPP or were not directly involved in the actual CSEPP focus group discussions should probably be avoided. Ideally, the analyst would be both knowledgeable about the CSEPP and involved in the focus groups, but the analyst minimally should meet one of these qualifications.

3.9 PREPARING THE CSEPP FOCUS GROUP MEETING REPORT

Preparing the report is an important last step in the CSEPP focus group application. An effective report on the meetings should be comprehensive and understandable for the decision-makers. Preparing the report helps to develop a description of the overall CSEPP focus group meeting application. The CSEPP focus group report should show a clear arrangement of the purpose, methods, results, conclusions, and recommendations in an appropriate sequence. The CSEPP focus group report can be written and/or presented orally.

A recommended outline for the CSEPP focus group report includes:

- (1) *Summary of CSEPP focus group findings.* Describe briefly why CSEPP focus group meetings were conducted and list conclusions and recommendations.
- (2) *Statement of the problem and CSEPP focus group methods.* Describe more fully the purpose of the CSEPP focus group application and briefly discuss the CSEPP focus group meetings. Describe the method(s) for selecting the groups and participants; include questions used in the CSEPP focus group meetings (see Tables 3.1-3.3).
- (3) *CSEPP focus group results.* Organize results around the major topic areas discussed in the CSEPP focus group meetings. Present the range of comments expressed by participants on each relevant CSEPP topic area and/or question and use descriptive summaries or interpretative explanations.
- (4) *Limitations and alternative explanations.* Remind the reader that the findings may not be generalizable to the entire population of interest. If alternative explanations are plausible, they should be identified.
- (5) *Conclusions and recommendations.* Conclude the report with summary statements on the CSEPP focus group findings. Provide suggestions for using the results.

- (6) *Appendix.* An appendix may include the actual discussion guide(s), notes of the focus group meeting, the transcript of the meeting (if available), and any other materials used to stimulate discussion.

4. SUMMARY

This manual acknowledges focus group interviewing as an appropriate technique for gathering information that may be useful in designing public information materials and refining the CSEPP planning process. Section 1 offers background information on CSEPP and the role of public information and education in the program. It also identifies a number of techniques to facilitate the effective communication of CSEPP information and materials. Finally, it describes the focus group technique and its advantages and disadvantages in information gathering. The purpose of this section is to introduce the many uses of focus group interviewing in planning and implementing the CSEPP.

Section 2 describes the structure and elements of the focus group technique. This section presents the basic steps and use of focus groups. The steps include determining the purpose of a focus group application, identifying information to be gathered, selecting a moderator and focus group participants, identifying basic and probing questions to be used, determining the arrangements for conducting the meeting, and selecting an approach for analyzing and reporting the results of focus group meetings.

Finally, Sect. 3 suggests how focus group interviewing may be applied to investigate behavioral and organizational impacts of the current CSEPP planning guidance and management plan. In this section, potential focus groups are categorized into CSEPP providers, consumers, and providers/consumers, and issues that likely pertain to these groups are suggested for state and local government officials to implement the technique of focus group interviewing.

CSEPP concept plans act as a preliminary aid to decision-making in the implementation of enhanced emergency planning and preparedness at and near the eight installation sites. No single plan applies to all program sites; similarly, many ways exist to gather relevant information and data. Moreover, applying focus group research techniques may also vary from site

to site and according to substantive need. Designing focus groups involves the careful consideration of local conditions and requirements. State and local governments must ensure that the research design for CSEPP focus groups or any other data/information gathering technique reflects the specific character of the community and meets the needs of the emergency preparedness program.

Given the variations in site-specific CSEPP concept plans, application of the focus group technique may differ among stockpile locations. Implementing the focus group technique at a site might be appropriate by itself or in conjunction with other research or communication techniques. As suggested in Sect. 1, many mechanisms could be designed and implemented to facilitate the effective communication of CSEPP information and materials among affected officials and the public. However, the chosen mechanism must accommodate the complexity of the CSEPP and impart information to many different groups of people with diverse backgrounds and roles and responsibilities related to emergency planning, preparedness, and response.

5. REFERENCES

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6. SUGGESTED READINGS

This focus group manual for the CSEPP is but one of many documents relating to focus groups as they apply to the CSEPP. This section lists the documents that emergency management officials and planners may find useful in preparing successful focus group discussions surrounding the CSEPP. It is divided into two subsections: (1) documents that provide complementary programmatic guidance for the CSEPP and (2) documents that supply information developed specifically for administering focus groups.

6.1 DOCUMENTS RELATED TO CSEPP

1. *Chemical Stockpile Disposal Program Rapid Accident Assessment*, ORNL/TM-11354, August 1990. This is a method for rapidly classifying emergencies. Information on potential accidents, source terms, downwind hazard potentials, and detection and recognition capabilities are integrated into a procedure for recognizing and classifying anomalous events. It includes a procedure for accident classification.
2. *An Approach for Deriving Emergency Planning Zones for the Chemical Stockpile Program* (Draft), ORNL/TM-11167, Energy Division, March 1989. This document presents a systematic methodology to identify emergency planning zones at the eight U.S. sites storing unitary chemical weapons and agents.
3. *Chemical Accident/Incident Response and Assistance (CAIRA) Operations*, DA PAM 50-XX, First Coordinating Draft, U.S. Department of the Army Headquarters, March 1989. This document, undergoing revision, describes the functions, responsibilities, organization, and procedures that the Army would follow in responding to, managing, and recovering from a chemical agent accident or incident.
4. *The Chemical Stockpile Emergency Preparedness Program Management Plan*, March 1990, prepared by the Argonne National Laboratory for the Department of the Army and the FEMA. This document is a tool for management and oversight of the emergency preparedness aspect of the CSDP. It is a concise view for federal, state, and local officials.
5. *Chemical Stockpile Emergency Preparedness Program Exercise Plan*, FEMA, to be developed. This plan will describe the exercise program development and structure. It will (1) specify how existing Army and FEMA exercise programs will be integrated; (2) describe how state and local governments will participate in program development and implementation; (3) describe the process for planning, coordinating, and conducting exercises under the CSEPP; (4) describe an exercise evaluation system; (5) identify program milestones; and (6) describe how exercise program subtasks will be completed.
6. *Chemical Stockpile Emergency Preparedness Program Public Affairs Strategy Plan*, FEMA, to be developed. This document will clearly state the objectives, concepts, strategies, and approach on how the public affairs component of CSEPP will operate. The plan will also provide current estimates of the schedules for products and delineate duties.
7. *Emergency Response Concept Plan for the Chemical Stockpile Disposal Program*, (ERCP), July 1989. This conceptual basis for developing related emergency response programs provides general guidance; explores various program, planning issues, and options; and is the chief source of the guidance contained in the *Planning Guidance for the Chemical Stockpile Emergency Preparedness Program*.

8. *Emergency Response Concept Plan for (each installation) and Vicinity*, Energy Division, October 1989. Each of the eight U.S. chemical stockpile locations [Aberdeen Proving Ground (ORNL/TM-11096), Anniston Army Depot (ORNL/TM-11093), Lexington-Bluegrass Army Depot (ORNL/TM-11099), Newport Army Ammunition Plant (ORNL/TM-11095), Pine Bluff Arsenal (ORNL/TM-11092), Pueblo Depot Activity (ORNL/TM-11098), Tooele Army Depot (ORNL/TM-11094), and Umatilla Depot Activity (ORNL/TM-11097)] has its own concept plan that applies generic concepts locally.
9. *Site-Specific Emergency Response Concept Plans for the Chemical Stockpile Disposal Program: A Comparative Summary*, ORNL/TM-11357, Energy Division, December 1989. This report summarizes the site-specific plans and explores and explains functional variability among the sites.
10. *CSEPP Training Plan*, FEMA, first draft. This plan will describe the training program development and structure. It will (1) specify how Army and FEMA training programs will be integrated or coordinated; (2) describe how state and local governments and other affected emergency service providers will participate in program development and implementation; and (3) describe the policies and procedures for carrying out the training in a performance-based structure where appropriate—needs analysis, design and development, implementation, evaluation, and documentation.
11. *Guide to Preparing Emergency Public Information Materials*, FEMA REP-11, September 5, 1985. The guidance assists state and local governments in preparing, revising, and evaluating emergency information.
12. *Objectives for Local Emergency Management*, FEMA, CPG 1-5, July 1984. This describes and explains the program and functional objectives that represent an integrated emergency management program.
13. *Planning Guidance for the Chemical Stockpile Emergency Preparedness Program, Final Interim Draft*, prepared by Oak Ridge National Laboratory and Schneider Engineers for the U.S. Department of the Army and the Federal Emergency Management Agency, April 1990. This document serves to (1) promote the development of an effective emergency response capability at each agent stockpile location by providing guidance to assist state, local, and Army installation planners in formulating effective emergency response plans, (2) ensure that critical planning decisions are made consistently at all eight agent stockpile locations, and (3) provide a basis for assessing the adequacy of state and local emergency preparedness planning as a part of the evaluation of proposals for federal assistance. A revised version of this report, incorporating planning standards, is expected in 1991.
14. *Evaluating Protective Actions for Chemical Agent Emergencies*, ORNL-6615, April 1990. The effectiveness of various strategies for protecting civilians from accidental releases of chemical agents was studied. Protective action strategies include evacuation, sheltering, enhanced sheltering, personal respiratory protection, positive pressure filtering, and administration of antidotes. The study developed a parallel-track model capable of selecting one or more workable protective actions for a known set of emergency parameters. In combination with evacuation studies, this analysis will be used to prepare a list of practical site-specific protective actions that can be implemented under credible agent release scenarios.
15. *Reentry Planning: The Technical Basis for Offsite Recovery Following Warfare Agent Contamination*, ORNL-6628,

April 1990. This study provides information and analyses that can be used by federal, state, and local emergency planners in determining the safety of reentry to, as well as the potential for recovery of, contaminated or suspect areas beyond the installation boundary. Guidelines for disposition of livestock, agricultural crops, and personal/real property are proposed, and advisories for ingestion of food crops, water, meat, and milk from the affected zones are proposed.

16. *Final Programmatic Environmental Impact Statement (FPEIS)*, January 1988. This is the latest official statement of the health and environmental impacts of the CSDP as a whole. As a result of it, the Army decided to incinerate the agents on post because incineration is viewed as the most environmentally prudent alternative.
17. *The Environmental Professional*, 11(4), 1989. A special issue of this journal summarizes the health and environmental assessment of the Chemical Stockpile Disposal Program, with special attention to effects of chemical agent exposure.

6.2 FOCUS GROUP LITERATURE

1. Moore, C. M. 1987. *Group Techniques for Idea Building*, Sage Publications, Newbury Park. This book summarizes various group approaches, including the nominal group technique, idea writing, the Delphi technique and the mail questionnaire, and interpretive structural modeling.
2. Krueger, R. A. 1988. *Focus Groups: A Practical Guide for Applied Research*, Sage Publications, Newbury Park. This book was written as a response to the lack of literature available to the evaluation researcher on focus groups. The book is organized around three themes: (1) general overview of focus groups, (2) actually conducting focus groups, and (3) issues of concern for both researchers and users.
3. Morgan, D. L. 1988. *Focus Groups as Qualitative Research*, Sage Publications, Newbury Park. This book is part of the Sage Publications qualitative research methods series. It provides a general overview of focus groups including a comparison to other qualitative methods, conducting and analyzing focus groups, and other applications for using focus group discussions.
4. Stewart, D. W. and Shamdasani, P. N. 1990. *Focus Groups: Theory and Practice*, Sage Publications, Newbury Park. This book is part of the Sage Publications applied social research methods series. It provides a guide to the conduct and application of focus groups and places the use and interpretation of focus groups within a theoretical context. This book revisits the origins of focus group research and attempts to tie focus group research to its origins in social science.
5. Morgan, D. L., and Spanish, M. T. 1984. "Focus Groups: A New Tool for Qualitative Research," *Qualitative Sociology* 7, 253-270. This article relates the dimensions of the focus group interview to an example involving the author's own research. It includes a discussion of the value of focus groups in triangulating data collection from different methods.
6. Buttram, J. L. 1990. "Focus Groups: A Starting Point for Needs Assessment," *Evaluation Practice* 11, 207-212. This article describes how focus groups were used as the first step of a needs assessment. These focus groups were conducted by Research for Better Schools, a regional educational laboratory, as part of their planning for an upcoming program planning cycle.

7. Basch, C. E. 1987. "Focus Group Interview: An Underutilized Research Technique for Improving Theory and Practice in Health Education," *Health Education Quarterly* 14, 411-448. The purpose of this article is to increase awareness and stimulate interest in using focus groups to advance education and learning about health. Features of focus group interviews are presented, and a theoretical framework for planning a focus group study is summarized. Implications are discussed regarding the need for more inductive qualitative research in health education.

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7. GLOSSARY

access control point (ACP): a location staffed to restrict the entry of unauthorized personnel into a risk area. Access control is normally performed just outside of the risk area. It involves the deployment of vehicles, barricades, or other measures to deny access to a particular area.

antidotes: remedies used to relieve, prevent, or otherwise counteract adverse effects resulting from agent exposure. Antidotes are somewhat agent-specific in that nerve agents (as a group) require different antidotes than the vesicants. Nerve agent antidotes (atropine, pralidoxime, and other oximes) block the effects of agent-induced skeletal and smooth muscle contraction (relieve convulsions and loss of breathing control) and reduce glandular paralysis (dry up the copious respiratory secretions that make normal breathing difficult). No specific antidotes exist for mustard agent poisoning; its chemical reaction with biological tissue is so rapid as to be irreversible for all practical purposes. Attempts at therapy have been aimed at rapid decontamination and symptomatic therapy to relieve the effects of chemical burns to the skin, eyes, and respiratory tract.

blister (vesicant) agent: a chemical agent that induces blistering; see (sulfur) mustard agent.

Chemical Accident/Incident Response and Assistance (CAIRA) Plan: a plan that spells out how an Army installation will handle chemical surety material events. This on-post plan meshes carefully with off-post plans.

Chemical Accident/Incident Response and Assistance (CAIRA) Operations: Headquarters Department of the Army publication that standardizes federal response operations in case of a chemical agent event.

chemical agent (lethal): a chemical substance intended for use in military operations to kill, seriously injure, or incapacitate a person through its physiological effects. Excluded from consideration are riot control agents, chemical herbicides, smoke, and flame.

chemical event: a term used by the military that includes (1) chemical accidents resulting from nondeliberate events where safety is of primary concern or (2) chemical incidents resulting from deliberate acts or chemical acts where security is a concern.

Chemical Event Emergency Notification System: a tiered system whereby the Army classifies chemical surety emergencies and provides appropriate notification to off-post public officials.

Chemical Stockpile Disposal Program (CSDP): the congressionally mandated program that requires the Army to dispose of all its unitary chemical agents by September 30, 1997.

Chemical Stockpile Emergency Preparedness Program (CSEPP): a joint DA/FEMA program to oversee and assist in the development of adequate emergency response plans and capabilities for all jurisdictions that might be affected by a chemical agent release associated with stockpile storage or CSDP activities. The CSEPP is administered by the Joint Steering Committee, composed of staff from DA and FEMA.

chemical surety: those controls, procedures, and actions that contribute to the safety, security, and reliability of chemical agents and their associated weapon systems throughout their life cycle without degrading operational performance. Also the title of an Army publication (AR/50-6) that implements the chemical surety program.

decontamination: the process of decreasing the amount of chemical agent on any person, object, or area by absorbing, neutralizing, destroying, ventilating, or removing chemical agents.

demilitarization: the mutilation, destruction, or neutralization of chemical surety material, rendering it harmless and ineffectual for military purposes.

Emergency Broadcast System (EBS): a federally established network of commercial radio stations that voluntarily provide official emergency instructions or directions to the public during an emergency. Priorities for EBS activation and use are federal government, local government, and state government, in that order.

emergency operations center (EOC): the location or facility where responsible officials gather during an emergency to direct and coordinate emergency operations, communicate with other jurisdictions and with field emergency forces, and formulate protective action decisions during an emergency.

emergency planning zone (EPZ): a geographical area delineated around a potential hazard generator that defines the potential area of impact. Zones facilitate planning for the protection of people during an emergency.

evacuation: a protective action that involves leaving an area of risk until the hazard has passed and the area is safe for return.

full-scale exercise: an activity in which emergency preparedness officials respond to a simulated incident. It tests the entire emergency organization (or its major parts). It mobilizes all emergency officials in the emergency operations center and often includes the activation of one or more emergency facilities or units outside the center.

immediate response zone (IRZ): the planning zone immediately surrounding each Army installation. Generally it extends to about six miles from the installation's storage area. At some installations, it extends to about 9 miles.

in-place sheltering: an act of taking refuge in a structure of various kinds. The five types of sheltering that have been identified for protection from chemical agents are normal sheltering, specialized sheltering, expedient sheltering, pressurized sheltering, and enhanced sheltering. See *Site-Specific Emergency Response Concept Plan* for further discussion of each type of sheltering.

institutional populations: people in schools, hospitals, nursing homes, prisons, or other facilities that require special care or consideration by virtue of their dependency on others for appropriate protection.

intergovernmental consultation and coordination boards (ICCBs): the national and local boards composed of federal, state, and local members that provide for information transfer in the Chemical Stockpile Disposal Program.

Joint Information Center (JIC): a single location where public information officials gather to collaborate on and coordinate the release of emergency public information.

Sometimes called the Joint Information Bureau or the Joint Public Information Center.

Joint Steering Committee: the body of federal officials created by the Army and FEMA Memorandum of Understanding to serve as a focal point for project oversight of the Chemical Stockpile Disposal Program emergency planning efforts.

Local Emergency Planning Committee (LEPC): the planning body designated by Superfund Amendments Reauthorization Act, Title III legislation as the planning body for preparing local hazardous materials plans.

mass care center: a facility for providing emergency lodging and care for people made temporarily homeless by an emergency. Essential basic services (feeding, family reunification, etc.) are provided.

Memorandum of Understanding (MOU): the written agreement (August 1988) whereby the Army and Federal Emergency Management Agency have agreed to collaborate on the emergency preparedness aspects of the Chemical Stockpile Disposal Program.

(sulfur) mustard agent: the vesicant agents (H, HD, and HT) that cause blistering. In sufficient amounts they can be fatal if not quickly removed from exposed skin or if inhaled.

National Defense Area (NDA): an area established on nonfederal lands located within the United States, its possessions, or territories for the purpose of safeguarding classified defense information or protecting Department of Defense equipment or material.

National Disaster Medical System (NDMS): a system designed to deal with extensive medical care needs in very large disasters or emergencies. The system is a cooperative effort of the Department of Health and Human Services, Federal Emergency Management Agency, Department of Defense, state and local governments, and the private sector.

nerve agent: the organophosphate nerve agents (GA, GB, and VX) are lethal, colorless, odorless, and tasteless agents that can be fatal upon skin contact or when inhaled or ingested. These agents attack the central nervous system by inhibiting the production of acetylcholinesterase, which is essential for normal operation of the nervous system.

off-post: those areas outside of the limits of an Army installation.

on-post: a military installation, or facility, or that area.

population at risk (PAR): the population potentially affected by concentrations of agent, calculated by determining the population within the radial distance estimated to be affected by lethal dosages of agent from a release.

precautionary zone (PZ): the outermost zone extending beyond the protective action zone. Theoretically, it has no limits. Practically, its furthest point is that beyond which emergency planning for the CSDP would not be required under most conditions.

prophylactic drugs: drugs used prior to agent exposure for the prevention or mitigation of agent effects. This protective action has been seriously considered only for

potential nerve agent exposure. Pretreatment by drugs that can partially block the effects of these agents on the nervous system offers some degree of protection from incapacitation or death; none provide 100% protection for an unlimited period of time. Drugs tested for their pretreatment efficacy include combinations of pralidoxime mesylate, atropine, Valium, pyridostigmine, physostigmine, and apophen.

protective action: an action or measure taken to avoid or reduce exposure to a hazard.

protective action decision-making: the process whereby off-post public officials make a selection of one or more actions to protect the threatened population. The Army will make recommendations as part of its accident assessment and off-post notification processes.

protective action zone (PAZ): the second planning zone beyond the immediate response zone. Generally it extends to about 21 miles from the installation's chemical storage area, and at some installations it extends further.

public alert and notification system: the system for obtaining the public's attention and providing appropriate emergency information. Sirens are the most commonly used public alert devices but frequently are supplemented by tone alert radios, visual warning devices for the hearing impaired, and telephone-based alert/notification systems.

route alerting: a supplement to the public alert system; a method for alerting people in areas not covered by the primary system or in the event of failure of the primary system. Route alerting is accomplished by emergency personnel in vehicles traveling along assigned roads and delivering emergency instructions with public address systems or by door-to-door notification.

self-contained breathing apparatus (SCBA): provides noncontaminated air for inhalation. SCBA supplies bottled air directly to the individual using it for respiratory protection. They are composed of a tank or bottle of noncontaminated air attached through a regulator to either a mouthpiece or a full face mask.

sheltering: a protective action that involves taking cover in a building that can be made relatively airtight. Generally, any building suitable for winter habitation will provide some protection with windows and doors closed and heating, ventilation, and air conditioning systems turned off. Effectiveness can be increased by methods such as using an interior room or basement, taping doors and windows, and employing other systems to limit natural ventilation.

Site-specific Emergency Response Concept Plan (ERCP): a concept plan developed for a specific chemical agent stockpile location by applying the concepts and methodologies of the ERCP. Each site-specific concept plan categorizes the chemical events that could occur at that location and examines the topographic, meteorological, and population characteristics of the area to develop proposed EPZ boundaries and identify appropriate protective actions.

special populations: those individuals that may be institutionalized and have needs that require special consideration in emergencies.

State Emergency Response Commission (SERC): the state planning group designated by SARA, Title III legislation as the state coordination body for hazardous materials activities.

table-top exercise: an activity in which emergency preparedness officials respond verbally to a simulated incident in an informal and unstressful situation.

Title III: the "Emergency Planning and Community Right-to-Know Act of 1986." A law that requires the establishment of state and local planning structures (SERCs and LEPCs) for emergency planning for hazardous materials incidents. It requires site-specific planning around extremely hazardous substances; facilities to participate in the planning process; and notifications to SERCs and LEPCs of releases of certain hazardous substances. It also provides for mechanisms to provide information on hazardous chemicals to the public.

triage: a system of assigning priorities of medical treatment on the basis of urgency or chance for survival.

vesicant agent: a chemical agent that induces blistering; includes the sulfur mustard agents H/HD/HT and the organic arsenical Lewisite.

APPENDIX A
QUESTIONS FOR POTENTIAL
CSEPP FOCUS GROUPS

APPENDIX A

This appendix identifies question topics for potential CSEPP focus groups. These questions, which may be most useful as probes for the actual focus group questions, have been generated by examining the CSEPP planning considerations (see Sect. 3.2) and the various potential CSEPP focus groups (see Sect. 3.3). Considerable overlap occurs in question topics among certain groups of participants (e.g., police and fire department personnel) that allows them to be collapsed in Tables A.1–A.6. This is not meant to imply that discussions among these various groups will be the same. Certain topics will be more or less important depending on the members of the particular focus group, their concerns, and their roles and responsibilities in the event of a release of chemical agent.

Table A.1 provides questions for emergency response personnel (CSEPP providers). Emergency response personnel consist of representatives of the law enforcement agencies, the fire department, emergency medical workers, and various voluntary organizations (see Sect. 3.3). The question topics are similar for the various groups that compose emergency response personnel, but the actual discussion guide used for a particular group discussion may vary depending on the actual composition of a group. For instance, a focus group consisting of members of law enforcement agencies would likely need to spend more time discussing access control and reentry than would a focus group made up primarily of emergency medical workers. Similarly, a focus group composed of fire department personnel may need to spend more time discussing transportation issues than would a group of participants representing voluntary organizations. It should also be noted that although the designation "NA" connotes "not applicable," it may be that others can identify relevant questions within the particular CSEPP planning consideration. Tables A.2 through A.6 provide similar questions for various consumer and provider/consumer groups as discussed in Sect. 3.3. The same caveats noted for Table A.1 apply to these tables as well.

Table A.1. Question topics for emergency response personnel

- 1. Command and control**
 - What do you think about the CSEPP chain of command?
 - How does the CSEPP chain of command differ from the normal chain of command (Is it better, worse, the same)?
 - How do you think you can best maintain a continuity in operations through shift changes?
- 2. Communications**
 - What do you think about the communication link?
 - Are radio commands better, worse, the same?
- 3. Chemical event emergency notification**
 - What do you think about the levels of emergency event notification?
 - How would your responsibilities and activities vary with different levels?
- 4. Protective action decision-making—NA**
- 5. Protective actions and responses**
 - What additional resources do you need to assist the public in implementing protective action?
 - What do you think should be done if someone refuses to evacuate?
- 6. Public alert and notification**
 - What do you feel your role should be in public alert?
 - Which methods of alert do you feel will be most effective?
 - Is the testing process for public alert adequate?

Table A.1. (continued)

7. Access and traffic control

- What do you think of the procedures for mobilization of personnel for access or traffic control?
- Do you feel that manpower and equipment will be adequate?
- What do you think about unauthorized reentry?
- What do you think will be the best methods for traffic and access control?

8. Emergency worker protection

- What do you think of the protection devices?
- Do you feel you will be safe using the protection devices?
- Are there any particular advantages and disadvantages with each device?
- Do you feel you will have adequate time to protect yourself from exposure?
- Do you think this protection will inhibit your ability to perform?

9. Emergency medical services

- What do you think about the emergency medical services?
- What services do you feel you should be expected to provide?
- Do you feel you can assist others safely without self-contamination?
- Do you feel there are adequate procedures for avoiding the spread of contamination?

10. Transportation

- What do you think about transportation during an emergency?
- Do you feel there will be adequate transportation for everyone (e.g., special populations)?

11. Public education and information

- What do you think about public education and information?
- Do you feel the public's information needs are being properly addressed?

12. Evacuee support

- What do you think about evacuee support?
- What do you feel your role should be in assisting at the shelters?
- Do you understand and agree with your coordination with the American Red Cross?

13. Agent detection and monitoring—adequate for atmospheric monitoring only at this time.

14. Decontamination

- Do you understand the self- and buddy-decontamination procedures?
- Do you understand your role in decontaminating the public?
- Do you think the procedures/resources are adequate to meet the potential need? Why or why not?

15. Reentry

- What do you think about the traffic control procedures for reentry?
- Do you feel these procedures will be effective?
- Do you feel you will have adequate resources for your needs in traffic control?
- Who/what agency will make reentry decisions in your community?

16. Training and exercises

- Do you feel you have received adequate training and exercises?

Table A.1. (continued)

- Are there other types of training you feel you need?
- Are there components of the CSEPP that you feel need to be exercised to demonstrate that they will actually work?

17. Special populations

- Do you understand your role in assisting with special populations?
- Do you feel non-English speaking persons will be cared for adequately if there is an emergency?

Table A.2. Question topics for the IRZ/PAZ/PZ communities and environmental organizations

1. Command and control

- What role could the local community play in the organizational structure of the EOC?
- What are your concerns regarding the resource capabilities of the local government to provide timely and accurate alert and notification of a chemical emergency to the public?
- What authority do you think should provide central management or make alert and notification decisions for the community's emergency response?

2. Communications

- Are communication mechanisms reliable?
- What forms of communication are considered most credible?

3. Chemical event emergency notification

- Is the Army's method for rating a chemical event considered to be credible?
- What preferences are there for public notification of nonchemical agent events?
- What preferences are there for public notification of all events, whether chemical or nonchemical?

4. Protective action decision-making

- What protective actions (e.g., evacuation, sheltering, respirators, positive pressure equipment) would you consider reasonable for your community or organization? Why?

Table A.2. (continued)

- Who should be responsible for deciding which method is appropriate in a chemical event?

5. Protective actions and responses

- Which method of protective action is considered most intrusive: evacuation, sheltering, respirators, or other personal equipment?
- Which methods are reasonable?
- What are reasonable methods for protecting children?
- How do you think protective actions should be paid for?
- How could household pets, rare species, or wild animals be protected?
- How can one learn to use protective actions correctly?

6. Public alert and notification

- Which method(s) of alert (indoor and outdoor warning, route alerting procedures, etc.) do you consider to be most credible? Why?
- What source of alert notification (EBS, local media, U.S. Coast Guard, etc.) do you consider to be most credible? Why?
- How do you think sensory-impaired people should be alerted and notified?
- How do you think children should be alerted and notified?
- How do you think non-English-speaking people should be alerted and notified?
- Which alert technologies and procedures would you consider most intrusive? (IRZ/PAZ communities only)
- What preferences do you have for training and testing of indoor alert systems?

- How do you think the indoor alert system should be paid for?
- Should indoor alert systems be available for everyone to purchase? (environmental organizations only)
- What impacts will alert and notification systems have for an individual, the community, and wildlife?
- How intrusive are alert and notification systems to the physical environment?
- What are the possible effects of installing and maintaining alert and notification systems on wildlife habitat or the natural landscape of the environment?

7. Access and traffic control

- How will access control affect parents' accessibility to children in school?
- When evacuation is the recommended protective action, who is responsible for securing an individual's property? (IRZ/PAZ communities only)
- In the event that sheltering is the protective action recommended in a chemical emergency, should evacuation be restricted?
- Should people be arrested for moving within restricted area?

8. Special populations

- What preferences do parents have for their children's involvement in CSEPP?
- How should special populations be identified?
- How can confidentiality be guaranteed for special populations?

**9. Emergency worker protection—
NA**

Table A.2. (continued)

10. Emergency medical services

- How will triage principles affect normal medical services to the community at large?
- If triage principles are applied for some chemical events and priority for medical services is given to IRZ and/or PAZ areas, then what medical services are available for the PZ area?

11. Transportation

- What are the preferences in methods of transport in the case of an evacuation?
- Should pet owners be able to transport animals in a chemical emergency?
- What priorities should be given in deciding which populations to transport?
- What resources can surrounding communities in outer EPZ areas offer in an evacuation?

12. Community resource coordination

- What support could your community give to other communities in the event of a chemical accident?

13. Public education and information

- In past emergency situations, what sources of information were utilized or considered accurate?
- What are credible sources of information?
- What is a reasonable method of educating children of emergency preparedness?
- To what extent is the public interested or willing to be involved in developing public education programs and materials?
- What does the public expect to be told about CSEPP?

14. Evacuee support

- What are preferred ways to evacuate family members?
- What is an acceptable source for receiving evacuated people?
- What preferences are there for reception and care of people who have been evacuated?
- How do you think contaminated persons should be received or cared for?
- How do you feel about not being able to evacuate livestock? family pets?

15. Agent detection and monitoring

- What authority should be responsible for detection and monitoring activities?

16. Decontamination

- What information are you aware of that is currently available on decontamination?
- What are your concerns regarding decontamination (e.g., adequacy, time required, property destruction)?
- Who is responsible for ensuring that your concerns are considered during decontamination activities?

17. Reentry

- What method is preferred for reuniting families?
- What will be the public's greatest concerns upon reentry?
- What are the implications of indefinitely relocating members of the community?
- What are your concerns regarding an acceptable time period before reentry?
- What are your concerns regarding the detection of a lingering agent?
- What are your concerns regarding the reporting of property loss?

Table A.2. (continued)

- What are your concerns regarding who is liable for public safety during reentry?

18. Training and exercises

- What level of public involvement is expected during training?
- What level of public involvement is expected during drills and exercises?
- What impact will drills and exercises have on the community?

Table A.3. Question topics for local elected officials

1. Command and control

- What organizational structures exist for off-post emergency response?
- Are multiple jurisdictions involved in emergency management decisions?
- What resources are available to coordinate on-scene emergency response?
- What resources are available to provide timely and accurate alert/notification of a chemical emergency to the public?
- What needed resources are not available to coordinate emergency response activities from an off-post EOC?

2. Communications

- What communication mechanisms exist between the Army EOC and the local EOC?
- Are communication systems reliable, direct, and redundant?
- What forms of communication are considered most credible?
- What communication mechanisms exist for other affected jurisdictions?
- What communication mechanisms exist for state emergency services or related agencies?

3. Chemical event emergency notification

- What local procedures exist for receiving and acknowledging the Army's notification in the event of a chemical emergency?
- What is a reasonable time to be notified by the Army after a chemical event has occurred?
- What preferences do you have for receiving the notification?
- Is the Army's method for rating a chemical event reliable?

Table A.3. (continued)

- What are the advantages and disadvantages of notifying the public of nonchemical agent events?
- What are the advantages and disadvantages of notifying the public for limited area emergency events?

4. Protective action decision-making

- What strategic plan exists for identifying the circumstances, conditions, and procedures for making decisions during a chemical event?
- What local resources are available to implement an emergency plan for protective actions?
- What are the protective capacities of evacuation, sheltering, respirators, or positive pressure equipment?
- What method of protective action is most likely to be used by people in the risk area? Why?
- What are the advantages and disadvantages of preplanning and, where feasible, prepositioning protective action items?
- What costs will the local community bear from implementation of protective actions?

5. Protective action and response

- What resources are available to train emergency response personnel and the public in the protective actions?
- What are the advantages and disadvantages of all protective actions?
- What resources are available to evacuate the population at risk?

6. Public alert and notification

- What are the advantages and disadvantages of alert technologies?
- What methods of alert are considered most effective, reliable, or credible: indoor and outdoor warning, route alerting procedures, etc.?
- Which methods and technologies of alert/notification will likely attract the attention of the public?
- What costs will the community incur from alert and notification systems?

7. Access and traffic control

- What demands will access control place on personnel and resources?
- How will access control affect parents' availability to children in school?
- Who is responsible for securing an individual's property if evacuation occurs?
- Should evacuation be restricted if in-house sheltering is the chosen protective action?
- Should people be arrested for moving within restricted areas?

8. Special populations

- How will special populations be identified?
- How will confidentiality be guaranteed for special populations?

9. Emergency worker protection

- Which personal protective devices are considered most reliable?
- What is considered a reasonable protective action for use by emergency response workers?
- Which devices, equipment, or actions could reasonably be utilized without limiting emergency response workers' tasks?

Table A.3. (continued)

- What are OSHA standards for protecting workers responding to emergencies involving hazardous materials?
- What training is necessary to educate workers on the hazards associated with the agents and the danger of approaching contaminated sources without appropriate protective equipment?
- What liability does the public sector have to protect local and state emergency response workers?
- What is considered a reasonable level of expected chemical exposure for an emergency response worker?
- What resources are available to distribute protective devices to emergency response personnel?

10. Emergency medical services

- What organizational structure exists for an emergency medical services system in the community?
- What are advantages and disadvantages of training the public or nonmedical response personnel in emergency medical services?

11. Transportation

- What are the available resources for transportation purposes in the event of an evacuation?
- What support could the private sector give in an evacuation?

12. Community resource coordination

- Does the local emergency preparedness program have the necessary resources to carry out its activities?

- What additional resources are needed for implementing CSEPP?
- What possibilities exist for mobilizing resources?

13. Public education and information

- What are the advantages and disadvantages of emphasizing self-reliance in public education of the emergency preparedness program?
- Is self-reliance a reasonable expectation?
- How could the local media be used in a public education program?
- What are credible sources of information?
- How can public relations reflect the goals of CSEPP?
- What are the advantages and disadvantages of public input to CSEPP?
- How much information on CSEPP is considered adequate to educate the public on emergency preparedness?
- What are the impacts from an information and public education program of CSEPP?
- How will perceptions of risk be affected?

14. Evacuee support

- What arrangements have been made with the American Red Cross to operate mass care centers during a natural or technological disaster at the local level?

15. Agent detection and monitoring

- What type of agent detection and monitoring equipment is available to your community?
- Do you think on- and off-post agent detection and monitoring procedures are adequate?

Table A.3. (continued)

16. Decontamination

- What information is currently available for decontamination?
- What methods are appropriate for the local community?
- Which methods are most intrusive or unreasonable?
- What agency is responsible for decontamination?
- How should emergency response workers and the public be trained and educated in decontamination procedures?

17. Reentry

- What problems are anticipated with reentry?
- What problems are anticipated with the relocation of community members?
- How best can these problems be mitigated?
- How should property loss and damages be reported?
- What liability should the local government have to maintain public safety after reentry?

18. Training and exercises

- What are the advantages and disadvantages of public input in training?
- What are the advantages and disadvantages of public input in drills and exercises?
- During full-scale exercises, what impacts do you think the public will incur?
- Are local efforts adequately coordinated with on-post activities?

Table A.4. Question topics for the local media

1. Command and control

- What role could the local media play in the organizational structure of the EOC?

2. Communications

- What capability does the local media have for providing support in communicating response actions to emergency management agencies or to the local community?

3. Chemical event emergency notification

- How reliable or credible do you think the Army's method is for rating a chemical event?

4. Protective action decision-making

- What media concerns should be considered in preplanning protective action strategies?

5. Protective actions and response

- What role could the media play in providing information on protective action strategies to their audiences?

6. Public alert and notification

- What role could the media play in alerting and/or notifying the public in the event of an emergency?

7. Access and traffic control

- Should the local media have access to restricted areas?
- If the local media does have access to restricted areas, should protective equipment be available for use?
- How could access control impact the media's role to inform their audience of a chemical emergency?

Table A.4. (continued)

- 8. Special populations**
 - How could the local media support emergency preparedness efforts for special populations?
- 9. Emergency worker protection—NA**
- 10. Emergency medical services—NA**
- 11. Transportation—NA**
- 12. Community resource coordination**
 - What support could the media give to CSEPP?
- 13. Public education and information**
 - What are credible sources of information for the target audience(s)?
 - What relationship could be established with the Joint Information Center to encourage the dissemination of accurate information?
- 14. Evacuee support—NA**
- 15. Agent detection and monitoring—NA**
- 16. Decontamination**
 - What support could the local media give to inform the public of agent decontamination procedures and status?
- 17. Reentry**
 - What support could the local media give during reentry or reentry decision-making?
- 18. Training and exercises**
 - What role could the local media play in the evaluation process of an emergency management system?

Table A.5. Question topics for the local business community

- 1. Command and control**
 - What role could local businesses play in the organizational structure of the emergency operations center?
- 2. Communications**
 - What capability does the business community have for providing support in communicating response actions to emergency management agencies or to the local community?
- 3. Chemical event emergency notification**
 - How reliable and credible is the Army's method for rating a chemical event?
- 4. Protective action decision-making—NA**
- 5. Protective actions and response**
 - What liability or responsibility should businesses have in maintaining the safety of their employees and/or customers in the event of a chemical emergency?
 - Should businesses be required to post signs for evacuation or sheltering?
 - Should businesses be required to provide respirators or other personal equipment to employees?
- 6. Public alert and notification**
 - How will the noise factor in an industrial setting impact the effectiveness of alert systems for employees?
 - How will inner city noise impact the effectiveness of alert systems for customers and employees?

Table A.5. (continued)

- Which technologies and procedures are considered most intrusive for employees and customers?
- What training and testing is expected for indoor alert systems?
- Who should the alert and notification system be paid for?
- How can businesses ensure that all employees (including those at remote locations) and customers are alerted and notified?

7. Access and traffic control—NA

8. Special populations

- Is transportation available for special populations in the event of an evacuation?
- What provisions could businesses make for special populations in the event of a chemical emergency?

9. Emergency worker protection

- What support could local businesses provide in the research and development of personal protective devices or other protective actions?

10. Emergency medical services

- What emergency medical services should local businesses be required to deliver to employees or customers in the event of a chemical emergency?
- What protective devices or medicines should be available to the private sector?

11. Transportation

- Should the business community be primarily responsible for transporting their employees or customers in the event of an evacuation?

- What equipment or resources could be available for transporting employees and customers in the event of an evacuation?

12. Community resource coordination

- What support could local businesses give to CSEPP?

13. Public education and information

- What information or educational materials should local businesses be expected to give to their employees and customers?
- What effects will the dissemination of information on emergency preparedness have on local businesses?

14. Evacuee support

- What outside support can local businesses expect if employees or customers need to be evacuated?
- Should the business community be expected to exercise self-reliance if employees or customers need to be evacuated?

15. Agent detection and monitoring

- What support could businesses provide in the research and development of agent detection and monitoring devices?

16. Decontamination

- What public sector support can the local business community expect in decontamination procedures?

17. Reentry

- What public sector support can the local business community expect during reentry?

Table A.5. (continued)

18. Training and exercises

- How could training and exercises impact employee productivity?
- How could training and exercises impact customers' activities?

Table A.6. Question topics for special populations

1. Command and control

- What types of input would you need to have into the decision-making during the response phase of an emergency (hospitals only)?

2. Communications

- At the time of an emergency, do you feel you will be able to communicate the special needs of those you are caring for?
- What types of communication will you need to provide medical support for emergency response in treating injured persons (hospitals only)?

3. Chemical event emergency notification—NA

4. Protective action decision-making

- What do you see as the important considerations for deciding which protective action is appropriate for your situation?
- What do you feel needs to be done to get these considerations incorporated into the emergency plans?

5. Protective actions and responses

- What resources would you need (that you do not have now) for evacuation and/or in-place sheltering?
- What additional training do you feel you would need to evacuate or provide in-place sheltering?
- Do you feel you have the training and resources needed to protect someone by using respiratory devices (noninstitutional only)?

Table A.6. (continued)

6. Public alert and notification

- If your institution receives an alert, do you feel your institution will be prepared to handle it?
- What problems do you see arising as a result of the handling of this alert?
- What type of information would you need as part of the emergency notification (e.g., how long before it arrives)?
- What do you see as the most appropriate ways to alert the sensory impaired? (noninstitutional only)

7. Access and traffic control

- What special considerations do you feel should be given to emergency medical vehicles?

8. Special populations—NA

9. Emergency worker protection

- What procedures, equipment, and training would be necessary to ensure that *hospital workers* and others (e.g., emergency medical technicians) do not become contaminated during the treatment of patients during an emergency?

10. Emergency medical services

- What special resources would you need for performing your functions as part of the emergency medical services?
- How do you feel about coordination with National Disaster Medical System?
- Do you feel you will need additional personnel if a chemical event were to occur?
- Where do you feel you could get these additional personnel?

- Do you feel you are prepared to administer medical attention given a chemical event?
- What special requirements would you have of emergency medical services (e.g., prisoners or disabled in need of special attention)?

11. Transportation

- What special requirements are needed to transport patients/prisoners (e.g., prisoners need security, nursing homes may need beds, etc.)?
- What concerns do you have regarding capabilities for decontaminating transport vehicles?

12. Community resource coordination

- Do you feel you have a clear understanding of how your institution is involved in community resource coordination?
- Do you have knowledge of the resources that could be provided to you through community resource coordination (e.g., sources of replacement vehicles, equipment, and machinery should contaminated items be unusable)?

13. Public education and information

- What are the special requirements for public education and information for your group (both the form and the content of the information)?
- How can your institution assist in public education/information for those in your own group (to ensure that everyone knows what to do and how to react)?

Table A.6. (continued)

14. Evacuee support

- What would your group need in the way of evacuee support (e.g., special health care, security)?

15. Agent detection and monitoring—NA

16. Decontamination

- How would decontamination procedures affect the functioning of your institution/facility?

17. Reentry

- What effect would a prolonged absence have on your institution?

18. Training and exercises

- Are there any special considerations you feel should be incorporated to ensure that your institution or group will be cared for?

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