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Procedures for Conducting Installation Compatible Use Zone (ICUZ) Studies

by
John J. Fittipaldi
Steven D. Hottman
Richard M. Marlatt
Inga Kennedy-Tucker
Clifford R. Bragdon
Russell W. Forrest

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FOREWORD

This project was conducted for Headquarters, U. S. Army Forces Command (FORSCOM), Fort McPherson, GA, under Intra-Army Order Number 25-86, dated 9 April 1985. Patrick Kelly, Master Planning Office (AFEN-RMP), and Rudy Stine, Environmental Office (AFEN-FVE), were the FORSCOM Project Monitors.

The work was performed by the Environmental Division (EN), U.S. Army Construction Engineering Research Laboratory (USA-CERL). J. Fittipaldi was the USA-CERL Principal Investigator. R. Marlatt and R. Forrest also are with USA-CERL. Dr. Hottman and Ms. Kennedy-Tucker were research associates with Clifford Bragdon and Associates; and Dr. Bragdon is president of Clifford Bragdon and Associates. Other contributors to the effort include Dr. C. Aldini, Carter and Associates, Phoenix, AZ, and L. Aggens, consultant, Chicago, IL. Administrative support and council were provided by R. Webster and Dr. P. Schomer of USA-CERL. The technical editor was D. Finney, USA-CERL Information Management Office.

Dr. R. K. Jain is Chief, USA-CERL-EN. COL Carl O. Magnell is Commander and Director of USA-CERL, and Dr. L. R. Shaffer is Technical Director.

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1 INTRODUCTION

Background

Most Army installations are associated with high sound levels that result from firing small arms, artillery, and armor; detonating explosives; and operating fixed- and rotary-wing aircraft. For the Army, these sound levels are unavoidable in training soldiers to operate weapon systems vital to the national defense mission; soldiers must learn to function in an environment similar to those they may encounter in an actual combat situation. A disadvantage to this type of realistic training is that sound levels can extend beyond the installation, potentially disturbing those in the surrounding civilian community. Sound levels produced by military activities may be perceived as "noise" by adjacent communities.

In January 1983, the Army established the Installation Compatible Use Zone (ICUZ) Program policy.[1] The purpose of this policy is to protect an installation's mission, as well as the public, by identifying noise-impacted areas so that concerned public, local government, and installation elements can work together to minimize noise-sensitive development through land-use planning and controls. The program also is designed to protect Army property from possible land encroachment that may be incompatible with an installation's mission.

To implement the ICUZ Program, studies must be performed on a case-by-case basis. Installations use current technology for assessing operational noise levels to reveal the types and intensities of land use sensitive to various levels of noise exposure. Instead of waiting for possible land-use conflicts, the ICUZ Program attempts to take immediate steps to prevent compatibility conflicts or at least minimize their impact. The program is therefore designed to be preventive rather than reactive; as such, it is a planning tool that must be updated on a regular basis.

Successful implementation of the ICUZ Program will satisfy the Army's obligation under the Noise Control Act of 1972, amended by the Quiet Communities Act of 1978, and as set forth in Army Regulation (AR) 200-1.[2] (Appendix A explains ICUZ legal requirements.) To clarify the procedures for conducting and reviewing ICUZ studies, installations need detailed guidance on the 12 steps comprising the program. This information will ensure that studies are comprehensive, accurate, and consistent in fulfilling the ICUZ policy.

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[1] Army Regulation (AR) 200-1, *Environmental Protection and Enhancement* (Headquarters, U.S. Department of the Army [HQDA], 15 July 1982).

[2] Public Law (PL) 92-574, *Noise Control Act of 1972*, 86 Stat 1234; PL 95-609, *Quiet Communities Act of 1978*, 92 Stat 3079; AR 200-1.

Objective

The objective of this work is to provide Army installation environmental offices with step-by-step instructions for conducting and reviewing ICUZ studies.

Approach

The U.S. Army Construction Engineering Research Laboratory (USA-CERL) developed guidance by first identifying questions asked and problems encountered at installations where ICUZ studies have been performed previously. The literature was also surveyed; findings are reviewed briefly in Appendix B. The most common questions about ICUZ studies are:

- What is ICUZ?
- What are the steps in preparing an ICUZ study?
- What roles do various members of an ICUZ committee play?
- What kinds of information should be contained in the ICUZ study?
- How can this information be gathered?
- How should this information be presented?
- What should be done with the ICUZ study after it is prepared?
- What additional steps remain after the study is completed?
- Why is public involvement vital to the ICUZ Program?
- What legal issues are involved with ICUZ?
- What are noise contours?

Other specific questions are listed in Appendix C, along with responses.

The ICUZ study process is detailed thoroughly. This report is organized into three broad areas of emphasis: (1) preliminary preparation; (2) draft analysis, graphics, staffing, and involvement; and (3) implementation, dissemination and follow-up. Figure 1 summarizes these areas, and Figure 2 shows the ICUZ procedural steps in greater detail.

Mode of Technology Transfer

Information in this report eventually will be disseminated as a Department of the Army Pamphlet in the 200 series.

Preliminary Preparation

-Prestudy Preparation
-Prepare Noise Maps
-Identify Incompatible Land Use
-Draft Analysis

Draft Analysis

-Planning Board Approval
-Prepare Initial Draft Analysis
-MACOM Review
-Community Involvement
-Final Planning Board Approval
-HQDA Approval

Implementation, Dissemination, and Maintenance

-Implement Mitigation Action
-Provide Official Report to Public
-Review and Update

Figure 1. ICUZ Program concept.

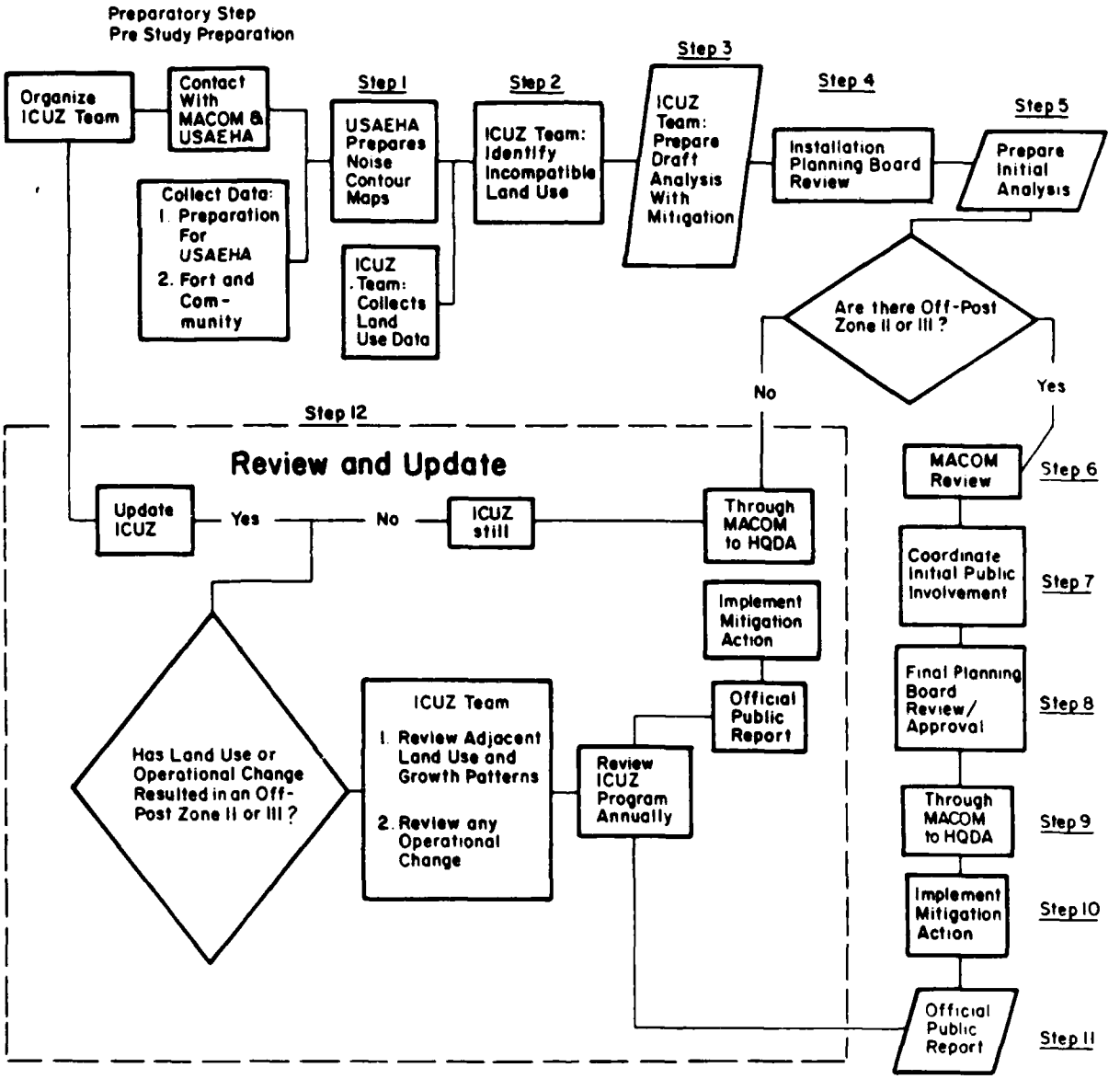

Figure 2. Procedural steps in the ICUZ Program.

2 PRELIMINARY PREPARATION

Prestudy Preparation

Four preparatory measures are required at the outset of an ICUZ study to ensure a successful program. First, an ICUZ team must be organized and its responsibilities identified clearly. Second, the Major Command (MACOM) must be contacted so that it can notify the U.S. Army Environmental Hygiene Agency (USAEHA) of the installation's request to prepare noise contour lines. The third measure to complete before noise contours are mapped is collection of initial baseline data on weapons and aircraft training, or other operational noise. This step will ensure preparation of high-quality noise contours in the least amount of time. Finally, information on the demographic characteristics of surrounding communities and on the relationship the installation shares with them must be gathered to begin formulating a public involvement strategy.

Organizing the ICUZ Team

The first task of the ICUZ prestudy preparation is to organize an ICUZ team. The team should consist of representatives from the following offices: Environmental, Master Planning, Public Affairs, Staff Judge Advocate, Range Control, and Real Property (Figure 3). The ICUZ team is responsible for implementing the ICUZ program and its policies, and therefore is critical to the program's success. It is necessary to obtain

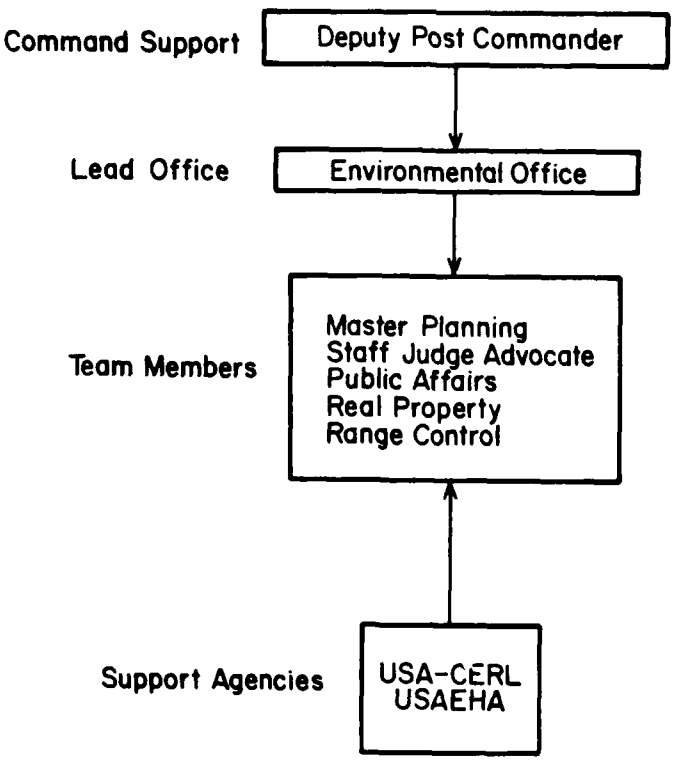

Figure 3. ICUZ team organization.

command emphasis to ensure total team participation. Initial command emphasis is absolutely essential for a successful ICUZ Program; without this emphasis and support at the outset, progress can be delayed greatly.

To ensure continuity in the ICUZ Program, one individual in a designated lead office should be responsible for the study and act as the point of contact (POC) on all ICUZ matters. Typically, this individual is an Environmental Office staffer. All work completed on the ICUZ study should be submitted to the lead office for review and incorporation into the final report. The lead office should be responsible for programming resources (e.g., contractor support, secretarial staff, and materials necessary to complete the report). Constant communication with the team members, including documentation of meetings, should be maintained by the lead office. Finally, the installation commander should be briefed at regular intervals.

Assessing In-House Resources

The ICUZ team should first assess the installation's qualified personnel and present workload. Based on this assessment, three options are possible: (1) do the study in-house, (2) contract totally, or (3) contract partially to complete the study. An ICUZ study typically requires at least one person at the installation level, working with support staff, to coordinate the study. However, the installation may have too few personnel in number or qualifications to prepare the ICUZ report. If technical and support personnel are unavailable at the installation to prepare the report, then contracting the work to a private architectural/engineering (A/E) or planning firm is highly advisable. USA-CERL maintains a list of firms that have prepared ICUZ or Air Force Incompatible Use Zone (AICUZ) studies. This list is useful for developing a bidders' pool for the contract solicitation. For more information, contact the USA-CERL Environmental Division (EN), telephone (217) 373-7225.

Regardless of whether the study is prepared in-house, out-of-house, or by some combination of the two, the ICUZ team must review the ICUZ study.

If the decision is to do the study in-house, someone must be assigned to collect the background information and write the document. An initial step in preparing the written study is to prepare an outline and organize information that needs to be obtained from both on- and off-post sources.

Many Planning and Environmental Offices have only a small staff to do all current assignments. Thus, the extra work created by performing an ICUZ study may require additional personnel over the long term. If there is a shortage of personnel, the following tasks could be divided among members of the ICUZ team or obtained through contractor assistance.

1. Assess capital improvement programs and existing/proposed land use plans. If major land use conflicts due to high noise levels from the installation are identified, initiate the proper actions with local authorities.

2. Coordinate all local land use planning and land use conflicts. This task may include identifying any existing memorandums of understanding between the installation and community.

3. Record noise-related complaints. The major task would be to notify the proper offices about a complaint. This activity is often coordinated through the Operations (e.g., Range Control and/or Flight Operations) or Public Affairs Office.

Distribution of Responsibility

To ensure an effective ICUZ study, each installation must have a well organized program in which all activities are monitored and coordinated properly. ICUZ team participants' responsibilities are summarized in Figure 3; these tasks are described in detail below.

Installation Commander. The primary responsibility of the installation commander, in terms of ICUZ, is to establish and maintain an active ICUZ Program. The commander ensures full involvement of the ICUZ team members and ultimately approves the final ICUZ study.

Directorate of Engineering and Housing (DEH). The DEH is responsible for the overall management and implementation of the ICUZ Program. The DEH oversees both the Master Planning and Environmental Offices, which are the two key elements in the ICUZ Program. The DEH also solicits assistance for the ICUZ study from the MACOM, USAEHA, and other Army agencies.

Environmental Office. The installation environmental coordinator will assume primary responsibility for the ICUZ Program and act as POC on all ICUZ matters. The Environmental Office will be responsible for: developing mitigation alternatives to reduce noise and other impacts associated with training operations; serving as technical consultant on ICUZ matters; assisting the Public Affairs Officer in responding to noise complaints; programming the ICUZ studies; and updating and maintaining the study each year. This office is the logical choice to handle these responsibilities since it usually has established communication lines with the community and may have already dealt with noise issues prior to the ICUZ study.

Master Planning Office. The final ICUZ report will become a component of the installation Master Plan. Therefore, the Master Planning office should become actively involved in development of the ICUZ program, working closely with the Environmental Coordinator. This office will make installation land-use recommendations and work with local and regional planners to achieve compatible land uses. The responsibilities of this office are to: monitor both on-base activities that would impact land outside the installation and development around the installation; incorporate the ICUZ Program into the master planning process; establish a close liaison with planning officials in surrounding communities; and ensure that the intended land use of any property acquired by the installation is compatible with the environmental noise objectives of both the surrounding community's and installation's comprehensive land-use plans.

Judge Advocate General (JAG). This office assists in all legal questions related to ICUZ and advises the installation on legislation regarding the noise environment. The responsibilities of this office include keeping abreast of noise legislation and regulations at the local, state, and Federal levels. This office should be consulted before public hearings are held and should approve release of the final ICUZ document.

Public Affairs Office (PAO). The PAO serves as the spokesperson for the installation on ICUZ matters that affect the public. This office arranges public meetings on ICUZ matters and is in charge of any media exposure for the study. The PAO maintains an active list of off-installation contacts for use by Master Planning, Environmental, JAG, and other team members. An important responsibility of this office is to receive and record all noise complaints regarding installation activities.

Real Property. This office handles all real estate matters. It reviews all proposals to purchase, sell, and lease land. The Real Property Office may also have useful contacts within the community and may have knowledge of current and future developmental trends. This office should be familiar with existing conditions and future requirements.

Range Control. Range Control is responsible for keeping the ICUZ team informed of training activities that occur and any future plans for operational change. It also is responsible for collecting initial training and operations data to be used in preparing the noise contour information. Close coordination with Range Control is important to ensure that noise mitigation measures are implemented properly and do not sacrifice mission capability.

Support Group. The following Army agencies can offer assistance and consultation to installations on ICUZ matters.

U.S. Army Environmental Hygiene Agency (USAEHA). USAEHA will prepare noise contour maps through a combination of computer simulation and field monitoring. These studies will consider actual and projected conditions as well as mitigation alternatives. USAEHA will also offer advice for implementing noise abatement techniques. When necessary, USAEHA will provide testimony to planning/zoning boards and other municipal and state agencies involved in limiting encroachment into high-noise areas.

U.S. Army Construction Engineering Research Laboratory (USA-CERL). If requested, USA-CERL will consult with the installation on the initial ICUZ analysis, mitigation alternatives, and ICUZ public participation procedures. USA-CERL can also provide technical assistance on noise abatement techniques for existing structures, and on noise characterization measurements and standardization. USA-CERL has much previous experience in research and development of new noise source mitigation techniques and in implementation of ICUZ Program policy and procedures.

Initial Contact With MACOM and USAEHA

After the ICUZ team has been organized, the MACOM must be notified of the installation's intent to conduct an ICUZ study. The MACOM then contacts USAEHA to request that noise contour lines be developed for the installation. This step must be done quickly to avoid delays in the ICUZ Program. Due to prior scheduled commitments, it may take USAEHA several months to begin working on the contour lines for an installation and up to 6 months to finish preparing the noise contour maps.

Initial Data Collection

Before USAEHA arrives at the installation to prepare the noise contour maps, it is absolutely essential that accurate operational data be collected by the installation's Range Control and/or Flight Operations Office. A considerable amount of data is required to produce valid noise contours. Noise contours take into account both aircraft and blast noise; thus, the data must reflect both the airfield and the blast-noise-producing operations.

Preparing the noise contour maps will consume a major block of time in the ICUZ process. Therefore, it is important to collect initial data in a thorough, comprehensive manner to prevent the study from being delayed even longer. The activity data must be supplied to USAEHA early so that the noise environment will be depicted accurately by the contours.

To calculate noise contours, USAEHA uses a microcomputer-based program called MicroBNOISE. The program requires the following data for each day of the latest year:

1. Weapons code (Table 1)
2. Number of day firings
3. Number of night firings
4. Minimum charge zone (size)
5. Maximum charge zone (size)
6. Corresponding target identification (ID)
7. Whether there is other noise at the target (yes or no)
8. Height of the target (in feet)
9. Whether there are additional weapons firing at the same point (yes or no).

The weapons code and type of guns being used are listed in Table 1. For a weapon not listed in the table, use the value for the weapon that most closely resembles the unlisted weapon (i.e., tube length and diameter, breech type, charge weight). "Charge Zones" refer to the TNT equivalent in pounds of the projectile shown in Table 1. "Target ID" asks for the target and firing point coordinates that should be taken from the installation range map at a 1:50,000 scale (Defense Mapping Agency [DMA] "Special" map). A blank response to Target ID indicates that the firing point sound is omnidirectional (i.e., demolition or explosion). Question 7 asks if there is other noise at the target in addition to the noise emitted from the weapon being monitored, such as construction, traffic, or industrial noise. The "Height" is entered as negative for below ground or positive for above ground. Question 9 simply asks if there are additional weapon types firing at the same target point.

It is best to first specify a reasonably small number of target points (e.g., 15 to 30), and then detail each firing point's activity to the various target points. This task involves summing the activity at each of the firing points--preferably by weapon type--into events directed toward each of the specified target points. Examples are given in the MicroBNOISE user's manual.[3] The individual events can be entered into MicroBNOISE separately, but it is much more time-efficient to consolidate this information before trying to enter the data--even "hatch marks" on an accounts sheet will save significant computer time for USAEHA.

Information is also needed for air operations on or off the installation. USAEHA now uses the Integrated Noise Model (INM) for aircraft operations and needs not only the number and type of aircraft for each operation (sortie), but also the takeoff/landing profile (heading, altitude at various distances, and power settings) and the time of day of the events. Touch-and-go flights are included, as are operations that do not use the

[3]S. D. Hottman, J. J. Fittipaldi, R. G. Gauthier, and M. E. Cole, *MicroBNOISE: A User's Manual*, Technical Report N-86/12/ADA173605 (U.S. Army Construction Engineering Research Laboratory [USA-CERL], 1986).

Table 1

Weapon Codes for the MicroBNOISE Program

Weapon	Code
105-mm howitzer (M102)	1
155-mm howitzer (M109)	2
8-in. howitzer (M110)	3
175-mm gun	4
155-mm howitzer (M109A1)	5
8-in. howitzer (M110A1)	6
155-mm howitzer (M198)	7
8-in. howitzer (M110A2)	8
Small-charge TNT (0.25 to 90 lb)	10
Large-charge TNT (110 to 500 lb)	11
60-mm mortar	20
81-mm mortar	22
107-mm mortar (4.2 in.)	23
57-mm recoilless rifle	30
90-mm recoilless rifle (M67)	31
106-mm recoilless rifle (M40A1)	32
20-mm gun	40
40-mm gun	41
57-mm gun	42
90-mm gun	43
2.75-in rocket	50
3.5-in. rocket	51
66-mm rocket	52
LAW missile (M72)	53
TOW missile	54
Dragon missile	55
Shillelagh missile (from 152-mm gun)	56
40-mm grenade launcher (M203)	60
Rifle grenade (M79)	61
Hand grenade (M67)	62
M60 tank (105-mm) regular shell	90
M60 tank (105-mm) high velocity shell	91
152-mm tank gun (Sheridan) (M551) regular shell	92
152-mm tank gun (Sheridan) (M551) HEAT-T shell	93
165-mm cannon (M135)	94
120-mm Abrams HEAT shell	95
120-mm Abrams SABO	96

impact areas and parachute drops at a designated drop area. *Every* sortie must be included or the contours cannot reflect an accurate noise environment. The following air operations data is required:

1. Type of aircraft
2. Heading on takeoff and landing
3. Unloaded or loaded
4. Number of day and night flights
5. Climb rates and descent angles.

Land-Use Review

While range control is gathering the data needed by USAEHA, the Master Planning Office should begin reviewing land uses of the area surrounding the installation. The Governmental entities that have land-use regulatory authority in the surrounding communities should be identified. These organizations will be invaluable in obtaining pertinent adjacent land-use information. Initial contact should be made with these local planning agencies to inform them of the ICUZ Program and discuss existing land-use controls and development trends. Land-use, zoning, utility, transportation, and topographic maps should also be collected from these authorities. This data will be essential for identifying incompatible land uses in Step 2 of the ICUZ Program.

Installation and the Community

An important part of the final ICUZ report is a discussion of the relationship between the installation and the community. It is essential to understand the installation's impact on the surrounding communities and their reaction to it. Also, the social norms, type of local government, and historical events of the surrounding communities must be identified and included as a section in the beginning of the report, after the introduction. Relevant information is:

1. History of the installation and community
2. Demographics of the community
3. Relationship between the installation and communities
4. Governmental organization of the surrounding communities
5. Government planning strategies and land-use controls
6. Development and growth trends
7. Dynamics of growth/decline.

First, the historical background of the installation and the communities should be examined. How did the community and installation grow together and what have been important events in their history?

Demographic information such as income, ethnic types, major employers, education, age, and growth rates is needed to identify the economic composition of the community. This information is important in determining the general profile of the community and in predicting developmental growth.

Several questions need to be addressed to establish the existing relationship between the community and installation. For example, how many jobs does the installation create for the community and how many dollars does it inject into the local economy? Are there cooperative agreements between the installation and community including, but not limited to education, recreation, and commerce? Documenting the installation's importance to the surrounding community can be a useful negotiating tool in the ICUZ Program. The Economic Impact Forecast System (EIFS) developed by USA-CERL is a data source and economic impact prediction model that quantifies social economic relationships.[4] Contact the USA-CERL Environmental Technical Information System (ETIS) support center for details on using EIFS in the ICUZ study (telephone 217-333-1369).

The next item to identify is the power structure of the community. How are decisions made? Who controls the budget and determines land-use policy? To effectively negotiate with a local community, the installation must learn where the power lies and in what form of government it exists (i.e., strong mayor, council, or city manager).

The types of land-use controls operating in these communities (i.e., zoning ordinances, comprehensive plans, building codes, capital improvement budget) should be identified. In particular, are specific environmental noise considerations incorporated into the policies, objectives, or regulations in the comprehensive plan or building codes? Local and regional planning authorities should be interviewed to determine if they are lay persons or professional planners and if they have advisory or regulatory roles.

The surrounding communities' growth patterns and rate of development should be examined next. Where are residential and commercial areas being developed and are these areas near the perimeter of the installation? The record of housing and commercial growth should also be consulted to determine the possibility of encroachment around the installation.

Data collection should begin at the outset of the study. Local chambers of commerce, planning offices, and utility companies are the three best sources of information. Generally, they have the most current figures on growth, economic conditions, and demographics in the community. The latest *Census of Population and Housing** will also provide much of the needed demographic information. The PAO will have the most current data for the installation.

Using this information, the ICUZ team can start organizing a community involvement strategy. By recognizing the general profile of the surrounding population and governmental power structure, it can be decided how to best communicate with the

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[4]J. W. Hamilton and R. D. Webster, *Economic Impact Forecast System, Version 2.0: User's Manual (Revised)*, Technical Report N-69/ADA144950 (USA-CERL, July 1979).

*This source is available in hard copy at public libraries or online through ETIS and its subsystems.

public. Strategies that have been used successfully include public meetings, informational leaflets, and media advertisements, among others. Public involvement strategies are discussed in more detail in Chapter 3.

Before a community involvement strategy is initiated, local authorities such as the mayor and/or city council should be informed of the installation's intent to introduce a public involvement program into their jurisdiction. It is always important to notify public officials in advance of any action to gain their support. Having reliable background information on the community will facilitate efforts with public officials in arriving at a mutually satisfying agreement to control land uses around the installation.

Preparation of Noise Assessment Zone Maps—Step 1

Generation and Scientific Basis of Noise Contours and Zones

The ICUZ Program is based on the Integrated Noise Contour System (INCS) developed by USA-CERL to determine noise level contours around and within military installations. These contours are used to assess the degree of adverse impact on existing and potential activities in areas on or adjacent to the post that result from current "average busy day" operations.

The MicroBNOISE computer program, which is a subsystem of INCS, generates noise contour maps that characterize an installation's blast noise "footprint." The primary method of assessing noise impact is to simulate the noise environment through mathematical models and/or computer programs using real operational data. The generation of noise zone maps requires accurate data, including numbers, locations, types, and times of noise-producing events. Simulation procedures are now available for all major Army noise sources. Normally, onsite monitoring to accompany the computer-generated contours is not attempted because of the large commitment of time, manpower, and equipment required.

An assessment may cover only a few noise sources or receivers. If so, the installation can conduct its own assessment following the procedures in TM 5-803-2.[5] Single sources can be assessed by USAEHA or a qualified contractor. If an assessment includes large numbers of noise sources, the installation should obtain its noise zone maps from USAEHA. Requests for USAEHA assistance should be directed to: Commander, U.S. Army Health Services Command (HSPA-P), Fort Sam Houston, San Antonio, TX 78234, through the MACOM.

Before proceeding with steps in the ICUZ Program, it will be helpful to review the physical characteristics of sound and the impact of noise on humans. This background information will be useful in explaining ICUZ to others and in answering questions from the community.

Factors Influencing Noise Propagation. Many physical properties and factors influence the direction and distance that noise travels and the magnitude of that noise reaching humans. Three of these physical phenomena with major impact are geometrical spreading, atmospheric attenuation, and ground effects.

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[5]Technical Manual (TM) 5-803-2, *Environmental Protection Planning in the Noise Environment* (HQDA, 15 June 1978).

Geometrical Spreading. Sound waves from a single source on the ground or in the air spread out uniformly as they travel away from the source. For each doubling of distance, the sound energy per unit area (in decibels) decreases by a factor of four, or 6 dB per doubling of distance. This effect is called the "inverse square law" and is common to all types of energy originating from a "point" source free of focusing. The energy dropoff characteristics differ from "line" sources such as railroads and highways. Under those conditions, sound decreases by approximately 3 dB per doubling of distance.

Atmospheric Attenuation. Atmospheric attenuation is the absorption effect of air on sound waves. Through molecular absorption, the air absorbs a certain amount of acoustic energy over relatively long distances. This effect depends on the sound frequency, air temperature, and relative humidity. High-frequency sound, greater than 2000 Hz, is most sensitive to atmospheric absorption. Over very large distances, mid-frequency sound, between 500 and 2000 Hz, can also be significantly affected by atmospheric attenuation. The higher the air temperature and relative humidity, the greater the atmospheric absorption effect. Wind also greatly influences sound by altering the direction of the wave and absorbing sound energy. For low frequencies prominent in impulse, or blast noise, atmospheric absorption is relatively small.

Ground Effects. The ground effects on noise propagation are determined by the type of surface and its reflective characteristics: the smoother the surface, the greater reflection and less absorption. An uneven or broken surface, such as rock outcroppings or undulating hills, can greatly influence noise propagation.

Human Response to Community Noise. Noise is recognized as one of the leading sources of environmental impact in the United States. In a survey of 80,000 households as part of an annual survey conducted by the U.S. Department of Commerce and the Bureau of the Census for the U.S. Department of Housing and Urban Development,[6] 23 percent of the population surveyed ranked noise as the major reason why their environment was an undesirable place to live. Noise has consistently been the leading problem cited for over 10 years. The second major category involves street traffic (13 percent), followed by crime at 8 percent. Thus, noise is the primary concern in residential areas. This fact must not be overlooked when doing an ICUZ study in terms of understanding the communities' perception of the noise issue.

Two basic factors are associated with quantifying noise impact in an ICUZ study. First is the human response and the percentage highly annoyed versus the day/night average level or Ldn. This group of "highly annoyed" correlates directly with the Ldn and should be used as the basis of noise impact rather than depending on complaint records. Complaint data does not correlate well with the actual sound level. The second factor is speech interference. Noise can interfere with the ability to hear important speech sounds (i.e., the transmission of verbal information). If this speech interference occurs with enough intensity, the message content will not be heard. Consequently, a potentially unsafe condition might occur. These quantifiable factors should be considered as they relate to ICUZ studies because there is a direct mathematical relationship between the noise and its human impact.

An ICUZ study also may uncover unquantifiable factors that require attention. One such factor deals with sleep effects. Noise can awaken people, keep them from falling

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[6] *Annual Housing Summary* (U.S. Department of Housing and Urban Development, published each year since 1973).

asleep, and change or alter sleep stages. However, no specific standard has been developed which applies to all populations relative to sleep. Therefore, sleep interference is a very important factor, but not totally predictable. Another factor category is startle. Noise-induced startle can raise or elevate blood pressure but, in terms of long-term impact, there is no direct cause-effect relationship between noise and elevated blood pressure. Such a response tends to be transitory. Nuisance is the third factor. Nuisance is a potential health effect in the sense that people may complain as a function of impact, but there is no way to measure the impact; a nuisance to one individual may have no effect on another. The degree of annoyance due to noise is highly dependent on the social conditions, the community, the value structure, age, sex, education, and even income of individuals.[7]

When the Army investigates a possible impact, whether responding to an individual at a community meeting or to a media inquiry, it must demonstrate sensitivity to the problem and respond in a very positive way. The standards that have been established for determining noise zones around Army installations have legal standing and are based on scientific evidence that has been accepted internationally. These criteria have been adopted by various organizations, including the National Academy of Science, Committee on Hearing and Bioacoustics, and the Acoustical Society of America, as well as several other Governmental and international scientific organizations. This fact becomes very important in dealing with the media and the general public when someone asks, "Are these findings based on scientific criteria."

In responding to inquiries about the program, the Army should emphasize quantifiable or measurable factors that have an impact on noise. These factors include the percentage of the population highly annoyed versus the day/night average level and also speech or communication interference. Unquantifiable factors, including sleep effects, startle, fright, and annoyance are important, but are not predictable based on scientific evidence.

In dealing with the public, however, it is imperative that the Army representative listen to the complaints or concerns expressed by individuals. Remember that human response to noise is associated with an entire value system. The Army must be sensitive to those experiences in terms of responding to public questioning. Opinions must be weighed carefully before a response to those opinions is offered.

Types of Noise Monitored. Impulse noises are typically the blast type. Such noise is characterized by a sound wave that peaks abruptly and then slowly decays, usually lasting less than 1 sec. Impulse noise sources include artillery fire, shell bursts, surface blasting, crater blasting, supersonic aircraft, and weapons firing. Although the duration of individual blasts is short, the rapid onset of such sounds is a source of discomfort for many persons. The vibration of buildings and other structures induced by the noise impulse is an additional source of annoyance. This vibration and the rapid onset produce startle effects and may cause loosening of objects within buildings. For these reasons, both the noise and vibrational impact of blast noises must be assessed in an ICUZ study.

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[7]P. D. Schomer, *Predicting Community Response to Blast Noise*, Technical Report E-17/AD773690 (USA-CERL, December 1973).

Data Description

The Army distinguishes between environmental noise and hearing-hazardous noise. The Environmental Noise Abatement Program,[8] which is the basis for the ICUZ Program, applies only to environmental noise; thus, occupational noise exposure is not included.

The primary ICUZ Program noise description is based on the annual average day-and-night sound level (DNL). DNL is divided into two subgroups: A-frequency weighting (ADNL) and C-frequency weighting (CDNL). The ADNL is used for all sounds except large-amplitude impulse noises. CDNL is used for large-amplitude impulse noise generated by explosive devices, large-caliber weapons and weapon systems, and helicopters.

The Army assesses and describes all environmental noise in terms of either ADNL or CDNL, according to the type of noise and its source. Computer programs have been developed to convert CDNL contours to equivalent ADNL contours by calculating annoyance equivalency. For master planning, noise contours from the different types of noise should be combined, but the different types of noise contours may also be evaluated separately. Separate overall A- and C-weighted zone maps are normally prepared. Composite zone maps can then be converted by logarithmically adding the ADNL and CDNL contour maps after converting the CDNL maps to equal levels (Tables 2 and 3).

Noise Zones

The level of noise impact is depicted by land-use map overlays in contour line increments, or intervals of 8 dB for C-weighting and 10 dB for A-weighting. A-weighted contours used for AICUZ studies are often shown in increments of 5 dBA. For land-use compatibility planning, these contours are grouped to form three basic noise zones with corresponding noise values:

Noise Zone	ADNL (dB)	CDNL (dB)
I	Below 65	Below 62
II	65 - 75	62 - 70
III	75 and above	70 and above

Using criteria developed by the Army, other service branches, and nonmilitary agencies, compatible and incompatible land uses have been determined for these noise levels.

[8]AR 200-1.

Table 2

Conversion of CDNL to Equivalent ADNL by Equal Annoyance*

Population Highly Annoyed (%)	CDNL (dB)	ADNL (dB)
1	45	45
2	46	49
2	47	49
2	48	49
3	39	52
3	50	52
3	51	52
4	52	54
4	53	54
5	54	56
6	55	57
7	56	58
8	57	59
9	58	60
10	59	61
12	60	63
14	61	64
16	62	65
18	63	67
20	64	68
23	65	69
25	66	70
28	67	72
32	68	73
35	69	74
39	70	76
42	71	77
46	72	78
50	73	79
54	74	80
58	75	81

*Source: AR 200-1, *Environmental Protection and Enhancement* (HQDA, 15 July 1982). The table was constructed from the equations and curves in National Research Council report of Working Group 84 (refer to Appendix A). Current evidence indicates that helicopter blade slap increases noise annoyance as a function of distance and type of aircraft. The corrections in Table 3 must be added to helicopter noise levels in the development of noise zone maps.

Table 3

Impulse Factor To Be Added to Sound Exposure Level vs. Distance Data for Rotary-Wing Aircraft*

Slant Distance (m)	Factor (dB)
0-350	5
350-450	4½
450-550	4
550-650	3½
650-750	3
750-850	2½
850-950	2
950-1050	1½
1050-1150	1
1150-1250	½
1250 and longer	0

*Source: AR 200-1, *Environmental Protection and Enhancement* (HQDA, 15 July 1982).

The main standard for the Army in assessing compatible land uses includes specific noise-sensitive uses such as housing, schools, and medical facilities. The significance of each zone for these land uses is:

Noise Zone	Compatibility
I	Acceptable
II	Normally unacceptable for residential uses, though may be acceptable for offices or commercial uses
III	Unacceptable

The Army's goal is for exterior noise levels not to exceed a yearly Ldn of 55 dB. The U.S. Environmental Protection Agency (USEPA) recommends this level as a goal for outdoor residential areas.

Integrated Noise Model (INM)

The Federal Aviation Administration (FAA) initially developed the INM in 1978 to calculate the total impact of aircraft noise at or around airports. The INM and MicroBNOISE both result in delineated noise contours; however, the programs use different algorithms. FAA and the Department of Defense use INM for determining

airport noise contours with an A-weighted (Ldn) scale. The ICUZ Program uses BNOISE or MicroBNOISE to determine noise impacts of military operations at installations with a C-weighted scale.

Noise Monitoring in the ICUZ Program

Army policy mandates field noise monitoring whenever a Zone III extends beyond an installation. USAEHA does this monitoring routinely upon request through the MACOM as part of its mission. However, USAEHA often is under scheduling constraints, so that several months may pass before the testing is performed.

An alternative may be to contract this monitoring to consultants. In general, though, monitoring of the noise environment by independent consultants is not advised, even in Zone III situations. The monitoring is usually of little scientific value and can be very expensive, even for short-term (e.g., 30 to 45 days) data. If only 30 days of data are taken, the precision will be no better than ± 4 dB; that is, it would be very difficult to distinguish between a Zone II and a Zone III measurement position with only 30 days' data. At least 1 year of noise measurements, along with weather and detailed operations records, are required to determine the noise environment at a specific location; accurate definition of noise zones requires a large number of monitoring points for a long period of time. In addition, extensive data taken over a very long period are needed to verify noise models. Ongoing monitoring in selected areas confirm this requirement, and as the model is refined by research in progress, the amount of monitoring required to define the noise zones will increase.

Monitoring at selected installation locations is a two-edged sword: if it verifies (to within some large degree of precision) that the location is in a Zone III, it may only confirm the public's worst fears; if it shows that the location is not in a Zone III, then the residents may question the precision and accuracy of the measurements. Without adequate, long-term (several months) monitoring, possible litigation that depends on the location of noise zones can be decided against the installation.

Conversely, if adequate monitoring indicates that the zones are where the computer contouring model has predicted, the Army's litigation stance can be enhanced considerably. The key point is that *adequate* data are needed: continuous sound level monitoring over several months at several locations, detailed operational data over the same period, and detailed weather data over the same period. Indeed, so many factors can vary over such a large range within short periods that scientific "verification" of the contours is very difficult. The noise zones are never claimed to be more than an average (see the discussion of the averaging system used to define Ldn below). In particular, very long-term averages (decades) are used in modeling sound propagation; as the data on inversion frequencies accumulates, the predictions become more accurate.

Adequate monitoring can be very expensive from a consulting firm, but may require a long waiting period from USAEHA. The results will probably be inconclusive without adequate data, whichever source is chosen. Monitoring of the noise zones is important for community relations and ensuring model validation, and is required by FAA part 150 and AR 200-2.

Definition of Averaging Time for Noise Contours

The noise contours that define noise zones are equal energy lines connecting points of a particular "noisiness." The measure of noisiness is the annual average day-night

sound level, Ldn. The units are either A-weighted decibels (dBA) for aircraft and traffic noise, or C-weighted decibels (dBC) for blast noise.

In calculating the contours, it is usually assumed that the data are spread evenly over 365 days. This assumption, however, may not be appropriate in some situations; for instance, an Army National Guard installation may produce most of the blast noise on weekends. Instead of 365 days, the appropriate averaging time for this type of activity might be less than 104 days (2 days per weekend for 52 weeks).

Since the calculation of Ldn involves division by the number of days of activity, the choice of number by which to divide will affect the relative size of the noise zones. Choosing the smaller actual number of days (104) will increase the size of the noise zones and may reflect a more realistic noise environment. In the above example, since there is virtually no activity on weekdays, spreading the noise over all 7 days of the week can give a false impression of the noise impacts. The larger noise zones, however, might alarm the public and put the installation at a disadvantage in negotiations or litigation.

The strict scientific definition of Ldn for estimating annoyance due to noise specifies that 365 days of noise data are to be used. Although this method produces smaller noise zones, it has been tested repeatedly and accepted internationally.

The number of days used in producing the noise contours is an installation's decision. All staff elements involved, however, must understand the implications of a decision to define the installation's "annual average" period as actual days of blast-noise-producing activity, or as 365. In particular, PAO and SJA should give careful consideration to the consequences of the decision. Consultation with USAEHA or USA-CERL also might be appropriate.

Accuracy and Precision of the Contours: Questions and Answers

When an installation receives its contour maps for the first time, questions often arise regarding the contours' meaning. Some common questions and their answers are presented below.

How Accurate Are the Noise Zones (Contour Lines) on the Map? The noise zones are a very accurate representation of the long-term (1 year) average noise environment. The position of a noise contour on a map, however, should not be construed as a precisely defined dividing line from a land survey perspective (i.e., metes and bounds). These contour lines should be viewed as a generalized delineation between noise zones. The accuracy of the contours is approximately ± 2 dB at the 90 percent statistical confidence level. That is, if long-term measurements were taken at a location where the model predicts a level of 62 dB, the long-term average could be expected to be between 60 and 64 dB 90 percent of the time.

How Accurate Is the Computer Model Used to Generate the Noise Zones? The model is considered very accurate in predicting the long-term (several years) average noise environment. However, the model is not very precise as it does not predict the noise level at a particular location on a short-term basis (several days). In part, this is because the model uses long-term weather data to calculate noise propagation--the only realistic method of handling the large variability in weather conditions. It should be noted that, in environmental acoustics research, measurement accuracies of this magnitude are considered quite good unless a very large number of events are averaged.

Why Is the Yearly Average Used to Describe the Noise? Many noise studies worldwide have shown that Ldn best describes the noise environment and peoples' attitudes toward the noise. If you ask a person, "Is it quiet where you live" he or she will probably say something like, "Yes, by and large it is quiet. Sometimes dogs bark or a loud car goes by, but it's mostly quiet." This is the conclusion that all noise studies have reached: humans tend to average their feelings about the noise environment over long periods of time. This situation has been shown for many kinds of noise and in many locations throughout the world.

What Is a Decibel? The decibel is the unit of measure describing sound. Mathematically, it involves taking the logarithm of the ratio of the measured sound pressure to a standard pressure. The logarithm is used because it best represents how the human ear hears sound. The ear is sensitive to a large range of sound pressures and acts very much like a logarithmic detector. To simplify the description and measurement of a large range of sounds (from a whisper to a thunderclap), the decibel is used.

Using the logarithmic measure for sound, however, complicates "decibel arithmetic" since decibels do not behave like ordinary numbers. For instance, two sounds of 60 dB each cannot be summed to a total sound level of 120 dB; instead, the total sound is 66 dB. Also, if one speaker of a stereo is set at 60 dB and the other speaker (preset to 60 dB) is turned on, the total sound produced by the two speakers is 66 dB. This condition occurs because, physically, it is the sound energies that add--not the logarithms--and when the energy is doubled, the logarithm increases by 6. Also, some sounds will be insignificant when added to another sound; for example, when listening to a stereo set at 70 dB, another sound at 60 dB will not be noticed since the 60 dB sound has only one-tenth the energy of the 70-dB sound.

What Is the Difference Between dBA and dBC? The "A" and "C" refer to the type of weighting network, or filter, used when the sound is measured. A microphone that does not have a filter treats all frequencies of sound the same. The human ear is much less sensitive to some frequencies than to others. A filter that matches the average human hearing has been defined and is known as "A-weighting." When a sound level measurement is reported in "dBA," it has been made using this filter, and closely approximates how a human would perceive the sound. This type of measurement is used for normal sounds such as traffic, airplanes, and construction noise. These types of sounds have most of their energy in the same frequencies at which the human ear is sensitive.

Some sounds have most of their energy at very low frequencies, where the human ear is not as sensitive. These are known as "impulsive" sounds, and include thunder, explosions, artillery firing, and helicopter blade slap. To measure these types of sound accurately, another filter is used which takes into account the low frequency of the sound. This filter is the "C-weighting" and the units are known as "dBC." Many studies have shown that dBC is the most accurate descriptor of impulsive sound and its perception by humans. Consequently, blast contours for an installation are calculated in terms of dBC, whereas the aircraft contours are calculated in dBA.

What Is Ldn? Ldn is the annual average day-night sound level, expressed either in terms of dBA or dBC. It is used to quantify the noise environment using a full year's activity data and average weather conditions. It is called a "day-night" level since events that happen between 10 p.m. and 7 a.m. are penalized to reflect that noise at night is inherently more annoying. The penalty makes each nighttime event equivalent to 10 daytime events. Ldn has been shown to be the noise measure that most closely describes the noise environment and humans' attitudes about the noise.

Identify Incompatible Land Uses—Step 2

Achieving compatible land uses around Army installations is the main purpose of the ICUZ Program. The first step toward identifying land uses is to obtain the most recent land-use/zoning maps and comprehensive plans for the installation and the community. The best sources of this information are local and regional planning agencies. After matching the map scale of the ICUZ contour maps to the installation and adjacent community maps, those areas where Zones II and III may encroach upon private property must be determined. Such maps and documents are available by request free or for a small fee. The installation may be located in more than one county and/or municipality. If so, it may be necessary to obtain maps and documents from more than one jurisdiction. Also at this time, all agencies with authority for land-use planning and control should be identified.

Both the Army and the local community are responsible for addressing land-use planning questions. The Army's role is to: (1) minimize the effect of its operations in such a way as to reduce noise levels and safety problems, (2) make land-use recommendations to adjacent communities, and (3) participate in the planning process.

The purpose of considering noise in the land-use planning process is not to prevent development, but rather to encourage development that is compatible with various noise levels. The objective is to guide noise-sensitive land uses away from the noise and encourage nonsensitive land use where noise is present. When this is not possible, measures should be included in development projects to reduce the effects of the noise.

Definition of Compatible/Incompatible

"Compatible" land uses are defined as those which threaten neither the health and welfare of Army personnel and the public within, adjacent to, and surrounding Army installations nor the integrity of the installation's mission. DOD policy is to work toward achieving compatibility between installations and neighboring civilian communities through a compatible land-use planning and control process conducted by the local community with input from the installation. Land-use compatibility guidelines have been specified for each noise zone and, in all instances, the primary objective is to identify planning areas and a reasonable range of land-use alternatives. These areas and use options are then recommended to appropriate planning agencies.

The primary source of land use incompatibility is noise as a result of base operations. The Army's primary strategy to ameliorate this situation is land-use planning and control techniques. The ICUZ Program is designed to implement Army policy on land-use planning. Using the zone maps depicting DNL from military operations, both military and civilian planners work to create adequate buffer zones between noise sources and sensitive areas. For this planning, the noise maps are based on current peacetime operations typically defined by the average busy day. By overlaying local land-use maps with installation contour maps and observing where, if at all, Zones II and III extend off-post, compatible and/or incompatible land uses can be identified readily. If Zone III goes beyond the Army installation boundaries, noise monitoring may be required; if so, this requirement should be determined early in the ICUZ study.

Land-Use Guidelines

The method of controlling and regulating land usage within each zone can vary according to local conditions. In all cases, the primary objective is to identify possible impacted areas and suggest reasonable land-use guidelines. These areas and land-use

guidelines are then recommended to appropriate planning agencies. Land-use planning and control require continual attention because the specific characteristics of land use will change.

The economic, social, and physical environment of a community and public concern also change continually. The planning process accommodates this flexibility in that decisions are not normally based on rigid boundary lines, but rather on more generalized area designations.

ICUZ Program boundaries/noise contours describe the impact of a specific operational environment, but can change if there is a major operational change. If the local community attempts to use ICUZ Program boundaries for zoning districts, it is conceivable that future problems may result because the accuracy of noise contours is not as good as zoning boundaries, among other reasons (see *Accuracy and Precision of the Contours: Questions and Answers* above). The potential for change must be considered if the ICUZ Program data is assimilated into other community planning data. Specific land-use control decisions should not, therefore, be based solely on ICUZ boundaries. Operational changes that substantially modify the noise contours will be subjected to extensive study and analysis to determine their potential impact on requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations, and the Army's implementing regulation, AR 200-2.

The Federal Interagency Committee on Urban Noise has developed a guideline for considering noise in land-use planning and control which should be used when making decisions or recommendations on land uses for the installation environs.[9] Table 4 lists recommended guidelines for determining compatible and incompatible land uses in the vicinity of Army installations for the three noise zones.

Land Use and Development Controls

Land-use and development controls can be implemented to protect the noise impact areas designated by the ICUZ study from encroachment by noise-sensitive uses. However, before the Army installation attempts to recommend land-use controls on adjacent property, alternative operations should be studied on the installation. Changing operations at the installation to mitigate noise impact should be considered as the first step in alleviating an incompatible situation. If a change is not feasible, then the Army installation should begin working with the local government to implement land-use controls. For further information on land-use and development controls, refer to Appendix D.

Identification of Future Incompatible Land Uses

A critical element of the planning activity is identification and evaluation of future compatibilities using the same method that was employed to evaluate existing conditions. The results will serve as the basis for recommendations to change the civilian land-use plan. Through comprehensive land-use planning that addresses future conditions, it is possible to modify plans following proven principles.

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[9]*Guidelines for Considering Noise in Land Use Planning and Control* (U.S. Department of Transportation, June 1980).

Table 4

Recommended Noise/Land-Use Compatibility Guidelines[1]

Land Uses	Noise Zones[2]					
	I	II		III		
	< 65 Ldn	65-70 Ldn	70-75 Ldn	75-80 Ldn	80-85 Ldn	> 85 Ldn
Residential						
Residential (excluding mobile homes and transient lodgings)[3]	Y	N	N	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N	N	N	N	N
Industrial/Manufacturing[4]						
Food and kindred products	Y	N	N	N	N	N
Textile mill products	Y	N	N	N	N	N
Apparel	N	N	N	N	N	N
Lumber and wood products	Y	Y	Y	N	N	N
Furniture and fixtures	Y	Y	Y	N	N	N
Paper and allied products	Y	Y	Y	N	N	N
Printing, publishing	Y	Y	Y	N	N	N

[1] A Yes (Y) or No (N) for compatible land use is to be designated only for gross comparison. Within each category, there are uses for which further definition may be needed as to whether they are clear or normally acceptable/unacceptable owing to variations in densities of people and structures.

[2] Generally use the A-weighted scale for decibel rating; use the C-weighted scale for blast noise measurement.

[3] Includes household units (suggested maximum density 1 to 2 dwelling unit(s) per acre, possibly increased under a Planned Unit Development where maximum lot covered less than 20 percent); single units--detached; single units--semidetached; single units--attached now; two units--one above the other; apartments--walk-up; apartments--elevator; group quarters; residential hotels; and other residential.

[4] Factors to be considered: labor intensity, structural coverage, explosive characteristics, air.

Table 4 (Cont'd)

Land Uses	Noise Zones[2]					
	I	II		III		
	< 65 Ldn	65-70 Ldn	70-75 Ldn	75-80 Ldn	80-85 Ldn	> 85 Ldn
Industrial/Manufacturing (Cont'd)						
Chemicals and allied products	N	N	N	N	N	N
Petroleum refining and related industries	N	N	N	N	N	N
Rubber and misc. plastic goods	N	N	N	N	N	N
Stone, clay, and glass products	Y	Y	Y	N	N	N
Primary metal industries	Y	Y	Y	N	N	N
Fabricated metal products	Y	Y	Y	N	N	N
Professional, scientific and controlling instruments	N	N	N	N	N	N
Misc. manufacturing	Y	Y	Y	N	N	N
Transportation, Communications and Utilities[5]						
Railroad, rapid rail transit (on-grade)						
Highway and street row	Y	Y	Y	Y	Y	Y
Auto parking	Y	Y	Y	N	N	N
Communication	Y	Y	Y	Y	Y	Y
Utilities	Y	Y	Y[5]	Y	Y	Y
Other transportation, communications and utilities	Y	Y	Y	Y	Y	Y

[5]No passenger terminals and no major above-ground transmission lines in Zone II.

Table 4 (Cont'd)

Land Uses	Noise Zones[2]					
	I		II	III		
	< 65 Ldn	65-70 Ldn	70-75 Ldn	75-80 Ldn	80-85 Ldn	> 85 Ldn
Commercial/Retail Trade						
Wholesale trade	Y	Y	Y	N	N	N
Building materials--retail	Y	Y	Y	N	N	N
General merchandise--retail	Y	N	N	N	N	N
Food--retail	Y	N	N	N	N	N
Automotive, marine, aviation retail	Y	Y	Y	N	N	N
Apparel and accessories--retail	Y	N	N	N	N	N
Furniture, homefurnishing--retail	Y	N	N	N	N	N
Eating and drinking places	N	N	N	N	N	N
Other retail trade	Y	N	N	N	N	N
Personal and Business Services						
Finance, insurance and real estate	Y	N	N	N	N	N
Personal services	Y	N	N	N	N	N
Business services	Y	N	N	N	N	N
Repair services	Y	Y	Y	N	N	N
Professional services	Y	N	N	N	N	N
Contract construction services	Y	Y	Y	N	N	N
Indoor recreation services	Y	N	N	N	N	N
Other services	Y	N	N	N	N	N

Table 4 (Cont'd)

Land Uses	Noise Zones[2]					
	I		II		III	
	< 65 Ldn	65-70 Ldn	70-75 Ldn	75-80 Ldn	80-85 Ldn	> 85 Ldn
Public and Quasi-Public Services						
Government services	Y[6]	N	N	N	N	N
Educational services	N	N	N	N	N	N
Cultural activities	N	N	N	N	N	N
Medical and other health services	N[7]	N	N[7]	N	N	N
Cemeteries	Y	Y	Y	N	N	N
Nonprofit organizations including churches	N	N	N	N	N	N
Other public and quasi-public services	Y	N	N	N	N	N
Outdoor Recreation						
Parks adjoining playgrounds	Y	N	N	N	N	N
Community and regional parks	Y[8]	Y	Y[8]	N	N	N
Nature exhibits	Y	Y	Y	N	N	N
Spectator sports including arenas	N	N	N	N	N	N
Golf courses,[9] riding stables[10]	Y	Y	Y	N	N	N
Water-based recreational areas	Y	Y	Y	N	N	N

[6]Low-intensity office uses only. Meeting places, auditoriums, etc., not recommended.
[7]Excludes chapels.
[8]Facilities must be low-intensity.
[9]Clubhouse not recommended.
[10]Concentrated rings with large classes not recommended.

Table 4 (Cont'd)

Land Uses	Noise Zones[2]					
	I		II		III	
	< 65 Ldn	65-70 Ldn	70-75 Ldn	75-80 Ldn	80-85 Ldn	> 85 Ldn
Outdoor Recreation (Cont'd)						
Resort and group camps	N	N	N	N	N	N
Entertainment assembly	N	N	N	N	N	N
Other outdoor recreation	Y	Y	Y[8]	N	N	N
Resource Production/ Extraction and Open Land						
Agriculture[11]	Y	Y	Y	Y	Y	Y
Livestock farming, animal breeding[12]	Y	Y	Y	N	N	N
Forestry activities[13]	Y	Y	Y	N	N	N[14]
Fishing activities and related services	Y	Y	Y[15]	N	N	N[16]
Mining activities	Y	Y	Y	N	N	N
Permanent open space	Y	Y	Y	Y	Y	Y
Water areas[15]	Y	Y	Y	Y	Y	Y

[11] Includes livestock grazing but excludes feedlots and intensive animal husbandry.

[12] Includes feedlots and intensive animal husbandry.

[13] No structures (except airfield lighting), buildings or above-ground utility/communication lines should be located in the clear zone. For further runway safety clearance limitations pertaining to the clear zone, see AFM 86-6 reference (a), TM 5-803-4, reference (d), and NAVFAV P-80, reference (c).

[14] Lumber and timber products removed due to establishment, expansion, or maintenance will be disposed of in accordance with DOD Instruction 4170.7, *Natural Resources—Forest Management* (June 21, 1965), reference (h) and DOD Instruction 7310.1, *Accounting and Reporting for Property Disposal and Proceeds From Sale of Disposal Personal Property and Lumber and Timber Products* (July 10, 1970), reference (i).

[15] Includes hunting and fishing.

[16] Controlled hunting and fishing may be permitted for purpose of wildlife control.

To effect a change in the plan, it is necessary to identify and discuss the compatibilities and incompatibilities in existing land uses and comprehensive general plans, if available. The basic source of data is the comprehensive plan; however, this plan should also be compared with existing plans covering transportation, water/sewer, utility, and other elements. Because these other plans represent facilities necessary to support the developmental pattern indicated on the comprehensive plans, they will determine how closely actual development follows the plan.

For instance, if the comprehensive plan indicates a particular developmental pattern, but the water and sewer plans project growth along another corridor, it is more likely that actual development will coincide with water and sewer development. Since future development requires sewer service, it depends on extension of the sewer lines. The same situation can be created by major highways, power lines, and the location of other capital improvements. Therefore, before discussing future land uses, it is necessary to determine if there are any major inconsistencies between the comprehensive and other plans.

The civilian plans provide much more information than simply where development is desired. For example, these plans can indicate the staging of development and important facilities, the implementation methods proposed, and any changes in existing ordinances required; therefore, it is important that these additional elements be evaluated, with particular attention to those which will determine if the plan is to become reality.

Many communities do not have comprehensive plans, and those which do may not necessarily follow them. For example, these plans often become changed through the zoning process. In addition to transportation and utility plans, market effects must be studied because they can override all other factors in land-use planning. Market effects may include housing growth and demand, commercial and developmental paths, and anticipated change in the installation mission. These kinds of market studies can provide information for long-range planning more accurately than the community comprehensive plan.

Identification/Projection of Mission Impacts

A primary asset of the ICUZ Program is that it allows planners to project future and potential noise conditions. MicroBNOISE or INM can be used to simulate operations that do not currently exist, but tha' are anticipated. The ICUZ Program can thus be used not only to prepare for the future by early identification of land-use requirements, but also in investigating potential installation missions and activities. The ICUZ Program is an integral part of the installation Master Plan in addition to its role in informing community planners and officials.[10]

Prepare Draft Analysis With Mitigation Alternatives—Step 3

The installation ICUZ proponent is faced with a decision: whether to contract for services to perform the analysis or to prepare the analysis with in-house resources. In either case, the outline of the study must follow the MACOM format guidance shown in Figure 4. This analysis should be written in a technical style that is easy to read and comprehend. A range of mitigation techniques should be determined before the final draft is prepared.

[10]AR 210-20, *Master Planning for Army Installations* (HQDA, 12 June 1987).

Cover
Title page
Vicinity (state and regional) map
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Table of figures, illustrations, and tables
Summary, conclusions, and recommendations

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IV. Noise Zone Maps--Present and Future; ICUZ Implications

- ICUZ implications on land use
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Figure 4. Outline for the ICUZ study.

There are three components of a noise problem as depicted in Figure 5. Generally, mitigation can proceed along three possible courses of action involving a change in: (1) the source of noise, (2) the path of noise from the source to the receiver; and (3) the receiver of noise. To determine possible mitigation techniques, the ICUZ study team must confer with Range Control, Airfield Operations, and other noise-producing activities to examine the possible alternatives that could mitigate noise while still maintaining mission requirements. Examples of actions that can be taken are resiting of sources, regulating operating hours, and implementing sound methods for mitigation. MicroBNOISE or the INM can be used at this point to determine contours resulting from each scenario. These various noise contours should be included in the draft analysis to enable installation, MACOM, and HQDA to comprehend the consequences of each operational change.

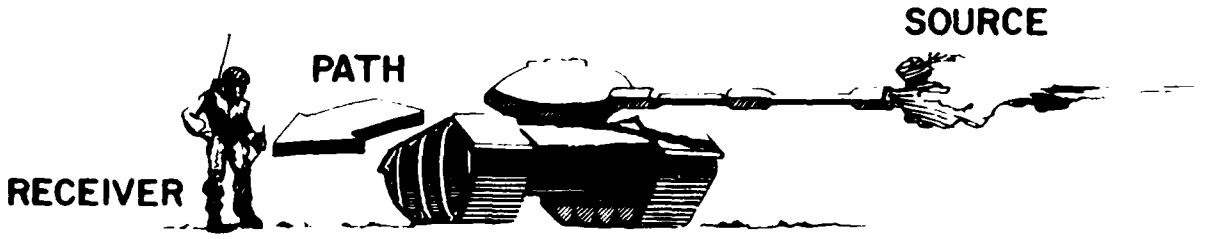

Figure 5. Components of a noise problem.

After assessing noise generation from each operational change scenario, recommendations to be proposed to the public on compatible land uses for the zones, based on recognized compatibility standards, should also be included in the report.

Operational Mitigation Techniques

Several changes can be made to installation operations to mitigate (lessen) noise impacts. The following discussion is not intended to be exhaustive, nor will all of these techniques be appropriate at all installations. It is probable (and suggested) that more than one of the methods will be used to solve different problems. The ICUZ team is responsible for recommending the mitigation strategies, and the scope of each, to the installation planning board, and ultimately to the command staff, for approval. The appropriate techniques and their scopes are determined by using the noise contour maps and the firing/target point data. By modeling, the potential effectiveness of the chosen techniques can be judged before actual implementation. Modeling the contours can support approval of the various techniques. The mitigation methods described below are aimed at the three components identified in Figure 5.

The Receiver. The "receiver" is the population impacted by noise propagated at an installation. While it is clearly very difficult to change people's annoyance with noise, the installation can change the perception of the noise. The PAO can use basic public relations techniques with an emphasis on the noise problem. Although these techniques are the least disruptive to the installation mission, they can also be the least effective since there are a large number of uncontrollable variables.

1. Emphasize the economic importance of the installation to the surrounding area. A press release at the beginning of the fiscal year detailing the dollar input into the area by the installation during the previous fiscal year and the resulting cash flow due to the multiplier effects may show the interdependence of the installation and the communities.

2. Establish a "noise complaint hotline" and designate a specific office to operate it and investigate complaints. A knowledgeable, sympathetic staff person taking the complaint can lessen the perceived impact(s) of the noise. As much data as possible should be taken in a standard format (see Figure 6). If many complaints from a specific residential area occur in a short time period, this may be one of several considerations used to determine the subsequent location of the noise source. A few complaints from an area often result due to weather variations, and will usually change later in the day as weather patterns fluctuate.

NOTE: The complainant may, of course, refuse to answer any or all of the questions below. Since that is his/her right, he/she must be allowed to do so. However, the person receiving the complaint should inform the complainant that proper resolution will require full information and ask for cooperation.

Date/Time Complaint Received:

Received by:

Date/Time of Occurrence:

Name of Complainant:

Location of Complainant at Time of Incident:

Complaint:

Cause of Complaint (as Reviewed by Complainant):

Damage, if Any:

Others Receiving Complaint: (Have you complained to anyone else about this?)

History of Annoyance: (Have you been bothered by this before?)

Complaint History: (Have you called the base to complain before?)

Remarks: (Record comments and requests made by the complainant. Comment on the complainant's attitude.)

Figure 6. Record format for documenting telephoned or written noise complaints. (Source: AR 200-1, *Environmental Protection and Enhancement* [HQDA, 15 July 1982].)

3. Publicize atypical events. If training maneuvers are planned, a short news release describing the anticipated noise increases can defuse potential complaints. A large influx of personnel for special exercises should be acknowledged, emphasizing the benefit to the economy and mentioning the expected short-term noise increase. In all cases, the Army should be as open, honest, and "up front" as possible. If the public perceives *any* reservations in talking about the noise impacts, believes the whole story is not being told, or thinks that there is some "hidden agenda," the Army's credibility will be impaired.

Propagation. This term describes the way in which noise is transmitted from source to receiver. Since transmission is through the atmosphere, it is dramatically affected by the weather. Clearly, there is no way to change the atmosphere or control the weather. However, being aware of the possible conditions can help in coping with them.

1. Stay aware of the weather. Weather conditions conducive to abnormal noise propagation cannot be predicted, but they can be observed, and noise mitigation actions can be taken when bad situations occur. Learn to recognize thermal inversion situations. For instance, when a plume of smoke rises only a short distance and then becomes horizontal, there is a low-lying inversion and noise focusing is likely. This is a condition for which postponing activities until the inversion lifts may pay substantial dividends. Strong inversions are most likely to occur in the early morning and late afternoon during clear conditions; when there is a low overcast condition; and when winds are light and variable with a high pressure cell dominating the area. Moderate to heavy winds disrupt inversions, but can enhance propagation toward (windward to) sensitive areas.

2. Site firing points near natural barriers. Although manmade barriers for blast noise protection are prohibitively expensive, taking advantage of valleys and ravines as firing points can reduce propagation greatly. Moving selected firing points a few hundred meters (within safety fan boundaries) can substantially reduce the noise impact.

Source. Source mitigation involves lessening the amount of noise emitted at the source or changing the level of noise heard off-post from each event.

1. Consider adjusting the firing/target points for selected operations. This change may move the Zone II and III areas back onto the post. For instance, suppose a Zone III is near the installation boundary and it can be determined (from the contouring input or operations data) that a particular weapon and firing point is responsible for a large noise impact. Moving that firing point a few hundred meters away from the boundary might change the zone pattern greatly. Care must be taken, however, so that changing both the firing and target points does not produce offsetting impacts. For example, moving a heavily used firing point 2 km toward the center of the impact area also moves the impact point 2 km away from the center of the impact area, and that may shift the impact area contour into a previously unaffected area. An alternative might be to relocate the firing point, redirect the primary target line, and limit the maximum distance (charge zone) that the projectile of a given type can be fired.

2. Change the times during which large weapons are fired and large EOD operations are conducted. Annoyance to noise is very time-dependent, which is why the Ldn carries a 10-dB penalty for events between 2200 and 0700 hours compared with daytime conditions (0700 to 2200 hours). Minor shifts in the timing of operations can produce a marked change in the size and location of noise zones. If a particular firing/target point is used heavily during night operations, shifting those operations to a firing/target point farther from sensitive land uses may be helpful. In general, keep night operations to the barest minimum, even moving some night firing to the daytime as long as it does not compromise the mission.

3. Use simulators. There is increasing availability of simulators for training, especially for the mobile artillery weapons. Instead of using live firing rounds for the tank and mobile artillery weapons, laser simulators and their targets can be substituted to lessen the blast noise impacts. The simulators are expensive in terms of first-cost, but have virtually no operational cost compared with the per-round cost of live fire. Practice with live ammunition will be necessary to satisfy the Program of Instruction (POI), but minimizing the live-fire practice activities can enhance the noise environment as well as decrease the overall cost of operations.

4. Use new technologies. Research continues on state-of-the-art techniques to reduce the noise from blast operations. Of particular interest is the use of aqueous foam to reduce the noise from EOD operations. This technique allows for realistic placing and

fusing as well as safety instruction and demonstration, but uses foam (much like shaving cream or landing strip foam) to quiet the EOD blast. However, the technology is feasible only at locations that have in-place water supplies, and requires reusable foam enclosures. Although foam-mitigated EOD operation is moderately expensive due to foam and enclosure costs, it may pay large dividends in noise impact reduction. Other methods of mitigation are being developed, such as large-caliber weapon silencers, and should be investigated as they become available.

Clearly, a variety of mitigation techniques is available to the installation, each with advantages and drawbacks. It is up to the ICUZ team to select the proper balance of mitigation strategies to minimize noise impacts of the installation both on- and off-post.

Pointers for Completing Steps 1 Through 3

The important actions in the prestudy stage and Steps 1 through 3 are highlighted below:

1. Appoint the PAO to serve the public (all noninstallation activities, including nontenant users) as well as the installation offices not directly involved in the program. The PAO must interface with the public and installation elements on a continuing basis to minimize noise impacts. The designated person (not just the office) also must be a member of the ICUZ team.

2. The POC should be available to respond in a timely and informed manner to all public inquiries regarding the program. All methods of publicity should be used, including public speaking and graphic presentation of program implications, program literature, and videotapes.

3. The ICUZ POC should work on a continuing basis with the public/professional planning staffs to identify land-use issues that will impact the integrity of the ICUZ report and its recommendations.

4. The ICUZ POC should monitor all land-use activities surrounding the installation. These activities include zoning actions, such as variance requests; comprehensive planning; plat design reviews; subdivision approvals; and building code enforcement actions. Request that the ICUZ POC's name be added to the mailing lists of the appropriate committees and commissions in the cities and counties surrounding the installation. Local government activity is also a key action to monitor.

5. The ICUZ Program PCC should work consistently with the local professional planning staffs. These planners provide important input that can be used to monitor land-use actions that may impact the program's analysis and recommendations. Good rapport with the planners can help ensure that the installation will receive early warning of any impending actions, allowing adequate time to develop a stance on the issue. Central to the interaction between the installation and civilians is demonstration that the Army is committed to the highest and best usage of the land surrounding the installation, consistent with the installation's mission and national security.

6. Organize the ICUZ team before beginning the program. Without this team, progress of the program could be hampered.

7. Inform/involve command-level staff in the ICUZ Program to lend support and credibility. Keep them abreast of progress throughout the ICUZ study.

8. Prepare installation briefings to the commander and staff regarding ICUZ on a regular, rather than random, basis.

9. Obtain all necessary background information (documents, plans, figures, graphics, etc.) needed before writing the ICUZ report, and check for completeness and accuracy. Having to do additional background work later will slow progress.

10. Keep each team member informed on new developments regarding the program as they arise.

11. Remember the audience for whom the report is being written. Clarify all abbreviations when writing.

12. Inform the public of the installation's intention to begin an ICUZ Program and describe the program's purpose and methodology. Note that area residents will be among the recipients of the finished product and will have the opportunity to respond.

13. Be sure to include the procurement/contracts office(s) in the information path. They must understand the salient components of the program if they are to be instrumental in awarding a good contract for implementing it (assuming it will be contracted). There have been instances where "modeling" and "monitoring" were confused by the contracts office, and significant problems arose. A contract to implement the program can run several tens of thousands of dollars, but including a monitoring clause can raise the price to hundreds of thousands of dollars.

14. Avoid releasing the contours and any part of the written ICUZ report to the public prior to the appropriate time of release. Doing so could have serious repercussions on the program's success.

15. Avoid gross assumptions regarding day/nighttime firing. All operational information must be presented factually.

16. Be sure the program progresses steadily. Stick to milestones as closely as possible.

3 DRAFT ANALYSIS, STAFFING, AND INVOLVEMENT

Planning Board Involvement/Review—Step 4

Upon completion of the draft report, it should be submitted to the Installation Planning Board/ICUZ team for review and comment. Since the document at this stage is in draft form and unofficial, it is necessary to keep track of each copy by numbering and recording the name and office symbol of each person or organization receiving one. Also, copies of the draft analysis should be distributed to the MACOM and USAEHA by registered mail.

When distributing the copies, a letter should accompany them indicating that the purpose of this draft is for review. Three to four weeks are normally adequate to review and comment. A date should be set for comments to be returned. It is necessary for all reviewers to respond; even those who have no specific comments should acknowledge their receipt and review of the analysis. Request in the distribution letter that all comments be written on the standard Army Disposition Form for easy compilation.

Reconciliation of comments can be approached in several different ways. Each issue can either be covered individually, or issues can be combined into broader thematic categories. One very effective technique for addressing review comments is through in-progress review (IPR), which demands total participation by the ICUZ team, MACOM staff, and possibly a contributing contractor.

Review comments often fall into one of three categories: technical, grammatical, spelling, and typographical errors, and "word-smithing" review. The third category deals with carefully expressing the exact intent of various words and phrases within the study. The desired goal is to write clearly, without being misunderstood.

Like other important projects, ICUZ requires milestones and a schedule of various events to be completed through the course of the study. Although highly variable, ICUZ studies usually require from 6 to 12 months for completion. If major changes to the original project design occur, reexamination and reestablishment of milestones are necessary.

Preparation of ICUZ Program Graphics

The ICUZ POC is responsible for coordinating all work to prepare graphics. Careful attention should be given to the preparation of noise-zone and land-use maps and supporting presentation graphics to ensure Installation Planning Board involvement and approval. These graphics should be presented in the draft in at least preliminary form. Graphics will be an important supplement to the text.

To ensure production of high-quality, accurately labeled maps, an understanding of all graphic requirements should be reached in preliminary phases of the project. The number of maps that will be needed to show the detailed information effectively must be determined. Some maps and graphics can be reproduced in black and white; others require four-color printing to show the details clearly--particularly existing conditions and land-use plans on large-scale maps. A combination of black and white with one other color using various screens is an alternative to four-color processing and offers a wide range of tones. This method, called two-color processing, is more economical than full color due to lower printing costs.

Final artwork for reproduction should be prepared on flexible boards and/or Mylar with a black line drawing used as the base map and a separate overlay for all color or black-and-white tones, depending on the quality desired. This method will permit the use of laser scanners for color separations. Check whether there are recommended color codes for the specific land-use designations.

For each map generated, use the overlay composite method of graphics preparation. Mate overlays to base maps using pin registration. When ready to make the camera-ready form for presentation and report graphics, determine the sizes needed. Report sizes should be 8-1/2 by 11 in., or 11 by 17 in. for a foldout. Original maps, overlays, and work maps should be as large as the topographic maps to facilitate the work; keep them at that size for presentation graphics, but reduce them for report graphics. Have veloxes or photomechanical transfers (PMTs) made to serve as composites of base and overlays for each map. The final step is to put color Zip-a-tone or black-and-white screens (whichever you have chosen) on an overlay attached to each of your base maps for the report. Presentation maps should have the Zip-a-tone put directly on the base. Report maps will then be camera-ready. The quality of presentation graphics is critical to the project. Proofread all graphics before the final run. Different sizes and formats may be necessary when presentations are to be made to various interest groups.

Steps in Preparing a Map. First draft a base map. Use U.S. Geological Survey (USGS) topographic maps at 1:24,000 or 1:50,000 scale. Shoot the topographic map onto a Mylar and screen back 40 percent. This method ensures that all information on the overlays will show up effectively. After developing the base map, run some blueline prints to be used as working maps to identify designated areas. Keep base maps simple and to a minimum, but cover all information needed. The base map sets the standard for all the graphics in a particular study. Since USGS map content may not be current or accurate, compare it with base maps prepared by local governments involved.

Develop a format for all of the maps--a border with scale, north arrow, and legend items and title is the minimum information a map should include. Leave room for additional titles, subtitles, legend items, sources, and other relevant information to be used on each individual map. Be sure to identify the study area. Next, develop location and study area maps from different base maps that identify larger areas.

When complete information, titles, and legends for each map have been obtained from the working maps, transfer them to the overlays. Label the overlays, indicating which ones go with which base. This procedure needs constant communication between the ICUZ POC and the graphics coordinator to avoid confusion. For the draft/prefinal, color photocopies of the maps should be used. At this point, the graphics should be camera-ready. The tables that need to be generated to coincide with the maps must be formatted and matched with colors used on the maps.

Presentation Maps. After labeling the base maps with major street names and including a border, scale, north arrow, and any other information in black and white, reproduce (on the base map as a velox) at the appropriate size for presentation--at least 24 by 36 in. Add the color Zip-a-tone, mount the map on foamcore board, trim, and edge with black tape. For protection, you can cover it with clear Mylar and tape the edges. The map is now ready for display.

Slide. If a slide presentation is required, the ICUZ POC must decide which maps to show, what text to use for the copy slides, and if any additional photographs are needed.

Information on the base map should be of large enough size and scale that it is legible when the slides are made. Below are some suggestions for preparing a slide presentation.

- **Maps:** Before they are sent off to the printer with the final report, you must have them sent to a photo shop and made into slides. Be sure to get a few duplicates made of each. This process usually takes 3 to 5 days, so be sure to allow enough time in your schedule.

- Copy Slides: These slides provide the text information to go with your maps and photographs. You must keep them short and simple. There are two processes:

  - Computer-generate these slides by using a computer slide company.

  - Prepare the text in-house on Mylar and send it to a photo shop to have Kodaliths made (negative image) so that the words are transparent and the background is black. This enables you to color the words with dyes or cover them with transparent, colored tapes. If text is kept to a minimum, this method is faster and more economical than computer-generated slides.

Any additional photographs should be obtained from appropriate sources or shot locally. Be sure to label slides and arrange them in order to avoid confusion.

Final Report

After all changes have been made to the text, the maps finalized, and the slides shot, a camera-ready cover should be designed and produced with any setup tabs needed. Indicate color preferences (PMS colors) for the cover.

The maps and graphics, combined with the final text, cover, and tabs are now ready for the printer. Be sure to label everything clearly in all directions for the printer to understand. Send along two complete "dummy" reports and keep a third for yourself. These copies must be exact duplicates of the report as it is to be printed. Color pages should be identified clearly on the dummy copies. All graphics should be of the same size as the final print size. Oversee the first press run if possible.

Pamphlets

If a pamphlet must be generated from the report, be sure to order extra copies of the maps to be included. You may have to generate a new map to best represent the report findings in the simplest terms. This map is to be done in the same format as the report maps. The camera-ready pamphlet must be pasted up with the text graphics in place, ready to be printed, with any colors done directly on the map. The layout is usually done in a two-sided, Bifold format on flexible board or Mylar, at a readable scale. Pamphlets can be a very effective way to convey information to parties affected by the ICUZ study.

Prepare Initial Draft Analysis—Step 5

When preparing the draft analysis, it is important to review all material to ensure it is complete, accurate, and contains appropriate information. To make this task more manageable, it may be helpful to prepare a checklist of the important information that the report seeks to convey. The ICUZ study format may be helpful in preparing such a checklist (Figure 4). The following discussion outlines some of the material pertinent to

the ICUZ report. This information must be included in the draft report; some of it will have already been collected in the preliminary preparation phase.

Present Conditions

This information should have been collected and synthesized as part of Steps 1 and 2. For a review, see Chapter 2.

Effects of Mitigation Techniques

Correcting and preventing incompatible land uses are the most important reasons for implementing mitigation techniques. By addressing current and future off-post land uses, the installation can evaluate areas where mitigation may be most effective, if at all possible. However, encroachment of incompatible uses is best prevented by closely working with local planning agencies that have regulatory authority.

Reducing complaints about noise is another objective of mitigation techniques, although complaints in themselves are not always accurate predictors of adverse noise impact. When evaluating possible mitigation alternatives, the volume of complaints, where they originated, the basis of the complaints, and how they were handled could simplify the decision-making process. Once mitigation techniques are in place, noise complaints should be monitored to observe the effect of mitigation.

Future Conditions and Mitigation Strategies

Accommodating future land uses around the installation is an essential part of evaluating possible mitigation techniques. If nothing will be gained by making certain operational changes, then the purpose would have nominal benefit. Therefore, when looking at possible mitigation methods, ensure that the purpose will be achieved, resulting in a positive improvement or benefit.

Anticipated changes in base operations should also be evaluated when considering mitigation alternatives. If it will affect another negatively, such as shifting operations or reducing training activities, and cannot accommodate future operations, mitigation may not be feasible. It is important to ensure that implementing a mitigation technique will achieve the intended purpose without producing complications for the future.

Since some mitigating strategies require approval by the MACOM or higher authority, they should be evaluated now for possible future implementation. Some strategies may be feasible, but could require extensive planning and operational changes by the installation. Start planning for implemention of noise mitigation strategies with enough lead time so that they can be accomplished in a timely manner.

MACOM Review—Step 6

The MACOM office is responsible for reviewing the draft report and providing insight on how its content will affect current and future mission requirements. The draft should be mailed with a cover letter similar to the example in Figure 7. A suspense date for returning any comments should be included in the submittal letter. This date should be compatible with the schedule, but at least 4 weeks should be allowed. An IPR with the MACOM may be necessary, depending on the content and complexity of the study.

TO: (MACOM Commanding Officer or Plan Review Officer)

FROM: (Commanding Officer MACOM installation)

SUBJECT: Initial Analysis-ICUZ Program (MACOM installation)

Attached is the Initial Analysis of the ICUZ Program prepared for (MACOM installation). Your review is requested concerning the validity of the noise assessment, feasibility of mitigating procedures, and legal ramifications of the report. Request your review within 4 weeks to insure a timely and useful document. If comments are not received within four weeks, we will assume you have none.

Summary of findings contained in the Initial Analysis:

1.

2.

3.

Summary of mitigation recommendations and procedures:

1.

2.

3.

A statement of the current installation mission and the impact of mitigation alternatives on the mission, with a review of future missions and the impact of mitigating alternatives are included for your information.

Your review and recommendations will be incorporated in the Final ICUZ Program Analysis and Report.

Figure 7. Sample cover letter to the MACOM transmitting the draft report.

Once the draft has been reviewed and comments returned, the ICUZ team should meet to discuss and reconcile any MACOM changes. The MACOM office must approve the final report before its submittal to HQDA. Consequently, involving the MACOM in every step of the ICUZ program and keeping this office informed of new developments are important to the study's progress.

The MACOM's review addresses some important issues. For example, the noise assessment must be validated by answering several questions before official release of the contours. Do the data used to produce the contours accurately reflect current and future operational noise-producing activities? Does a Zone III extend off-post? What are the recommendations to the public? Do they reflect the impact of noise on a particular community and seek to discourage incompatible uses?

The feasibility of mitigation alternatives must also be reviewed before implementation, as discussed in the previous section. If a mitigation method may not reduce noise complaints and/or improve compatibility of land uses and conditions, it should not be recommended. The MACOM must give serious consideration to the possibility of altering any activities and what the mitigation seeks to achieve.

Legal ramifications of the report are another very important aspect of the MACOM review. The impact of noise on a community is a sensitive issue and must be treated as such. Many legal questions could surface from the written report and the installation must protect against any possible litigation. Therefore, it is very important to include only factual information in the report with valid references. Remember, this report will become an official public document subject to public scrutiny. It is wise to have the report reviewed by the MACOM legal staff to explore the ramifications and reduce the potential for litigation.

The MACOM also looks carefully at limitations on training and future mission impact that might result from the noise mitigation being considered. The first responsibility of an installation is to its mission, which should never be jeopardized. If, by implementing certain actions through ICUZ, training is limited and the mission compromised, other feasible approaches to mitigating the noise must be proposed.

The effects of land use change as a result of the ICUZ program is still another aspect of the MACOM review process. Do the recommendations suggest compatible uses? Are these recommendations realistic and feasible for each jurisdiction?

Community Involvement—Step 7

Community involvement is very important to a successful ICUZ Program. To encourage this involvement, an ICUZ study must use the whole range of communication modes. Informing coworkers, supervisors, and the general public is essential to keep their interest at a high level. The "public" may be local elected officials; local or state agencies such as planning commissions; home owners directly impacted by noise or their civic associations; land owners whose future land use could be impacted by ICUZ, but may not be at present; private sector businesses, including developers and industry; community opinion leaders; and any other interested individuals.

There are some basic skills and techniques for gaining community involvement, most of which stress effective communication. Three principles of community involvement are vital to its success. First, it must be integrated with the decision-making process. The fact that you are meeting with people is not important unless it has some profound effect on decision-makers. Second, the community involvement method must be made open and visible. In other words, it must be seen as a method in which people can participate in an open forum by a democratic process. Third, the participation must produce a specific commitment to some implementation program. There must be some benefit for every person who spends valuable time participating in the process.

Community involvement requires interaction (often intensive) with various personality types. This interaction may be with members of the study team including the POC and installation PAO, the commander, or individuals in the community. This effort requires effective interpersonal communication skills, including the ability to lead highly participatory staff and public meetings.

Three basic skills are important in conducting community involvement programs. These are not "community involvement skills," but rather basic communication/leadership skills that are helpful in many types of human interaction. These fundamental skills are active listening, congruent sending, and facilitation.

Active Listening

This skill permits you to acknowledge and accept another person's comments without having to either agree or disagree. An underlying premise of active listening is the understanding that each individual has separate realities. Specifically, each person has unique, distinctive emotional realities attributable to unique values, experiences, training, and upbringing. What makes emotional sense to one individual may not to another.

Many communication problems occur between people when they attempt to impose their own realities (i.e., personal values, beliefs, and attitudes) on others. For persons who understand and accept the separate realities premise, communication facilitates an understanding of each other's reality, rather than imposing one reality upon another.

Another important premise of active listening is acceptance. As an example, it does little good to tell an upset person not to be upset. In fact, when persons believe their feelings are being resisted, they usually feel the need to defend or justify them, which may strengthen the emotion.

However, when feelings are accepted or acknowledged, no defense or justification usually results. The person may elaborate or move on to another feeling instead of becoming fixated on the original thought. An active listener summarizes what the other person has said and reports it back to them so that they can confirm, alter, or expand what they said. People communicate both feelings and information or "content," so this summary should contain both parts. Active listening should be used when an individual makes a comment with particularly high emotional intensity, whenever an individual keeps repeating a point, and to summarize agreements reached in groups.

Congruent Sending

This technique implies that the words you use in response to another coincide with your actual emotional feelings. There are four basic rules in congruent sending: (1) send the problem, not the solution, (2) share feelings, (3) own/acknowledge your feelings, and (4) describe behavior instead of evaluating it.

Facilitation

On many occasions, the person with the highest status or power is also the meeting leader. Thus, the meeting content and meeting process are perceived by many as not distinct. This perception can lead to dissent and unrest. When you attempt to create a climate for mutual problem-solving, which is the essence of the ICUZ Program, it is extremely important to distinguish between content and process.

All participants have a stake in maintaining an effective meeting process because it determines whether everyone acquires an opportunity to speak, issues are addressed in an orderly manner, and the real issues are considered. If individuals become convinced that the process is unfair, one-sided, or otherwise inequitable, they may present a challenge that could prove difficult to resolve. Procedural and psychological satisfaction are often more important in reaching agreements than the substantive content of a

meeting. Therefore, a facilitator's job is to create procedural and psychological satisfaction in a group. Most groups have trouble keeping track of process and content. The facilitator is someone chosen to be concerned with the process so that the group is free to work on content. This person may serve several roles, such as:

1. Opening the meeting
2. Setting the ground rules for the meeting and prescribing a meeting format
3. Acknowledging and summarizing people and their contributions
4. Summarizing any agreement reached
5. Assuring that all participants are heard.

Currently, there are some 38 different types of citizen participation (CP) techniques that can be considered by an Army installation in terms of soliciting community involvement. Table 5 lists these techniques, which are described in detail in Appendix E. To help the installation decide if the PAO should initiate one of the CP techniques, they are summarized below.

Meetings are very important in terms of establishing a dialog and opening communication. An alternative to public meetings is to form advisory committees which, compared with public meetings, are more structured, meet on a more consistent basis, and can be used to develop a long-term relationship at the proper scale.

Newsletters can be used to describe what the ICUZ study involves. Persons affected by the study also can be educated by forums, public service announcements, newspaper articles, and so on.

Another CP technique is mapping social/political factors. This method produces a socioeconomic profile of the community at large, i.e., education, income, racial balance, and age. All of these factors can become important in terms of being sensitive to the group's interests.

Other CP mechanisms including civic associations, garden clubs, and even parent teacher associations (PTAs) can become critical outgrowth groups (referred to as "gatekeepers") to spread the message. Gaming and role-playing are also important methods that involve simulating certain events prior to their happening to promote sensitivity to and understanding of the positions different groups will be taking, thereby showing responsiveness. Charette is an intensive brainstorming session that involves any number of participants and lasts for a specified time interval. During this time, specific goals and a program of action are established, the outcome of which is a specific program.

A hotline is also a very important concept. To implement such a medium, the installation identifies a noise abatement officer or other specific group to respond to all inquiries during the ICUZ study. This hotline may be a dedicated line. It is advisable to use an answering machine when staff are not available. Respond to calls by telephone or letter within 72 hours of their receipt.

Interactive cable TV can be used if an installation has a narrow-band cabling or microwave system, or public educational stations can provide visibility. Such communication can be augmented by forums in which individuals who are concerned about the problem can speak and respond by one-way video and two-way audio using a hookup.

Table 5

Citizen Participation Techniques

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1. Meetings:
   - 1A. Working Meeting
   - 1B. "Open" Meeting
   - 1C. Forum
   - 1D. Public Mass Meeting
   - 1E. Public Hearing
   - 1F. Open House
   - 1G. Town Meeting
   - 1H. Samoan Circle

2. Advisory Committees:
   - 2A. Popularity-Type Advice Giving
   - 2B. Content-Type Advice Giving
   - 2C. Blue Ribbon Panel
   - 2D. Watch Dog
   - 2E. Constituency Building
   - 2F. Consensus Building/Depolarizing
   - 2G. Referee/Third Party/Negotiating
   - 2H. Gophers
   - 2I. Foxes
   - 2J. Beavers

3. Nominal Group Workshop

4. Producing & Releasing Materials to Potential Affected Interests (P.[illegible]s)/Media

5. Project or Agency Newsletter

6. "Napoleon's Idiot"

7. Educating the PAIs About Your Problem-Solving/Decision-Making Process

8. Mapping Sociopolitical & Environmental Data

9A. Presenting the Public the Full Range of Options
9B. Fish-Bowl Planning

10. Illustrating the Final Form of a Solution in Layman's Terms

11. Dealing With the Public in Agency Offices

12. Ombudsman

13. Facilitating Internal Communication

14. Gaming and Role-Playing

15. Field Office:
15A. Store Front "Drop-in" Center
15B. Temporary Field Office
15C. Mobile Office

Table 5 (Cont'd)

16. Make the Most of Existing Mechanisms
    - 16A. Clubs; Civic Groups; Other Organizations
    - 16B. Newsletters; Other Publications; Media; etc.
    - 16C. School System; Other Institutions
    - 16D. Other Problem-Solving Efforts
17. Open a Channel With Each PAI
18. Monitor the Media & Other Nonreactive Research
19. Collect Data: Do a Survey
20. Examine PAIs' Past Actions
21. Experience Empathy
22. Be a "Participant Observer"
23. Employ Local PAIs on the Project
24. Monitor New Developments in Systems That May Affect Your Project
25. Conduct a Background Study
26. Hire an Advocate, or "Intervener," for One or Several PAIs
27. Look for Analogies
28. Develop a Catalog of Potential Solutions

29A. "Charette"
29B. Brainstorming Session

30. Conflict Mediation
31. "Good Samaritan"
32. Monitoring the Actual Impacts of Your Project
33. "Delphi"
    - 33A. "Delphi" Crystal Ball
    - 33B. "Delphi" Public Survey
    - 33C. "Delphi" Intelligence Gathering
34. Lost Letter
35. Hot Line/800 Number
36. Poster Campaign
37. Responsiveness Summary
38. Interactive Cable TV

Crucial to the entire CP process is the recognition that each installation is unique. A set of CP techniques that works at one facility may not necessarily serve another facility. A CP master plan must be developed and described, preferably by a consultant working in conjunction with the military installation.

Communication is critical. Regardless of how successful an ICUZ study may be scientifically, without proper communication to interest groups, the program will not fully succeed. The absence of communication leads directly to the threat of litigation. Litigation is an indicator of an unsuccessful ICUZ study. The public must be defined, and all public participants must contribute to the study process. Be sensitive and responsive to public interests and needs. Furthermore, project that you are trying to implement their recommendations or at least provide feedback to them following any meetings you may have. Review the 38 CP techniques for applicability to your program. Certain techniques that are carryovers from other programs, whether initiated by you or other organizations, may fulfill your needs. After identifying suitable CP techniques, adopt your own game plan.

Final Planning Board Review/Approval—Step 8

The comments and concerns received from the public must be reviewed, assessed, and included in the report. Any corrections to facts and figures contained in the study should be incorporated. General comments and concerns from the public and responses by the installation should be included as an appendix. If major concerns evolve from the public, these should be described, along with the recommendations determined to be the most feasible.

Once all of the review comments are included in the analysis, the ICUZ team should collectively give final approval, subject to endorsement by the installation commander. Every team member, at this time, should have a clear understanding of the program's progress and the report's content.

Headquarters Approval—Step 9

The final report should be submitted to HQDA through the MACOM for review and formal approval. Request a reasonable date for receiving the approved report to avoid delays in progress of the program (e.g., 30 to 60 days). Any questions/comments raised by HQDA should be resolved without rewriting the report. The report does not become official until it has been signed by HQ representatives.

Pointers for Completing Steps 4 Through 9

The most important actions of Steps 4 through 8 are highlighted below.

1. Prepare and present briefings on the ICUZ Program to the installation command staff on a regular basis. This process will keep the program in high visibility and encourage command support. Emphasize how the program protects the installation mission and prevents adverse publicity and litigation.

2. Integrate ICUZ Program analysis recommendations into all installation administrative and operational activities. This step will ensure installation-wide consistency in applying the land-use objectives contained in the program, and will promote the issue of

best and highest use of land among all offices. This action is best achieved through a strong ICUZ team and active liaison with the installation-wide operations offices. Showing that all installation offices are aware of and actively support the program will also help convince civilian planning bodies of the installation's sincerity to cooperate in using the surrounding land in the most appropriate way.

3. Ensure that the installation POC for the ICUZ study is available to respond to all public inquiries regarding the program in a timely and informed manner. All publicity media should be used, including public speaking and graphic presentation of the program's implications, distribution of literature explaining the program, and production of videotapes. This visibility is particularly important immediately after public release of the final results.

4. Review all final draft material to ensure that it is complete and accurate before including it in the report.

5. Write the report in a nontechnical style that is easy to read and understand. When using acronyms, be sure to explain them and provide, where necessary, a glossary and/or list of abbreviations and terms. (See the list in this report for an example.)

6. Prepare, coordinate, and issue a public news release through the PAO. It is important to establish a single POC with the public and the communications media, with information for contacting that person well advertised. This person's office can also serve as a central location for recording complaints and the installation's responses.

7. Review the final draft version to verify the completeness and accuracy. This review is generally done just prior to the IPR meeting for the final draft. Although the primary emphasis at the IPR is on content, policy, and operations, the person preparing the report (e.g., a contractor) must be advised of any errors detected, no matter how small. Much public confidence can be gained by presenting an accurate, polished, professional document without inaccuracies.

8. Consider producing a public relations tool such as a brochure detailing the ICUZ Program being implemented. This brochure should look as professional as possible, with the best available resources used to provide a succinct, concise description of the program. The brochure should include the program objectives, specific actions (mitigations) the installation intends to implement, and graphics that support the program objectives.

9. Although it is important not to release the draft report to the public, early, unofficial distribution of the draft report to the local professional planners can be helpful in maintaining (or obtaining) a dialog regarding land uses around the installation, especially in terms of environmental issues. Be sure to attach a letter stressing the draft status of the report, and stating that it is being supplied for their early information only. Remember that a draft report may or may not be accepted by the Government or by any of the several levels within the Army, so that recipients' use of it is at their discretion and liability. The decision to release this draft report will depend on the local political environment and the relationship of the installation to the local population. If there is *any* local negative feeling toward the installation, early release must be very carefully considered at the highest levels. Under the proper conditions, early release of the draft document to the local professional planners can produce a long-term, positive relationship that can greatly enhance the installation's environmental and master planning activities.

4 IMPLEMENTATION, DISSEMINATION, AND UPDATING

Implement Mitigation Actions—Step 10

At this point in the program, the ICUZ team should decide what, if any, mitigation actions should be taken by the installation. Some actions may be easy to implement at the installation level without requiring approval by the MACOM or HQDA, such as notifying the public of future large-scale activities, reducing nighttime firing events, and sound-suppressive measures for weapons. These actions should be discussed with the installation commander with emphasis on how contours can be reduced without jeopardizing mission requirements.

Other mitigation alternatives may require MACOM and/or HQDA approval. Once these alternatives are determined, procedures should be started immediately to implement these actions. Remember, if the public sees that the installation is doing its part to control the impact of noise and other environmental concerns, receptiveness and cooperation will be maximized.

Release Official Report to Public—Step 11

The ICUZ team must determine the most appropriate way in which to submit the official ICUZ report to the public. A public briefing should be scheduled to discuss major findings, recommendations, and public comments included in the final report. A discussion of actions being taken by the installation as well as the public should be a top priority. It may be necessary to include representatives from USAEHA, the MACOM and other consultants to answer technical questions. It is important to emphasize the purpose of ICUZ and the proactive planning nature of the study. Also, the briefing should stress the need for cooperation between the installation and community to make the ICUZ Program successful.

If the noise environment is annoying to some citizens, there may be irate persons at the public briefings. Maintain a calm, positive attitude. Stress the advantages of the program and listen attentively to comments and complaints. Try and address each one individually, and let attendees know that the ICUZ Program was designed to benefit the community by achieving compatible land uses in the installation environs. Also, emphasize the economic importance of the current installation mission to the area in terms of jobs and support of services. Record positive and constructive comments. Later, consider these comments and try to reconcile each one. The installation should be available to respond to public inquiries in a timely manner using all forms of public relations media (e.g., briefings, literature, videotapes), especially right after the release of the ICUZ study.

Incorporation of Public Comments

As stated throughout this report, an integral part of the ICUZ Program is public involvement. One of the responsibilities of the ICUZ team is to document the public involvement activities and respond to the questions and comments that come from all segments of the public. This documentation is usually added as an appendix or a supplement to the final report.

The appendix should detail all actions taken during the program including the minutes of public involvement meetings and attendance lists. It must be emphasized that *every* question and comment is to be addressed.

There are two general methods of organizing the questions and responses. The first is to respond to each person's questions in a section devoted to that person. If there are a large number of respondents, many of the questions may be similar and have similar responses; regardless, the question should be listed, and the response will normally be a reference to the earlier response with a short addition if necessary.

The second method of organization is to group all questions with a similar basis into separate sections and write a response to the larger issue. This method is generally more efficient than the first one, but is often received as less responsive by the public since their personal questions may not be answered in the depth they expect.

Whichever method of organization is chosen, some general questions could be addressed before the detailed questions and responses begin. A few short paragraphs on the modeling techniques, the meaning of the contours and zones, and the effects of weather can shorten the individual responses needed.

The type of public involvement chosen may dictate the method of organizing questions and answers. For instance, if an open public meeting is held, persons will be recognized and may hold the floor for several questions and responses. It is suggested that the entire meeting be tape-recorded and the tape later transcribed for inclusion in the appendix or supplement.

The public professional planners are usually provided with copies of the final study for review, generally before its release to the general public. Feedback from the professional planners can be solicited by including a blank form for them to list their questions/comments. It is important that the form include a name, title, and jurisdiction, and that several copies be provided with each copy of the report distributed.

Review and Update—Step 12

ICUZ is a continuous planning process and does not end with completion of a final ICUZ report. For instance, contours may change over time as operations change, or growth pressures within adjacent communities may threaten future encroachment. Thus, installation personnel responsible for the ICUZ Program must review and update the program as necessary.

Public awareness of the ICUZ Program's status should be maintained. Are mitigation techniques working? By maintaining contact with the public, the effectiveness of the strategies implemented can be determined. If complaints from the public increase, the possible causes should be investigated. Growth and transition in urban locations create pressure for changes in zoning and other controls established to achieve and protect compatibility.

Active interaction should be continued with affected/interested local planners to ensure two-way communication and full ICUZ implementation. Maintaining professional contact with these planners will also promote the exchange of information/ideas that can help the ICUZ Program succeed. Local planners must be convinced of the need to incorporate the ICUZ findings into their planning and advisory process. Finally, continued participation by the public will keep the ICUZ Program in a position of high visibility.

Update contours as operations change. Maintain active liaison with General Staff--Training and Range Control as to new equipment and changes in requirements and tactics. Keep command staff informed on the status of the ICUZ Program periodically. In addition, continue close coordination between the Master Planning and Environmental Offices to ensure that information on issues related to the ICUZ Program is shared. Prepare a schedule for periodic review and updates. The data base should be mentioned and reviewed so that computer models can be prepared as quickly as possible.

When a major change in operations occurs (e.g., initial use of a Multipurpose Range Complex), a reanalysis of the ICUZ Program report is necessary. Although this reassessment follows the same steps as the original analysis, it generally will not be as resource-intensive. The updated analysis is usually issued as a "supplement" to the document, focusing on the action that triggered the update. Since the contours will be updated to reflect the new activities, this is an ideal time to review all of the installation operations for inclusion in the updated contour data, reassess land use near the installation for incompatibilities, and review the effect of mitigation techniques. Public release of the supplement can serve as a forum for presentation of the new activity and any new mitigation actions the new activity may require.

5 SUMMARY OF THE ICUZ PROCEDURAL STEPS

This chapter briefly summarizes each of the ICUZ study steps detailed in Chapters 2 through 4. These 12 steps were segregated into three broad areas of emphasis: preliminary preparation; draft analysis, staffing, and involvement; and implementation, dissemination, and follow-up.

Figure 8 depicts a typical schedule of activities in implementing the ICUZ Program. This figure assumes that one person will be executing the entire program in between other ongoing duties. Clearly, if implementation is performed by a team, the total elapsed time will be shorter since many of the activities depicted as occurring in series will actually be completed in parallel. The minimum resolution of the chart is 1 week.

Each activity in Figure 8 has an estimate of the time required to complete it. Some activities involve little actual effort, such as solicitation of MACOM comments. The overall study effort can be expected to be approximately one manyear. The study duration and effort required are greatly decreased if adequate, up-to-date noise contours already exist and if a background study has been done in the recent past.

General Pointers for a Successful Program

Several activities done at the installation before the program begins can help ensure a smooth process. These actions include early notification of the various offices that an ICUZ team will be formed and solicitation of participants; early notice to Range Control (and possibly Air Operations Control) that the program is about to begin and that operational data will be requested; and a briefing to the DEH and command staff that stresses the proactive nature of the program and its ability to forestall mission/operations curtailments.

Inform all offices, at the earliest possible stage, of the program status and direction. No office will appreciate being surprised, and the ICUZ team can later take advantage of the good relations that will result from keeping everyone informed. Disposition Forms (DFs) and Memoranda for the Record (MFRs) can keep the program visible and provide a paper trail of actions should the command change at some point in the program. If the installation command does change during the program, the DFs and MFRs will document the program for the new command staff. In the event of such a change in command, early briefing on ICUZ is highly recommended.

Even before the actions detailed above, it is important to obtain the DEH's support for the program. If the DEH then enlists support from the command staff, program implementation can take advantage of this backing to complete tasks more easily. That is, mentioning that the commander or the DEH supports the program can greatly shorten response times for requested support (e.g., supplying operational records).

Continuous updating and training of installation personnel (both civilian and military) are essential to keep the program proactive rather than reactive. This education is especially important when there is a change in command staff at the installation. There must be continuous command staff support and emphasis on the program for the ICUZ team's efforts to be effective.

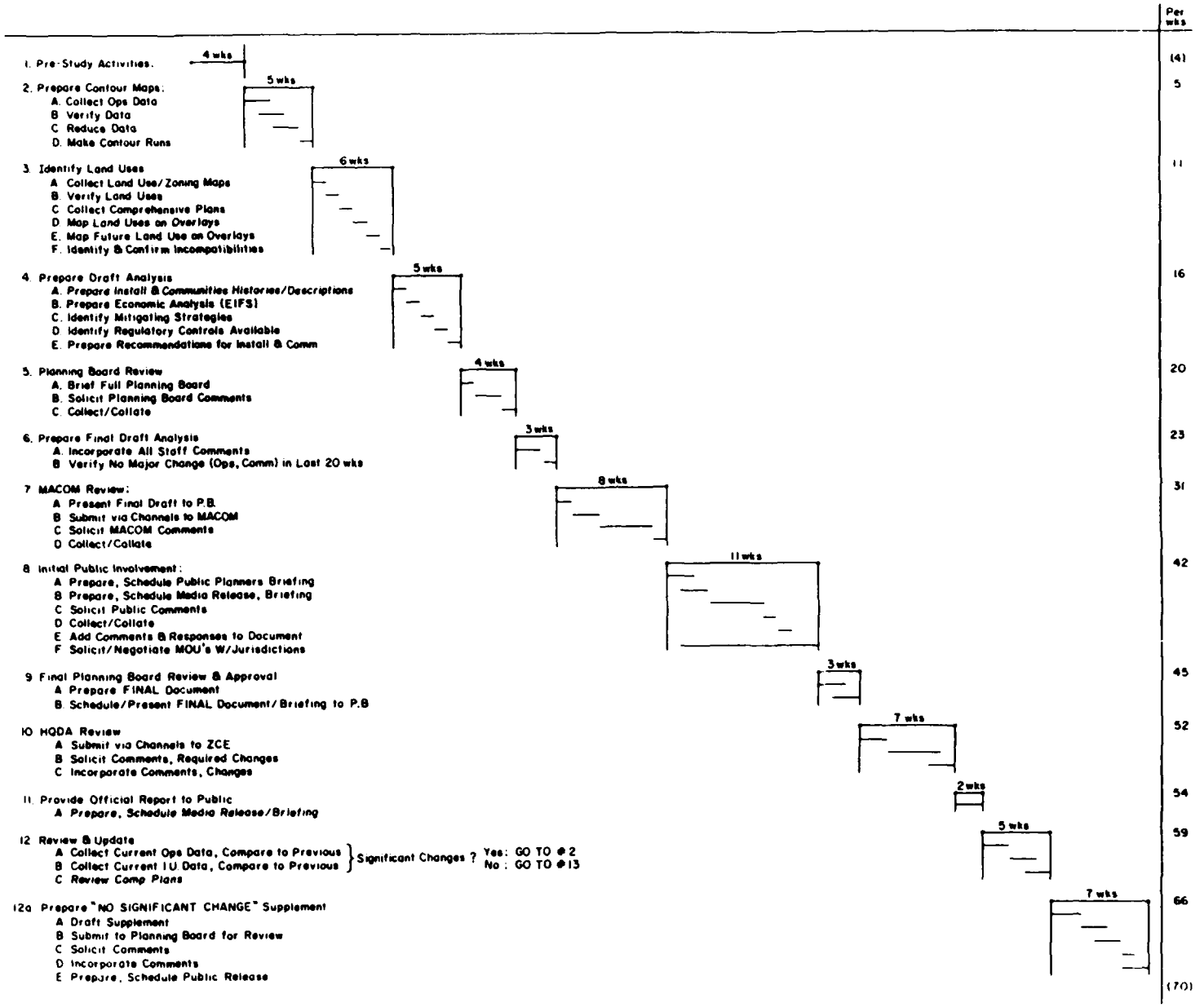

Figure 8. Expected time to implement ICUZ program.

The installation POC should be available to respond to all public inquiries regarding the program in a timely, informed manner. All methods of publicity should be used, including public speaking and graphic presentation of the program's implications, literature, videotapes, and pamphlets. Publicity is particularly important immediately after official public release of the final program analysis.

The ICUZ team should meet at least quarterly, or more often during mission or operational changes at the installation. Each office involved in the ICUZ Program must be aware of what the others are doing and what actions are impending in offices at all echelons. By keeping team members up to date on the major actions in each office, the review and revision of the report will be facilitated.

Maintain a master copy (camera-ready) of the ICUZ final report, along with an archive copy of the word-processor diskette and supporting/presentation graphics. The camera-ready version of the document will allow rapid, uncomplicated reproduction of the document upon demand. A copy of the diskette provides a foundation for updating the report later. These same guidelines apply to any future supplements and updates to the program.

Establish a system at the installation for modifying the draft document after the team/MACOM reviews. Since the ICUZ study should be reviewed and updated annually or when mission or operations change, a clear method of peforming the mechanics (i.e., writing and printing the updated version or supplement) will provide for rapid, smooth completion.

Provide briefings on the ICUZ Program to the installation commander and staff on a regular, rather than random, basis. Keep each committee member informed of new developments in the program as they arise. Inform the MACOM and USAEHA, as appropriate, of (major) changes in operations that might possibly affect the contours. The installation ICUZ POC should work continually with the public and local professional planners to address land-use-related issues that impact the integrity of the ICUZ study and its recommendations.

Preliminary Preparation

Prestudy Activities

These activities include initial contact with the prospective ICUZ team members and unofficial notification to public planners that the program will be implemented. Personal visits to the planning departments are advised, with an invitation to the initial Army staff briefing. Be sure to inform the command staff if civilian personnel will be present at the first briefing. Request that the DEH call and preside at the meeting. The consulting firm or ICUZ POC should present the overall program objectives and describe input expected from each installation office. Allow at least 4 weeks' lead time to schedule the meeting with all parties involved.

Step 1: Prepare Contour Maps

This step is one of the most crucial parts of the entire program. The contour (noise-zone) maps are the basis for demonstrating the noise impact and will be viewed

critically during program implementation. Unsparing care must be taken in gathering the operational data used to produce the contours. Activities comprising this step are:

1. Collect Operational Data. The data must reflect all of the operations, both blast and aircraft, for at least a full year. It need not be the latest fiscal year data, but should be the latest full year's data that can be obtained (e.g., 1 April xx to 31 March xx+1).

2. Verify Data. This does not mean that the operational data must be scrutinized for authenticity, but that it corresponds to the expected level of activity for the point of impact. The primary rule is "reasonable"--if 1000 operations are expected at a particular firing point, 750 or 1250 are reasonable, but 100 is not. Special care should be taken to verify nighttime operations, since the impact of noise at night is given a 10-fold penalty in the contouring.

3. Reduce Data. This activity requires that the operational data for each firing point be consolidated for each weapon, charge zone, target point, and projectile load. It is a preprocessing step for input into the contouring program. Although it is time-consuming, it speeds the turnaround time for contour production whether it is by USAEHA or the installation's use of MicroBNOISE.

4. Make Contour Runs. If contours are requested from USAEHA, several weeks must be anticipated for production of the baseline contours due to scheduling considerations, data clarifications by telephone, and data verification. If the installation uses MicroBNOISE, several days may be needed to locate and correct data errors and input appropriate bounds and base files. The first run of MicroBNOISE is the most difficult and most time-consuming; scenario variations subsequent to the first run are much easier and faster.

Step 2: Identify Land Uses

The collection of accurate, up-to-date maps, verification of land uses, and mapping of current and future land uses may require up to 6 weeks to finalize. Maps, comprehensive plans, and other supporting materials must be obtained for each county and jurisdiction having land that supports the installation. In addition, some maps may not contain the necessary information and may require changes to make them accurate.

Step 3: Prepare Draft Analysis

Preparation of the draft analysis requires someone to work steadily toward its completion. To complete this step in due time, it is necessary to have obtained all needed data prior to beginning. The ICUZ study outline provided by the MACOM should be followed as closely as possible. It also specifies the contents of the report which will aid in collecting the needed materials.

Draft Analysis, Staffing, and Involvement

Step 4: Planning Board Involvement

When the first draft report has been produced, it is necessary to obtain Installation Planning Board (IPB) approval. The procedure for this step is as follows:

1. Brief Full Planning Board. This briefing will normally be an agenda item at a regularly scheduled IPB meeting. The presentation should be brief and concise; since the

ICUZ team is generally a subset of the IPB, members who need to know the greatest detail will already have that information. It is often useful to prepare a handout consisting of the executive summary, recommendations, and contour maps for the IPB members.

2. Solicit IPB Comments. In general, at least 2 weeks should be allowed for review. If possible, generate a suspense using the DEH's signature to ensure timely input. Stress that the important items for their comment are the general policy and operations issues contained in the study; typographical and grammatical errors are clerical responsibilities. This review is primarily seeking to identify areas that may be sources of conflict; request changes of wording or clarification of policy if conflicts arise.

3. Collect/Collate Comments. At the suspense date, it is necessary to contact offices that have not offered comments. Be sure that each office has had an opportunity to comment. Often, several offices will have similar comments about the same sections; be sure there are no conflicts in these comments. The report is next edited to reflect the comments. Be sure to note *on the review forms* how each comment was resolved. If questions later arise about a particular comment, the paper trail can be reconstructed easily.

Step 5: Prepare Final Draft Report

The final draft is prepared by incorporating all changes from text markups and the IPR with the ICUZ team. Also, any major operational and activity changes should be added to in the contours.

Step 6: MACOM Review

After all comments have been incorporated, the final draft must be staffed through the MACOM. Use the following procedure:

1. Present Final Draft Report to IPB. The IPB must approve this version before it is sent to higher headquarters. Again, a short briefing at a scheduled IPB meeting is usually appropriate. The main theme of the briefing is to assure the IPB that all comments have been incorporated into the document, and that all conflicts have been resolved.

2. Submit Through Channels to MACOM. Several copies (usually six) of the final draft should be sent to the MACOM Environmental Office with a cover letter for the DEH's signature. The MACOM will then request comments from several of its offices (e.g., JAG, PAO, operations). Send correspondence via registered mail to document receipt of material.

3. Solicit MACOM Comments. This is usually done in the cover letter. Try to include a statement to the effect of "if no comments are received by [date] it will be assumed there are no comments from your office" in the transmittal letter to set a suspense.

4. Collect/Collate MACOM Comments. Just as in the IPB review, the MACOM comments must be addressed and incorporated into the document, with all conflicts resolved.

Step 7: Initial Public Involvement

Involving the public in the ICUZ Program should be centered around the current relationship between the installation and the public. The first group that should be involved is local planners. A separate briefing should be scheduled for them to explain the purpose of the ICUZ Program and how it affects them. In addition, memoranda of understanding should be negotiated with local planners to ensure the exchange of important land-use information. A briefing and media release should be prepared for the general public as well. Some methods that could be used include newspaper articles, code-a-phone messages explaining the program, and sending the final report to the local library. Comments should be requested and collated for inclusion in the report.

Step 8: Final Planning Board Review and Approval

After the document has had the public comments incorporated, it becomes the final report. It must have IPB approval before being forwarded to HQDA for requesting official release. At this point, the procedure is as follows:

1. Prepare Final Document. This phase involves insertion of public comments, final editing, and production of the report. A cover letter with the installation commander's signature must be drafted, staffed, and signed; any special printing (e.g., color and maps) must be done; and the copies of the document assembled.

2. Present Final Document to the IPB. This briefing is much the same as for the first and final draft presentations. It may even be shorter and more to the point since the IPB members are now all aware of the program and the report, and public involvement actions have been completed.

Step 9: HQDA Review and Approval

This review by Army Environmental Office is usually much the same as the MACOM review. However, if there is a Zone III off-post, the Army Environmental Office will forward the report to the Office of the Assistant Secretary of the Army for approval. This step proceeds as follows:

1. Submit Through Channels to Army Environmental Office. Copies are submitted through the MACOM to HQDA for approval. Cover letters should be attached requesting the MACOM to forward the documents, and copies for the MACOM should be furnished. Check with your MACOM and Army Environmental Office for the number of final report copies they require.

2. Solicit Comments and Required Changes. The cover letter should solicit any comments that HQDA may have and changes that may be required. Again, as for the MACOM review, include a statement similar to, "if no comments are received by [date], it will be assumed that your office takes no exception to the report's contents." Turnaround usually will not be fast, but requesting comments no later than 4 weeks after receipt should be reasonable.

3. Incorporate Comments and Changes. The HQDA comments and changes must be incorporated into the document. This process may be as simple as adding the approval letters to the document as an appendix. If, however, HQDA objects to any of the conclusions, recommendations, or mitigation actions, the document may require extensive revision. This situation means that the ICUZ team will have to start another round of IPB review and reopen public involvement and comment actions.

Implementation, Dissemination, and Updating

Step 10: Implementation of Mitigation Actions

At this point in the program, decisions should be made on any mitigation actions to be taken by the installation. Some actions may be implemented easily at the installation level without requiring approval by the MACOM and/or HQDA, such as making a commitment to notify the public of future large-scale activities, reducing nighttime firing events, and using sound-suppressive measures for weapons. If operational mitigation techniques would not prevent a Zone II or III, then the surrounding communities must be encouraged to implement land-use controls. By demonstrating that the installation is doing its part to control the impact of noise and other environmental concerns, the ICUZ study will increase the likelihood of public cooperation.

Step 11: Release Official Report to the Public

Formal release of the report should be announced for public review. All comments received from the public at this point should be incorporated into the official report in the form of an appendix.

Step 12: Review and Update

This step should begin no later than 1 year after initiation of the ICUZ Program, even if the final report has not been approved. The intent is to ensure that there have been no significant changes in installation operations or development of noise-sensitive land uses around the installation. This step involves the following procedures:

1. Collect Current Operational Data and Compare With Previous Data. This information can generally be gathered by interviews with the day-to-day operations personnel, such as Range Control. In all cases, watch for "creeping increases." A change in activity of only 1 percent per month is not much; but over a year or two, it can be significant in changing the size and shape of the contours. Be sure to ask, "Since this time last year..." type of questions, not less specific "recently" questions. If there has been a notable change in operations, a full set of the operational data should be requested and a detailed comparison made.

2. Collect Current Land-Use Data and Compare With Previous Data. The same comments apply here as detailed in no. 1 above. The professional public planners can also be asked about proposed new developments. Simply watching for evidence of impending development during routine daily activities can give the ICUZ POC a great deal of information that can show the potential for inappropriate development. Consistent attendance at zoning/planning meetings can be fruitful as well.

3. Review Comprehensive Plans and Compare With Previous Plans. Nos. 1 and 2 above also apply here. Monitoring the ongoing review and update of comprehensive plans can give early warning that possible inappropriate uses are contemplated. This monitoring is most easily done by establishing a working relationship with the civilian planning community. The Army and local communities want the same outcome: planned, controlled, appropriate use of the land to its highest potential.

4. Document Results. If there are no significant changes, prepare a "No Significant Changes" supplement to the report. If there are significant changes in either the

installation operations or surrounding development, an update study must be initiated. This process requires starting at Step 2 above and completing the cycle. The updating process, however, will not be as time- and labor-intensive as the original report.

Improved living and working environments is a primary objective of the ICUZ Program. By employing professional planning principles both on- and off-post, along with various noise mitigation alternatives, improved conditions can become a reality.

REFERENCES

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AR 210-20, *Master Planning for Army Installations* (HQDA, 12 June 1987).

Citizen Participation Handbook, 4th ed. (Institute for Management and Participatory Planning, Laramie, WY, 1981).

Guidelines for Considering Noise in Land Use Planning and Control (U.S. Department of Transportation, June 1980).

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Hottman, S. D., J. J. Fittipaldi, R. G. Gauthier, and M. E. Cole, *MicroBNOISE: A User's Manual*, Technical Report N-86/12/ADA173605 (USA-CERL, 1986).

Public Law (PL) 92-574, *Noise Control Act of 1972*, 86 Stat 1234.

PL 95-609, *Quiet Communities Act of 1978*, 92 Stat 3079.

Schomer, P. D., *Predicting Community Response to Blast Noise*, Technical Report E-17/AD773690 (USA-CERL, December 1973).

Technical Manual (TM) 5-803-2, *Environmental Protection Planning in the Noise Environment* (HQDA, 15 June 1978).

APPENDIX A:

ICUZ AND THE LAW

There are three ways in which the military may be potentially liable in lawsuits regarding noise. The first is in terms of **trespass.** Noise constitutes a trespass in the sense that it violates the property boundaries of the individual. The property boundaries involve airspace, groundspace and subterranean space. The second category of potential liability is **nuisance.** Under this provision, if the individual's health, safety, or welfare is adversely affected, regardless of the fact of being a trespass, then the individual has constitutional rights to seek damage for that nuisance. Military noise, as well as civilian noise, has been defined as a possible nuisance; therefore, a person has legal recourse in terms of compensation for such nuisance that would affect his health, safety, and welfare. Health, safety, and welfare must be defined in terms of some quantifiable categories or impact. The third category of possible liability involves **constitutional taking** through inverse condemnation. Under the Fifth Amendment, property shall not be taken without just compensation. Thus, if noise has been defined as a taking, then the individual has a right, a legal right, to compensation for this taking.

A question frequently asked by the Judge Advocate at an installation is, "Does the Federal Government, and particularly the military, have an exemption from inverse condemnation and therefore liability." The answer is no. Under the Tucker Act, suits against the U.S. Government are permitted, including the Departments of Defense and the Army.

What types of damages are compensable? Historically, damages were compensable if they involved a loss in property value. This requires some type of real estate or market appraisal to determine if comparable property not impacted by noise is worth more than property impacted by noise. The differential between that which is considered fair market value and that impacted by noise is the amount to which the individual is entitled relative to compensation. In more recent decisions of the courts, it appears that not only is property value a basis on which compensation can occur, but also a second category of human health impact. Several cases have shown that individuals can now be compensated for damages associated with health impairment, whether it be in terms of sleep interference, communication interference, or even the category of general annoyance. The extent to which the courts will uphold this is a matter of time and must be carefully examined in terms of the jurisdiction at which these installation ICUZ studies are being performed.

Legal Framework

Noise does have legal standing, like other sources of impact, and is compensable. The Department of the Army, like the civilian community, is potentially liable for noise and its impact. Therefore, it is very critical in doing an ICUZ study that the individual installation examine Federal statutory laws, those that have been passed by state governments, as well as local and municipal or local and county regulations. These laws, in essence, can act as a preventive measure to give the military some legal standing. They help to ensure that emotionally based nuisance lawsuits without a rational quantifiable basis are not brought against the military. They also can be used for planning purposes to ensure that certain encroachment does not occur if it may have some adverse impact on the installation. Federal, state, and local laws and regulations concerning noise are discussed below.

Federal Laws

Federal statutes are the newest to be enacted in terms of the three levels of government. However, they have the greatest overall impact in terms of military operations. Probably the most significant is the Noise Control Act of 1972 which states that:

> Federal agencies shall, to the fullest extent and consistent with authority, under Federal laws administered by them, carry out the programs within their control in such a manner as to promote an environment for all Americans free from noise that jeopardizes their health and welfare.

The U.S. Environmental Protection Agency (USEPA) is responsible for enforcement of the Noise Control Act. USEPA is essentially the clearinghouse for all Federal regulations concerning the subject of noise. The first law USEPA implemented was passed by Congress in 1969. It established the Noise Pollution Act. Subsequent to that, the Noise Control and Quiet Communities Acts were administered by USEPA following Congressional action.

The U.S. Department of Housing and Urban Development (HUD) has standards relative to noise that affect properties which might be associated with the acquisition of land. These two programs involve the Federal Housing Administration and the Veterans' Administration. Both organizations have what are referred to as "noise criteria" that must be met to ensure that HUD grants can be awarded. These noise criteria are associated with a 24-hour Ldn value (see Chapter 2 for a discussion of Ldn values) and are based on three different sets of criteria: "unacceptable," when the Ldn over 24 hours is in excess of 75; "normally unacceptable," when the Ldn is above 65, but below 75; and "acceptable," when the Ldn is below 65. It is only when the Ldn is below 65 for a specific site in question that a HUD grant can be successfully awarded to a local government.

The Federal Aviation Administration (FAA) is responsible for all aviation-related noise. This responsibility was first established under the FAA Act of 1958. However, it exempts military noise from its statute. The FAA regulates some 17,000 airports in the United States involving approximately 225,000 aircraft and over 100 million operations per year. This agency needs to be contacted at the beginning of an ICUZ study, especially when the joint use of an airport is under consideration. The FAA is responsible for the administration of all navigable airspace.

The U.S. Department of Defense (DOD) has several regulatory guidelines which Army installations must meet. These guidelines are contained in DOD Instruction 4165.57, "Air Installation Compatible Use Zones," TB MED 501, "Occupational and Environmental Health: Hearing Conservation," and MIL-STD 1474(B)(MI), "Noise Limits for Army Materiel." Specifically, DOD and the Department of the Army must be in compliance with all guidelines associated with USEPA, FAA, HUD, and other Federal agencies which might impact their activities. AR 200-1, *Environmental Protection and Enhancement*, is the Army guidance document which implements Federal laws regarding noise.

The Federal Interagency Committee on Noise was established in 1980 by former President Carter as a way of coordinating all Federal noise control efforts. This committee established noise guidelines for all affected Federal agencies and departments. The committee made two key recommendations. The first was to establish a

uniform noise descriptor for measuring noise. The noise descriptor adopted was the day/night average noise level or Ldn. The second recommendation was the development of a land-use compatibility table which all Federal agencies consult in determining the extent of residential impact associated with noise. The basic criteria are: below 65 Ldn, the land use is considered generally acceptable depending on local conditions, a 65 to 75 Ldn is marginally incompatible/marginally acceptable, and above 75 Ldn, the land is considered totally unacceptable for residency.

State Laws

Several states now require a Noise Compatibility Plan (NCP). Under this provision within the state constitution, every legal jurisdiction is required to establish a noise element dealing with environmental noise. This must be submitted to the state after it is adopted by the local municipalities. The States of California, Hawaii, Oregon, Illinois, and 22 others require NCPs. It is, therefore, essential that a detailed examination of state regulations be performed when conducting an ICUZ study. The Computer-Aided Environmental Legislative Data System (CELDS) is a useful aid in examining laws. CELDS is an interactive computer database containing abstracted state laws affecting the environment. A CELDS search uses keywords, such as "noise," to identify laws. More information about CELDS can be obtained from the Environmental Division of USA-CERL, telephone (217) 373-7225.

Local or Municipal Laws

The first regulations dealing with noise that had specific quantifiable levels were not enacted until 1930. New York enacted the first city ordinance in the United States which had specific noise emission thresholds based on the use of the first sound level meter. Noise ordinances can be classified into two different categories of regulation. The first are considered nonacoustical regulations which do not specify a specific quantifiable noise unit and are nuisance-type in character. The second are acoustical ordinances because they establish a specific, quantifiable, measurable noise emission value, usually expressed in terms of decibels or dBA. Relative to the activities of these ordinances, most regulate either land use or some type of activity occurring on a road or within the airspace. Land-use ordinances specify values in terms of zoning, comprehensive planning, subdivision regulations, building codes, and other provisions. The alternative is activity-type ordinances which establish permissible levels of noise allowed along rights-of-way, for example, passenger vehicles, trucks, or, in terms of airspace, fixed-wing and rotary-wing aircraft.

There are two principal legal bases for those noise ordinances. The first is the abatement of a nuisance. Nuisance-based ordinances usually do not have specific, measurable noise limits. If an activity produces noise that adversely affects surrounding people *and* is unreasonable and excessive, then the community may enact ordinances that will stop that activity. For example, operating a jackhammer or doing machine work at 3:00 a.m. in a residential district would probably be a nuisance in most communities. If this was a nuisance banned in the municipal ordinance, then the community could bring the force of the law against it until the activity stopped. Nuisances are defined by each community, based on its own standards, and are subject to challenge and review by the courts.

The second basis of noise ordinances is the enforcement of noise-level restrictions through "police power" regulations. These regulations enforce a community's legal right

to protect the public's health, safety, and welfare through controlling ("policing") certain activities of its residents. The use of zoning ordinances is one example of police power regulations. These ordinances may restrict the types of noises allowed, the hours that those noises may be produced, and the areas ("zones") in which they are permitted.

Both nuisance and police power regulations are used in most communities today to remove or control noises, respectively. Use of these regulations is becoming increasingly important.

Besides municipalities, the county level is also very actively involved in noise ordinances. Regardless of the governmental entity, noise regulations should be reviewed by qualified Army personnel. Such laws can be used to assist communities in adopting regulations which are in the best interest of the Army while protecting both the Army and the community at large.

Preemption

The Federal Government does preempt local jurisdictions in certain areas. One is in the area of airspace. Airspace is considered navigable; therefore, it involves interstate commerce which preempts local governments from having access. The Federal Government, therefore, has national sovereignty in terms of airspace. Constitutionally, this navigable airspace does have certain minimal altitude regulations. An individual has the right and access to approximately 200 feet above his or her property. Above that point, however, it becomes a constitutional question. In most cases, this jurisdiction has been decided by the courts to be Federal. Therefore, noise which might be generated in that airspace is permitted as long as it does not go below 200 feet into the "property" of the private individual.

APPENDIX B:

REVIEW OF RELATED LITERATURE

Army Regulations

Army Regulation (AR) 200-1, *Environmental Protection and Enhancement* (Headquarters, Department of the Army [HQDA], 15 July 1982).

This regulation implements DOD Directives 4165.60, 5030.41, 5100.50, 6050.4, and DOD Instruction 4120.14. It prescribes general DA policy on environmental protection.

AR 200-2, *Environmental Effects of Army Actions* (HQDA, 15 October 1982).

This regulation is a major revision of Chapter 7, AR 200-1, *Environmental Consideration in DA Actions*. The revision was necessitated by the publication of regulations implementing the National Environmental Protection Act (NEPA) by the Council on Environmental Quality. The NEPA regulations were implemented by DOD in DODDs 6050.1 and 6050.7 to provide policy and guidance on considering the environmental effects of DOD actions in the United States and abroad.

Department of the Army Technical Bulletin

TB MED 501, *Occupational and Environmental Health, Hearing Conservation* (HQDA, 15 March 1980).

This bulletin contains information on noise and hearing conservation programs applicable to both military and civilian personnel of the Army and provides guidance for medical officers of the Army Medical Department concerned with implementing these programs. The report also identifies the role of the command in controlling noise and reveals educational aspects of these programs.

USA-CERL Technical Reports (Available Through NTIS, Springfield, VA)

Hottman, Steven, John J. Fittipaldi, Richard G. Gauthier, and Mark Cole, *MicroBNOISE: A User's Manual*, Technical Report N-86/12/ADA173605 (U.S. Army Construction Engineering Research Laboratory [USA-CERL], June 1986).

This report provides instruction for using MicroBNOISE--a computer program that supports the Army's Installation Compatible Use Zone Program. MicroBNOISE enables installations to examine the relative consequences of blast-related mission activities. Installation planners and managers can use this program to assess results of realigning and rescheduling mission activities. The report provides a list of required data necessary to run MicroBNOISE and examples of user/program interaction.

Pawloski, V., and L. Little, *The Blast Noise Prediction Program: User Reference Manual*, Technical Report N-75/ADA074050 (USA-CERL, August 1979).

This report provides instructions for using the Blast Noise Prediction Computer Program--BNOISE.1, which is designed to predict the noise impacts of Army blast noise

operations. The report serves as a reference manual and describes manipulations of the module used by the program. It also provides simple runs and lists of module error messages.

Raspet, Richard, *Use of Aqueous Foam to Mitigate Demolition Noise*, Technical Report N-112/ADA111446 (USA-CERL, December 1981).

This report describes an investigation into aqueous foam as a viable technique for quieting unconfined explosions. It also explores whether design parameters can be established for the use of foam to reduce the environmental noise levels of Army artillery, demolition, and explosive ordnance disposal.

Schomer, Paul D., *Community Reaction to Impulse Noise: Initial Army Survey*, Technical Report N-100/ADA101674 (USA-CERL, June 1981).

This report gives the results of a noise impact attitudinal survey done in the Fort Bragg-Fayetteville, NC, area. It shows that, to the extent that normal sources such as airplanes fit into an energy mode, such as the day/night average sound level (DNL), impulse noise also fits into an energy model. The growth of annoyance levels in conjunction with increases of loudness occurs similarly for impulse noise and for aircraft and helicopters. The survey is useful in understanding how annoyance was determined for purposes of delineating noise zones.

Schomer, Paul D., *Predicting Community Response to Blast Noise*, Technical Report E-17/AD773690 (USA-CERL, December 1973).

This report presents a preliminary method for predicting levels of annoyance from artillery or blast noise in the environs of a military base. Human annoyance due to blast noise is predicted using a composite noise rating (CNR). Blast noise case histories are considered and serve to verify the prediction method.

Schomer, Paul D., Richard F. Devor, and Robert D. Neathammer, *Strategies for the Validity of Noise Monitoring in the Vicinity of Civilian Air Fields and Army Installations*, Technical Report N-166/ADA137780 (USA-CERL, January 1984).

This report discusses how to check the accuracy of noise levels generated by computer models (i.e., MicroBNOISE). A detailed explanation is given on how to verify estimated noise levels by direct measurements on and around the installation.

Additional References

Guidelines for Considering Noise in Land Use Planning and Control (Federal Interagency Committee on Urban Noise, U.S. Department of Transportation, June 1980).

This report provides guidance for determining what land uses are appropriate for different noise levels. It discusses ways to mitigate noise problems through land-use planning.

Harris, Cyril, *Handbook of Noise Control* (McGraw-Hill, New York, 1979).

Harris' book is an excellent reference to issues and information with which military personnel working on ICUZ programs should be familiar. Topics covered in the book include physics of sound, noise measurement, effects of noise, noise regulation, noise mitigation, aircraft noise, and blast noise.

Fisher, Roger, and William Ury, *Getting to Yes* (Penguin Books, New York, 1986).

This book is a national bestseller on negotiation. It provides a concise, step-by-step, proven strategy for reaching mutually acceptable agreements in every sort of conflict.

Smith, Herbert, *Citizens Guide to Planning* (Planning Press, American Planning Association, Washington DC, 1979).

This book presents a comprehensive look at planning. It is organized to cover the areas of planning that a newly appointed planning board member or interested citizen would most likely encounter. Smith outlines the planning process and describes why it is important. The book provides an excellent overview of planning for the nonprofessional.

Smith, Herbert, *Citizens Guide to Zoning* (Planning Press, American Planning Association, Washington DC, 1983).

In this book, Smith addresses the fundamentals of zoning as well as the associated issues and philosophies. The book provides a useful step-by-step process for developing zoning regulations and identifies useful ways to administer them once they are enacted. Recent development and emerging techniques for zoning are also discussed in the book. At the back of the book, Smith provides useful answers to many of the questions on zoning that planners face.

APPENDIX C:

COMMON QUESTIONS ABOUT ICUZ AND RESPONSES

The public as well as installation personnel will have many questions and comments about the ICUZ concept when it is introduced. This appendix lists the most frequently asked questions/comments, organized by topic area, and corresponding responses.

Physics of Sound

Question: How does the Army plan for thermal inversions?

Response: Although weather conditions are often predictable, it becomes extremely difficult to structure training activity around variations of temperature changes. Thermal inversions generally are not only unpredictable, but also last for only short durations, making training plans difficult. The modeling technique used for noise contours takes into consideration a multiyear average of historical inversion frequency.

Question: Why is it that two identical weapons are not twice as noisy as one?

Response: Due to the physical properties of sound, two noise sources are not additive. The decibel (dB) is used to quantify sound. Two weapons having identical characteristics do emit twice as much sound energy as one weapon, but since the sound levels are measured by taking the logarithm of the energies, twice the energy translates to 6 dB more "noise." For the same reason, if you move twice as far away from the sound source, the sound level decreases by 6 dB.

Mitigation

Question: How do the recommendations relate to land areas not identified within a Zone II or III?

Response: Areas not identified as Zone II or III are classified as Zone I, which, by definition, have no impact. However, when planning for an area outside Zone II or III, buffers may be used as a precaution when the property is in question.

Question: Why can't you use silencers on the big guns?

Response: Silencers have been designed for large guns and are used in some testing situations. However, these devices are so massive, cumbersome, and expensive that they cannot be used in normal training activities. A silencer for a single 155mm howitzer is over 30 ft long, weighs several tons, and costs approximately $100,000.

Question: Why is it infeasible to erect barriers or earthen berms as is done along the highway right-of-way?

Response: Berms and barriers are effective for some types of activity such as aircraft engine run-up areas or along high-volume roadways traveled by heavy vehicles. However, berms are not effective for impulse (blast) noise sources because of the characteristic low frequency. While a typical traffic noise barrier may be 10 or 15 feet high and be very effective, a noise barrier for blast noise would need to be several hundred feet high

for the same effectiveness. Also, in the modern training environment, large weapons are not fired from only one place, but from many different, changing firing points in a general area. Clearly, it would not be cost-effective to build many long, tall barriers or berms.

Noise Contours

Question: How does the computer noise model work? How does it determine just how many people are "highly annoyed?"

Response: The model takes the sound energy from each noise event at the installation for the year's data and calculates how much of that energy arrives at a set of grid points on and around the installation. The model is complicated, but takes into account the absolute sound level of each event, the directivity pattern of each noise-producing event, and the weather patterns of the area. The points of "equal noisiness" are connected to form the contours defining the noise zones. These noise zones have been chosen after many years of research into how annoying a particular noise level range is to the population. The noise zones are based on consolidation of many different studies over several years in many countries. The consolidation, known as the "Schultz curve," shows that, with some degree of accuracy, it is expected that a given percentage of people will be highly annoyed if they live in an area described by a given noise level expressed as Ldn. Although the noise zone definitions seem arbitrary, they are conservative when the relative accuracies of the measurements are considered--the intent is to protect the most people from the calculated noise impacts by identifying the noise-impacted areas and making recommendations for the best and highest suitable land uses.

Question: Since the noise is averaged over 360 days, doesn't that make the contours look a lot better than if the noise were averaged over the actual number of operational days (e.g., like the weekends when the National Guard has duty)?

Response: Yes, using 360 days per year does make the noise zones smaller. However, the international definition of the day-night noise level (Ldn) specifies that the noise be averaged over this period of time. When there is a large discrepancy between the actual number of days and 360, such as only weekends during the summer, it may be more appropriate to use the actual number of days. It has been shown that even when the noise does not last for a full year, for instance, when construction noise lasts only a few months during the year, that the annual (i.e., 360-day) average (Ldn) is still the best measure for estimating the amount of annoyance due to the noise environment. The averaging time used for a particular installation is determined on a case-by-case basis with installation input, but tends to favor the international 360-day standard.

Question: Why aren't the maximum noise levels used to define the noise contours (i.e., the loudest noise expected from the biggest weapons and the largest explosions)?

Response: The various measures of noise impact, including the maximum peak level, have been studied extensively as descriptors of the noise environment. In all studies, the maximum peak, that is, the highest noise level expected, has not been a good predictor of the annoyance that the population experiences. The annual average day-night level (Ldn) has consistently predicted this annoyance with the best accuracy. The inherent averaging of the Ldn descriptor tends to make the modeling computer programs more accurate as well. Standards based on the loudest event (i.e., the maximum peak level) would be so closely tied to unpredictable events (such as once-per-hundred years inversion situations or training accidents) that they would be virtually unquantifiable.

The Ldn has been shown to be the most quantifiable, accurate predictor of noise impacts on the population.

Question: Sometimes when there are big shots, the windows, dishes, and bric-a-brac rattle; other times we can barely hear the noise. If the weapons get bigger and the training more intense, won't that mean there will be more rattling and more possibility of damage to my walls?

Response: Part of the concern built into the noise zone definitions is how the noise will affect people in the future. The noise expected in Zones II and III is far below the levels that can damage any structure, and are even farther below the levels that could pose a threat to personal health. At the core of the ICUZ Program is this consideration: both the Army and the local communities are responsibile for avoiding incompatible uses of areas where there is a reasonable expectation that the environment might be less than beneficial to these activities. The ICUZ Program is a planning tool designed to preempt uses of the land that are not compatible with the Army's mission.

Question: What is the physical meaning of the noise zones and contour lines?

Response: The contour lines, which define the boundaries of the noise zones, are calculated from the installation's annual activity data, local historical weather data, and details of the weapon firings. Although the model used to calculate the contours is very sophisticated, the physical nature of noise and its propagation, the mathematical limitations of the model, and the volume of data needed make the contours' locations on the map imprecise. These factors, as well as others, give a precision of only $\pm$ 2 dB at the 90 percent confidence level. That is, if one were to monitor the noise at the Zone I or II boundary line (i.e., on the 62 dBC contour) over a long period of time (e.g., a few years), one could expect the results to be between 60 and 64 dBC 90 percent of the time.

From a land-use planning viewpoint, this 4-dB imprecision in the location of the contour lines means that the amount of noise impact does not change abruptly. For a given, constant amount of activity at the installation, the noise impacts at a particular location will vary as quickly as hour-to-hour, and by large amounts. Yearly variations will be smaller, but the noise impacts are not constant. Differences in impacts are not black and white, but more like shades of gray around the contours. This concept means that a planner, tax assessor, or building appraiser *cannot* put *precise* lines on a map that place one property in Zone II and the adjacent land into Zone I. FAA guidelines suggest that the smallest feature assigned to a different noise zone is a neighborhood, i.e., an area of several blocks.

In short, the contours defining the noise zones must be considered generalized lines used for making planning decisions, but not for land surveying. The range of locations of these lines can vary by hundreds of meters, depending on several different conditions.

Comment: The report suggests using contours as a basis for approving or disapproving certain land uses. This recommendation is difficult to support at the local decision-making level because the contours are not clearly defined and the report suggests that they may change.

Response: The contour lines are to be used only as a guide to decision-making. The noise zones should not be the sole basis of consideration for land-use planning. Other factors may need to be considered.

Question: Can workable scale noise contour maps be provided to local planning agencies?

Response: Individual contour maps of both blast and aircraft noise will be made available to local planning boards and commissions. Tailored scales for specific individual needs and uses should be the responsibility of the applicable agency. Care should be taken in changing grid scales and projecting the actual contour lines to avoid misconceptions and inaccuracies.

Community and Human Response to Noise

Comment: Air traffic flyovers are annoying.

Response: Preestablished flight corridors have been created on each installation to provide avenues for aircraft movement and training. In the event that consistent complaints are received as a result of aircraft activity in a particular area, corridor, and path (i.e., flight track) possible adjustments will be examined and considered in an effort to lessen the degree of annoyance.

Question: What are the health effects on current occupants within the Zone II area?

Response: The noise levels within a Zone II area have no physical health effects upon occupants--only annoyance and disturbance.

Question: Is the Army trying to discourage people from living in noise Zones II and III because it wants to keep the complaints down, or is it because the noise in those zones is harmful to people?

Response: Neither and both. The Army does not wish to artificially decrease complaints: complaints are a sympton of a problem that the Army needs to learn about and correct. In the noise environment defined by this report, there are no overt physical dangers such as hearing loss. However, on the "both" side of the scale, the Army does not want its neighbors to be annoyed or displeased with its actions, so anything that can be done to become a better neighbor is worthwhile. In noise-sensitive land uses, the Army noise can have some detrimental effect. For instance, if a hospital were sited in a high-noise-level area, the sleep loss or interruption of patients due to the noise might prolong their recuperation time. The Army must perform its mission to provide adequate defense for the nation, but it also is responsibile for protecting the well-being and health of its neighbors.

Question: If we, the communities around the installation, agree to limit the land uses in Zones II and III, will the Army agree not to move or enlarge the noise zones?

Response: The ICUZ Program is concerned with restricting a limited number of land uses around the installation (e.g., residential and institutional). The program attempts to deal with noise and other land-use issues that might result in an incompatible situation. The installation must fulfill its mission. What the Army agrees to do, while fulfilling its mission, is to keep the noise and other environmental considerations at a high level of concern and to coordinate in a consistent, timely way with planning organizations outside the installation. This stance ensures that all concerned parties can provide the best and highest use for land near the installation, with the least adverse impact on the population.

Question: If we, the communities, agree to regulate the land use in the noisy zones, does that mean we agree the land is less useful or less desirable than it once was?

Response: No, it only means that you recognize that the land has uses that are more appropriate in light of the environment which is part of the installation's operations. The installation is simply bringing the environmental realities to the attention of the jurisdictions so that these elements can plan to use the area to its best and highest potential.

Legal Issues

Question: Will the Federal Government invest in a community that lies within a Zone II noise contour?

Response: The Department of Housing and Urban Development (HUD) and the Veterans' Administration (VA), like other lending institutions, will work with individual communities on a case-by-case basis in support of residential development within Zone II noise level areas.

Question: Can a person sue the Army?

Response: Yes, private citizens can sue the Army. To date, however, there has been no successful litigation against the Army in terms of the noise it generates. In general, suits of this nature are long and costly, and primarily benefit only the lawyers and consultants.

Question: Are land owners entitled to compensation due to the "taking" implied by the existence of the noise environment shown by an ICUZ study?

Response: No "taking" is implied by release of the study; the noise environment is the same the day after the release as it was the day before the release. The study only quantifies the noise environment and defines the most appropriate uses of noise-impacted areas. In many instances, land may be more valuable for less noise-sensitive uses since it may be worth more in commercial potential than as residential property.

Question: Will the Army reimburse property owners within Zone II areas for structural damage due to noise?

Response: Artillery and weaponry blast noise is an airborne disturbance as opposed to ground transmission. Any property owner who believes he/she has suffered property damages from artillery or weaponry blast noise has the burden of proving the connection between the Army's action on damage sustained as a prerequisite for the award of any monetary settlement. If that can be demonstrated, the Army will reimburse a property owner.

Public Involvement

Question: Do residents have any input in establishing zone boundaries?

Response: The noise contours (and zones) are based on the physically measured noise sources, installation activity, and other quantified parameters. These calculations are

combined with the results of many attitude surveys that relate annoyance to the annual average day-night sound level.

Question: It is suggested that agreements be established between the installation and local jurisdictions. What would be the purpose and form of such agreements? What is to be negotiated?

Response: The agreements are simply understandings of cooperation signed between applicable local government officials and the installation to work together concerning land uses and to share information about current and planned noise-generating activities. An agreement should be sought for each jurisdiction that has land use authority for areas affected by noise impacts, and should clearly state the actions to be taken by both parties.

Question: Why can't you tell us when there is going to be a lot of noise so that we can plan what we are going to do?

Response: That is exactly what we plan to do when there are going to be large-scale exercises. However, sometimes we cannot predict when the noise levels are going to be loud, such as when the weather produces unexpected sound propagation conditions ("focusing"). In those situations, even routine activities can produce high noise levels at unpredictable, spotty locations. For instance, one location can have much higher than normal noise levels, while a site *closer* to the noise source will experience much lower levels than normally expected.

Question: What happens when I call to complain about the noise? Does it do any good?

Response: We have appointed one office (usually PAO or Range Control) to handle all noise complaints and to investigate each complaint at the installation. If a large number of complaints from a particular area are noted, the installation will consider curtailing the activities from the offending firing or target point until conditions are more favorable. Your views about our operations are important to us; we want to be good neighbors, and we can't do that if we don't hear from you.

Land Use Planning and Control Techniques

Question: Can information be produced to show a percentage of actual cost differences for homes to meet HUD criteria for housing within Zone II as opposed to those outside Zone II?

Response: The amount and type of noise attenuation that HUD may require will vary from one site to another, depending on the climate, building type, and quality and cost of construction; this requirement is imposed on a case-by-case basis.

Question: Why are areas that do not lie within a Zone II noise area discussed in the ICUZ report?

Response: The ICUZ study is a planning tool to be used as a guide for future development in surrounding communities. It is a preventive rather than reactive program, and should be used as a basis for approving or disapproving certain land uses just as other regulatory controls are used.

Question: What do the HUD and VA regulations mean in terms of receiving loans on property in Zones II and III?

Response: The basic policy for HUD and VA is that they will neither make nor guarantee loans for noise-sensitive development in a Zone III area. In Zone II areas, the actions of HUD and VA are considered on a case-by-case basis; if adequate noise attenuation provisions are in the application to build, the requests for loans are generally approved. We would emphasize that the important concept is "noise-sensitive." If the intended development use is not noise-sensitive, for instance, industrial or commercial, there will be no restrictions on the loan qualifications due to noise. The philosophies of the ICUZ Program and the HUD and VA policies are the same: to encourage the best and highest use of the land *in full consideration of the local environment* while discouraging inappropriate uses. There is no "taking" in the legal sense in the ICUZ Program analysis or report; since the land area impacted by the Army's noise may be more valuable as commercial, industrial, or service property, the analysis may, in fact, increase its value.

Question: Is it possible that the Army will buy the land and houses in the high-noise areas?

Response: The purchase of land only because it is in a high-noise area is very unlikely. Property has been purchased in some cases around Navy and Air Force installations, however. Generally, both safety concerns as well as high noise levels are considered before action is taken. The time span for purchase of real estate is very long as well; the average time from the decision to purchase a tract to transfer of deed is about 6 years. Some civil airports are buying land in high-noise areas, but this process is also lengthy, often involving condemnation proceedings.

Question: Why can't the Army shoot the loud guns where there are no people to be annoyed, such as in Nevada?

Response: There is already testing and training in the less populated areas, such as the National Training Centers and White Sands Missile Range. But part of the Army's mission is to maintain troop readiness to fight in a variety of terrains--from mountains to swampland to desserts. And, too, no one location can handle all training needs for all troops, not even the desert around White Sands. In addition, most communities near an installation are economically dependent on the Army's presence; service and retail businesses depend on installation personnel. Even partial mission curtailment, that is, moving only a small part of the activity, can have major economic impact.

Question: What is the intention of retaining buffer zones around the installation?

Response: Buffer zones for the mitigation of noise impacts are generally large areas separating the impacted area from the noise source. The buffer zones are usually open (e.g., agricultural lands or recreational spaces), but may have other nonnoise-sensitive uses (e.g., commercial or service). It is important that the land use of the buffer zone not have a high noise-producing use, as this situation will increase the original noise problem. The amount of noise attenuated by the buffer zone will depend on the size of the zone--that is, the distance from the noise source to the receiver. In general, doubling the distance from the source to the receiver will decrease the noise by 6 dB; increasing this distance by a factor of 10 results in a 20-dB decrease.

APPENDIX D:

LAND-USE PLANNING AND CONTROL TECHNIQUES

Several different planning and land-use control techniques are normally available to local governments to prevent noise intrusions. Controls that are generally most useful for achieving compatibility zoning, easements and development rights, and land purchase are discussed in this appendix. Other controls such as building codes (noise insulation requirements), health and housing codes, programming of public capital improvements, and cooperation of financial institutions have either less or specialized applicability.

Zoning

The most common and useful land-use control method is zoning. This method is an exercise of the police powers of state and local governments that designates the uses permitted on each parcel of land. It normally consists of a zoning ordinance that delineates the various use districts and includes a zoning map based on the land-use element of the community's comprehensive general plan (the ICUZ Program plan is part of the comprehensive plan). At the same time, a zone is subject to change and must be monitored continually if it is to remain a viable compatibility tool.

Uses of Zoning

Zoning should be applied fairly and based on a comprehensive plan. Zoning ordinances implement provisions of the comprehensive plan. This plan must consider the total needs of the community along with specific needs of the installation. For example, to zone a parcel of land for industrial or warehouse usage simply because it lies within a noise impact area is not acceptable. Such an action could be considered "arbitrary, capricious, or unreasonable" and thus vulnerable in the event of judicial review. The plan must clearly demonstrate that there is a reasonable present or future need for such usage. Zoning can and should be used constructively to increase the value and productivity of land within the noise areas. Used within its limitations, zoning is the preferred method of controlling land use in noise-impacted areas.

Limitations of Zoning

Zoning has several limitations that must be considered when using it as a compatibility implementation tool. These limitations include:

1. Zoning is usually not retroactive. That is, changing a zone primarily for the purpose of prohibiting a use that already exists is normally not possible. However, if such zoning is accomplished, the use must be permitted to remain as a "nonconforming" element until such time as it is changed voluntarily to a conforming use or until the owner has had ample opportunity to recoup his/her investment.

2. Zoning is jurisdiction-limited. Installation impacts often span more than one zoning jurisdiction. In this case, zoning requires coordination of all involved jurisdictions. Zoning that implements a compatibility plan will often be composed of existing and new zoning districts within each of the zoning jurisdictions covered by the plan. Each jurisdiction is likely to have a different base zoning ordinance with districts having different applicability for implementing the compatibility plan. Counties in many states do not have zoning authority; hence, land-use control via zoning in these states stops at the municipal boundary.

3. Zoning is not permanent. In any jurisdiction, zoning can be changed by the current governmental body; it is not bound by prior zoning actions. Consequently, zoning that achieves compatibility is subject to continual pressure for change from both urban expansion and enterprises that might profit from such changes. When these changes are proposed, the environmental impacts may require assessment. Also, from time to time the entire zoning ordinance for a jurisdiction will be updated to accommodate increased growth or incorporate new land-use concepts.

4. Cumulative zoning can permit incompatible development. Several communities still have "cumulative" type zoning districts that permit all "higher" uses (such as residential) in "lower" use districts (such as commercial or industrial), thus supporting development that may be incompatible. In these instances, it is necessary to prepare and adopt new or additional zoning districts of the "exclusionary" type that clearly specify the uses permitted and exclude all others.

5. Zoning Board of Adjustment actions granting variances to the zoning district or exceptions (e.g., schools or churches) written into the zoning ordinance can also permit development that may be incompatible.

Positive Features of Zoning

The zoning ordinance may be the most attractive land-use control to prevent development around installations. First, zoning is the most effective control because, by law, it can prohibit specific developments. Second, this technique costs the installation nothing (assuming that no amendments to the zoning map or text have to be made).

Negative Features of Zoning

The installation must rely on the municipality's governing body for proper zoning solutions. This may involve a political struggle beyond the installation's control. Also, the municipality must be wary of "taking land without just compensation," which is an issue often raised in zoning proceedings.

Easements

Easements can be an effective and permanent form of land-use control. In many instances, they may be better than zoning for the installation's compatibility issues. Easements are permanent, with the title held by the purchaser until sold or released, and work equally well within different jurisdictions. They are directly enforceable through civil courts and may often be acquired for a fraction of the cost of the land value. Another consideration is that the land is left free for full development with noise-compatible uses.

Definition

An easement is a right of another to part of the total benefits of the real property owner. Ownership of property includes possession of a series of rights to the use of that property. Certain rights to the property are always retained by the state or the general public, i.e., police power, taxation, eminent domain, and escheat (right of the sovereign to own those properties not in the ownership of others). Other rights are retained by neighboring property owners (e.g., the flow of water across land). Rights of ownership, i.e., possession of all rights in the land except those retained by the state, general public, or neighbors, may be bought and sold separately. When property is acquired, usually all

rights are purchased (i.e., in fee simple). However, it is possible to buy only selected rights that are actually needed. These rights can be acquired in the form of easements, with the other rights retained by the owner. There are many types of easements. They can be categorized as subsurface easements such as pipelines and underground utilities; surface easements, such as roads, utilities, and access; and above-surface easements such as air rights or navigation easements. The cost of an easement is determined by the value of those rights to the land owner. If the easement will not significantly impair the owner's contemplated usage or sale of the land, the cost should be low; but, if it does, the cost will be higher.

There are two basic classes of easements--positive and negative. In positive easements, the right to do something with the property (e.g., build a road, install a power line, or create high levels of noise over the property) is acquired. In negative easements, the rights to prevent the use of the property by its owner for certain activities is acquired. These easements may include the owner's rights to erect billboards, cut timber, build above a certain elevation, or perhaps use the land for any noise-sensitive use.

For noise compatibility issues, both the positive easement to make noise over the land and the negative easement to prevent the creation of an unprotected noise-sensitive use on the property may need to be acquired to ensure adequate control. The easement should give its owner the right to make noise over the property. It should also include purchase of all the property owner's rights to establish or maintain an unprotected noise-sensitive use on the property. In the case of an existing unprotected noise-sensitive use, the cost of the easement could include the cost of either soundproofing or removing the noise-sensitive use from the property. A specific list of noise-sensitive uses, based on the criteria used for the compatibility study, should be specified as sound attenuation or other protection sufficient to place the noise-sensitive uses within the sound environment specified by the criteria.

Obtaining Easements

Easements can be obtained in several ways, including purchase, condemnation, and dedication. For each easement acquired, it is wise to consider including a legal description of the noise that may be created over the property and classes of uses that may be established or maintained with and without soundproofing.

Purchase. Easements can be purchased through negotiation with the price based on the value to the owner of the rights surrendered. Timing can have a significant effect on the price paid; once the subject land has come into the arena of speculation, prices tend to rise quickly. Under certain circumstances, Federal assistance may be available for such purchases.

Condemnation. Easements, as well as full rights to property, can also be obtained by condemnation. The cost, while still likely to be less than outright acquisition (fee simple), is likely to be significantly higher than similar rights obtained through negotiation. Also, the cost of any ill will generated by a condemnation action, while difficult to measure, can be significant.

Dedication. Dedication is another way to obtain easements. Two common types of dedication--subdivision and voluntary--are discussed briefly below.

Subdivision. Subdivision regulations governing the development of land for industrial or other purposes can include provision for dedicating private land or

easements on private land for public purposes. When easements for airport-environs compatibility are considered necessary and are determined to be compatible with the intended land use, the need for such easements should be a required consideration in the review and approval of subdivision dedications.

Voluntary. Land owners in unzoned areas may sometimes be persuaded to dedicate easements voluntarily for compatibility over their undeveloped land if assured of a fixed location for noise-impact areas. Thus, when the land is eventually zoned, the easement will help assure the owner of obtaining a zoning classification compatible with the noise. This arrangement may permit a lower tax rate during the interim years and may, coincidentally, generate a higher ultimate price for the land.

Positive Features of Easements

Easement purchases are very straightforward transactions and are almost always less expensive than fee-simple purchases. They allow the installation to retain control over adjacent land without the burden of actual ownership. They are also usable in cases for which development already surrounds the installation.

Negative Features of Easements

There may be difficulty in obtaining the necessary easements, particularly when many land owners are involved, because their cooperation is required. Unless otherwise specified, the rights are not automatically transferred upon resale of the land, so further negotiations may be required.

Transfer of Development Rights (TDR)

TDR involves separate ownership and use of various "rights" associated with a parcel of real estate. Under the TDR concept, some of the property's developmental rights are transferred to a remote location where they may used to intensify allowable development. With TDR, for example, lands within an installation's noise-impact area could be kept in open space or agricultural areas and their developmental rights for residential uses transferred to locations outside the area. Landowners could be compensated for the transferred rights by their sale at the new locations or the rights could be purchased by the Army. Depending on market conditions and/or legal requirements, the Army could either hold or resell the rights. The TDR approach must be fully coordinated with the community's planning and zoning office. It may be necessary for the zoning ordinance to be amended so that it permits TDRs. Also, transfers usually must be contained within single zoning jurisdictions.

Positive Features of TDRs

The program would be inexpensive or cost-free to the installation since the local government would administer it. The program could also stimulate growth and development of the property to which developmental rights were being transferred.

Negative Features of TDRs

One potential problem is recordkeeping. Because of the complexity of the transaction, it is often difficult to keep track of the principals and the exact number of rights that are sold and bought.

Land Purchase

Fee-simple purchase of noise-impacted land is the most positive form of land-use control. It is also usually the most expensive. However, when combined with either resale for compatible uses or retention and use for a compatible public purpose, the net cost may be reduced greatly. As a preventive measure, purchase should usually be limited to critical locations or to cases for which other solutions would not work. Acquisition can be through negotiation with the property owner, by deed or gift, or through condemnation.

Positive Features of Land Purchase

An obvious positive feature of this method is that it allows the installation to gain complete control over the use of surrounding land. Ownership also allows eventual sale of property. This installation program reduces initial expenditures by allowing the property to be acquired over time.

Negative Features of Land Purchase

The biggest problem with this method is the initial cost of acquiring the land. This initial outlay may prove too expensive to justify the acquisition. In addition, the cost of maintaining the property may prove too expensive in the future. Development on the property still could be prevented by restrictive covenants or sales agreements.

Building Codes

A building code prescribes the basic requirements that regulate construction of structures. The building code is adopted by the local governing body to protect the health, safety, and general welfare of the occupants of these structures. The code establishes a set of requirements covering matters such as fire protection, building materials, lights, ventilation, exits, plumbing, and others. Although building codes are not a technique to actually prevent development, they can restrict it, especially near Army installations. A code can require that walls, partitions, and floor-ceiling construction have minimum sound transmission capabilities. The code can specify a certain sound transmission class (STC) that must be obtained. Specific construction techniques and materials can be stated in the code. Also, the code should require that certain noise levels are maintained after the structure is completed.

Positive Features in Building Codes

The positive feature of the building code is that it promotes construction and development of structures that contain noise-proofing features.

Negative Features in Building Codes

The negative feature of building codes is that they do not prevent or restrict any type of land use around installations.

Subdivision Regulation

Subdivision regulations are a means by which local government can ensure that proper lot layout, design, and improvements are included in new residential developments. These regulations specifically set guidelines that developers must follow when constructing their subdivisions; examples are minimum requirements for road widths, lot arrangements, allocation of facilities, the relationship of the subdivision to the surrounding area, and the dedication of property. Subdivision regulations are used to ensure that the health and habitability of each new residential development are maintained.

All local government subdivision regulations require some type of dedication of open space to the public. This provision could be structured such that the space is located nearest the Army installation. Noise barriers might also be erected along these buffer areas. Also, larger buffer areas could be required for subdivisions closer to the noise source.

Positive Features of Subdivision Regulations

Subdivision regulations can be used to effectively diminish noise levels in a residential area. This control can be achieved by carefully locating open spaces among units in the subdivision.

Negative Features of Subdivision Regulations

Subdivision regulations alone will not prevent development around or near an installation. They are only a way to diminish the impact of noise emanating from the installation. Buffers placed in the subdivision may not be adequate to reduce the noise levels, providing only partial noise reduction. Administrative responsibility for subdivision regulations would then increase because of the additional requirements for noise attenuation. Thus, the cost to both the local government and the homeowner would increase.

Health Codes

The health code in a given community sets up requirements that protect residents from adverse elements that may endanger them. These elements include disease, poor sanitary facilities, and inadequate or unsafe water supplies. Requirements in the code encompass all types of land uses. Similar to the building code, the health code does not actually prevent development around Army installations. The codes, however, can protect people from the noise impact of a nearby installation. A standard can be built into the code that would apply to noise-sensitive uses such as homes. The developer would be required to prohibit excessive noise levels in the development or consider another use that is not noise-sensitive.

Positive Features of Health Codes

The health code could be used in areas where zoning either is not used or is not an option. In most cases, the health code would be too strict to allow residential uses near installations, thus requiring some other, more compatible land use such as a manufacturing plant.

Negative Features of Health Codes

The health code, depending on its complexity, is often difficult to administer. Also, field checks have to be done to ensure compliance. The paperwork needed to administer the program is substantial. In addition, the time-consuming paperwork and field checks slow development.

Disclosure of Noise Levels

Noise levels in a community can be measured and recorded. By making these levels public information, incompatible uses around Army installations might be prevented. Noise levels can be disclosed in several ways. One method is by an ordinance or an amendment to an existing ordinance, which could be passed by the local governing body, requiring disclosure. Another method would be to implement a voluntary program among realtors in the community, who would inform the potential purchaser of any unacceptable noise levels.

There are several ways in which such a program can be applied at the local level. First, a statement of noise levels could be included in the deed so that the purchaser of the property knows about them. Second, real estate or leasing agents could be required to inform prospective purchasers or tenants about the potential noise problem. Also, the noise level for that area could be posted on any "for sale" or "for lease" sign placed on the property. Finally, noise contours could be published on all subdivision plots and possibly all municipal, land-use, and zoning maps.

Positive Features of Disclosing Noise Levels

The program would make information available to the public that had not been previously. The public could then make more informed choices about locating their residences and businesses.

Negative Features of Disclosing Noise Levels

Simply disclosing the noise level information does not mean that the information will be used. Programs will be required to educate the public and ensure that the public remains informed in the future. Moreover, this measure could become costly and time-consuming if noise contours were required to be placed on all municipal maps.

HUD/VA Regulations

Both the Veteran's Administration (VA) and HUD have regulations concerning noise levels in areas where they might help finance new construction. Both agencies follow the DOD guidelines concerning the ICUZ Program. Neither agency will make loans in areas identified as having unacceptable noise levels. These areas correspond to a DNL of 75 or greater (Zone III in the ICUZ Program). Only when the DNL is less than 65 is a site totally acceptable. This control method has potential application to all DOD installations.

Positive Features of HUD/VA Regulations

The program is similar to the development loan restriction except that public money is involved. Development, mostly residential, would be prohibited near an Army installation where noise levels are unacceptable.

Negative Features of HUD/VA Regulations

These regulations do nothing for existing developments. Also, there is no current provision to prevent loans on the resale and subsequent purchase of existing structures. This measure is primarily limited to one type of land use--residential.

Land Banking

The term "land banking" is defined as a system in which a government acquires a substantial fraction of land in a region available for future development for the purpose of implementing a public land-use policy. Land banking prohibits the land being acquired from becoming committed to a specific use at the time of acquisition; in addition, the land must be large enough to have a substantial effect on urban growth patterns. Land banking differs from permanent acquisition in that it places the land in a temporary holding status to be turned over for development at a future date. Land banking can be used when development of a future installation is known. For example, land in excess of that required for the installation can be purchased and held for future use.

Positive Features of Land Banking

The two primary arguments in favor of land banking are that it will have an anti-inflationary effect on land prices, thus preventing land speculation, and it will permit more rational patterns of development rather than urban sprawl.

Negative Features of Land Banking

Positive aspects of land banking are disputed on the basis that if there is an orderly development of land, there will be no land that is "wasted." Therefore, the functional use of each parcel of land will increase, thus raising the price of that parcel. Another factor to consider is that the program may become politically manipulated. Government officials in charge of the program could show favoritism both when lands are acquired and opened for sale on the market. In addition, an expenditure may be too large to even begin a program of land banking. Proponents claim, however, that the money can be recovered once the site is developed.

Special Tax Treatment

Special or preferential tax assessment of land by a local government allows an owner of a piece of property to pay lower or no property tax. By taxing land around Army installations differently, open space can be maintained. There are three primary methods of using taxes to keep space open. First, tax exemption of open property could be encouraged. Second, preferential assessment of land would allow agricultural or open land to be taxed at a substantially lower rate. Third, tax deferral allows the owner of open property to forego property tax payments until a nonopen space use is developed. Before such use is approved, however, all tax deferrals would have to be paid.

The States of Maryland and Pennsylvania have used preferential assessment in efforts to preserve open space; Virginia pioneered the tax deferral scheme. Both of these programs should be studied to determine their applicability to specific installations.

Positive Features of Special Tax Treatment

These methods are, again, a way of preventing development at no cost to the Army installation. The preservation of existing uses, especially agriculture, is promoted as well. Property that abuts the open space will become more valuable through the amenity that open space provides. The added value translates into increased tax revenue for the local government. Because the open space is adjacent to an Army installation, the value of the amenity is somewhat diminished, however. Even if the value of the abutting land uses stays constant, the tax program has worked.

Negative Features of Special Tax Treatment

The cost of the program must be absorbed by the local government, which may refuse to implement it for this reason.

Capital Improvement Program

Capital improvements programming is the multiyear scheduling of physical upgrades to public property. A capital improvements program (CIP) is a planning tool used by local jurisdictions to phase the installation of needed public facilities (e.g., water and sewer, roads, schools) on a priority basis. A CIP usually projects needs 3 to 6 years into the future. It specifies what public improvements will be constructed. Scheduling is based on studies of fiscal resources available and improvements needed. Many communities are starting growth management systems, of which a CIP is an important component. The CIP precedes preparation of a capital improvements budget (CIB). A CIB identifies the methods by which improvements will be financed and the source of the funds. Usually, development occurs where capital improvements are located. Extension of municipal services into an area makes that area more attractive to developers than sites without the improvements (i.e., the developer saves both time and money). Local governments should avoid extending capital improvements into high-noise areas to avoid the possibility of incompatible uses.

Positive Features of CIP

There are many benefits to an effective CIP. For example, the CIP can: ensure that plans for community facilities are completed; effectively schedule public improvements that require more than 1 year to construct; avoid improvement mismanagement; and lead to effective growth management, among other features. CIP can and should be coordinated with local zoning ordinances to provide for growth management.

Negative Features of CIP

Capital improvements are limited to expenditures for physical facilities with relatively long-term usefulness and permanence. Often, misuse of a CIP can lead to haphazard or unwanted development.

Development Loan Restrictions

To fund their projects, developers often need to borrow money from lending institutions. If these funds cannot be obtained, development will not occur. Restricting or prohibiting mortgage and/or other loans for certain land uses is thus a way to control development. For example, state and local governments could designate areas around Army installations for which loans to developers are prohibited. The designated areas would coincide with certain noise contours that would have already been determined. The local government would then prohibit banks and other lenders from making development funds available for those areas.

Positive Features of Development Loan Restrictions

The attractive feature of this program is that it costs nothing for the local government to implement and still prevents development effectively.

Negative Features of Development Loan Restrictions

The program usually cannot be implemented immediately because of possible court litigation. It is likely that lending institutions will sue the local government for not allowing them to use their money as they see fit, i.e., making loans to developers.

Public/Private Leaseback

Leaseback is a financial arrangement in which the land is acquired and controlled, but not necessarily occupied, by the owner. This method can be used by both the public and private sectors. The leaseback arrangement in the private sector requires two simultaneous steps. First, an investor purchases real estate owned and used by a business firm or government. Second, the property is leased back to the firm or government by the purchaser. In the public sector, an agency can acquire lands and lease them to private persons for specific uses in accordance with the approved plan for the area. Customarily, the terms of the lease ranges from 20 to 40 years.

Positive Features of Public/Private Leaseback

Leasebacks offer a way for public agencies to acquire land, yet provide for the continued use of the land by others. Public agencies can thus limit the land use, while acquiring some income from the property. The leaseback method is popular in the private sector because it provides capital from outside sources and is a flexible form of financing.

Negative Features of Public/Private Leaseback

Public agencies often have the usual landlord's management problems. The leaseback arrangement also keeps land off the tax roles when used by the public sector, which lowers income to the Government. Problems arise in the private when there is no repurchase option and the value of the property appreciates. Without this option, the lessee will not share in any value increases.

Sales Agreement

An essential ingredient in transferring real estate into a valuable commodity is the written agreement. A contract is a legally binding document in which certain parties agree to do or refrain from doing some action. The sales agreement is a legal contract which can be enforced through the legal process by either of the parties if the other party does not willingly comply with contract terms.

A sales agreement is needed to establish the terms agreed upon by the seller and buyer. The buyer usually accepts the terms in the purchase agreement. Final acceptance of the purchase or sales agreement may be conditional upon proof of a clear title, rezoning to fit the land-use plans of the buyer, or adequate financing from lenders. The minimum requirements for a sales contract are the parties' agreement to conditions of the sale, a description of the property, and signatures of the agreeing parties. An installation, through sales agreements, can restrict the use of surrounding lands if they own or control them. Of course, the buyer must accept the terms of the sales agreement.

Positive Features of Sales Agreements

After signing, the sales agreement is a legally binding contract. The buyer and/or seller can seek legal recourse through the courts if this contract is broken.

Negative Features of Sales Agreements

Unlike the restrictive covenant, the sales agreement pertains only to the prospective buyer. The agreement does not carry over to future sales of the property unless so stated in the contract. In addition, certain areas of agreements and contracts are subject to possible misrepresentation and fraud.

Deed/Covenants

A deed is the document conveying ownership of land from one party to another. Restrictions (known as "covenants") can be added to become an integral part of the deed. Such covenants specify the uses which the new owner may make of the land. Deed restrictions apply in addition to any zoning laws. They may even supersede the zoning law by prohibiting a specified use that might otherwise be legal from a zoning standpoint. Restrictive covenants are known technically as "running with the land." That is, no matter how often the land is subsequently resold, these restrictions remain in effect. They are a part of the land. There is usually a time limit placed on covenants of 20 to 30 years, after which they are no longer in effect. In certain instances, restrictions that have become impractical can be legally removed by the landowner, if deemed justifiable by the courts.

For deed restrictions to be an effective tool, the installation must first own or acquire the property surrounding the installation. In later reselling this property, agents can specify which uses will be permitted on the land. The Government can thereby prevent residential (or otherwise incompatible) land uses for as long as the restrictions remain in effect. This method is particularly useful in controlling development on the property most vulnerable to installation noise.

Positive Features of Deed/Covenants

This method is attractive because the installation retains control over surrounding land uses without needing to continue ownership of the land, thus lessening the tax burden. Deed restrictions are legally enforceable, regardless of how many times the property is resold.

Negative Features of Deed/Covenants

Some minor problems are associated with this method. The amount of land originally purchased for an Army installation must exceed the amount actually needed. This situation may present an excessive financial burden. Also, placing land-use restrictions in the deed might hinder attempts to sell the land later.

Purchase of Development Rights

A title to real property contains several rights, including that of development. By purchasing this one right, incompatible land uses near Army installations might be prevented. Purchase of development rights would resemble a fee-simple purchase in terms of the actual transaction and necessary legal paperwork. The difference would be that only one right is purchased rather than all of them. The development right of any property is usually the most valuable and desirable. The cost of the right is equal to the difference between the value of that parcel at its highest and best use and its existing value. A program of purchasing development rights could be used when insufficient funds are available for fee-simple purchases of land. The program would work best where development rights of agricultural land are purchased; the land would remain productive and yet no incompatible use could be developed.

Positive Features of Purchasing Development Rights

By purchasing development rights, land uses adjoining Army installations can be kept compatible. The purchase of these rights on lands surrounding an Army installation would thus achieve the goal of preventing development of any kind. After all the purchases have been made, no more administrative work would be needed. If the program could be completed in a relatively short period of time, administrative and land acquisition costs could be reduced. Also, purchasing development rights is much less expensive, in most cases, than fee-simple purchase.

Negative Features of Purchasing Development Rights

Such a program requires major expenditure of funds because of the amount of land that encompasses Army installations. Unwilling sellers may present a problem as well. If the highest and best use of the land is a high density one (e.g., multifamily), the price of the development rights would not be much less than that of fee-simple ownership.

Eminent Domain

Eminent domain is a police power that enables governments to condemn and subsequently acquire private property for a public use. The public purchase clause is important in eminent domain proceedings. This clause allows local governments to use eminent domain for a wide variety of acquisitions. Exercising eminent domain forces an owner to sell his/her property for just compensation, regardless of the owner's desires.

The sale price is determined by independent appraisals (usually three). If an agreement cannot be reached, the courts will determine the compensation price. Eminent domain can be used to create open space in a municipality. It is usually implemented as a last resort when property cannot be acquired or controlled by other methods. Property around an installation would be condemned and subsequently purchased. By paying for the property, the Army would receive clear title to it and thus control all rights.

Positive Features of Eminent Domain

Like other acquisition methods, eminent domain allows the Government to own full rights to the property. Eminent domain powers can be delegated or legislated to units other than city or county governments, such as park districts.

Negative Features of Eminent Domain

Eminent domain requires an expenditure of money to control the property. Also, eminent domain proceedings often result in litigation. If so, acquisition of the property may take years, if it occurs at all. Furthermore, eminent domain can be used to obtain only that land which is necessary.

Purchase Option

An option is an agreement between the buyer and seller of a piece of property. In the agreement, the seller will hold the property for a specified time. In turn, the buyer agrees to pay a sum of money as consideration for the offer. At the time the option is granted, no real property ownership rights pass. Instead, the buyer is purchasing the right to buy at a fixed price within a specified period of time. The seller retains the money paid regardless of whether the option is exercised. Option costs vary, but usually include the property taxes and a standard interest charge. The option can be used when funds cannot be acquired to purchase the property outright. During the period of the option, funds presumably can be obtained to make the purchase. This period can also be used to examine rezoning possibilities or other actions that would affect ownership of the property.

Positive Features of Purchase Option

As mentioned above, an option allows the buyer time to locate and secure funds necessary to make the final purchase. Also, the option prevents others from developing the property in a way unacceptable to the installation.

Negative Features of Purchase Option

This technique requires expenditure of funds to purchase the option. Even more funds must be appropriated if the option is set up to be renewed continuously.

APPENDIX E:

COMMUNITY PARTICIPATION GUIDELINES*

Figure E1 is a decision support matrix that should be used to determine if you need a community participation (CP) program and, if so, what its objectives should be. These decisions should be made before attempting to implement the CP techniques outlined in this appendix.

*Source: *Citizen Participation Handbook*, 4th ed. (Institute for Management and Participatory Planning [IPMP], Laramie, WY, 1981). Used with permission. The fifth (1986) edition of this handbook may be ordered from IPMP, P.O. Box 4068, University Station, Laramie, WY 82071; telephone 1-800-622-4767 (1-800-622-IPMP).

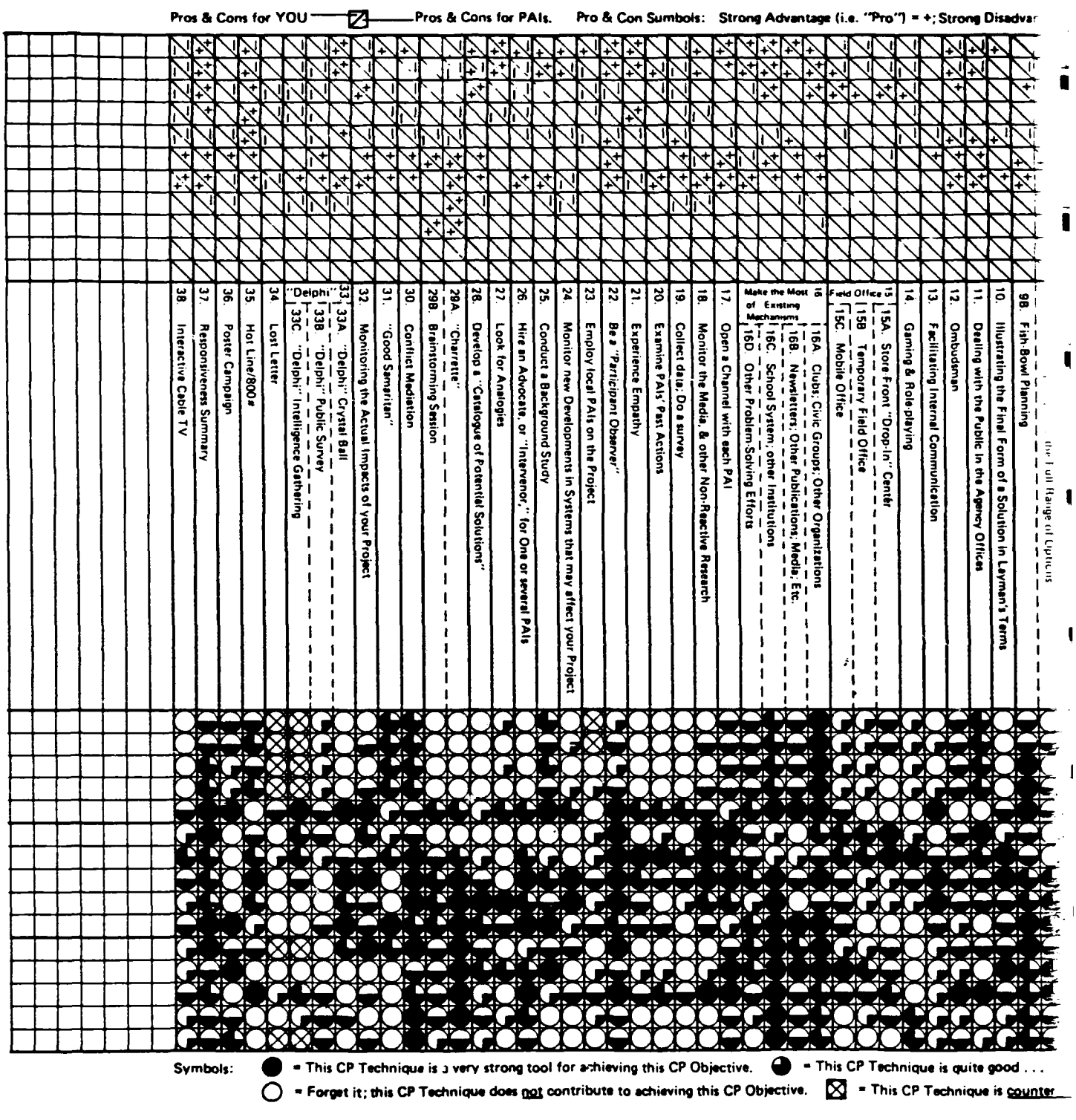

Figure E1. Decision-support matrix for identifying appropriate CP action.

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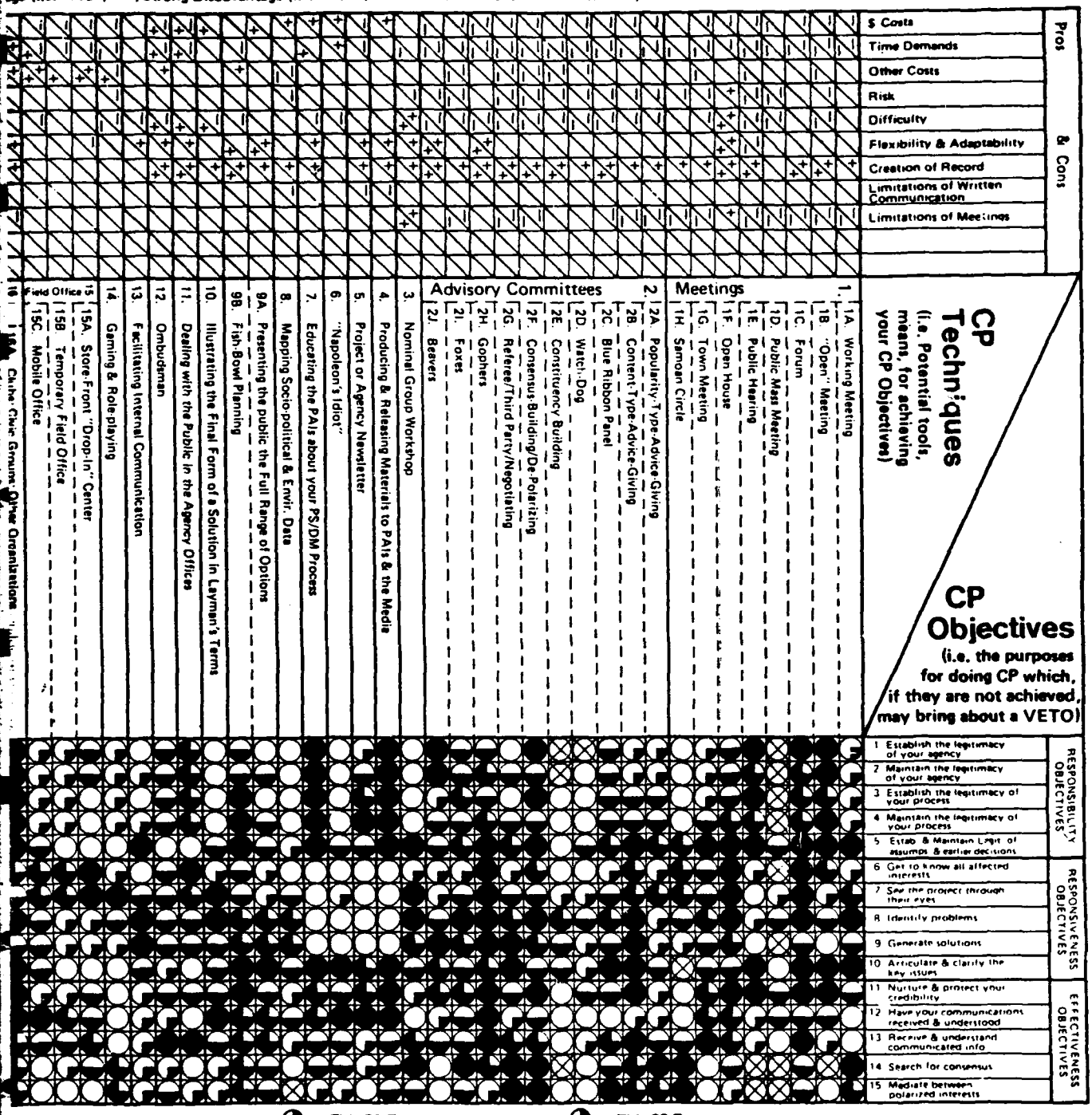
age (i.e. "Pro") = +; Strong Disadvantage (i.e. "Con") = – Abbreviations: PAI = Potentially Affected Interest PS/DM = Problem-Solving/Decision-Making



This CP Technique is quite good . . . ◑ = This CP Technique can help . . . ◔ = This CP Technique can help a little . . .

⊠ = This CP Technique is counter-productive for this CP Objective.

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CHAPTER V

CITIZEN PARTICIPATION TECHNIQUES

Once you know exactly what your CP NEEDS are, you will want to pick one or several CP TECHNIQUES. To decide which CP TECHNIQUES suit your needs best, you'll have to keep three things in mind:

1. Your CP NEEDS
2. The strengths and weaknesses of the various CP TECHNQUES that are available, and
3. The capabilities and limitations of the resources of your project staff.

In this chapter we provide a brief sketch of several dozen CP TECHNIQUES. These brief descriptions are intended to give you the basic concepts behind each technique and a rough outline of how each one works. This information should suffice for you to decide whether or not a given technique is suitable for your particular CP NEEDS and for your resources.

In the case of CP TECHNIQUES that are frequently abused, we provide – along with the description of the technique – some guidance, so the reader can avoid making some of the most common errors.

But, the point of saying all this is that our descriptions of the various CP TECHNIQUES are **very brief and sketchy**. The reader who needs an in-depth discussion of a given technique may well find our descriptions too superficial for his purposes.

The Table of CP TECHNIQUES AND OBJECTIVES at the end of this chapter shows – with a completely black dot – to which of the 15 CP OBJECTIVES each CP TECHNIQUE can best contribute something. The completely black dots indicate the greatest degree of usefulness of a given CP TECHNIQUE to meet the needs of a given CP OBJECTIVE; dots that are ¾ black show that the technique in question is quite useful for those particular CP OBJECTIVES – but not quite as useful as one with a **completely** black dot. Dots that are only ½ black – obviously – indicate that the technique is still quite useful; and dots that are just ¼ black show that – although the technique is somewhat helpful for the CP OBJECTIVE in question – it's not a **strong** technique for that objective. An "X" in a given column means that the technique in question **tends to be counter-productive** for the CP OBJECTIVE in question.

Other advantages and disadvantages – i.e. "pros" and "cons" relative to dollar costs, time demands, etc. – of each of the CP Techniques is shown with plus and minus symbols in the left-hand part of the table. Because the pros and cons that **the public agency** experiences is not always the same as the pros and cons that the outside interests – i.e. citizens – experience, they are shown separately. Symbols **above** the diagonal apply to the agency; symbols **below** the diagonal apply to the outside interests.

A couple of abbreviations that we are using here are: PAI = potentially affected interest; PS/DM process = problem-solving/decision-making process; CP = citizen participation.

CP TECHNIQUE NO. 1: HOLDING OR ATTENDING MEETINGS AND PUBLIC HEARINGS

"Holding and Attending Meetings" actually encompasses a whole range of CP activities. Although meetings constitute **a vastly over-used CP TECHNIQUE**, they of course **do** play a very important role in any agency's tool-box of CP TECHNIQUES – even for agencies that do not over-use them. One way for you to examine what you should be using your meetings for, and what you should not be trying to use them for, is to group the many different forms that meetings take into a few basic categories:

A. WORKING MEETINGS
B. "OPEN" MEETINGS
C. FORUMS
D. PUBLIC MASS MEETINGS
E. PUBLIC HEARINGS
F. OPEN HOUSE
G. TOWN MEETINGS
H. SAMOAN CIRCLE

If you feel that what you need to do is to hold some meetings, we suggest you examine the fundamentals of each of these different types and then decide which – if any – can best accomplish your purpose.

Our earlier warning that meetings generally are vastly over-used, is based on the following observations:

- It appears that a lot of us are willing to call – and to attend – a meeting at the drop of a hat. Many meetings take place where there is a vague understanding that certain things ought to be discussed, but where no one has gone to the trouble of asking himself:
  - What is the **purpose** of this meeting?
  - How can we maximize the chances of accomplishing that purpose? i.e., what should our agenda be? and what preparation (homework) needs to be done?

  Consequently, far too many meetings leave the people who attended rather dissatisfied because they realize after the meeting that it accomplished only a fraction – if anything – of what it could have accomplished.
- Meetings that require people to adjust their schedules drastically and that require substantial travel are – relative to alternative methods of communicating – very expensive.

We do **not** mean to say with this warning that meetings should **not** be used. They are important techniques. You simply need to make sure that a meeting is the best CP TECHNIQUE for the particular CP NEED that you have in mind before you call one.

Some Basic Principles that Apply to All Types of Meetings

One fundamental advantage of a meeting, compared to communicating by writing, is that people get to interact on a person-to-person basis with each other; they get a chance to "meet." But, for public officials who are working to bring about SEACA, this advantage also poses a problem. When representatives of different interests who are far from reaching any kind of consensus meet face to face, they often take advantage of this by making hard demands and ultimatums on each other. A demand or an ultimatum made with witnesses around – as there would tend to be in a meeting – is very difficult to withdraw by the individual who made it, even if he'd like, because he'd "lose face" in the eyes of the witnesses. One of the dangers, therefore, of bringing many different interests into direct contact with each other in a meeting is that some interests may become further polarized, and SEACA may be endangered.

If you need to hold a meeting involving a number of fairly polarized interests, you can protect SEACA to some degree by insisting that only low-level staff of the most polarized interests attend. Hard demands, ultimatums, and threats cannot be made effectively by low-level staff people, nor can they be made **against** a low-level staff person. Low-level staff people have a much better chance of finding issues for making acceptable concessions because – if they don't have the authority to make concessions themselves – they are perfectly free to jointly search for possible concessions and then to take back whatever they have come up with to see whether their own superiors, as well as their counterpart's superiors, may be willing to consider them. Such low-level staff representatives should have the responsibility to search for concessions with their counterparts: they should not have the authority to accept or reject anything on their own.

1A: Working Meetings

Basic Principles of this CP TECHNIQUE

Working meetings focus on an agenda of work to be accomplished. To prevent participating interests from confronting each other at the meeting with demands and ultimatums, rather than work on resolving their problems, the various interests should be represented by staff-level personnel who are in sufficiently low positions **not** to make major concessions if demands are made of them.

Key Features of this CP TECHNIQUE

A working meeting is called to achieve – or to try to achieve – a specific purpose; you should design the attendance, the agenda, and the preparation for the meeting to maximize your chances for achieving that purpose. Obviously, you cannot design a working meeting – and, therefore, should not call one – unless it is very clear what you intend to accomplish.

A working meeting should have no more than twelve people attend. The group should meet with the express intent of resolving specific points. For this reason, all participants should be aware of the agenda items to be discussed, whether that agenda is established orally or in writing.

Either one of the participants can actually run the meeting or the group can work more spontaneously, without a chairman. It is important that the participants realize they are without a chairman when the conversation strays too far afield. Some participant then has to steer the group back toward its main business.

The order in which the agenda items are taken up may or may not be significant. If it materially prejudices the likelihood of resolving the issues in question and, therefore, is significant, the person who called the meeting has to see to it that the agenda is followed.

When the group runs into views or goals of some of its participants that are so different and incompatible that it threatens the group's work, the group has to search for – and then focus on – those areas where the participants in question have something in common, where they agree; they then have to work at expanding this area of agreement. This is done primarily by building the area of agreement into larger areas of overlapping views.

One **good** reason for holding a working meeting is to allow for – in fact, to invite and to facilitate – free give-and-take discussion. The making of motions, calling seconds, offering amendments, calling for votes, . . . etc. simply is **not** a good way to invite and facilitate free give-and-take; it **interfers with** it. Since it is preferable that those who partake in a working meeting be staff rather than the top administrators, i.e. decision-makers, voting in that event makes little sense.

1B. "Open" Meetings

Basic Principles of this CP TECHNIQUE

What we are here calling an "Open" Meeting is not unlike a Working Meeting except that there will be an audience observing the meeting. These kinds of meetings are most appropriate for official public bodies conducting their business – in the "Sunshine," i.e., out in the open where anyone, including the press, can see and hear what transpires.

These meetings tend to be – by their very nature – more formal then Working Meetings. It generally

pays to make an effort to resist the rather natural tendency to be very guarded with remarks, to weigh every word carefully before speaking it, etc. In fact, unless this effort is made, these meetings tend to degenerate into a sequence of completely formalized parliamentary moves.

Key Features of this CP TECHNIQUE

The meeting, including its purpose, agenda, time, and place, is advertised and announced through other appropriate means to the various interests who may care to attend. It should be scheduled at a location as well as at a time that allows those who may want to attend to do so.

The meeting is run by a chairman, or – especially if there are a lot of controversial issues – by a moderator. A completely disinterested, neutral moderator is advisable if the body that is holding the meeting is accused – or may be accused in the future – of being a party to a dispute and, therefore, of not being able to conduct the meeting in an even-handed way.

Variations of this CP TECHNIQUE

Some of the variations involve:

- Letting members of the audience participate in the discussion on the invitation of any of the original participants.
- Letting any of the members of the audience participate at a particular point in the agenda, or
- Letting them participate at will.

Disadvantages of this CP TECHNIQUE

If the audience is a large crowd; and if that crowd – as well as some of the meeting participants – have very strong feelings on some issues, the "Open" Meeting tends to degenerate. Thus, meeting participants find themselves "playing to" the crowd rather than talking to each other.

Although this technique does provide a lot of people a ready opportunity to participate, there are a great many people for whom the technique does not actually provide that opportunity because they can bring themselves to speak up in a large and/or formal meeting only with the greatest difficulty. If your agency needs input from a lot of people, and if you count on getting it via this technique, you may systematically be shutting off communication from those who are readily intimidated; you may, consequently, be surprised when people privately speak up against the project although you could not get them to do so publicly.

Advantages of the CP TECHNIQUE

Much citizen concern about CITIZEN PARTICIPATION has more to do with the **ability, possibility, and opportunity to participate** – than with actively participating. To the extend that this is the case on a particular project, or with a particular agency, this technique does provide some rather obvious – though less than perfect – opportunities to participate.

1C: Forums

Basic Principles of this CP TECHNIQUE

Unlike a meeting, a **"Forum" isn't designed to accomplish some task, to negotiate an issue, or to resolve some differences**; a Forum is designed to air certain issues, to hear different points of view expressed, to shed light on a subject – but not to make any decisions.

A Forum can play a very constructive role in bringing out the views and perceptions of various interests, and in exposing all of the interests to **each other's** views.

Key Features of this CP TECHNIQUE

You may want to use this technique when some major decision has to be made soon but – in your opinion – the issues surrounding the decision are not well enough understood by the various potentially affected interests. To organize a Forum, you should:

- Advertise it widely.
- Invite each of the interests to make a presentation; if necessary, provide them with the necessary technical assistance so they can present their case well.
- Have a disinterested individual who is respected by all participants moderate the presentations.
- Arrange for TV and other media coverage.
- The documentation of the Forum should constitute the explicit expression of many interests' value systems and, as such, should not only serve as a valuable basis for helping the responsible individuals make the decision that is pending, it also provides a good documentation of the background that contributed to the decision.

If the issues that are being discussed are fairly complex, and/or a great number of interests are involved in making presentations, run the Forum for several successive evenings.

1D: Public Mass Meetings

Basic Principles of this CP TECHNIQUE

A Public Mass Meeting gives its participants a great sense of doing something while it's going on, and a hang-over type let-down when it's over. About all that it tends to accomplish is to demonstrate that **a great number of people care enough to come to a meeting**; they are primarily demonstrations – either of support or opposition.

Key Features of this CP TECHNIQUE

A Public Mass Meeting is announced to demonstrate support, oppositon; or concern about a particular issue. Hand-bills are passed out at supermarkets; telephone chains get to calling everybody; soundtrucks drone through the streets; people on horseback talking through bullhorns ride through neighborhoods where kids have never seen a live horse before,

airplanes fly banners over sports events, etc., etc. The success or failure is, typically, measured by the **turnout** – no one expects to accomplish much else. And, indeed, the turnout is a measure of how much people care – or, how much potential political energy might be brought to the issue.

1E: Public Hearings

Basic Principles of this CP TECHNIQUE

Public Hearings are a very special form of meetings:

- They are extremely **important**.
- **Far too much** is expected of them.
- They, consequently, tend to harm the planning process.

Public Hearings tend to be abused because agencies try to use them as basic CP TECHNIQUES to obtain "Citizen Input." They are a **very poor technique** for obtaining citizen input for a variety of reasons:

- Public Hearings are the perfect setting for **confrontation** and conflict, not for the unhurried and un-pressured discussion of possible concerns.
- Most lay people tend to be overwhelmed by the presentation of sophisticated and official-looking information; they feel inadequate to respond intelligently on the spot.
- Many people are intimidated by the way most public hearings are staged: The officials are up on a stage or in the center of a ring; the citizen has to go to a microphone to ask his question or to make his comment while all eyes are on him and he becomes terrified that he'll make a fool of himself, etc.

A lot of these factors combine where people who tend to be quite reasonable in a one-to-one discussion on a given issue, will either not speak up at all at a public hearing on that same issue, or they will speak up but take a very un-compromising, militant stand. That kind of "input" tends to polarize interests; it does not contribute to the generation of SEACA. The reasons for it are simple. If you wanted to design a setting that invites confrontation, you needn't look beyond the public hearing.

For a Public Hearing **not** to be subject to the above drawbacks, use these principles:

- Work out your SEACA by interacting directly and informally with each of the potentially affected interests.
- Make every effort to accommodate the needs and concerns of each of the interests - and make sure each one of them is fully aware of your efforts.
- **Then, and only then** – i.e., when you have done everything possible to get the support of each interest – **should you go to a public hearing.** A formal public hearing anytime before this time is premature.

With this approach, the Public Hearing – ideally – holds **no surprises** for anyone; it is simply the formal ratification of the agreement (or disagreement) that you and all of the potentially affected interests have worked out informally. All of the interests should know precisely what you will be presenting, and you should know precisely what they will be presenting. Whether you have reached complete agreement with a given interest or not, both of you will know that each of you has made all of the concessions that he can make and that, whatever disagreement remains cannot be resolved by further negotiation. If you have arrived at this point with each interest, you will know precisely what his presentation will be – in fact, you may want to provide technical assistance to him so he can make his points (i.e., the ones you cannot resolve) cogently.

The public hearing has two main purposes. First, it is the minimal legal requirement for citizen particiaption. Although it is not recommended that this be the only time for citizens to make their views known; it is at least a safeguard that prevents an agency from making decisions in secrecy without giving the public the opportunity for comment.

Second, an official, permanent record is established at the public hearing. The proceedings of the hearing consist of three major parts. 1) A summary of the main points of the project or problem is presented. 2) The range of solutions including the recommended solution – provided there is one – are outlined. 3) This last part of the hearing consists of the interests' reactions to the proposed course of action. All proceedings become part of the public record.

Some agencies have found it useful to assist not only those interests in making the strongest possible presentation with whom they can identfy, but also with those with whom there is disagreement. The benefit of helping even those who oppose the project tends to prevent tempers from rising and keeps the discussion at a level of objectivity that is otherwise difficult to maintain.

Note that, just because you cannot resolve every point does **not** mean the interest will not join in a SEACA. What is crucial in this situation is that he considers you – in spite of the fact that he does not really like what you are proposing – to be operating utterly legitimately and responsibly.

Variations of this CP TECHNIQUE

Some agencies that have completely instituted this approach to Public Hearings – i.e., to use them only to formally ratify the agreement that has been worked out informally with all of the potentially affected interests – have also instituted an informal "Pre-Hearing." They invite a representative of each of the potentially affected interests and they go essentially through a dry run of the public hearing. If they learn of any new concern of any significance that some interest has, and that they have not yet done

their best to resolve, they postpone the Public Hearing and get to work on that issue.

1F: Open House

The "Open House" provides each PAI the opportunity to ask questions, express concerns, react to what is being proposed and even make suggestions to the technical experts who are responsible for developing a plan or program. The open house is an informal setting which allows for one-to-one exchanges, usually extending over several evenings and part of a weekend, between any concerned and/or interested person and the public officials and professionals. While the PAIs have the opportunity to mill around going back and forth between the displays and familiarizing themselves with the various facets of the proposed plan or plans, the open house is also productive in getting the PAIs' viewpoints and perceptions communicated to the professionals.

Find a public building, if possible one that most people are familiar with, for holding the open house. It is important that the open house be held at a time when most people are off work, i.e., evenings as well as weekends. Advertise it through the various available media channels. Since one of the purposes of the open house is to give the PAIs an opportunity to react to what is being proposed, it is necessary that the professionals have done their homework, and are ready to display all of the various options that can lead to a solution. It is essential that the project manager, as well as key specialists be present. It has to be expected that someone will ask a highly technical question that only the specialist is prepared to answer; if at all possible, an open house provides answers on the spot.

Care should be taken to have the displays presented in a way that they are readily understandable to the layman. We recommend that hand-outs of the displays be prepared for people to take home for further examination. Before leaving, have the PAIs give written comments and suggestions and have them further identify the preferred alternative with reasons given for their first choice.

Caution must be taken to not mislead the public into thinking that the most popular alternative will be chosen. The open house is not a popularity poll; it's an opportunity to have questions answered and to communicate ideas to the experts. The decision-makers have the responsibility for choosing an alternative after taking the PAIs' input and reactions into consideration.

Anything that may contribute to making the open house an informal event that furthers two-way communication, such as refreshments, should be incorporated in its design.

1G: *Town Meeting*

In recent years we have seen, on occasion, a so-called town-meeting on the evening network news. Congressmen and senators returning to their home states for a sojourn are making use of this CP Technique. Former President Carter initiated some of the most widely seen Town Meetings during his term in office. These public officials use Town Meetings as a tool to stay in touch with the grass roots.

In order to attract large gatherings of people, Town Meetings must be well advertised through the major communications channels.

The Town Meeting should not be used for speech making. It is a more useful method for public officials to listen to what the people have to say on current issues, what their sentiments, feelings, their aspirations, their hopes and their dreams are, and to engage in some two-way dialogue.

The setting is generally semi-formal; to some extent, the presence of the media adds formality. One of the prime reasons of a Town Meeting is to give people a chance to see their public officials and to actually get to ask him or her a question or two. It is important that the public is made to feel the input it makes is received with sincere interest. At times, public officials are tempted to answer all the questions on the spot. Public officials should resist this temptation. To answer a question to which one doesn't know the answer is a fast way for a public official to have his credibility undermined. Another danger is to give speeches and defend a position. This too fails to make the best use of the technique. The stress in the Town Meeting should be on **active listening**, on learning from the public.

1H: Samoan Circle

The Samoan Circle is a type of meeting which – as the label indicates – is conducted in a circular arrangement. The uncommon feature of the Samoan Circle is that no one is there to moderate the proceedings. It is a type of meeting that has worked successfully **in extremely controversial cases**, when no one is perceived to be neutral enough to moderate a meeting – i.e. situations where people are utterly polarized. By not having someone there in charge of the meeting, the potential for complaining about the fairness of a moderator is removed. In the Samoan Circle it's the crowd who insists – rather then a moderator or MC – that a reasonably fair process is followed. If one party is given preferred treatment, then his opponents will insist upon the same advantages.

Our friend Larry Aggens, of Larry Aggens Associates, is the inventor of this CP Technique.

The set-up works as follows. In the center of the room is a round table with one microphone and approximately six chairs. Around the table with the half dozen chairs are the chairs for the audience. These too are arranged in a circle. Before the meeting starts everyone takes a seat in the outer circle. The centrally located table and chairs can only temporarily be used by anyone who wants to present his or her point of view to the group. When the person is finished, he returns to his chair in the outer circle. Everyone in the audience has the right to speak. The

rule that one has to get all participants to agree to in advance is that any statement, comment, speech, insult, etc. must be made from one of the chairs at the central table and with the use of the microphone. If the chairs around the table are occupied by speakers who are anxiously awaiting their turns, those in the audience who wish to speak must wait for empty chairs at the table. If someone, however, wants to take issue with a speaker in the center he can stand behind him as an indication of protest and await his turn. The meeting is over when everyone who wished to speak has had his turn.

CP TECHNIQUE NO. 2:
USING CITIZEN ADVISORY COMMITTEES

Basic Principles of this CP TECHNIQUE

Advisory Committees have a great potential as CP Techniques; they can – when they are not abused – accomplish a great deal relative to many CP Objectives. Many people sense this and, therefore, use Advisory Committees as one of their CP Techniques. In fact, the single most common error that's made relative to Advisory Committees is that they are used without enough forethought; agencies – and project managers – commit themselves to their use without having first determined 1) what precisely they want to accomplish and 2) how their Advisory Committee can accomplish it for them.

There is very good reason to give Advisory Committees a lot of forethought before using them. First, creating and/or using an Advisory Committee results in a considerable commitment. Although an Advisory Committee's advice is just that: advice; you cannot solicit advice and then consistently ignore it. Agencies who do that – or who are perceived to be doing that – soon experience suspicion and hostility in their relations with their Advisory Committees. Second, Advisory Committees – to work well – require a lot of time and effort on everybody's part, especially on the agency's part. To choose an Advisory Committee, in other words, is to choose an expensive CP Technique. Third, although Advisory Committees are among the most popular CP Techniques, it is a simple but sobering fact of life that most experiences with Advisory Committees – after an initial two-to-three-year honeymoon – are bad experiences both for the agency and for the potentially affected interests.

The best way we can shed the kind of light on Advisory Committees that allow you to take advantage of their strengths and to avoid their pitfalls, is to examine the different kinds of Advisory Committees that we have observed, namely:

A. Advisory Committees that give popularity-type advice
B. Advisory Committees that give content-type advice
C. Advisory Committees that are made up of a blue-ribbon panel
D. Advisory Committees that are designed to serve as watch-dogs over their advisees
E. Advisory Committees that are designed to build a constituency for the agency's cause
F. Advisory Committees that are designed to de-polarize interests who are at each other's throats and to build consensus among them
G. Advisory Committees that are designed to function as an outside third-party to referee a particular dispute
H. Committees of gophers (actually, "go-fers")
I. Committees of foxes (whose job it is to watch over the chickens)
J. Committees of eager beavers.

2A. Advisory Committees that Give Popularity-Type Advice

The basic purpose of this kind of Advisory Committee is to tell the agency how popular – or how unpopular – a particular idea is.

Elected officials sometimes create this kind of an Advisory Committee when they have to make decisions on an issue that they wish they could let their constituents decide themselves via a referendum. If, in their judgement, they have neither the time nor money to conduct an actual referendum, they may – then – create a "Popularity-Type-Advice-Giving" Advisory Committee. In doing so, they are – essentially – saying: "Even though we can't afford to hold a real referendum among all our constituents, we can accomplish pretty much the same thing by putting together an Advisory Committee that reflects the feelings of our constituency accurately enough where getting that Advisory Committee's feeling for or against specific issues accomplishes – in a quick-and-dirty way – about the same thing as conducting a real referendum among all our constituents."

This kind of Advisory Committee will give advice on the popularity/un-popularity of our issue; e.g. "We are for the adoption of Plan A; we approve Plan B; We recommend the repeal of Regulation X; We suggest the adoption of Standard Y, etc . . ."

Please note several things:

- Decision-makers who use this kind of Advisory Committee, essentially, are trying to turn their decision-making responsibility over to the public.
- One particular abuse this sometimes leads to is that some decision-makers use this kind of Advisory Committee as a scape-goat. When someone complains that they're unhappy with a decision, the decision-makers say: "Oh, don't blame us, we only did what our Advisory Committee suggested we do . . ." This is a cop-out; decision-makers have to stand behind their decisions. Whether they made a decision against the advice of their advisors, or in consent with that advice in no way reduces their decision-making responsibilities. Trying to escape accountability for their decisions is a cop-out, and Advisory Committees that are used for this purpose should not stand for it.
- Although these kinds of Advisory Committees may be attempts at quick-and-dirty referenda, please note they – in no way – approach the one-person one-vote democratic principle of referenda and of legitimate representative government. To be precise a "Popularity-Type-Advice-Giving Advisory Committee" with an appointed membership amounts to a "By-Invitation-Only Referendum" . . .
- Needless to say, because appointment to one of these kinds of Advisory Committees amounts

to receiving a special "voting right" for the appointee – and to the disenfranchisement of all others – who gets appointed, and who doesn't, is the paramount issue in the creation of these kinds of Advisory Committees. In fact, if the issue of who should be on your Advisory Committee – and who should not be on – becomes a major issue of discussion, you are probably setting up a "By-Invitation-Only Referendum." Even in the less-than utopian democracy that we have in the United States, this kind of manipulation of rights and responsibilities is difficult – if not impossible – to defend.

2B. Advisory Committees that give Content-Type Advice

This is a fundamentally different Advisory Committee from the one described in 2A. It is usually created by public officials who are, essentially, saying: "Although we are responsible to solve the problem that we are working on, and although we can and will do that, we really need all the help we can. We think there are a lot of ideas, concerns, issues, etc. that lay people have that really might benefit our problem-solving effort. We, therefore, welcome anybody's and everybody's ideas. We'll listen to, and consider, any idea – no matter what its source or content. If an idea makes sense to us, we'll use it; if it doesn't make sense to us, we won't use it."

This kind of Advisory Committee is created to give substantive advice, advice with content, e.g. "Did you know that in 1923 the area you're proposing to build on was flooded for a month; We have found someone who thinks there are abandoned mine-shafts underneath here; Have you ever considered the following kind of solution, etc. . ."

Note the following:

- The public officials listen to – and evaluate – every piece of advice. They'll use it if it makes sense; they will not use it, if it doesn't make sense. Where the idea came from, how popular – or unpopular – it is does not influence the idea's evaluation.
- The public officials making use of thi kind of Advisory Committee are not giving up their decision-making responsibilities. If they use one of their Advisory Committee's ideas, and it turns out – with the benefit of hind-sight – that it was a bad idea, the public officials have to accept the responsibility for the bad idea. They cannot say: "Don't blame us; it was really the Advisory Committee's idea." They'll have to say: "We thought it was a great idea, but we sure were wrong. . . ."
- If you want to create an Advisory Committee that gives content-type advice:
  1. You'll try to get the most varied views onto that committee.
  2. You'll never try to keep someone off the committee.
  3. You'll want all their ideas.
  4. You do not want the committee to censure itself.
  5. You do not want members to intimidate each other or to inhibit in any other way the flow of ideas to you.
  6. There's no real need for the committee to meet; as long as it generates a lot of ideas and gets them to you in an un-adulterated form, the committee is fulfilling its role. (In fact, requiring a committee to meet, inhibits a lot of its content-type-advice-generating potential.)

Even though there is great stress in the creation and use of this kind of Advisory Committee on its advisory – rather than decision-making – role, there is a distinct tendency for members of any Advisory Committee to regard themselves as having more than just an advisory role. This phenomenon suggests real vigilance on the agency's part, or it will find that the Advisory Committee with which it has enjoyed a 2-4 year honeymoon of constructive, creative interaction is turning into a struggle for power.

2C. Advisory Committees that are made up of a Blue-Ribbon Panel

When the issues that an agency has to deal with are very sensitive and very controversial, and it is unusually difficult to find someone who not only is impartial and open-minded – but who is also perceived to be impartial and open-minded – the agency may try to create an impartial open-minded entity by appointing a Blue-Ribbon Panel as an Advisory Committee. The criteria for appointment are

- an extensive, un-impeachable record of public service
- the respect of a broad spectrum of the various interests who make up the public
- a demonstrated ability to use and supervise a staff of experts to do the necessary investigative homework
- a grasp of the absolute need for as well as the sensitivity and difficulty of getting to the bottom of the issue being investigated.

This kind of Advisory Committee is generally created with considerable public fanfare, and it is given a specific mandate. The mandate is necessary for this Advisory Committee to focus all of its efforts on the specific issue that it is supposed to help clear up once and for all. The public fanfare is necessary for the public to realize:

- that the committee (actually, it's often called the "Commission") has been created
- that its membership is impartial and open-minded
- that it will be investigating the issue in question
- that it will make its own independent findings, conclusions, and recommendations.

Just comparing these first three kinds of Advisory Committees, please note their purpose, their memberships, and their standard operating procedures are quite different. Let's, for example, look at membership:

- Members for a Popularity-Type-Advice-Giving Advisory Committee have to be selected so that the committee accurately reflects the larger public.
- Members for a Content-Type-Advice-Giving

Advisory Committee have to be selected so that the committee surfaces, and communicates, every bit of potentially useful substantive advice.

- Members for a Blue-Ribbon-Panel-Type Advisory Committee have to be selected so the committee can get to the bottom of a complex issue, and so its inherently controversial findings will be accepted by all interests.

Although the logic behind Blue-Ribbon-Panels or Commissions makes eminent sense, and even though more than a few such panels have performed **gallantly** – and have on occasion produced **brilliant** results – more often than not, their findings, conclusions, and recommendations usually get shelved. A thought-provoking, even discussion-provoking, report is usually issued at the end of such a committee's work. What it was really supposed to provoke: ACTION, it usually fails to provoke. Therefore, **before** you set up this kind of Advisory Committee – provided it meets your needs in the first place – be sure to take the necessary steps that will **keep** you and the committee from suffering the frustration of seeing the results of its work just gather dust on a shelf.

2D. Advisory Committees that are designed to serve as Watch-Dogs over their Advisees

Obviously, the only time this kind of Advisory Committee is created is when it is felt that the public officials of a certain agency – or of a certain project or program – can't be trusted; that, unless a Watch-Dog Advisory Committee keeps them honest, they'll be unfair, biased, closed-minded, prejudiced, negligent, . . . etc. The mission, the make-up, and the standard operating procedures of this kind of Advisory Committee are – again – different from the others.

The membership and operations of a Watch-Dog Advisory Committee must be such that those interests who are **not** trusting the agency **without** the Advisory Committee, **can and do** trust it **with** the Advisory Committee.

Because most public agencies work on rather complex kinds of problems, it's hard for lay people to really "check" the work of the agency's experts. Watch-Dog Advisory Committees, therefore, are usually given some training. Although this still does not make it impossible for the professionals to hood-wink, "snow," or simply overwhelm their citizen watch-dogs, it gives the Advisory Committee a better chance to do its job.

A couple of points deserve a special mention:

- When lay citizens get **extensive** training in the field of the professionals they are supposed to "check" on, they really aren't "lay" citizens anymore. And, if the Watch-Dog Advisory Committee was created because the **profession** in question is not trusted by the public, then there's a very real chance that after a while the Watch-Dog Advisory Committee won't be trusted either any more. After all, because of the training they get, they will increasingly talk like – and even think like – the professionals they're supposed to be watching and less and less like the citizens whom they're supposed to be. . . .
- If your agency – or your project – has lost the public's confidence to the degree where a Watch-Dog Advisory Committee is contemplated, **you have a very serious problem** that you absolutely **must** solve. You – most likely – will find through a CP Needs Assessment that there are **several** things that you must do to **establish and maintain your agency's legitimacy** (CP Objectives 1 & 2) and to **establish and maintain your project's problem-solving/decision-making process** (CP Objectives 3 & 4). Creating a Watch-Dog Advisory Committee, unfortunately, does **not** help you accomplish these objectives. . . .

2E. Advisory Committees that are designed to build a Constituency for the Agency's Cause

Sometimes the public officials who are mandated to solve a rather unpopular – but nevertheless important – public-sector problem feel that: "there's a constituency out there in that public, a constituency that really **cares** about this problem, but – unfortunately – it's a **silent** constituency." If these same public officials feel that their chances for successfully solving the problem at hand would be significantly improved if that "silent and invisible constituency" became a little more visible and a little less silent, they sometimes create an Advisory Committee expressly for this purpose.

As is true with **all** Advisory Committees, a committee's mandate, membership, and standard operating procedures have to be designed with its specific purpose clearly in mind, or it has virtually **no** chance for making a constructive contribution to the agency's problem-solving efforts. For example, an Advisory Committee that's stacked with members who are already known to be supporters of the agency's cause – or, who because of their own self-interests could readily be expected to support the agency's cause – does **not** really contribute toward building a constituency. For such an Advisory Committee to be an effective constituency-builder, it needs to also include interests who most people are somewhat **surprised** to see supporting the agency's cause. Only such a committee can begin to demonstrate that there's **more** of a constituency for an agency's work than was evident.

Although this kind of an Advisory Committee – as is also true with all the others – **can** make a very real contribution to an agency's effectiveness, there's also a very real danger in its use. For most public agencies that have difficult problem-solving responsibilities, project implementation has far less to do with the amount of **support** than with the amount of **opposition**. That's, of course, what the concept of a VETO is all about: even a very small minority may be able to veto – i.e. prevent the implementation of – the agency's project or program The crucial question, therefore, for agencies who **can** be vetoed is not: "How much support is there for your proposals?" but: "Are the opponents to your proposals willing to

put-up with your project – which they probably still oppose – or are they so **fiercely** opposed that they'll stop at **nothing** to try to veto the implementation of your proposals?" Therefore, your ability to prevent vetoes – rather than your ability to generate support – more than any other single public-sector problem-solving/decision-making skill that you may be able to contribute as an administrator, in the long run, determines your agency's effectiveness. Now, the problem with creating an Advisory Committee for the purpose of building a constituency for the agency's cause isn't that it hurts to build a constituency; of course it helps to have a constituency that's heard and that's visible. But, a public agency that has really tough – even unpopular – problem-solving responsibilities and that is preoccupied with organizing its supporters, rather than with earning the grudging respect and tolerance of its opponents fails to understand **how VETOES work, and how they are prevented.**

2F. Advisory Committees that are designed to De-Polarize Interests who are at each other's throats and to build consensus among them.

Public officals who create this kind of Advisory Committee do so because, as they see it, some of the potentially affected interests disagree so fervently and are so polarized that they will not be able to evaluate our proposal on its merits. Unless we find ways of de-polarizing these interests at least a little, and unless we develop consensus on some key issues – even among those who are virtually at each other's throats we are doomed; our proposals **can't** be implemented unless, and until, we get some of these interests to stop playing their "Win-Lose" kind of gamesmanship.

Public officials who perceive this to be one of their difficulties, of course, need to do something to change the situation. Creating a de-polarizing/consensus-building Advisory Committee is one of several possible CP Techniques they may want to consider using. Please note the following, if this kind of Advisory Committee is to make a constructive contribution to your problem-solving efforts:

- The make-up of the committee has to include the polarized interests.
- The committee's operating procedures have to be such that:
  1. The polarized interests actually learn to appreciate that there are several different, legitimate points of view.
  2. The polarized interests are **not** tempted to "grand-stand" and to further polarize their positions.
  3. The representatives of the various polarized interests come to know – if not "like" at least "respect" – each other.
  4. The committee finds, focuses on, and builds upon, **areas of agreement** – no matter how small – rather than focusing on the areas of **disagreement.**
  5. There is the opportunity, to the degree this is at all possible, to establish a long-term, on-going working relationship which – in turn – provides opportunities for making trade-offs, compromises, i.e. log-rolling.
- This kind of Advisory Committee, when it works well, can benefit not only the specific project, or agency, for which it was set up. It tends to contribute toward a general improvement in the whole public decision-making environment because the polarization of interests – obviously – can infect the entire governmental decision-making climate.

Although this particular kind of Advisory Committee is primarily designed for the situation where several of the potentially affected interests are at each other's throats, it may even have application when the public agency in question is – or is perceived to be – one of the polarized interests. (CP Technique 21, a "Committee of Foxes," is really a special case of this Advisory Committee.)

2G. Advisory Committees that are designed to function as an Outside Third Party to referee a particular dispute

This kind of an Advisory Committee is sometimes set up by public officials who are stumped by an unsettled dispute either between themselves and an interest or between a couple of the interests. If the dispute is of such a nature that it is best settled by a third party, i.e. an un-biased, open-minded referee who is respected and accepted by all parties, this kind of an Advisory Committee might serve the purpose.

Please note that this kind of an Advisory Committee is, essentially, a variation on the "Blue-Ribbon Panel" (i.e. CP Technique No. 2C). The main difference lies in the **scope** of the issues or dispute; we generally refer to a "Blue-Ribbon Panel" when the scope of the issues to be investigated and to make recommendations on is quite big: e.g. the Kerner Commission's Report on Civil Disorder in the 1960s, or the more recent Presidential Commission's Report on the Three-Mile Island Nuclear Accident; the Third Party Referee-type Advisory Committee on the other hand is given a much more narrowly defined dispute or disagreement to look into and to advise on.

Virtually all of the do's and don'ts affecting membership and standard operating procedure that applies to the Blue-Ribbon Panel Advisory Committee also applies the Third Party Referee Advisory Committee.

The fact that this kind of Advisory Committee is a "mini-version" of the Blue-Ribbon Panel in no way suggests that it is, somehow, an inferior CP Technique. In fact, this kind of Advisory Committee has a **better** track-record of having its conclusions and recommendations **implemented** than do the bona-fide, full-blown, big Blue-Ribbon Panels.

2H. Committees of Gophers (Go-Fers)

Virtually all of the traditional kinds of Citizen Advisory Committee's various responsibilities reduce down to **one** primary responsibility:

– to advise the public agency's technical team, i.e. its experts.

A Committee of Gophers, on the other hand has **three** primary responsibilities. And, unless **all three** functions are successfully carried out, it's **not** a Committee of Gophers – no matter what label you hang on it:

1. **The Committee of Gophers carries messages from the agency's technical team to each of the potentially affected interests.** It keeps all of them informed about **what** the experts are doing, **how** they're doing it, and **why** they're doing what they're doing. This kind of Advisory Committee, in other words is a major "outp it" channel for the agency.
2. **The Committee of Gophers carries messages from each of the potentially affected interests to the technical team.** It, thus, is also a major "input" channel communicating potentially relevant information about values, views, concerns, priorities, suggestions, ideas, questions, etc. from the various lay interests – via the gophers – to the experts.
3. **Members of the Committee of Gophers also are responsible to make their own personal input – i.e. advice – to the agency.**

In the typical Advisory Committee, obviously, a committee member has only this third responsibility; he is presumed to "represent" an interest or point of view. In the Gopher Committee, a committee member is **not representing** an interest, he cannot "speak for" – or "on behalf of" – the interest group that he, in fact, belongs to. He can only represent his own views. Agencies who use this kind of an Advisory Committee do so because they realize that, in the case of their potentially affected interests, there really aren't any "representatives" who can make agreements that will be **binding** for those interests. They, therefore, see the need for someone **to inform the members of each interest** about what's going on with the project – by carrying messages from the technical team to them –; and, they also see the need for messages being carried from the members of each interest – who, after all, may **not** all share the same views – to the experts on the technical team.

Members of a Committee of Gophers, thus, are primarily message-carriers, go-betweens, helpers who are able and willing to run errands. They have no "power," no "clout." They "go for this," and they "go for that" . . . they are "Go-Fers." Membership on this kind of Advisory Committee is **not** a matter of prestige – as it often is in the case of membership on the more traditional Advisory Committee –; it's all a matter of work, of being able and willing to contribute to helping the public agency in question find and implement the best feasible solution to the problem at hand.

Don't get hung-up on the **name** that you give this Advisory Committee – provided it makes sense for you to create one:

- It doesn't really matter all that much what you call the committee.
- You, obviously, don't have to call its members gophers.
- However, they better **be** gophers – and they better understand and accept that role. They better have **no** visions of grandeur, "power," "clout," prestige, etc. . . because they'll definitely fail to fulfill all three of their crucial roles.

Public officials who have used this kind of Advisory Committee tell us that – even though this kind of committee, when it's working properly, does an incredible amount of work for the agency – it also requires a considerable time and financial commitment on the agency's part. About the minimum effort that the agency can put into this kind of Advisory Committee, to make it function properly, is the equivalent of one full-time staff person. This, of course, means that this is a rather big and expensive CP Technique. If you try to create, and operate, a Committee of Gophers with less of a resource commitment on your part, the committee is likely to deteriorate into a traditional Advisory Committee which generally carries out only one of the three functions of a proper Gopher Committee.

Even though this kind of Advisory Committee appears to be all work and no fun for its members, there are plenty of potential gophers who are both able and willing to work and contribute. It used to be that the well-educated, but bored, middle-class housewife was the main resource for this CP Technique. Increasingly, she is pursuing a career, sometimes because it requires two incomes to continue to support her family's life style, sometimes because she finds it both necessary and rewarding for her personal self-fulfillment. Although this has drastically reduced the numbers of able and willing contributors from the ranks of the housewives, they still continue to be a greatly under-used resource. All they will – and should – demand from you is that you **not** waste their time, that their work **not** be in vain, that their efforts **will make a real and visible contribution** to getting the problem at hand solved. Another, and quickly growing, resource for dedicated, sincere workers for this kind of Advisory Committee are retired people. They should – and do – make only the same well-wanted, perfectly understandable, demands on you as we outlined above for housewives.

2I. Committees of Foxes

The expression "Now they've put the foxes in charge of guarding the chicken coop" is usually reserved for the rather sinister case where the very interests who are intent on destroying – or who, at least, **are perceived** to be intent on destroying – a particular program or agency are put in a position to run or oversee that program or agency.

Some public officials create and operate Advisory

Committees that – at least on the surface – embody the concept of putting the fox in charge of the chickens. And, it's not necessarily a sinister plot at all; many a seasoned public official claims that, in fact it is good strategy. Here's how they see it:

- They find themselves with the responsibility for solving some really important, hard-to-solve, tough, unpopular public-sector problem.
- They know from experience that no solution will satisfy all the potentially affected interests; every solution is bound to step on some interests' toes.
- They, therefore, know that they are bound to have some opponents, no matter which of the alternative solutions they try to implement.
- They also know from experience that virtually every one of the potentially affected interests – if he really wants to – probably can prevent project implementation temporarily or veto the project outright.
- They know that they are doing their level-best to be fair, open-minded, unbiased, responsive, responsible, etc. in their efforts to solve the problem that they're charged with solving. They also know that at least some of those interests who – in the final analysis – will suffer as a result of the agency's actions, are likely to see them as having been unfair, closed-minded, biased, unresponsive, irresponsible, etc.
- They, therefore, say to themselves: "If the very people who – in the final analysis – probably will have to suffer as a result of our actions were in a position to critically preview:

  1. What we do,
  2. How we do it,
  3. Why we do what we do, etc. . .

  then they would come to appreciate that we are fair, open-minded, unbiased, responsive, and responsible. The very people who are likely to be our strongest opponents would, thus, wind up giving us their grudging respect and acceptance – if not outright support."

Obviously, only public officials who really are confident that their work can withstand the constant scrutiny and review by their harshest critics dare to create and use this kind of Advisory Committee. They are, to our minds a gutsy breed of public officials.

Right in line with that gutsy attitude, they generally make no bones when they create their Committee of Foxes about their motive; they let their likely opponents know that they are asking them to serve on their Advisory Committee because they recognize them as well-motivated critics. And, they don't try to hide the fact that they fully expect to not only listen to their "Devil's Advocate" advisors, but that they are also confident that their work can – and will – meet these extremely critical advisors' acceptance, if not outright approval.

Our reason for pointing out the "up-front" gutsy style of most public officials whom we have observed using this kind of Advisory Committee is not just an incidental observation: We suggest that, unless you can see yourself operating in this – for some public officials – somewhat nervy style, don't try to use a Committee of Foxes! If you are going to use this CP Technique at all, be 100% candid and up-front about it; don't try to be secretive or manipulative with it because it's sure to backfire that way.

2J. Committees of Eager Beavers

Although any Advisory Committee that is carefully enough designed and operated has the potential for contributing significantly to an agency's effectiveness, a Committee of Beavers really takes that cake. There's an example, as it was related to us by a public official who created such an Advisory Committee for a program that she is responsible for:

A human resource planner in the Midwest who was responsible for identifying, analyzing, and solving a range of problems that had reduced – or that was threatening to reduce – the quality of life of elderly people in a two-county rural area, created among other things a Citizens Advisory Committee to her program. The committee quickly was filled by people who took an interest in the problems of the elderly, and who had knowledge and/or other resources they could bring to bear on helping to solve some of the older people's problems. The committee met frequently and, within a matter of a few months, had prepared:

1. a relatively comprehensive list of problems that – they felt – ought to be addressed,
2. a rather ambitious list of programs that – they felt – needed to be initiated by their advisee, the Agency on Aging, for mitigating and/or solving the major ones of these problems.

Right in the process of formally presenting its list of suggested programs, the Advisory Committee stopped itself by saying something like: "Oh my gosh, although these programs really are needed, and even though these programs – if executed well – really would solve some of the elderly people's most serious problems, you with your one-person staff cannot possibly carry out all of these programs. We're kidding ourselves if we think that our development and presentation of this list of needed programs is going to get those programs implemented. You don't have the necessary resources, and you never will have them! . . . But wait a minute, we really could make these programs happen; we as volunteers do have the resources: We can put together a group of individuals who can operate our proposed "Rural Van" system that sees to it that older people who live on isolated farms and who no longer drive can get to town at least once a week to do their shopping and other errands. We can put together another group of volunteers

to operate our proposed "Meals on Wheels" system for the shut-in older people who no longer get proper nutrition if left completely on their own; etc."

Instead of just being satisfied to play the normal role of advising the public agency on what it ought to do, this kind of Advisory Committee grabs the ball and runs with it. This kind of Advisory Committee has to have **eager beavers** in its ranks – people who are so motivated to help solve the problems which their agency advisee is dealing with that they are willing to put their own shoulders to the wheel if that's what's necessary to really get the problem solved.

Although we chose to describe this particular kind of Advisory Committee via an example, our example is far from unique. In problem-solving areas – such as in human resource planning – where there generally are far more needs than resources, it is not uncommon for a public agency to organize Committees of Eager Beavers.

The Eager Beaver type of Advisory Committee, in fact, is an appropriate way to illustrate **the incredibly wide range of fundamentally different Citizen Advisory Committees** that we see operating across the country. On the one extreme, we see cases where a Citizens' Advisory Committee is confusing "the right to be heard" with "the right to prevail"; such an Advisory Committee tries to usurp the decision-making powers and responsibilities of the appropriate public officials. These situations – no matter who is at fault for the confusion and misunderstandings: citizens or public officials – are sure-fire recipes for mutual frustration. On the other extreme, we see cases where a Citizens' Advisory Committee is so turned on and motivated to help the agency getting the problems at hand solved, they become eager beaver doers . . . In between these two extremes, we see a great diversity of things happen with Citizens Advisory Committees – some good, some bad, some ingenious, some stupid. If you will first analyze via an absolutely penetrating and uncompromising CP Needs Assessment as to which specific CP Objectives you need to make progress on the most, and if you will then – and only then, i.e. **after** such a CP Needs Analysis – explore which CP Techniques, including, which kinds of Advisory Committees, can help you achieve your specific top-priority CP Objectives, then you will discover that Citizens Advisory Committees have the potential for significantly enhancing your agency's effectiveness.

If, on the other hand, you choose to do what most public agencies do: choose to create and operate a Citizens Advisory Committee **without** first assessing your CP Needs, and without carefully designing and operating your Advisory Committee with your specific objectives in mind, you'll discover what at least 95% of public agencies discover with Advisory Committees that have existed for more than a few years: you may have created a monster . . .

CP TECHNIQUE NO. 3: CONDUCTING A NOMINAL-GROUP WORKSHOP

Basic Principles of the CP TECHNIQUE

This technique is built on the premise that any reasonably representative group of people who are concerned with a project, **can** identify virtually all of the problems associated with that project, and **can** make the individual compromises that are necessary for coming up with a **single** list of priorities or preferences.

Key Features of this CP TECHNIQUE

The complete workshop should include **at least** 25 individuals representing pretty much all of the interests who are concerned about the project in question; preferably, the group is larger.

A workshop coordinator makes a background report or presentation which is aimed at giving all of the lay people a reasonably solid background of information; the presentation needs to raise as many project-related issues that the project staff is aware of, but it should not try to foster a particular point of view or position.

After all participants feel that they have a fair understanding of the project, they are assigned to small (Nominally small) groups of 4-7 people, and each of these groups convenes at a table of its own. Each individual, working by himself and without talking to anyone, fills out several blank 3 x 5 cards. He writes on each card:

1) One major issue that, he feels, needs to be dealt with
2) Several points that, in his mind, make this particular issue an important issue.

After every person has filled out as many cards as he can think of issues, the group around his table starts making a **combined list** of issues. They do it in this manner:

- Taking turns and going around the table, each person calls off **one** of the issues that he has filled out a card for, and he explains his reasons for considering this an important issue.
- One of the group's members writes down the issues as they are called out with a felt-tip marker, in large letters, on butcher-paper.
- Members keep taking turns around the table listing issues until everyone is out of issues. Obviously, each member will not only discard the 3 x 5 cards on the issues that he adds to the list, but when one of the other group members calls out an issue that others also have filled out a card on, they too discard that card. They should, however, mention reasons that they have noted down if someone else doesn't give those same reasons.

After all groups around their individual tables have completed their listing of issues on the large sheets of butcher-paper, all of these papers are hung

up on the walls so everyone in the room can read them from their seats.

Next, ballots are handed out. Each individual votes on what he thinks the several most important issues are. For example, if some 20 or 30 different issues are listed on the combined posters, the ballot should ask for about the five most important ones. If the posters combined list some ten issues, the ballot should ask for the two or three most important issues.

After the ballots are counted, the issues with the highest number of votes are listed in the order of the number of votes each received.

At this point, there is discussion – guided by a moderator or coordinator – in which people are asked to lobby for or against issues.

After a round of lobbying, the vote is repeated, and the resulting new priority listing is posted. If the last round of voting produced considerable change in the priority listing, the group may want to hold another round of discussion and lobbying – followed by another ballot, etc.

Variations of this CP TECHNIQUE

There are almost endless ways to vary this basic technique in order to suit the needs of any particular group of people and/or issues.

Disadvantages of this CP TECHNIQUE

The resulting priority list **cannot** be used as a real decision on behalf of the community unless the participants happen to be the governmental body that has the legitimate decision-making responsibility for the issues at hand.

Advantages of this CP TECHNIQUE

The technique, if conducted properly, is bound to bring to the surface not only any major concern that the participants have, it also allows for a concrete way for people to express their subjective preferences. An alert project team – as well as the lay participants – can learn a lot from each other through participation in this technique.

The inventor of the nominal group technique is André Delbecq. One of the texts he and others published on the subject is *Group Techniques for Program Planning – A Guide to Nominal Group and Delphi Processes*, by Delbecq, A., et al.

CP TECHNIQUE NO. 4: PRODUCING AND RELEASING MATERIALS FOR COMMUNICATION TO THE PUBLIC

Basic Principles of this CP TECHNIQUE

Your agency may need to produce materials for release to the mass media if it does not want to depend entirely on the initiative of reporters to get its message out. Because it is your responsibility to see to it that agency information is communicated to the public, and because mass media coverage is a very convenient way to reach a great number of interests, you should make the most of this technique.

Key Features of this CP TECHNIQUE

What the content is of a release to the mass media should, of course, be determined by the particular CP OBJECTIVE that you are trying to accomplish. But, because releasing information and getting it printed without harmful editing are two separate things, you will also want to consider the content as well as format of the material you prepare with an eye on making it attractive for complete use to the media editors. There are several things you can do in this direction:

- Establish a working relationship with at least one reporter. Most public officials do not recognize of what value it is to a reporter to have a reliable news source. It is in both parties' interest – the agency who wants to release information to the public and the reporter who is always on the lookout for interesting news – to establish such a mutually beneficial relationship over time. The prerequisites to a symbiotic relationship are not too often present; in this instance they are.
- Get the appropriate mass media to do fairly extensive coverage of a "documentary" or "white-paper on the backgrounds of key issues that will be brought before the public in one form or another (e.g., issues that will be brought to a referendum or to a public hearing).
- Develop reasonably complete background studies on complex issues; illustrate them well; provide interviews with key people that can be inserted as good vignettes; and – most of all – make it very obvious that you are **not** presenting a one-sided picture, that you do **not** hold back potentially embarrassing information. (Unless you are willing and able to follow this last recommendation, the media will view the material that you prepare for release as probably being one-sided and self-serving. They will, then, feel obligated to edit it and/or to balance it with material expressing opposing views.)
- In short, see to it that you are not only the most convenient but also the most reliable and unbiased source of information.

The press, of course, bears some responsibility of having contributed to the paranoia of public officials who feel that everytime a mistake is admitted the media jumps at the opportunity blowing it up out of proportion.

Some basic ground rules that you should observe:

- Always put the information in its proper context, make the meaning of any announcement clear by giving sufficient background information. (Assume the reader is not familiar with the issue.)
- Be concise; send a few short, well-presented messages rather than a big, complex, combined message. (You should assume that the reader has a short attention span.)
- Clearly distinguish fact from opinion. While opinions – or ways of interpreting certain facts – can and should be communicated, you must be careful that you don't label them as facts.
- Avoid any and all jargon; A good rule of thumb

is: "Use only expressions and words that your mother – who happens not to be a planner – would understand."

Laws generally require that a great number of issues have to be announced in the local papers before certain decisions can be made or before certain actions can be taken. Governmental agencies, therefore, take out space in the local papers to run formal legal ads for the periods and dates required by the particular law. This covers them legally; they thereby satisfy the letter of the law. But, the law is not really designed to insure effective communication with all of the potentially affected interests; it is only designed to prevent a decision or action to be taken in virtual secrecy; it is a very **minimum** communications requirement. If your agency has a real need to communicate with various interests – especially, if you need to communicate to them some fairly complex issues – you should not kid yourself into believing that a legal notice can effect real communication. You should then prepare interesting and informative articles to be used by the media as described above. If the media fails to run such articles, you should consider taking out some large ads in which you present virtually the same articles.

Variations of this CP TECHNIQUE

For Factual Information

Legal Notices – usually are not enough to inform anyone of anything; they should be viewed strictly as a legal requirement rather than a communications device.

Paid Advertisement – should be used to advertise meetings and other events if it is not possible to get more complete releases printed as news or feature articles.

Formal News Releases – are best suited to announce newsworthy developments and decisions. If well-timed and well-designed, they can help you keep the agency and/or the project in the public eye.

Store-Front Displays and Civic Bulletin Notices – lend themselves best to display graphic material such as models and renderings that the public needs to familiarize itself with.

Mailed Notices and Hand Bills – can be used to reach some narrowly targeted group such as the people living in a particular neighborhood, or the people belonging to a particular group, – it tends to be too costly for general publicity.

Feature Articles, Documentary Movies, Video-Tape, and Slide Shows – best for developing background information on reasonably complex issues, and for describing the history of a long-term project.

Sound Trucks – are effective attention-getters for very brief messages.

For Opinion

Appearing on Radio or TV – To participate on panel discussions, to debate, or to editorialize, – is an effective way to communicate opinion and it is a legitimate format for you to express your opinions.

Writing Letters to the Editor – of your paper, especially in response to recent developments and to other published letters, in a way of letting the public know your position.

For Factual Information and Opinion

Well-Informed News Coverage – is initiated by the media. Your agency can encourage this by letting your reporter contact know about events that are newsworthy and of interest to the community.

Formal News Conferences – are, essentially, staged affairs. You need to have a very newsworthy development to report, to justify calling a news conference. The announcement of the news conference must generate such interest that a) a considerable number of reporters will want to attend and b) the newsworthy development needs to be of a nature that will make the reporters want to ask a lot of questions.

A Regularly Written Column in a Newspaper or Magazine – is one of the most effective devices for a public agency to keep its side of an on-going two-way conversation with the public.

Agency Reports or Project Reports – constitute important documentation of **what** is being proposed, **why** it is being proposed, and **how** you arrive at this recommendation. Don't repeat these frequently made mistakes:

- Because you are all wrapped up in your project, you tend to forget that the world does **not** turn around your project or even around your agency; not everyone who will read the report is as well versed on the project's history, etc. as you are. Therefore, **assume the reader knows nothing**; make the report sufficiently comprehensive – which does **not** mean lengthy or complicated – so the reader can understand the project reasonably well on the basis of the report alone.
- Even though it may appear to you when you wrap up a study and write its final report that your report just had the last word on the subject, that no one will ever want to – let alone need to – say anything more on the subject; but, chances are, your report **will** become outdated. Please admit this by **putting a date on the report.**

Some agencies who need to report in a fairly comprehensive manner on a project, and who put a high priority on having the man-on-the-street read and understand the report, have come up with some rather ingenuous devices. One problem with the man-on-the-street, i.e., the average citizen, is that he tends not to read reports. Most reports look like books, and a great number of people clearly shy away from reading a book that's not a best-seller. Most of these same people, however, **do** read newspapers and magazines – particularly if they are well illustrated. Thus, if you want your report widely read, you may find it

advantageous to print it in the format of a newspaper or a magazine. We know of at least one large City Planning Department that published its City Comprehensive Plan in the format of a colored Sunday Supplement to the city's major newspaper.

Advantages of this CP TECHNIQUE

The public is more willing to believe what you say if it feels your agency has an open mind and is able to present all sides of an issue.

Well-informed people are less likely to believe rumors because they do not have to rely on rumors for information.

Disadvantages of the CP TECHNIQUE

Your public statements must be consistent with your actions; otherwise, the people cannot be expected to believe your releases for very long.

Your statements can be used against your agency. Careless public remarks by any management-level agency employee can have repercussions for the entire agency.

CP TECHNIQUE NO. 5: PUBLISHING A PROJECT NEWSLETTER

Basic Principles of this CP TECHNIQUE

As a project gets under way and proceeds, your project staff will know of a growing list of agencies, individuals, groups, institutions, etc. who need to keep abreast of how the project is progressing and what issues are cropping up over time. One of the most convenient means for keeping all of these people reasonably well informed without a huge communications effort on the project staff's part, is to issue a Project Newsletter on a regular basis.

Key Features of this CP TECHNIQUE

Someone on the project staff is given the responsibility of writing up on a regular basis – say once a month – a brief Project Newsletter. He also maintains a comprehensive mailing list of all parties who need to – and/or want to – keep abreast of the project's progress.

A couple of things that should be kept in mind in writing such a Newsletter:

- Most of the readers are lay people, not professionals. Without "talking down" to them, aim the writing to these lay readers; do not use the insiders' shop-talk; don't use abbreviations unless it's really clumsy not to do so – and even then, be sure you explain them.
- If the Newsletter is to be read, it needs to contain real news – more specifically: news that's of interest to the Newsletter's readers. If there are news of interest around that happens not to be project-related, include it.
- Do not use your Newsletter as a propaganda sheet; report embarrassing developments in frank candor. If readers detect a distinct slanting of views in your Newsletter, you will lose most of your readers and the ones you keep will become cynical.
- Remember that the Newsletter's mailing list will probably constantly expand; you will have new readers – people who hear about the project for the first time – at every stage of the project. You can do two things for these people:
  - Write up a special "Introductory Issue" of the Newsletter, one that is designed to brief the newcomer, and send it to every individual when he first shows up on your mailing list. This "Introductory Newsletter" needs constant up-dating (or at least its last page does) so that it tells fairly well what has been happening on the project, right up to the current time.
  - As you write each current issue, be cognizant of the fact that some person who is not familiar with the project is likely to pick up and read the Newsletter. Thus, write it in such a way that he too can understand it.

In an effort to distribute the Newsletter to everyone who is interested in the project, agencies often wind up sending their Newsletter to addresses and individuals who no longer have any use for it; here is one suggestion. Many agencies are afraid to "clean up" their mailing lists; they fear eliminating people from the list who still are interested. Newsletters that cost something, of course, don't have this problem. If an individual does not care to receive a particular Newsletter any longer, he certainly is not going to continue paying for a subscription. You can take advantage of this simple principle even though your Newsletter is free. You should require that your Newsletter subscriber periodically – say, once a year – send in an "address-currency" card. By sending in this card, they can continue to receive the Newsletter; if they do not send in a card at least once a year, they are dropped from the mailing list. This system works just like a subscription renewal, even though the subscriber has to make only a very token effort to continue receiving the Newsletter. He will not make that effort if he does not care to continue receiving the Newsletter.

CP TECHNIQUE NO. 6: NAPOLEON'S IDIOT

Basic Principles of this CP TECHNIQUE

This technique is built on the realization that it is relatively easy for you to say what you mean, but that it is extremely difficult to say it in such a way that the other person gets the precise meaning of what you said. – If it weren't for this fact, "misunderstandings" wouldn't play the big role that they do in big and little affairs of our daily lives. One of the people who realized this principle and whose military and political success depended very much on not being misunderstood was Napoleon Bonaparte.

A story has it that Napoleon kept a not-too-swift orderly around him, on whom he checked the effec-

tiveness of his own communication. He did it in this manner: Whenever he was about to send an order to his generals in the field, he would first have his orderly read the order, and then have the orderly tell him **in his own words** – i.e., in the orderly's own words – what his interpretation of the order was. Only if his orderly could interpret his order without distorting his meaning in any way, would Napoleon send the order. If his orderly read some meaning into it that Napoleon had **not** intended, he'd re-write the order and try again.

Key Features of this CP TECHNIQUE

Although it is believed that Napoleon purposely used a slightly retarded – or at least uncommonly dense – individual to check the effectiveness of his communication, most agencies may find it awkward if not difficult to hire an individual for his "denseness." But, if the individual who is to be used as "Napoleon's Idiot" is an expert on the subject, the check might not really work because then there is the distinct danger that the intended recipient of the message is **less** perceptive than "Napoleon's Idiot" and he therefore fails to fully understand the message.

The way one can get around this problem is to follow pretty much the procedure that has been ascribed to Napoleon, but to use someone whose field of expertise is different from that of the intended receiver of the message and of its content. For example, the project's quality control engineer who is sending a directive to the field engineers – about new inspection policies and procedures – might use the project's citizen participation coordinator who happens to sit in the next office as his "Napoleon's Idiot." Conversely, the citizen participation coordinator, who is about to release a story to the press about the agency's policy on relocating businesses and residences, might use the project's quality-control engineer as his "Napoleon's Idiot."

Variations of this CP TECHNIQUE

Some agencies have used a variant of this technique. For example, the lay participants to a project meeting are asked to write a letter describing the proceedings of the meeting **in their own words**. This letter is then to be forwarded to the public agency which will check for possible misunderstandings or misinterpretations.

Disadvantages of this CP TECHNIQUE

This technique is so simple that – despite its effectiveness – people hesitate to use it.

CP TECHNIQUE NO. 7: INFORMING THE PUBLIC ABOUT YOUR DECISION-MAKING PROCESS

Basic Principles Behind this CP TECHNIQUE

Presumably you are pursuing the fulfillment of your legitimate responsibilities, and – in so doing – you are using a decision-making process that deserves public support. If there is a lack of public support for your agency, and for the decision-making process that you are using, this is probably primarily due to the fact that people do not realize the process' fairness and actual adequacy.

This CP TECHNIQUE, therefore, is designed to let the public in general – but particularly the various interests who may be affected by your actions – know what your responsibilities are and how you are going about meeting those responsibilities.

Some of the basic CP PRINCIPLES that you should have in mind in determining whether some version of this CP TECHNIQUE should be used in your CP PROGRAM are:

- Having a "good" technical solution to a big or complex problem **is not enough to obtain SEACA** among the potentially affected interests; to obtain SEACA requires, first, that a CONSENSUS exists among the potentially affected interests: a) that the agency does have a legitimate responsibility and authority to work on the problem that it is trying to solve; and b) that the agency is using the most appropriate decision-making process to come up with a solution.
- Because virtually all public agencies – as well as most private entities – **are** pursuing their legitimate responsibilities with the best feasible planning processes, **it is relatively easy to develop a CONSENSUS** among the potentially affected interests, – **provided an effort is made** to inform those interests about what the agency's responsibilities are and what processes it is using.

Key Features of this CP TECHNIQUE

First, you had better make sure that it is completely clear to you:

- What your agency's responsibility and authority is relative to solving the problem at hand;
- What your planning process is for coming up with a solution.

The best way to make sure you know what they are, make them completely explicit:

- Describe them in brief, concise written statements.
- If appropriate, describe them with suitable graphics, slides, film-strips, tapes, etc.
- One way to make your planning process descriptions more understandable for the layman, is to build into it – and to describe it in terms of a sequence of activities and major "Decision-Points."

Each Decision-Point, then in turn, is described in terms of:

- Who makes **what decision**?
- On the **basis** of what information and **criteria**?
- When?

One thing you need to observe religiously in the development of these write-ups, etc.: Avoid all jargon; speak in terms that the man-on-the-street knows what they mean. You are **not** trying to impress him with

the complexity of your field; you are trying to communicate information to him. Then, use these explicit descriptions as the basis for reviewing:

- What, why, and how you are doing your work.
- How far along you are today.
- What major events – or Decision-Points – have transpired to date.

Use every occasion that you can find for presenting this review. For example:

- Include at least a synopsis of this review in every media release that you make.
- Open all public presentations – be they in a formal setting, such as in a public hearing, or be they in a more informal setting – with the most appropriate version of this review.
- If your operation is such that you have people representing various interests come to your offices for one reason or another on a fairly regular basis, prepare a permanently mounted display – in a meeting-room or in some other appropriate space – depicting in a readily understandable way:
  - What your responsibilities are.
  - How you generally go about meeting them.
  - How you specifically are meeting them in the case of the project you are working on.
- You may want to publish this information via such media as a Sunday paper insert. To make this work, you need to write an interesting feature-article which, in a way, may be the "excuse" for the article.
- Because it is particularly important that other public officials have a reasonably good grasp of what your agency is all about, you may want to institutionalize the practice of inviting all newly elected and appointed officials to receive a briefing on what your agency is doing, how and why it is doing it. In order to make this work, you may need to invite them on the pretext of wanting to solicit the new public officials' "input." (While you may, in fact, **want to** solicit their input, it's no crime to ask for their input even if you are quite sure they don't want to make any such "input," if it gives you the opportunity to inform them of what your agency is all about. Just don't make the mistake of **requiring them** to react because, if they really don't want to make any input, such pressures will make them very uneasy.)

Disadvantages of this CP TECHNIQUE

If your planning process is such that it really can't stand the light of day – i.e., if it is such that, the more the public understands about it, the less they like it – then the use of this technique will hasten the day you will have to come to terms with the legitimacy and appropriateness of what you are doing.

CP TECHNIQUE NO. 8: MAPPING SOCIO-POLITICAL AND ENVIRONMENTAL DATA

Basic Principles of this CP TECHNIQUE

Data which are typically only available in tabular form, may be very difficult to assimilate for the layman. One way to communicate such data to laymen is to map it; this technique becomes particularly effective when the mapping suggests geographical patterns.

Data that is mapped on transparent maps, that can then be overlayed to see the geographic overlapping, etc. of different social, economic, political, cultural, and ecological phenomena, can be grasped more readily by professionals and laymen alike.

Key Features of this CP TECHNIQUE

Using a conveniently scaled map of the project area, produce a supply of transparent base maps with key features – such as streets, rivers, boundaries outlined on them. Then map each set of data, put relevant data on a separate transparency by coloring in an area or by shading an area with a distinctive black and white pattern. By overlaying two maps at a time, then three at a time, etc., examine how the different social, economic, etc., features that you have mapped combine. The pattern of overlap – and non-overlap – may be of compelling interest to you in understanding the socio-economic, etc. "terrain" of the project area and – more importantly for us here – it allows you to communicate these rather complex issues of combined factors very readily to lay citizens.

Advantages of this CP TECHNIQUE

- Geographic relationships are readily visualized this way.
- Mapping may show the project team where their data is weak.

Disadvantages of this CP TECHNIQUE

- Some people can't read maps.
- Too much information can be read into a map; data can be "created" by generalizing point-data for whole areas.
- Maps may offend local residents because they are very specific. They may generate controversy if they display information that some local interests would rather not advertise.
- Some data is difficult to map because of the format in which it is available.

CP TECHNIQUE NO. 9: PRESENTING THE PUBLIC THE FULL RANGE OF FEASIBLE ALTERNATIVES

Basic Principles of this CP TECHNIQUE

The various interests who make up "the public"

typically do not articulate their values. What seems to be easiest for the layman is to react. When values are expressed, it remains an open question how valid such statements are. If you, as the professional, can place before that community of diverse interests a whole range of concrete, feasible, understandable alternatives – thus, offering choices – there is little question that people's "real" values will be brought out to bear on these choices. Consequently, one reliable way of getting at an interest's values is to offer a choice among a range of alternatives that corresponds to a whole range of values.

When your project staff members recommend a particular alternative for implementation, they do so because, **looking at all the options** that they perceive, they believe that the recommended alternative is the best course of action. If the public never really gets to examine **that whole range of options**, but only is asked to examine and approve the recommended alternative, it should not be all that surprising when some interests will not support your proposal because they feel that 1) there must be several alternative ways for dealing with the problem, and 2) some of the alternatives might well be preferrable to your proposal. – On the other hand, if the whole range of feasible options is presented to them in a sufficiently succinct, and yet adequately detailed manner so they **can** get a good grasp of them, – they will come, most likely, to the same conclusion that your project staff came to, and the very same people who might **not** be willing to support a project that is presented and proposed by itself will support that same project because now, they too perceive it as being the best of all feasible alternatives.

Key Features of this CP TECHNIQUE

To present "Alternatives" implies that **each** of the possible courses of action that is presented is:

- **Significantly different** from all others.
- Reasonably feasible
- Fully understandable by the kind of layman who is potentially affected.

The "Do-Nothing Alternative" is **always** an available option. It, and its consequences, ought to be the first alternative you present.

An alternative is **not** really a "Real Alternative" if it is **less** desirable than the "Do-Nothing Alternative." To present a whole range of alternatives, thus, must mean to present a whole range of "Good Alternatives" – a range that includes as its **worst** alternative the "Do-Nothing Alternative."

To present the whole range of alternatives does **not** mean to present every possible variant that is only slightly – or insignificantly – different from another alternative. There should be **no more than five or six** alternatives, or else the layman will be overwhelmed. – But, these five or six alternatives need to represent **the entire spectrum** of possible and feasible courses of action.

9A: Presenting the Public the Full Range of Options

One variation that is used more in explaining, generating, and inventing alternatives than in choosing one is to generate "ideal" or "extreme" alternatives. Keeping **only one value** at a time in mind, an "Extreme Alternative" is developed in response to that **one** value. Then, with another single value in mind, a different "Extreme Alternative" is generated for that particular value; etc. Needless to say, these "Extreme Alternatives" – though technically and financially feasible – are not politically feasible. For example: Exploring alternatives for revitalizing a sagging downtown, some of the "Extreme Alternatives" that might be generated and that might shed some light on what the full range of feasible alternatives might look like, are:

- The "Do-Nothing Alternative" (Remember, it's **always** there as an alternative).
- The "Urban-Design Alternative"; one that makes all sorts of physical changes and improvements – large and small – to make the downtown beautiful, pleasant, attractive.
- The "Marketing-Strategy Alternative"; one that takes the approach that a lot could be done just with using the most effective available marketing techniques:
  - To sell the services and products of downtown businesses better
  - To "sell" downtown better as a place to go, a place to be, a place to put one's business, even a place to live
  - To coordinate for maximum overall effect those things that the downtown businesses are currently deciding completely independently, such as:
    - joint advertising campaigns
    - store hours
    - deliveries
    - joint affairs, such as sales, bazaars, festivals, competitions
    - shared parking
    - etc.
- The "Real-Estate-Value-Maximizing Alternative"; one that might have all the small private property owners pool their land holdings in one or several blocks and become stock-holders in the resulting corporation. They would elect a Board of Directors which, in turn, would then be able to make optimum use of the total space – no longer being bound by internal property lines. – They would run the entire complex very much the way a large Shopping Center is run, allowing an individual merchant to move around within the project as his needs and desires change, etc.
- The "Bulldozer-Alternative"; one which would be modelled after the classical Urban Renewal syndrome, where the community acquires the

land and real estate – if necessary by eminent domain – razes many of the buildings, upgrades underground utilities, the circulation system, etc. and then sells the land after a large write-down to developers who agree to put up the kind of buildings, etc. that the city would like to see.

Another major variation of this CP TECHNIQUE is to present a full range of alternatives – all of which are variations on the same theme. In the above example, it might mean to develop and present a reasonably full range of alternatives on the theme of "Real-Estate-Value-Maximizing." Using the techniques in this manner is most useful to get a whole basic concept – such as "Real-Estate-Value-Maximizing" – across to one's audience without getting hung up on one of many alternative ways to execute the concept.

9B: Fish-Bowl Planning

While CP Technique 9A, "Presenting the Public the Full Range of Feasible Alternatives," outlines the most effective ways of getting reactions to different alternatives under consideration from the public, Fish-Bowl Planning is carrying the same idea several steps further.

In Fish-Bowl Planning all the steps in the problem solving, from the very beginning of defining the problem, to setting goals and objectives, to choosing and implementing a course of action etc., are done in such a public, fish-bowl-manner, that all the potentially affected interests are drawn into the process. The technical team, essentially, tries to develop SEACA at each step of the problem-solving process, rather than after the fact. This means those outside the technical team have to be privy to all the inside arguments and discussions, the thinking and agonizing that in planning is typically done by the technical team in a closet is here done in a fish-bowl. The public is presented with the same information as the technical team members and is "brought along" in the thinking of the experts, when it works, the public reaches the same conclusions as the experts do – or vice-versa, the experts reach the same conclusions as the public . . .

CP TECHNIQUE NO. 10:. ILLUSTRATING THE FINAL FORM OF A PROPOSED ALTERNATIVE IN LAYMEN'S TERMS

Basic Principles of this CP TECHNIQUE

It's not infrequent that public officials and the professionals who work for them conclude that: "If the people had really understood what was being proposed, they would not have rejected the proposal." Private developers operating in the public arena hear themselves saying these words just as frequently.

Not all laymen can visualize what a proposed alternative will really be like on the basis of a report and or/a set of plans. Professionals tend to produce planning documents for each other and tend to forget the layman who has no experience interpreting documents. What really puts the cap on this problem is the fact that most people who do not understand a document often will **not** let you know that it's Greek to them. They feel they "ought to know" and, therefore, are too embarrassed to admit that they don't – even if you ask them. Most any project staff, once it recognizes this as one of its problems, is able to go beyond normal efforts to communicate in layman's terms the final form of what the proposed alternatives will be like.

Key Features of this CP TECHNIQUE

Because there tends to be **no single** method of communicating the final form of a proposed project that will be understood by everyone, it is important to use ***several different*** ways of illustrating it. Examples can show this best.

In one country where everyone has the right to express his views about whether a proposed building should receive a building permit or not, 1) the proposer's architect has to put his drawings on file for public inspection, and 2) he has to erect wooden poles on the proposed building site to show where the corners of the building will be, how high it will be, where the roof will start, and what the pitch of the roof will be.

In several states highway departments publish not only maps and plans of a new proposed highway, but also large-scale photographs – from various points of view in the air as well as on the ground. They are so expertly touched up, showing the new highway and precisely how it will look, that anyone who can understand a photograph can also understand exactly what the proposed highway will look like, what buildings will be wiped out, which streets will be cut off, which ones will be over-passed, which ones will be under-passed, etc.

A group of laymen who need to understand the workings of a proposal may best be transported – by bus or plane – to a community where the project being proposed is already in operation. This allows them to talk to lay people who are living with the kind of project your group is only considering.

If the group you'd like to transport to a place where your proposal has already been implemented is too big to take on such a field trip, you still may be able to use the implemented project to better illustrate your proposal:

- You may be able to transport some of the people who are living with an implemented version of your proposal to your community, or
- You may be able to video-tape people at the implemented project.

Variations of this CP TECHNIQUE

One major variation from the above approaches is to execute a **Demonstration Project**. Compared to the above approaches, a Demonstration Project is a major undertaking. If a Demostration Project is really going to demonstrate something, it has to be carefully designed. Questions you should keep in mind include:

- Precisely **what concept or principle** will be demonstrated?
- **To whom** will the project demonstrate this principle or concept?
- Is this project **the most effective way** to communicate the concepts and principles at issue?
- How can we make sure that people will understand that this is a **Demonstration Project**, i.e., something developed for the express purpose of being examined, looked at, tried-on for size, etc.?

Advantages and Disadvantages of this CP TECHNIQUE

Like so many of the other CP TECHNIQUES, this one can cut both ways: If a better understanding of your proposed project on the part of affected interests can increase your chances for obtaining SEACA, you'll find this technique helpful. On the other hand, this technique can work against you. If the public dislikes your proposal, a better understanding of it will only hasten the day your project will run into trouble.

CP TECHNIQUE NO. 11: DEALING WITH THE PUBLIC IN THE AGENCY OFFICES

Basic Principle of this CP TECHNIQUE

Individuals, groups, institutions, even governmental agencies try to make contact with your agency either to get information or assistance from you, or to communicate their views and concerns to you. Some of these efforts are made by phone, some by mail, and some people try to accomplish their purpose by visiting your offices. More often than not, the initial efforts result in making the right contact only after some false starts; in some cases, the person gives up without ever finding the right person who can help him.

This technique attempts to establish procedures and mechanisms to facilitate getting inquiries taken care of with a minimum delay, and without undue effort by your staff.

The technique also recognizes your staff's need to get to understand the various potentially affected interests, and to learn what their values and perceptions are. The technique, therefore, suggests a means for bringing the individual who visits your offices face-to-face with the staff member who works most directly on the issues the visitor is concerned about.

Key Features of this CP TECHNIQUE

The agency which endeavors to be as responsive and responsible to the public as is feasible should consider policies like – or comparable to – the following:

- Respond promptly to an inquiry
  - A letter within a week.
  - In the case of a telephone inquiry, connect the caller with the staff person who can best help him; – or, if that is not possible, have that staff person return the questioner's call within 24 hours.
- Those who walk into your offices should be received by an information officer who is talented in meeting the public, and who is trained to talk about your agency's over-all responsibilities, its project responsibilities, and the processes your agency uses to meet its responsibilities. He should not only be able to answer the visitor's general questions, he should also know what kinds of issues the visitor should discuss directly with the professional with responsibility for those issues. The information officer need not spend full-time in that capacity; preferably it is one of the responsibilities of a professional staff member who has other – more technical – responsibilities.
- Be cordial and helpful to any inquirer. Resist the temptation of trying to impress him with your agency's technical sophistication; solve his problem.
- Use complete candor. Be careful not to mislead an inquirer. When he has a question or a request of you that you cannot answer, tell him so, – and tell him why you can't.
- Do not expect that a private citizen – or even another public official – necessarily knows what to ask for; he may know what he wants, but he may not describe it very well, – he certainly will not know any of your "insiders' jargon."
- Do not swamp the inquirer with information, but give him as much information as he finds useful.

Variations of this CP TECHNIQUE

Institute a centralized information office which handles all public contact work. The main drawbacks of this technique are that:

- The inquirer will have to get his questions – provided they are of a technical nature – answered second-hand.
- Your staff with technical project planning responsibilities will get their knowledge about the inquirer and his problems also only second-hand.
- The inquirer may also feel that the effort to shield the technical project staff from him is designed to hide certain things from him.

Another variation of this technique is to provide a comprehensive directory at the entrance and let the inquirer find the person he should talk to. This approach can be very time consuming – and disruptive – in some agencies. It may also scare the timid inquirer away, especially if it is not clear to him how his request is related to a list of job titles.

Advantages of this CP TECHNIQUE

The man on the street gets to know your agency in a tangible way by getting to know the individuals who are working on issues that are of direct concern to him, and your staff gets a better chance to understand some of the potentially affected interests.

Disadvantages of this CP TECHNIQUE

Considerable intra-agency communication is necessary to make this technique work because it requires that the staff – particularly the information officer – have a very good understanding of a) what all the agency is doing; and b) what the various staff members are doing.

CP TECHNIQUE NO. 12: INSTALLING AN OMBUDSMAN

Basic Principles of this CP TECHNIQUE

If your agency is a big one, or if it is part of some other big agency, – then, most likely, a lot of people perceive you simply as a rather undistinguishable part of a large bureaucracy. It also is very likely that they feel that they will not be heard; or, at least, that it will be very difficult for them to get your attention focused on their particular problem. – One reason for this layman's perception of large bureaucracies is that bureaucracies are complex beasts, and the layman generally not only feels inadequate, he is inadequately prepared to effectively interact with them because he is uninformed about how they work. Another reason is that, because bureaucracies are complex beings with a myriad of procedures, lines of responsibility, hierarchies of authority, forms, etc. – it is hard for the layman to have his problem heard.

The basic principle of this technique recognizes that – much as you might, and should, try to make your agency easy to interact with – it is never going to be easy. The ombudsman is a mechanism designed to cut through all the bureaucratic difficulties so the layman can readily and easily interact with your agency, and so the layman who has a complaint will be heard.

Key Features of this CP TECHNIQUE

The Ombudsman is an independent, disinterested investigative officer **operating inside your agency**. **He is charged with the responsibility of serving** and protecting the man on the street – the person outside your agency from bureaucratic apathy, red-tape, stonewalling, buck-passing, or outright abuse. Many people contact him in order to ask him for advice on how to find the person within your agency who can hear and solve a given problem. Others contact him – and this is his prime function – because they have a complaint against your agency; they feel your agency is not being responsive or that it is treating them unfairly.

Variations of the CP TECHNIQUE

There are a great number of variants for executing the basic principle that is behind this CP TECHNIQUE. One set of variations worth noting here are those used by some agencies that are so small that they cannot justify a full-time ombudsman's office. Some of the things that can be done in these cases are:

- Several agencies that come under the same jurisdiction **share** an ombudsman. For example, instead of two or three city-agencies each having a small ombudsman's office, an "Ombudsman for the City" is installed.
- A part-time ombudsman is hired; he could be a retired – or semi-retired – public official who has all the sophistication of a career executive as well as the respect of the people within your agency. He keeps a well advertised schedule of office hours – e.g., twice a week from 4:00 to 8:00, and he has a telephone answering service.

Advantages of this CP TECHNIQUE

The ombudsman can provide an effective lightning rod for your agency, and because he becomes aware of possible problems inside your agency usually before they become big problems – he provides you with the opportunity to solve problems while they still are manageable.

Disadvantages of this CP TECHNIQUE

The concept of an ombudsman is a strange one for most of our agencies. It has had its origin in Scandinavian government and – as much sense as it makes – it's not easy to institute in this country. Unless your agency's top management is committed to giving the ombudsman the necessary independence and support, your ombudsman's role may degenerate into that of a Public Relations agent for your agency.

CP TECHNIQUE NO. 13: ENCOURAGING INTERNAL COMMUNICATION

Basic Principles of this CP TECHNIQUE

The reader may feel that this technique stretches the limit of the definition of "Citizen Participation." But, the technique has the potential of helping achieve some of the same RESPONSIVENESS OBJECTIVES that some of the more conventional CP TECHNIQUES are aimed at.

Good ideas occur not just to the people who are paid to come up with them on a given topic; in fact, we'd venture to say that the truly great insights and innovative ideas – even though they tend not to be credited as such originally – occur at least as often **outside** the office that is supposed to, and tries to, come up with them. Much of CP is aimed at tapping the good ideas that may be lying around unrecognized and un-used in the minds of people outside your agency. This technique is an effort to not only keep good ideas that are occurring to people inside your agency – but to also capture those occurring to the "wrong" people. No one ever gets to realize the potential of good ideas that occur to the "wrong" people unless they are effectively communicated to the "right" people – i.e., to those who

are responsible for solving the problem that is generic to the good idea in question.

Key Features of this CP TECHNIQUE

Application of the technique takes many different forms; what they all have in common is that they encourage effective intra-office communication.

For communication to be effective – i.e., to "Get through" – **both** parties have to be willing to communicate. One hurdle that prevents the communication of good ideas that have occurred to the wrong persons is general defensiveness. The individual tends to feel that, because he is – or is supposed to be – the expert, there are good reasons why the idea did not occur to him, mainly, that the idea is naive and has no practical merit. Some of the things that can be done to overcome the defensive barrier to the effective communication of good ideas include:

- A "Suggestion-Box" can be instituted that keeps the author of the suggestion anonymous until after the idea has been completely distributed and evaluated. And, if the idea is not used, he remains anonymous.
- A "Suggestion-Box with Technical Assistance"; instead of just circulating and evaluating the author's idea in its raw form (as above), the author is provided with technical assistance in writing up his idea, so there is no way of telling from the write-up whether the idea originated with the division director or with the work-study student in the secretarial pool.
- An incentive system that rewards both the original author of a good idea **and** the professional who was able to make use of it.
- A mechanism that might be used by your agency to facilitate increased cross-hierarchy communication is the informal friendship and acquaintance network. Communication between those who share car pools, have coffee together, or who have lunch in a group, – i.e., those who see each other in non-work roles – can create the right atmosphere for this.
- Organizational rotation policies may be used to insure that **different** views and ideas get introduced into each department and division over time. Such policies are also likely to increase the range of information communicated.
- Sensitivity training and other group dynamics may also be used to increase both the chances of the person with the unconventional – but potentially valuable – idea to speak up, and the chance of the professional who might make use of the idea to be able to recognize the idea's value.

Advantages of this CP TECHNIQUE

Besides the direct benefits that can be derived from this technique, it also has some indirect merits.

People who are creative thinkers, but who happen to be pigeon-holed in a job where their creativity is not used, will surface. Management then may find a way to move them into responsibilities where they are utilized more fully.

Professionals often become so deeply emersed in their field that their intimate knowledge of difficulties, limits, constraints, drawback, etc. begins to interfere with their creativity. Knowing, however, that the ideas of relatively un-informed people in organizations **will** be considered and tried, can in turn make the professionals more daring and creative.

CP TECHNIQUE NO. 14: GAMING AND ROLE-PLAYING

Basic Principles of this CP TECHNIQUE

Each one of us acts the way he does for a variety of reasons. One of the reasons a given interest acts the way he does is because of the particular **role** that he finds himself in. Each role brings a set of pressures and constraints with it; in the case of some roles these pressures and constraints combine into very compelling forces. In these cases – so the theory of Gaming and Role-Playing goes – it does not really matter who fills such a role; **the forces that are inherent in that role will compel any person to behave in virtually the same manner.**

To the degree that the above principle is at work in a particular situation, Gaming or Role-Playing may be used to make people who find themselves in one set of roles appreciate the compelling pressures of the roles that some of the other interests find themselves in.

Key Features of this CP TECHNIQUE

Designing a game that relates in a convincing manner to real-world roles and that really **can** demonstrate the compelling nature of those roles is no minor task. Most agencies should not attempt to design their own games unless no suitable games are available, and unless they have considerable resources to devote to such a project.

Typically, a game that has been developed to simulate a particular set of roles is purchased by an agency. These games usually come in the form of a kit that contains all of the necessary materials and instructions for playing the game.

Variations of this CP TECHNIQUE

Some games cannot be played without also hiring from the organization that has developed and that owns the game a person for a day or two who actually comes and "runs" the game for you. In very complex games this is an absolute necessity.

Disadvantages of this CP TECHNIQUE

This kind of Role-Playing tends to take far more time, and requires a far more intense involvement of the participants, than is generally assumed.

Advantages of this CP TECHNIQUE

It can be a downright "moving" experience for an interest who has not been able to understand the attitude and behavior of some other interest to discover that, when he finds himself in the role of that

other interest, he adopts virtually that same attitude and behavior.

CP TECHNIQUE NO. 15: OPERATING A FIELD OFFICE

Basic Principles of this CP TECHNIQUE

Putting a field office into a locality that will be affected by a project your agency is planning, is an expression of the spirit that it is essential – though difficult – to reach all of the potentially affected interests. Your reason for wanting to reach all relevant interests may be either to learn about their needs and views or to have them learn about the project you are developing.

A field office has the potential of allowing you to reach some interests whom you otherwise cannot communicate with.

Putting a field office into a locality also can – by its mere physical presence – call people's attention to the fact that a real project, not just something on paper, is being planned.

Key Features of this CP TECHNIQUE

Project staff is made available in the local community where impacts are anticipated. The field office location, as well as their office hours, are chosen for the convenience of the local people.

The field office staff may perform a variety of functions:

- You may want to move all or part of the routine project planning work from your regular offices into the field. This can accomplish several things:
  - Project staff may, by osmosis, learn something useful about the community. This is particularly true in the case of a project planning effort that goes on indefinitely or one that continues at least for a number of years.
  - Community people who come into the field office get to see the real project planning work, and the main project staff, rather than just the agency's contact people.
- You may want to man the field office with a staff that spends most of its time communicating with the public. The main things such a staff would be doing are:
  - They would receive people who come to the field office for one reason or another; to brief them about the agency, the project, and the planning process by which the project is being developed.
  - They would solicit the people's views, reactions, concerns, etc.
  - They would be using the field office as a base; they would also establish contact with local interests by visiting them, attending the regular meetings of existing community organizations and letting them know what the project is all about.
  - People who want to get specific questions answered come to the field office where all of the necessary briefing information, etc. is on display or readily available.

Whether the field office houses the entire project staff, or only a specialized contact staff, that staff must be able and willing to address whatever project-related problems the people bring to their attention.

This requires that field office staff be particularly perceptive, patient, tactful, but also innovative and willing to change their own operation when necessary.

15A: Store Front Office or "Drop-in" Center

Several cities across the country have placed permanent "Little City Halls" in their urban neighborhoods. These extensions of the central city government are often located in old converted stores.

By having permanent locations for the decentralized branch offices, government is physically brought closer to the people. Being physically present means government has a better opportunity to learn about the people and their neighborhood and to be responsive to their particular needs. From the public's point of view, government not only appears but in fact is, more accessible.

15B: Temporary Field Office

The temporary field office has been used quite successfully in situations where an agency wants to demonstrate its concern, e.g. to help people who have just suffered the consequences of a natural disaster, to assist in the relocation of a neighborhood, etc. A temporary structure such as a house trailer similar to a construction site office, is placed right in the area where the PAIs are. By locating an emergency office on the scene, the affected public's needs can be addressed with speed. The effect of making such an overt effort to assist people in distress also lets them know that government tries to be accessible and to meet their needs. Vice versa, the government officials who are in the middle of the disaster area are more likely to learn about the local situation, and the agency is likely to tailor its response to the people's actual needs.

One advantage of using such a trailer for a field office is that you can develop the perfect layout for a trailer and then use the same for all field offices. Another advantage is that it is an obviously temporary installation which can also help to get people's attention.

15C: Mobile Office

The mobile office takes the form of a custom-designed motor home. For example, this type of office has been used by U.S. Senators, especially in the West where the population is sparsely distributed over vast areas. Rather than expecting people to travel, the mobile office goes to the people. It makes its rounds visiting outlying communities, getting to know their residents, and giving them a chance to meet their public officials on a person-to-person basis.

Some very large versions of the mobile office concept are also being used by agencies. This makes sense if the agency's story is fairly complex and lends itself to explaining via this kind of "road-show." For example, NASA has made use of this type of method of informing the public about some of its programs.

This CP Technique requires careful preparations and coordination through the media to get maximum exposure. At times, these types of units are placed at county fairs and other events where large numbers of people gather. The major advantage the mobile office has to offer, is that it can process large volumes of people through its diplays in a realtively short time.

CP TECHNIQUE NO. 16: MAKING THE MOST OF EXISTING MECHANISMS

What all of these techniques have in common is that instead of creating your own mechanisms, such as a newsletter, a committee, etc. you look around to see what exists and make maximum use of the already existing mechanisms.

16A: Clubs; Civic Groups; Other Organizations

Many agencies who work at getting Citizen Participation in their planning process wind up creating a community organization of sorts – even though they never really intended to do so. In order to keep their Citizen Participation activities going, these agencies find themselves putting considerable effort into the kinds of things that all community organizations have to work at in order to stay alive:

- Getting the people out to meetings
- Arranging events so that the organization's members don't forget that the organization still exists
- Continually drumming up new members to replace the drop-outs.
- Etc. . . .

The key reasons why these activities – none of which are directly contributive to the purpose of the Citizen Participation effort – are necessary in virtually every community organization to keep it alive are:

- People are involved in a great many things; they don't really have any spare time on their hands, and the organization, therefore, has to compete with a lot of other demands for an individual's time.
- Even though most community organizations have perfectly good reasons for existing, they don't really have so many activities to offer that they can maintain an individual's interest throughout the year without doing a certain amount of drum-beating and promoting.

Your agency may be able not only to reap the benefits that community organizations can offer to a Citizen Participation effort, you may be able to reap them without having to do any of the drum-beating. You can accomplish this by consciously making use of Existing Community Organizations in your CP PROGRAM. – The technique works partly because most Existing Community Organizations benefit directly from such an approach; they are forever involved in drum-beating, in looking for issues that interest its members and that, therefore, can be used to keep the organization active and – thereby – alive.

Key Features of this CP TECHNIQUE

Acquaint yourself with all of the Existing Community Organizations whose members are potentially interested in your project. The most obvious are:

- The local churches
- The local Kiwanis
- The local Lions Club
- The local Rotary Club
- Fraternal organizations, including:
  - Elks, Moose, Masons, Etc.
- The local Chamber of Commerce
- Local merchants' organizations (there often are several in a single community)
- The local chapter of the League of Women Voters
- Local Parent-Teachers organizations
- Etc.

But don't forget some of the less obvious ones that might exist:

- Neighborhood Associations (there are sometimes very loosely organized groups of neighbors who may have no formal structure, such as officers, but who can – and will – get very active when they have a concrete issue that concerns them or their neighborhood).
- Professional Organizations and Trade Groups.
  - The local chapter of the American Institute of Architects
  - The local chapter of the American Institute of Planners
  - The local Educational Association
  - Etc.

Most of these organizations have regular meetings with a program in which they like to feature such things as a presentation by the staff of a major project that is being developed in the locality. Existing Organizations can do the most for your CP PROGRAM if you work out an understanding with each of them from the outset. You should make your intentions clear, i.e., that you are not particularly interested in a hit-and-run relationship, but that you would like to establish a working relationship which allows their organization to plan an important role as a two-way communications channel between the community and the project. You also should work out some of the mechanics of the communication, including such details as:

- You will provide brief write-ups about current project-related issues for inclusion in their Newsletter, or Bulletin, on a regular basis.

- The appropriate project staff members will participate on the organization's program by making presentations about the project.
- Other project staff will be made available to the organization to participate on panels, in workshops, in coffee-klatches, etc.
- The organization should be encouraged to sponsor a tour of the project or project offices for organization members **and** non-members; the project staff will cooperate fully and provide briefings, hand-out materials, demonstrations, etc.

Because your use of Existing Community Organizations in your CP PROGRAM could be perceived as an attempt on your part to co-opt these organizations into supporting your project, you need to do several things to guard against this:

- Don't try to get an organization to support your project; try to make its members completely informed on the issues; be 100% candid and honest with them; if individual members – or the organization – wants to support the project: Fine.
- Keep your motive for using an Existing Organization before its members at every opportunity by explaining that, as you see it, it's of mutual advantage; it saves you the trouble of creating some sort of New Community Organization, and it helps the Existing Organization serve its members better.

Disadvantages of this CP TECHNIQUE

Someone on your project staff is likely to get very tired of chicken dinners . . .

Advantages of this CP TECHNIQUE

Provided you use this technique with many diverse groups and organizations within your community, you are less likely to run the risk of informing only one interest category about those plans.

16B: Making the Most of Existing Newsletters; Other Publications; Media; etc.

Using an existing mechanism as a means to inform the potentially affected interests is not restricted to using other organizations' meetings. The same concept of "piggy backing" can be applied to existing publications, such as newsletters, bulletins, journals, etc. In this case as with meetings, the saving of time is significant. Producing a newsletter, for example, requires the development of a mailing list, the editing of articles and their layout, the actual mailing, etc., all of which are costly and time consuming. These steps can be avoided by producing an article and having it included in **someone else's** newsletter or journal.

The first step, one which needs to be kept in mind throughout the time of the project, is to think of all the potentially affected individuals, groups, corporations, institutions, agencies, etc., which need to be kept up-to-date. The second step is to identify the groups and publications which some of those interests either belong to or subscribe to. These two lists need to be developed and updated periodically. Then contacts need to be initiated with the relevant groups and/or publishers. In some cases a one-time article may suffice, in others progress reports are necessary from time to time. An example of the former is where an environmental agency had an article in an airline magazine informing airline passengers of the purpose of the agency and its efforts in cleaning up the environment. In addition to making efficient use of their time, they reached a cross-section of the public which the agency's own newsletter could never have reached.

16C: School Systems, Other Institutions

Along the same line as the above two variations, entire school systems can be used – and in many instances they have cooperated to everyone's benefit – to help agencies inform school children, and through them the larger public, about the problems an agency is addressing.

In the case of one environmental agency informational materials and kits are prepared and brought to the attention of school superintendents. The superintendents pass the information along to all their school principals who, in turn, distribute the material to their teachers who specialize in environmental issues and who then incorporate the materials into their environmental courses. This is one of the most ingenious ways of making use of an **existing** mechanism. A staff of one individual is effectively spreading the message from his agency, through the channels of the public school system, to millions of parents.

16D: Other Problem-Solving Efforts

In this technique maximum use is being made of other concurrent planning efforts. For example, if a community is in the process of developing a land-use plan, and if there are other planning efforts such as transportation planning, water quality planning, housing studies, etc., the land-use planners use the meetings of these other planning efforts to get messages out, to make announcements, and to also obtain input to their own plan.

CP TECHNIQUE NO. 17:
OPEN A CHANNEL OF COMMUNICATION WITH EACH POTENTIALLY AFFECTED INTEREST

Basic Principles of this CP TECHNIQUE

This recognizes – and is a response to – several CP Principles, including:

- The concerns and problems that are brought to your attention **early** in the planning process generally **can** be resolved, but those that are not brought to your attention until late in the planning process generally are much more difficult to resolve, if they can be resolved at all. It, therefore, is in your best interest – i.e., in the interest of maximizing your chances of obtaining SEACA – that potentially affected interests have easy communications access to you.

– Interests who participate – or have the opportunity to participate – in your planning process, generally do not – and cannot – take irresponsible positions as readily as can – and do – interests who have been completely outside the process.

Agencies who make an effort to exclude the interests who will not be affected by the project – but who believe that they will be affected (or who at least say that they believe that they will be affected) – generally wind up paying a far greater price than they would have paid if they had adopted the attitude: "We are quite sure that you will not be affected; but, if you really are concerned about the project, then, by all means participate. . ."

Interests who **refuse** to participate during the true problem-solving phase of a project's development, but who are full of objections to **any** solution that you or anyone else proposes, lose a lot of their credibility – **provided** it is clear that the agency solicited their early participation and that it bent over backwards to take their concerns and problems into consideration.

Key Features of this CP TECHNIQUE

Start compiling a cumulative list of the following interests:

– Interests which, as far as you know, may eventually be affected in one way or another by the project.
– Interests which believe they have something at stake – even though you are quite sure that the project will not affect them in any way.
– Interests which you feel may at some later date choose to become involved in the project **for reasons of their own** – even though you **and** they both know that they will not be affected by the project.

Initiate contact with each interest as soon as it shows up on your list by bringing it up to date on such things as:

– Explain **what** the project is all about.
– Explain **why** your agency is developing the project – i.e., explain your agency's responsibilities in general, and its responsibility for this project specifically.
– Explain **how** your agency is going about developing the project, i.e., explain your planning process.
– Explain how far the project planning has progressed to date, what you are doing at the moment, and what the schedule of Decision-Points and actions for the future is.

Invite the interest to contribute its views that – it feels – might or should have a bearing on the project. Solicit its advice and comments. Stress that the earlier its concerns and problems are known to the project planners, the more likely it is a way can be found for accommodating them.

You will want to be sure that your contact initiation constitutes both a sincere invitation to the interest's participation as well as documentation of that invitation. To contact an organization, relatively formal contacts may be appropriate – e.g., written correspondence. But, contacting an interest that is not organized – e.g., the people living in a certain neighborhood or vicinity – might best be accomplished through personal contacts.

You will need to judge carefully in selecting the most appropriate channel of communication between your agency and any given interest. And, the initial contact should, essentially, open that channel of communication. Thus, your initial contact with an interest that – in your judgment – communicates best in writing, should be in writing, and it should be such that it **elicits** a written response from that interest, – even if the response is nothing more than an acknowledgement that they understand what your project is all about and that they appreciate your solicitation of their views, concerns, and problems that may be relevant to the project. Once communication is flowing **both ways**, you can consider a channel of communication open. If the communication flow becomes uniformly one-way, you should face up to the fact that your "channel" has a one-way valve in it and that you need to find a channel that carries communication **both** ways.

Variations of this CP TECHNIQUE

Some agencies use this technique but restrict their contacts to duly constituted government agencies and government officials. This, of course, makes your work a lot simpler and less costly. The chief drawback of this policy is that your agency and your project is then at the mercy of these government officials; if they are not really in touch with the interests that they formally represent – i.e., if they are not really responsive to **all** of the interests in their jurisdiction – then neither will your project. In fact, those agencies that have abandoned this policy – and most have – have done so because they have found that most government agencies and/or government officials do not – and, for all practical purposes, cannot – be responsive to all of the interests under their jurisdiction.

Another version of this technique is for an agency to make an effort to develop a cumulative list of potentially affected interests but to use similar channels of communication with all – e.g., keeping all of them on the mailing list for a Project Newsletter. While this may work on some projects, there clearly **are** cases that require other forms of communication with interests for whom a newsletter does **not** work even though it **may** work for most other of the potentially affected interests.

Advantages of this CP TECHNIQUE

Communicating **directly** with all of the potentially affected interests gives you a far better chance of understanding those interests – and how they perceive the project – than if you try to filter their views, concerns, etc. through a representative.

Interests who, for reasons of their own rather than

for project-related reasons, want to oppose the project, will find it far more difficult – though not impossible – to do so if you are actively working on involving them throughout the planning process than if you allow them to remain aloof of the project until late in the planning process.

Disadvantages of this CP TECHNIQUE

The technique requires considerable staff-time during the entire planning process.

CP TECHNIQUE NO. 18:
MONITORING THE MASS MEDIA AND OTHER NON-REACTIVE LEARNING

Basic Principle of this CP TECHNIQUE

You would like to gain insight into the likes, dislikes, concerns, priorities, prejudices, etc., of a number of interests who may be affected by your project and – more importantly – whose support you will need in obtaining SEACA if your project is ever to be implemented. One way of trying to understand the various interests, and to gain some insight into their value systems, is to actively solicit their participation in the project planning process. Another approach is to learn all you can about the various interests without asking them to react; i.e., this is a **non-reactive** learning process.

The various interests who make up a community are giving expression – both through words and through acts – of their likes, dislikes, concerns, etc., all the time. One place where these expressions are easily observed is in the mass media: newspapers, local radio, and local television; another place is in their local governmental deliberations and actions. Still another place to observe some of the interests you may be trying to understand is in the "market place," i.e., by observing how they spend their money.

Key Features of this CP TECHNIQUE

Newspapers

It is often convenient to establish files of newspaper clippings; depending on your needs, you may want to file them by issue or topic, by interest, by date, or by source, – and then cross-reference them.

Most public libraries have copies of the major local papers on microfilm. This is a tremendous resource to you in executing this technique because it allows you to go as far back in history as you'd like to and be an unobtrusive observer of what the concerns of the day were. For some few newspapers – but rarely for a local newspaper – there exists an index of its contents. The most sophisticated and most elaborately cross-referenced index of any newspaper is that of *The New York Times* – available in the reference section of virtually every public library. Because this valuable index exists, and because *The New York Times* reports on a broader range of topics – in more detail – than any other single paper in this country, you may find this paper a valuable resource even though your project is far removed from the New York area.

Newspaper monitoring is best done by people working directly on your project, even though clipping services are available. Clipping services need relatively simple instructions as to what kind of article they should clip. But, if you are using this technique in order to understand and gain insight into what certain interests' likes, dislikes, concerns, prejudices, etc., are like, then no simple set of instructions will discribe what kind of articles you are looking for; there really is no substitute for reading the whole paper You might learn the most important piece of insight on the society page – or in the want ads. . . People who systematically go through many papers – and through the entire paper the size of *The Boston Globe* – learn to do it in a minute or two and pick up every article that is of possible relevance.

Radio and Television

You should monitor talk shows on radio and television; they are generally used by the local citizenry to air views on issues that are currently of major local concern. Television stations usually are happy to tip you off about up-coming programs that may be of obvious interest to you provided you go through the trouble of introducing your agency, its responsibility, etc. to them. Some radio and television stations also make typed copies of the texts of editorial and certain other special programs available.

Debate and Actions of Local Government

You can do considerable "non-reactive learning" about the likes, dislikes, concerns, etc. of various interests in a locality by sitting in the audience when City Council – or some other governmental body – debates and considers certain actions. The agendas of the various governmental bodies' sessions are – in most communities – published beforehand in the local newspaper.

Variations of this CP TECHNIQUE

Depending on the kinds of interests you are trying to understand and learn something about, you may find the basic techniques of monitoring the mass media applicable to some other communication media that the interests in question may be using. Thus, consider monitoring such "media" as:

- Community bulletin boards
- Special-interest newsletters
- Trade-journals
- Local election campaign platforms and speeches
- Etc.

Bibliographical References

For some useful suggestions of non-reactive methods see *Unobtrusive Measures: Nonreactive Research in the Social Sciences.* The book offers numerous clever techniques. Even if none of them listed suit your particular purpose, it may at least give direction which may lead to your own innovations.

Disadvantages of this CP TECHNIQUE

Reporters rarely get a story completely straight – a fact that you should be well familiar with. You, therefore, must realize that you are trying to understand the various interests through the admittedly imperfect work of reporters. All you can hope for is

that their errors are random errors, that their errors are not systematic distortions of the way things really are. You should, in fact, be on the lookout for signs of systematic distortions or consistent slanting of stories in the same direction. If you feel this is occurring in the mass media that you are monitoring, then you cannot use this technique because you need to learn **the truth** about the values of the various interests, not someone's prejudiced opinion of what that truth is.

Advantages of this CP TECHNIQUE

Compared to "reactive learning techniques," this "non-reactive learning technique" is not costly.

Another advantage of this technique is that it does not get you directly involved in person-to-person contact where there is always the danger that an ill-chosen word or an impatient reaction will have all sorts of detrimental effects for your agency.

CP TECHNIQUE NO. 19: COLLECTING DATA: CARRYING OUT SURVEYS

Basic Principles of this CP TECHNIQUE

The various activities that fit under the rubric of "Data Collection" constitute a significant effort in virtually every organization. This technique, of course, concerns itself with those data collection activities aimed primarily at collecting information from or about citizens.

Your agency can obtain information about potentially affected interests either by asking them questions, etc., and getting them to react to you – i.e., "Reactive Research," – or by looking for and examining indicators that exist without requiring a reaction on the part of the interests – i.e., "Non-Reactive Research."

While both types of research have their strengths and weaknesses, here are some basic principles that you should keep in mind **before** you decide whether a Reactive or a Non-Reactive technique suits your CP NEEDS best:

- When accurate data even about a very small sample can be obtained, and when that small sample is chosen wisely – in demographers' terms, when the sample is "designed" properly – the data from that small sample can be used to make incredibly accurate statements about the **entire** population from which the sample was chosen. The power of available statistical tools – provided they are properly used – is such that one's data does **not** get significantly better if one samples large portions of the population.
- Reactive research is inherently sensitive. That is, it is very easy for you to influence – without your realizing it – the kind of reaction you'll get. If that happens – and you'd never know whether it is happening or not – your "data" may have more to do with your employee who asked the question than the person who answered it. . .
- Quite apart from the above problem, many people answering surveys try to give answers in line with the kind of person they'd like to be, rather than in line with their real feelings. This is a particularly serious problem in attitude surveys and opinion surveys.
- Non-Reactive methods are hard to come by. Often no information exists that provides the kind of data that you may need. But, don't give up without trying; consider any and all possible ingenious indicators that might yield for you the facts you need.
- Non-Reactive methods – **when they're available** – tend to be cheaper **as well as safer** than reactive methods.
- Planners love to do surveys.

Key Features of this CP TECHNIQUE

Whatever method you are using, before anyone rushes out into the field to collect data, ask yourself these questions:

- What information or data are we looking for?
- What are we going to do with it when we get it?
- **What specific questions** are we trying to answer with the data we are looking for? Are these the most pertinent questions that need answers? Are there some alternative questions that ought to be answered? Are some of these maybe more readily answerable?
- Where might we find answers to these questions?
  - Through Non-Reactive Research? (Think hard on this one before you give up.)
  - Through a Reactive method that is easier to perform well than a survey?
  - Through a survey?

Agonizing for a while over these questions at the start of a project is time well spent. Most project planning leaders admit that too often their staffs fall victims to an urge to "collect data," piles of it, only to discover that:

- They cannot absorb and make use of most of what they have collected.
- In spite of this, they may not have those facts that they desperately need to answer some crucial questions.

There are primarily four reasons for planners doing surveys at the drop of a hat; 1) most are not very familiar with the tremendous amount of the information that is available through libraries and governmental agencies; 2) they do not appreciate the fact that most of this information is far more sophisticated – yet easier to get – than anything they can develop; 3) they don't realize that most of this information is available to them because most libraries and governmental agencies are extremely helpful and often successful in locating what's needed; and 4) it's more fun to get your own information than to sit in a library or at a computer terminal.

If it is a survey that is needed, the following rules of thumb should be observed:

- If the decisions that will be based on the conclusions of this survey are momentuous, that is, if they involve a great deal of money, or if they will affect peoples' lives in a very major way, then people who are recognized experts in survey research should conduct the survey.
- If the survey, as well as the decisions that will rest on the survey, are such that your project staff can carry out the survey:
  - Take care not to taint or invalidate the outcome by contacting an unrepresentative sample of the population.
  - Design a questionnaire that is brief and simple.
  - Make the questions un-ambiguous.
  - Ask them in a simple English; ban all jargon terms that your staff tries to impress the public with.
  - Pre-test the questionnaire on a few people **before** performing the survey. Invariably, the public has problems understanding something that you thought was crystal clear. Make the necessary improvements in the questionnaire.
  - Educate your surveyors – in case the questionnaire is to be filled in by an interviewer – to the dangers of influencing the person's responses. Supervise them closely.

Variations of this CP TECHNIQUE

Some major variations depend on the kind of data that are needed. Collecting data on **facts** is far easier than finding out what people's **opinions** or **attitudes** are.

Some agencies have had considerable success in having volunteer lay citizens perform much of their data collection for them. This can have a couple of benefits: The agency is able to expend its resources on some other tasks, and the citizens who want to take some active part in the project get to **do** something contributive and constructive. Besides, in many situations, they are – because of their familarity with the locality and people – less likely to overlook serious discrepancies or errors in the data they collect than staff people would be.

Advantages of this CP TECHNIQUE

A reasonably systematic approach to deciding what information is needed on the project and how it is best obtained is likely to prevent your staff from wasting time and effort.

Disadvantages of this CP TECHNIQUE

Data collection is difficult and important work. But it is easy to over-emphasize the importance of getting "good" data. Overall, most projects would benefit most by putting more of their resources into **developing and weighing alternative options**, than they would benefit from putting more of their resources into better "data collection" efforts.

CP TECHNIQUE NO. 20: EXAMINING PAST ACTIONS OF AN INTEREST

Basic Principles of this CP TECHNIQUE

One of the most telling things an agency can look into when it tries to learn about the likes, dislike, concerns – i.e., about the values – of a set of interests, is to take a look at current and **earlier actions** those interests have taken. While it is entirely possible that a background study reveals nothing new, that the actions the interests in question have been taking reflect the same concerns and values that they express verbally. But, in the case where an interest's past actions reflect concerns and values that are **significantly different** from those he expresses verbally, the project staff needs to know about it. If this kind of thing happened only rarely, it would not be worth considering it a CP TECHNIQUE addressing this situation. Public officials, however, tell us that this situation is not all that rare.

There is a second situation that this technique lends itself to. Some interests find it down-right impossible to express their values verbally, and the project staff may, therefore, have considerable difficulty putting its finger with much confidence on the interest's prevailing values that relate to the project.

If an interest's past and current actions reveal a consistent pattern of having a particular set of priorities, of pursuing a particular goal, of valuing something highly and working to protect it, etc., – then you can be sure that this interest values those things. If one of the impacts of your project is to destroy some of those things, you will be harming that interest – even if, for some reason, he does *not* protest.

Key Features of this CP TECHNIQUE

Examine planning documents that have been prepared by, with, or for the interests in question:

- What problems do they address?
- What goals do they set?
- What actions do they propose?

Which of the proposed actions have been followed through? Which have been ignored? And, which ones have been violated?

Examine the major actions of the interest over the last few years.

All officials in a city claimed they had no policy either pro- or con- industrial development for their city, in response to an inquiry from a consultant who was doing an environmental analysis for a project in the city. He examined some of the city's major actions over the last several years and established that the city had systematically been investing much of its funds in 1) providing public improvements that would attract industries; 2) reclaiming land and offering it for sale as an induatrial park; and 3) scheduling major street improvements for the next several years which clearly favors the industrial areas over the residential ones. The consultant pointed out that the city had a very clear "**de facto** policy to en-

courage industrial development." (In fact, the consultant called the City Manager – who had refused to associate the city with any policy – back, told him what his conclusion was, and what facts he was basing his conclusion on. The City Manager's response was: "We never thought that we had a policy one way or the other, but now that you lay out past actions before me. . . I guess you're right; we do have an unspoken policy to promote industrial development.")

CP TECHNIQUE NO. 21: EXPERIENCING EMPATHY

Basic Principles of this CP TECHNIQUE

There's truth in the saying that "Everything is Relative." One place this saying has real meaning is in the vastly different way interests perceive a proposed project; how a project is perceived is relative, of course, to the position from which it is viewed. There are a number of techniques that are designed to help the professional understand how various interests perceive a project and its anticipated effects, and this is one of them.

This technique is a very simple and direct attempt for a person to experience the feelings and the outlook that another person has, i.e., to Experiencing Empathy.

Key Features of this CP TECHNIQUE

Using this technique is primarily an intellectual undertaking. Through mental concentration and the intellectual effort of trying to feel the feelings that you suppose another person must have, you project yourself into his shoes, into his position, into his situation, etc. You should then begin to experience some of the emotions and perceptions of that person, and you should – as a result – be able to carry your projection of yourself into this person one step further so that you begin to make decisions and undertake actions as that person would. . .

Advantages and Disadvantages of this CP TECHNIQUE

We would not recommend carrying this technique terribly far because, obviously, what you learn about the interest with whom you are trying to Experience Empathy is only as reliable as your artistry in carrying out the technique, and people's talents for executing the technique varies greatly. While you cannot assume, therefore, that you have the necessary talent to carry the technique to an extreme, there is no question that you have **some** ability to Experience Empathy – probably more than you suspect. Virtually all of us can project ourselves into the position of a person whose situation is quite different – but not totally foreign – from ours, and experience enough of the feelings and perceptions that he experiences to gain considerable insight. The technique, when used at this level, is a very effective one.

CP TECHNIQUE NO. 22: BEING A "PARTICIPANT-OBSERVER"

Basic Principles of this CP TECHNIQUE

This is a technique for your project staff to learn:

- Who the potentially affected interests are,
- How the project is likely to affect them,
- What benefits and what problems those impacts entail for the various interests, and
- What some of the solutions are for meeting the problems thus created.

Some of the basic premises of the Participant-Observer technique are:

- The most valid description of a community, of life in general in that community, of the various interests who make up that community, of the problems, concerns, likes, dislikes, and prejudices – i.e., of the values – held by those interests. . . can be obtained by **viewing the community from the inside** rather than by asking questions from the outside.
- The project staff's chances for coming up with a project that deserves – and gets – SEACA is best if it is able to understand the affected interests and their values, and if it is able to see the project and its anticipated effects through the eyes of those affected.

For getting to understand a community, its various interests, and their value systems, the Participant-Observer relies primarily on:

- Putting his own prejudices and preconceptions aside as much as he can, and immersing himself in the community with an **open mind.**
- Participating enough in whatever is taking place so as not to become a conspicuous observer, and so as not to influence the way the people behave.
- Observing and listening as unobtrusively as possible
- Comparing and interpreting what he hears and observes for its possible relevance to the project at hand.

Unless the project is of very short duration, **"Immersing himself in the community with an open mind"** means that the Participant-Observer moves into the community and begins to play a normal role of a resident by participating in such things as PTA, etc. – but not taking on the role of an activist.

It is crucial 1) that the community understand that the Participant-Observer is in its midst in order to learn about the community, and 2) that the community accept him in his role. The Participant-Observer, thus, plays his role completely above board; there should be no need for secrecy about who he is and what he is doing. It turns out that, even though it is known that he is in the community to learn about the community, the Participant-Observer nevertheless is much less likely to fall victim to the problem that haunts people conducting surveys – namely, that some of the interests express having a system of

values that they do not really hold. The reason for the Participant-Observer's ability to get a more valid picture of the community and its interests is that **people cannot – and generally don't try to – live a lie even though they may be perfectly willing to speak a lie.**

The way the Participant-Observer "observes unobtrusively" is talking to – or rather, **listening to** – people at length. He interviews people in a manner that has them talking about the things they have on their minds; he does not ask pointed questions that can be answered with a yes or a no. He only asks questions or makes comments to keep the person talking, or to get him back on a relevant subject if he has strayed too far afield. In these interviews he does not take notes if there is any chance that note-taking might interfere. But, right after such an interview, he returns to his room and writes everything down in as raw a form as he can – he does not analyze or edit this material until later.

The kind of information that the Participant-Observer learns about a community, tends to be in the form of:

- **Insights** about the community
- **Perceptions** that its members have
- **Problems** that they have
- **Hopes and dreams** that they hold
- **Opportunities** that exist, for solving some of the problems and for achieving the hopes and dreams of people.
- **Likes, dislikes, priorities, and prejudices** that the people have.
- Etc.

The things he learns about a community tend **not** to be quantitative; the things he learns are better communicated by telling anecdotes than by constructing tables and graphs.

He does his observing and interviewing in bars if that's where the people are, across auto-parts-store counters if that's where someone works whose views the Participant-Observer seeks, at the super-market check-out counter if that's where the person is whose views might provide an insight. The only equipment you'll need to be a good Participant-Observer is:

- An open mind
- Wide-open, observant eyes and patient, listening ears, and
- A pad and pencil.

There are a number of ways of entering a community – even as a complete stranger – and starting to look for information. If the problem or project affects just about everybody then starting at a street corner asking passers-by questions may be an effecient way to proceed. If the problem or project affects only a very specific group of interests then perhaps the local newspaper staff or the local chapter of the League of Women Voters can provide leads. Every person interviewed, even if he happens not to be very familiar with the issues of concern is asked for "knowledgeables," "opponents," people affected, government agencies with an interest, etc. The method called the Network Approach is very expedient and efficient irregardless of the size of the population of the city or region. Usually a number of people are referred by several different sources. With these communications may well last for the duration of the entire project; they tend to be the most valuable resources to a staff.

CP TECHNIQUE NO. 23:
EMPLOYING LOCAL CITIZENS ON THE PROJECT

Basic Principles of this CP TECHNIQUE

Because the agency's staff obviously are "local citizens" somewhere themselves, this technique really means:

> "Employing local citizens that the agency would **not** hire if they were not local to the project."

Agencies may want to do this for one of the following three reasons:

1. The project staff's payroll constitutes a considerable investment; the agency may want to make sure that a substantial portion of it benefits the people who live in the area of the project.
2. The agency may feel that if a number of local people were added to the regular project staff, the regular project staff could learn a lot about the local interests, their concerns, and their values from their new colleagues.
3. The agency may feel that some of the local interests don't trust the agency and the manner in which it is planning the project in question. They may also feel that, if some perceptive local people were added to the project staff, those local people would not only find out for themselves that the agency is trustworthy and operating completely above board, they would also carry this conclusion back into the community.

While we shall note here that this technique can be used for any one of these three legitimate reasons, no public agency working on a big or complex project should expect to obtain SEACA on the basis of using this technique as its sole CP TECHNIQUE.

Key Features of this CP TECHNIQUE

The agency advertises for, and recruits, people in the project vicinity to fill project staff positions.

Care must be taken that the only preference local people are given is in respect to residency, that they must in every other way – such as skills required, etc. – be competitive with other applicants. If a local resident who meets all of the qualifications is not found for a position, then the job goes to a non-resident who does have all the qualifications. The reason for this cautionary statement is simple. If it appears that the agency is bending rules that, obviously, should not be bent – in an all-out effort to get local residents into the project jobs – then the agency is inviting the suspicion that the project may indeed hurt the community in the long run and that the

agency is, therefore, trying to put the community – or at least as many of its residents as possible – in its debt.

Variations of this CP TECHNIQUE

The same principle can be applied to businesses that might provide contracting services or supplies to the project. For example: The current development of the energy resources in the Rocky Mountain States is expected to bring not only economic and environmental changes with it but also social, cultural, and – eventually – political changes. The many private companies, as well as various federal agencies, involved in developing the energy resources recognize that, unless careful planning is done, some of the undesirable changes that can be avoided, will happen. Now, these companies and federal agencies are aware of the kind of research and planning expertise that is needed all over this country. But, if they – for example – try to have researchers and planners from some far-away university, rather than people from the most local universities, research these issues of potential impacts and change – particularly the social, cultural, and political issues –, they will find it far more difficult to obtain SEACA among the Rocky Mountain interests than if they make every effort to use the most local man-power resources.

CP TECHNIQUE NO. 24: MONITORING NEW DEVELOPMENTS IN SYSTEMS THAT MAY AFFECT YOUR PROJECT

Basic Principles of this CP TECHNIQUE

Your project can be thought of as part of a "system" which influences other "systems," and which is also influenced by other "systems." For example, you may be developing a Water Quality Management Plan for a region. Your plan can be thought of as being a part of the particular river basin's "Fresh water supply and waste water treatment system." This system influences several other systems, including the fisheries and wild-life system, and, in case of irrigation agriculture, the food production system. It, in turn, is influenced by the prevailing practices in each of these systems.

When any one of these inter-connected systems undergoes significant change – or can be expected to undergo change – you should probably know about it because the change, possibly, might affect how a particular project decision is made.

In the Water Quality Management Plan case, for example, you will want to know of such pending developments as:

- A major change that can be expected in a few years in local farming practices, as a result of a major change in crops.
- A significant increase – or decrease – of people's interest to engage in sport-fishing.

The principle that may be motivating you in the use of this CP TECHNIQUE might be expressed thus:

> Our project affects – and is affected by – several different systems. All of these systems are constantly undergoing change; there are new developments of varying siginficance occurring within each system all the time. Unless your staff is "on top of" these on-going changes and developments, your assessment of your project's expected impacts may be far off the mark.

Key Features of this CP TECHNIQUE

Someone within your office is responsible for keeping abreast of the current writing and thinking on one, or several, of the potentially affected systems. He, in turn, keeps all of his colleagues informed about what the possibly relevant new developments are. To do this, he might use a mechanism such as a monthly internal newsletter, memo, or briefing titled, "New Development in Irrigation-Agriculture."

Disadvantages of this CP TECHNIQUE

The technique is about as costly to carry out for a small office as it is for a large one. Consequently, small operations find it difficult to justify doing it in a formal manner.

There is another reason why the technique is difficult to justify at times. Even when it is working well, you will most likely not be solving problems by using the technique – but avoiding problems. Also, if your office is one that is set on doing things the way you have been doing them for years, looking for new developments within systems that have only an arms-length connection with the project may be viewed as tantamount to "looking for trouble."

Advantages of this CP TECHNIQUE

If there is any truth to the saying: "It's far less costly to prevent a problem than to let it happen and then to solve it," then this – obviously – is a valuable technique.

Some of the new developments that you may spot may lend themselves to letting you solve other problems; they may be a boon to your project.

CP TECHNIQUE NO. 25: CONDUCTING A BACKGROUND STUDY

Basic Principles of this CP TECHNIQUE

Background studies have to be prepared all the time; some require a few man-hours of work, others require thousands of man-hours. But, the principle is always the same: An issue arises and has to be decided; all available relevant information has to be organized within the time and resource constraints that apply to this decision, so all the relevant information can be brought to bear on making as well-informed a decision as is feasible. Obviously, the kind of decision that has to be made determines what kind of Background Study should be made.

Key Features of this CP TECHNIQUE

Throughout the process of developing a project, new issues that have to be decided may arise. For each of these new issues, the project staff needs to understand what interests are involved, and how they will be affected by the issue. It does this by conducting a Background Study.

A good way to get a Background Study started is to give an individual the clear responsibility to do something along these lines:

- Question the readily accessible people and examine available relevant documents, etc.
- On the basis of this readily available information, report back in x hours on these points:
  - What is the history of the issue?
  - What are our options?
  - Who will be affected, and how?
- If you had more time and you could enlarge your Background Study:
  - What questions would you want to explore further?
  - What people, institutions and documents would you question?
  - Does it appear that expanding the Background Study might lead us to significantly different conclusions on this issue?

One feature suggested here is to make a great effort to **continually focus the best available information** on the issue, and ask yourself at every step: Is the information that we have good enough to make the decision?, or does it pay to continue enlarging the Background Study?

This requires a certain aggressiveness on the part of the person responsible for the Background Study. If he is to succeed in focusing the available information, he has to pare the information continually down to more and more concise statements. One technique that systems analysts have developed can serve him well in the case where he has to condense the content of an interview down to a single, concise statement. The technique refered to here is one in which the analyst **re-phrases** the statements of a person he has interviewed into sharply-focused, concise but simple statements and asks the interviewee: "Is this a fair rephrasing, one that – although it is in mine and not your words – you feel does capture what you mean?"

Advantage of this CP TECHNIQUE

An agency where new issues have a habit of popping up frequently, should find it very useful to have a person or a team of people around who have developed this technique to a high skill. It's a style of research, inquiry, and citizen contact that is not easily developed. But, in agencies that do a lot of "management-by-crisis" this technique has every-day application.

CP TECHNIQUE NO. 26: HIRING AN ADVOCATE FOR ONE OR SEVERAL AFFECTED INTERESTS

Basic Principles of this CP TECHNIQUE

One particular view of the relationship between an agency working on a big and/or complex project and the various interests who may be affected by the project, leads to the conclusion that constructive interaction is most likely to result if not only the agency has the benefit of advice from a professional staff, but one or several of the interest groups also have a professional staff working for them.

Key Features of this CP TECHNIQUE

You assist one or several interests who may be affected by your project to find funds for hiring a professional advocacy planning staff; if necessary, you provide the funds.

This technique tends to raise the level of discourse between you and the particular interest to a completely professional – and, therefore, much more technical – level. If your project benefits from critical professional scrutiny, this technique may do a lot for your ability to obtain SEACA. On the other hand, if your project is based on some shaky assumption, this technique is a sure way to expose that fact.

Variations of this CP TECHNIQUE

The major variations that are found have mostly to do with:

- Different ways of funding the Advocacy Staff; and
- Different organizational arrangements for creating lines of responsibility for the Advocacy Staff.

Both of these major variations have to be carefully and thoughtfully tailored to your particular situation, or else the entire concept of hiring an advocate may be nullified. Remember, at the roots of an interest's desire to have a professional staff that **reports directly to – and is responsible directly to – that interest** is that **you and your staff are not really being trusted.** But, if the funds, ultimately, for hiring the advocate still come from **you**, there's the distinct danger that the interest in question may not quite trust his own "Advocacy Planner" either. Some major variations, thus, are:

- An interest who feels it will be adversely affected can **choose** an Advocacy Staff of its own that will be **paid** by your agency but that will work strictly for the benefit of the interest in question. If your agency also selects the Advocate – usually a consultant – he will have a difficult time establishing his credibility with his client, the interest he is to represent.
- The advocate may be paid by agency funds more indirectly. For example, the agency may execute a contract with the interest in question which allows the agency to turn over the funds

to the interest who agrees to hire an advocate with those funds who, in turn, will perform certain tasks. Except for making sure that the Advocacy Staff is professionally competent, your agency then has virtually no financial means of influencing how aggressively the advocate will pursue the interests of his client.
- Because control of the paycheck affects the perceived allegiance, if not the actual allegiance, the advocate who is paid with the interest's own funds has the best of all arrangements.

Advantages of this CP TECHNIQUE

Because the advocate is responsible only for looking after one interest, he does not have to temper his position and can be a more forceful spokesman; he may be better at understanding and representing this interest than the public agency could ever be with its manifold responsibilities.

With the help of its own professional staff, the interest in question is better able to understand and interpret technical agency studies and proposals.

The interest is bound to feel more confident that the agency cannot hide political decisions behind false technical constraints, especially if it hires and funds its own consultant.

The advocate may detect flaws in the agency's plans.

The interest in question gains the capability to make its own proposals; it, therefore, has some more constructive options that merely oppose the agency's plans or parts thereof with which it disagrees.

The hiring of professional staff by an interest generally results in that interest taking more temperate, more responsible, and more realistic positions.

Disadvantages of this CP TECHNIQUE

If your agency pays for the advocate, you may find yourself in the awkward position of supporting an adversary.

Because big and/or complex projects tend to affect a great many different interests, the question arises: Which ones should have advocates?

CP TECHNIQUE NO. 27: LOOKING FOR ANALOGIES

Basic Principles of this CP TECHNIQUE

One way for your project team members to invent solutions to difficult problems is for them to search for situations in fields and contexts that are entirely different – but analogous – from the field and context of their project. The criteria for determining whether an analogy is fitting or not is by examining its usefulness in helping people look at their problems in a new light, or from a new perspective, that – in turn – helps them understand and solve their problem.

While this is a technique that is primarily of interest and use as an in-house tool for the project staff, it is mentioned here because it has a couple of features that make it relevant to Citizen Participation:

- Using analogies can be a very effective way to communicate relatively complex issues to lay citizens – provided they are familiar with the situation that is analogous to the one your are trying to explain.
- The staff working on a project that affects many different interests spends a good bit of its time trying to get a handle on 1) what those specific impacts will be, and 2) how "good" or "bad" those impacts are for each of the affected interests. If, by studying the affected interests, the analogous situations can be compared to the problem at hand where trade-offs among impact-issues and interests were realized, then not only can a lot be learned about the interests' values, but a short-cut method will have been found for communicating very effectively with the interests about the trade-off issues that have to be resolved successfully in order to achieve SEACA.

Key Features of this CP TECHNIQUE

The project staff consciously searches – individually as well as in group brain-storming sessions – for situations in a field and for a context that is different from the one their problem is in. The team asks itself questions along these lines:

- Our problem may be unique, but I bet there are a lot of situations that – in at least some way – are similar to our problem and that somebody has dealt with pretty successfully . . . What are some of these "similar – but – different" situations?
- The kind of problems our project creates for some of the affected interests are – in at least some way – similar to other problems that have confronted people in the past . . . What are some of those analogous problems?
- The interests whose SEACA will be needed before this project can become a reality, are going to have to make a decision on some very difficult issues, – namely, on how to balance off certain advantages against certain disadvantages. . . . What are some of the situations that have arisen in the past where these interests had to deal with difficult trade-off issues?

One way to increase a group's chances for coming up with analogies, is to ask people who are outsiders to the project, and who do not have expertise in the problem area, to list the various situations that they are familiar with and that are – in some way – similar or analogous to the problem at hand.

Advantages of this CP TECHNIQUE

If the potentially affected interests have either much to gain or lose by the project and, therefore, have difficulty retaining any degree of objectivity, an analogous situation might permit them to look at their own situation again with a more objective view.

CP TECHNIQUE NO. 28: CATALOGUING OF SOLUTION CONCEPTS

Basic Principles of this CP TECHNIQUE

Lay citizens who are in one form or another participating with your agency in developing a project generally don't know how your professional project staff goes about doing its work. Most of them have no idea how the professional project staff takes the original problem, analyzes it, explores possible solutions, and winds up recommending a specific course of actions.

This technique may be able to do several things for you:

- It may help the lay citizens get a very good handle on how your project staff explores possible solutions. In fact, it gives lay citizens an almost immediate overview of the range of possible solutions that should be examined to determine their possible applicability.
- It can provide your project staff the same opportunity.
- It may provide the necessary incentive for someone on your staff 1) to keep abreast of all relevant innovations that are being tried by other agencies and 2) to – in turn – keep his colleagues on the project staff informed.

Another principle that comes into play here is that professionals really have just two options:

1. They either keep abreast of relevant new ideas through some simple mechanism – such as this technique.
2. Or they are condemned to continue struggling with a problem even though someone has, elsewhere, solved it; they thus are forever "reinventing the wheel."

Key Features of this CP TECHNIQUE

Someone on the project staff has the responsibility to:

1. Develop a loose-leaf "Catalogue of Solutions" for the kind of problem at hand.
2. Develop a brief description of every significantly different type of solution for your type of problem that he can identify.
3. Identify, as much as possible, the strengths and weaknesses of each type of solution.
4. Keep abreast of projects that are relevant and that are trying new approaches, and to update the catalogue continually to reflect these new ideas.

Disadvantages of this CP TECHNIQUE

Creating such a catalogue does not suggest that the professionals' job of developing solutions for the problem at hand is reduced to one of shopping for the best solution concept in their handy-dandy "Solution Concept Catalogue." There is, of course, no real danger that your professionals will mistake their job in this way; but, there is a very real danger that at least some of the lay interests will mistake the professionals' job to be as simple as picking solutions from a catalogue.

CP TECHNIQUE NO. 29: CONDUCTING A CHARRETTE

Basic Principles of this CP TECHNIQUE

29A: Charrette is an intensive brain-storming session involving any number of people and lasting anywhere from a few hours to a few days; all are involved in defining problems and coming up with solutions for them.

In the architectural profession, it has been a tradition ever since the "Ecole des Beaux Arts" sent a cart (charrette) around Paris to collect its students' work when the submission deadline was reached, to call crash efforts at designing as being "en charrette." (The hard-pressed students, rather than surrender their designs, used to jump on the cart along with their drawings so that they might work on them a few minutes longer "on the cart," i.e., "en charrette.")

Key Features of this CP TECHNIQUE

A good bit of the success of a Charrette depends on the atmosphere that is created for it. The right atmosphere helps people to bring out their ideas – especially to be daring enough to let their more inventive ideas come to the surface. A successful Charrette can accomplish several things, among them:

- It engages everyone who has anything at all to do with the problem at hand in a creative manner, i.e., in the effort of **creating** solutions – not reasons why this and that solution won't work.
- It results in a comprehensive compilation of everyone's ideas, especially everyone's ideas on how to improve a situation.
- It also leaves its participants somewhat changed; they will have been involved in a very intensive experience of interacting with others. One of the ways a successful Charrette can touch lay people is to make them realize that they **are** capable of coming up with solutions to most problems that they perceive.

While most design Charrettes involve a few people or, maybe as many as 30 people, some organizations and agencies have held Charrettes involving as many as 2,000 people.

The more people that it tries to involve, the more careful one has to plan the Charrette. Basic preparations include:

- While a Charrette may be designed to address a whole set of problems, it helps to have a "Catalyst-type Problem" that everyone can focus on, at least at the outset. To provide this

focus, the Charrette leader or organizer needs to focus everyone's attention on this problem as a starter for the creative activity.

- Arrange for meeting space. If more than a few people will be involved, there need to be two kinds of spaces:
  - one space that is big enough for **all** people to meet at the beginning of the Charrette, occasionally during the Charrette, and at the end;
  - work areas where the participants can work in groups up to eight or ten;
  - the work spaces should have ample free wall areas where large sections of butcher-paper, etc. can be taped up to be used to write and draw sketches, graphs, diagrams.
- Materials should be available, including all kinds of paper – particularly rolls of butcher-paper and/or tracing paper, magic markers, etc.
- Pertinent background information such as relevant maps
- Food, coffee, etc. must be brought in; a Charrette cannot "stop for lunch." etc.
- Some bunks where individuals can lie down if they absolutely must sleep a couple of hours; – the Charrette itself, ideally, is non-stop; it continues 24 hours per day at a hard-working pitch of creative productivity. Experienced Charretters tend not to use any bunks; they understand when a team member simply has to lie down on the floor or on a table for an hour or so in the middle of the Charrette's noisy hustle and bustle.
- Professional designers, such as architects, engineers, urban designers, etc., with experience in the creative problem-solving process need to be sprinkled among the lay participants so they can get the creative process going again when it threatens to get side-tracked.

As the reader should sense by now, a Charrette contains a certain carnival atmosphere. But, don't let this decieve you; the carnival atmosphere is there by **design**; successful Charrettes are unquestionably the most productive technique for generating creative solutions. Some designers who create primarily through Charrettes learn to involve their creative intellect so intensely and so totally that they literally stop taking care of themselves: They will lose track of time; they will not know that they are hungry, they will only notice that they are not feeling well; if there is food around, they'll eat it while working; the only time they will sleep – and then only for an hour in their clothes, on the hard floor, right where they are working – is when the physical pain of staying awake becomes unbearable . . . etc.

29B: Brainstorming Session

This is a quick and dirty version of a Charrette and is best done in small groups. The purpose of a brainstorming session is to generate useful and new ideas towards the solution of problems, and to create **an environment which is conducive for the generating of innovative solutions, partial solutions, suggestions, and other useful ideas.**

The greatest obstacle and inhibiting factors during brainstorming are negative comments and the instant citing of reasons why a new idea would never work. It is, therefore, absolutely essential that criticism of new ideas be prohibited during the brain-storming session. What is allowed – in fact, required –, however, is the adding, and building-upon of other people's ideas. The criticism or discarding of a proposed solution is done at a later time, not during the brain-storming session.

Brainstorming is the central activity during a Charrette. While the Charrette is a process that can go on for an extended period, even for days, brainstorming is not subject to that kind of pressure.

A particular brainstroming version has been developed by the Institute of Cultural Affairs, based in Chicago. This institute has held its brainstorming sessions (they call them town-meetings) across the United States and abroad. A program that concerns a particular community or region is chosen as the focal point. The public participates in a highly structured format in analyzing the problem, generating solutions, and working out strategies to implement these solutions.

CP TECHNIQUE NO. 30:
MEDIATING A CONFLICT BETWEEN DIFFERENT INTERESTS

Basic Principles of this CP TECHNIQUE

Your ability to obtain SEACA, at times, depends on whether two or more affected interests can iron out some conflict between them. When this is the case, you may want to do all you can to mediate the conflict.

Key Features of this CP TECHNIQUE

Clearly and candidly lay out the problem to the interests that are involved. Become a go-between. Look for real and imagined conflicts; look for personal and historic reasons for those conflicts.

When you think you understand their conflict, check with the interests involved because you cannot afford to only guess at how they perceive the conflict.

Sometimes this is all that's needed; a clear laying out of the issues behind the conflict is enough to discover an acceptable solution. What is even more likely is that the conflict will disappear at this point because, it turns out, the parties to the conflict **perceived** a conflict that, in fact, is not a conflict at all.

If the conflict refuses to disappear, look for solutions. First, try to find something that all parties to the conflict agree on – some value or concern that they share. Build on that area of agreement – no matter how small that original area is – and try to enlarge it by looking for further issues that the parties might be able to agree on.

Make it your job to invent and suggest possible ways to resolve the conflict. If you are not a party to the conflict, your suggestions have a much better

chance of being accepted than suggestions made by one of the parties to the conflict.

Variations of this CP TECHNIQUE

An agency that has a sufficiently important project at stake may want to go beyond playing the kind of go-between or peace-maker role that was described above. You may find that it is within your powers and resources to become a **"third party"** in a dispute in order to solve it. The way this generally works is something like this:

- Interests A and B are at each others throat.
- Their conflict has nothing to do with the project you are responsible for – **except** that, as long as the conflict between A and B remains unsettled, they won't join in the SEACA that is necessary to allow you to implement your project; their conflict, thus, effectively stops your project.
- You decide that, because of this situation, **their conflict has become your problem.**
- **You** give to A what he wants – but can't get – from B; and you give to B what he wants – but can't get – from A.

Since **you** wind up absorbing the costs of the concessions that get made to A and B, this technique works only as long as those costs amount to significantly less than the cost of allowing your project to get stalled.

Advantages and Disadvantages of this CP TECHNIQUE

If you choose to use this technique, we recommend you do so only because it appears to you that playing the peace-maker role clearly is **in your own best interest.** People who try to stop fights often get a bloody nose themselves in the process. . .

CP TECHNIQUE NO. 31:
BEING A "GOOD SAMARITAN" by HELPING SOLVE PROBLEMS OUTSIDE YOUR SCOPE OF RESPONSIBILITY

Basic Principles of this CP TECHNIQUE

An agency that is responsible for developing a particular project may find itself in the position where, if it chooses, it can help solve some local problem which is neither caused by your project nor has any other direct bearing on your legitimate agency responsibility.

This technique assumes that, although it clearly is **not** your agency's responsibility to solve the problem in question, – because you happen to be on the scene, you do have a "Good-Samaritan Responsibility" to do what you can.

Key Features of this CP TECHNIQUE

How the technique might work in practice is best explained with an example.

A highway agency was responsible for exploring what the best alignment would be for a future expressway. As is normal practice, it developed several alternative alignments within a 1-2 mile wide "corridor." In evaluating the several alternatives, it considered various factors: cost, number and types of businesses and residents dislocated, noise, safety, convenience for drivers, how well it would serve the over-all highway network, etc. Based on their analysis – and considerable citizen participation efforts – the Highway Department recommended which of the alternatives was the best one.

There was one alternative alignment – not the one that ranked highest on the Highway Department's criteria – that would have required the taking of hundreds of homes located directly under the flight path of landing airliners flying only a few hundred feet above their roofs. These people's homes could no longer be sold; no one wanted to live there any more. It used to not be a very serious problem; the runway used to not extend as far east; the planes used to be smaller; and they used to be much less frequent. But in the age of the jumbo jets those people had a terrible problem and, it appeared, no one could – or would – help them.

The people realized that running the future expressway through their neighborhood right under the flight path of the airliners might – from strictly highway considerations – not be the very best alternative alignment. But, it **was** one of the several alignments under consideration. They asked – no, they begged – the Highway Department to use the expressway as an instrument for solving a very big and very serious problem. Everyone conceded that the flight-path alignment would be a terrific "Good Samaritan" alternative and a good – though not the best – alternative strictly viewed from the Highway Department's Scope of Responsibility.

If you were the advisor to the State Highway Engineer, what would your recommendation have been?

Advantages of this CP TECHNIQUE

It may occur to many a career bureaucrat who knows very well that he and his agency already have more responsibilities than they need, that this technique is a little far-fetched, that he cannot afford to seriously consider using it. However, seen from the perspective of the private citizen or business, agency responsibilities and jurisdictions are fairly arbitrary divisions anyway. Therefore, when he sees that a particular public agency that is on the scene of a problem **could solve it but won't** because – the agency argues – solving **that** particular problem happens not to be its responsibility, he concludes that people in "government" (lumping all public agencies, etc. together) would rather pass the buck than be helpful. – If the existence of this kind of attitudes were not already a burden to virtually every dedicated public servant, we might spare you, the reader, this exhortation. But, this attitude **does** exist; and, not entirely without reason. – Well, this technique of "Being a Good Samaritan by Helping Solve Problems **Outside** Your Scope of Responsibility" is **one** means for your agency to do its part to change that attitude.

The technique has the potential not only for

changing the attitude we have described but, in fact, to increase the overall benefit from your project. Private industries have made far more use of this technique than have public agencies.

CP TECHNIQUE NO. 32: MONITORING THE ACTUAL IMPACTS OF A PROJECT

Basic Principles of this CP TECHNIQUE

Predicting what impacts a big or complex project will have on various diverse interests is a tall order. What is particularly difficult to predict are the social and cultural effects; you have few – if any – tried and true methods for doing this.

The purpose of this technique is to make the most of the fact that, by the time you have obtained SEACA among the various potentially affected interests, you have learned a lot about these interests and their values. If you not only predict what impacts your project **may have** on these interests, but if – after the project is implemented – you maintain contact with many of the interests to find out less obvious, or delayed, impacts of the project, then your ability to predict socio-cultural impacts will increase over time.

Key Features of this CP TECHNIQUE

In predicting likely impacts you must be as specific as possible; the minimum specificity that you need to provide is to describe anticipated impacts in sufficiently operational terms so that your prediction **cannot** be interpreted in more than one way. You monitor all potential impacts in order to observe the actual impacts. Be careful to resist the temptation of "looking for" impacts that will prove your predictions right – that's simply not the purpose. Rather, you want to improve your accuracy in making future predictions, on **other** projects.

Because it would be rather difficult to draw any clear conclusions if your observation of impacts are not based on the categories of phenomena that were originally predicted, your monitoring of impacts needs to include all of the phenomena that you originally did predict.

Who will carry out the monitoring is an important decision. Two of the things that need to be considered are:

- Having someone other than the project designers do the monitoring has the advantage of bringing in someone who is less likely to be biased. (The project designers will have a tendency to prove their impact-predicting right.)
- On the other hand, the project designers are bound to know virtually all of the potentially affected interests, and they will – consequently – be able to observe some of the more subtle socio/cultural impacts that may escape the individual who has no previous contact with the affected interests.

Advantages and Disadvantages of this CP TECHNIQUE

One effect of this technique is that you – as well as the public – will be much better informed in the future about your projects' actual impacts. Whether that's an advantage or a disadvantage is not obvious to us. In the case of projects that are falsely maligned as having undesirable impacts, of course, use of the technique will help clear the air.

CP TECHNIQUE NO. 33: "DELPHI" TECHNIQUE

Basic Principles of this CP TECHNIQUE

33A: "Delphi" Crystal Ball

As Greek mythology has it, if you were in ancient Greece and needed to look into the future, you would simply travel to the city of Delphi where the "Oracle" – or soothsayer – could tell you virtually anything you needed to know. This technique is named after the "Oracle of Delphi" because it provides a means of predicting the future when most other methods fail.

In nearly every context, and for every kind of problem, there are individuals who know a lot more about it than others do. This technique is a shorthand method of identifying those who are most knowledgeable about a given problem and for making a prediction about the future on the basis of these most knowledgeable people.

Key Features of this CP TECHNIQUE

Say you are forced in your project planning to make some assumptions about something which cannot be forecast or predicted by conventional methods. To use the Delphi technique you'd then follow roughly this sequence of steps:

- Based on your knowledge, and on asking around, identify the individuals who are most knowledgeable in the subject that you need to make some forecasts for.
- Call each of the individuals who thus gets nominated to your list of experts. Ask each one to nominate a list of people – including himself if he thinks it's appropriate – who are most knowledgeable on the subject.
- Call each of the, thus, newly nominated experts and ask them to do the same thing. – Repeat this step as often as is necessary. You can stop when **a handful of the many people who get nominated keep showing up on many of the lists of experts** that are being nominated. This handful of experts, essentially, will constitute **your Delphi experts.**
- Contact each of this handful of Delphi experts; tell them you are conducting a Delphi technique and would appreciate their cooperation because they obviously are considered experts not just by lay people but, more importantly, by their own colleagues.
- Note, the "panel" of experts is never to meet, nor are they to know who the other members

CP TECHNIQUE NO. 35: HOT-LINE/800#

Hot lines have become a popular technique in cases requiring a crash-effort, e.g. in the case of a disaster. They are a quick and easy means of establishing a link of communication between an agency which has the responsibility to work towards a solution of that problem and the affected public. Of course, one of the underlying assumptions is that people will pick up the phone and will call. The agency who relies on this technique also has to follow through with the information received. Not doing so is harmful to an agency's reputation.

CP TECHNIQUE NO. 36: POSTER CAMPAIGN

Poster campaigns are used by large organizations as a means to communicate certain worthwhile goals to their employees. The purpose for the posters is to remind people of worthy principles that most of us know but tend to forget in our daily routines. Poster campaigns in large companies, for example, remind people of sound safety practices. Other poster campaigns emphasize good working habits and motivational principles.

In order to be effective, it is necessary that the posters' designs are attractively done with messages, lay-outs, and colors that catch one's attention. They also need to be placed strategically in areas where people continuously pass by, spend time waiting for an elevator, etc.

The use of Poster Campaigns need not be limited to large companies. When appropriately planned, they have potential as an effective CP Technique. Agencies have used them to remind the public of such things as safe driving practices, energy conservation, what steps are to be taken when someone next to you on the subway has a heart attack, etc.

CP TECHNIQUE NO. 37: RESPONSIVENESS SUMMARY

One of today's CP realities is that **it is not enough to listen to the input from all the potentially affected interests**; an agency **must prove** that it is listening. The Responsiveness Summary is one of the ways in which an agency can prove it is listening to the concerns, frustrations, suggestions, etc. made by outsiders.

Different agencies go about it in different ways. One agency in one of the largest metropolitan areas keeps a running account of all the reactions to its planning efforts, be it in the form of a phone call, an informally made comment at a meeting to a staff member, an angry letter, a newspaper editorial, etc. All this input gets jotted down on a huge running sheet on the wall. The items listed on the running response account – going from left to right – are: 1) the source and the date of the input, 2) the "input-item" itself (in a very short but basically original, un-edited form), 3) the section of the agency's plan that is relevant to this input item, and 4) finally, the agency's response to the public input – in one or two sentences – expressing agreement, disagreement, whether and where the input item has made a difference, or, if not, why not. Eventually, this roughly compiled response account is typed up into a neater format and is incorporated in the plan as a "Response Summary."

This is just one of the many ways of showing to the public what happens to its input. It is a small CP effort, investment of time and cost is minimal, but the pay-off results in improved relationships with the public, and it can considerably enhance the agency's credibility and legitimacy.

Another version of a Responsiveness Summary is done by a resource management agency. It takes the form of documenting the agency's response to all the written input it receives to its Draft Environmental Impact Statements. The original input letter is reduced in size so that the agency's response to the input has room to appear on the same page. All of the original comments, and agency responses, are then incorporated into an appendix to the Final Environmental Impact Statement.

These are just two examples of how some public agencies respond to the public's comments. The Responsiveness Summary can be done in many diverse formats, use your own ingenuity and create the format that best accomplishes ***your*** purposes.

CP TECHNIQUE NO. 38: INTERACTIVE CABLE TV

Considerable work is being done on this fascinating CP Technique, but it is still in its early experimental stage. Special television sets, equipped for **two-way** communication, are the essential mechanisms for carrying out this technique.

One of the main advantages of this technique is that the response can be instant, and, unlike public meetings, it is not necessary for people to be moved long distances to attend the proceedings. Although it will be some time before this CP Technique will become as common a tool as the telephone – which, incidentally, even today is not used to its fullest potential – Interactive Cable TV will, eventually, become an important CP Technique.

on the "panel" are; all each knows is that he is on the panel along with 8-12 others.

- Ask each of the panel members to predict the future – over the phone or, preferably, through the mail – as best he can on those issues that you need a prediction for.
- After you have received a prediction from each of the panel members, you describe and display their predictions on paper – but in such a manner that it will not be possible to tell **who** predicted **what**. All that one should be able to get from this display of combined predictions is:
  - how many experts are on this panel of Delphi experts.
  - what each one predicted, – along with some key points of his reasoning provided he gave his reasoning.
- You send a copy of this combined display of predictions to each of the panel members, and you ask each one whether he cares to change his prediction now that he sees what the other panel members predicted and what reasons they gave.
- If all panel members say NO, that they do not care to change their predictions, you are done. You have the best prediction the "Oracle of Delphi" can produce for you.
- If, on the other hand, some of the panel members say YES, now that they see the other predictions and after having thought about it some more, they **do** want to change their predictions, ask them each to submit their new – i.e., 2ND – Round predictions.
- Just as with the 1ST Round, you make a display of combined predictions.
- You send copies of this display of combined 2ND Round predictions to each of the panel members, etc.
- You continue this process for as many rounds as is necessary, until none of them want to change their predictions any more.

Advantages of this CP TECHNIQUE

Compared to most sophisticated forecasting techniques, this technique is extremely inexpensive, and it can be done with relatively little effort.

33B: "Delphi" Public Survey

This CP Technique has greater similarity to the Nominal group workshop (technique No. 3) than to the Delphi Crystal Ball technique (No. 33A), described immediately above, with the exception that this technique is done through the mail rather than at a workshop. Unlike the Delphi Crystal Ball technique in which only experts are contacted and their opinions and suggestions solicited, here an ***entire population's*** views and reactions to several alternatives under consideration are sought. The results are run through a computer and the majority preferences are identified. Everyone gets a second iteration to let them know where everyone stands. Those who diverged from the majority's choices are encouraged to review their original preference and they are asked to reconsider their views.

It appears that the intent is to find out what people's values are and to develop a certain amount of agreement among them.

33C: "Delphi" Intelligence Gathering

Seemingly unrelated, relatively harmless questions are asked in a very systematic (Delphi) format which – if people really knew what information they were divulging about themselves they would never answer. (This technique evidently has been used as a means for intelligence gathering purposes.) Very little is known about this technique and its subversive nature and purpose. Needless to say, we are **only** reporting this CP Technique because there are public agencies who have used it. We ***do not***, and ***cannot***, recommend it as a legitimate CP Technique. It is likely to do far more harm in undermining the agency's legitimacy and credibility than it is likely to help the agency through the information it yields.

CP TECHNIQUE NO. 34: LOST LETTER

This is – we hope – an uncommon CP Technique. The only reason why it is included in this collection of CP Techniques is that it is used by some agencies as a CP Technique.

Public officials who use the Lost Letter technique are speculating about how the public **really** feels about them, and they believe that the Lost Letter technique will tell them more about that than a survey would. The Lost Letter Technique is based on the – basically sound – notion that people's actions more reliably reflect their attitude than their verbal statements do.

A letter, with a content that has no particular meaning to the public, is sealed, stamped, and addressed to the agency. The letter then is dropped in a neighborhood: on the sidewalks, the schoolgrounds, and other public places. The agency then sits back and waits to see what happens to these "lost" letters. They count the percentage of letters that get delivered to them through the mail. The theory is that, if the people respect the agency on the address, they will pick-up these "lost" letters and drop them in a mailbox; conversely, the assumption is that an agency that does **not** have the public's respect will have its letter thrown away. Public officials who use this CP Technique believe that they can measure relative respect by the percentage of letters mailed back to them by one neighborhood or city versus another.

We cannot recommend the use of this or any similar CP Technique. If and when citizens catch on to what an agency is doing, the agency's legitimacy and credibility will become seriously undermined resulting in a setback that will not be easily overcome. And, of course, the CP Technique – even when it works – does not contribute significantly to the achievement of the 15 CP Objectives.

ABBREVIATIONS

A/E - architectural/engineering.

ADNL - A-frequency weighting.

AICUZ - Air Force Incompatible Use Zone.

AR - Army Regulation.

CDNL - C-frequency weighting.

CELDS - Computer-Aided Environmental Legislative Data System.

CEQ - Council on Environmental Quality.

CIB - capital improvements budget.

CIP - capital improvements program.

CP - citizen participation.

dB - decibel.

dBA - A-weighted decibels.

dBC - C-weighted decibels.

DEH - Directorate of Engineering and Housing.

DF - Disposition Form.

DNL - annual average day-and-night sound level.

DOD - Department of Defense.

Decibel - a logarithmic unit of measure of sound pressure.

EIFS - Economic Impact Forecast System.

EOD - Explosive Ordnance Demolition.

ETIS - Environmental Technical Information System.

FAA - Federal Aviation Administration.

FORSCOM - U. S. Army Forces Comman.

HUD - U.S. Department of Housing and Urban Development.

ICUZ - Installation Compatible Use Zone.

INCS - Integrated Noise Contour System.

INM - Integrated Noise Model.

IPB - Installation Planning Board.

IPR - in-progress review.

JAG - Judge Advocate General.

MACOM - Major Command.

MFR - Memorandum for the Record.

NCP - Noise Compatibility Plan.

NEPA - National Environmental Policy Act.

PAI - potential affected interest.

PAO - Public Affairs Office.

PMS - Pantone Matching System.

POC - point of contact.

POI - Program of Instruction.

PS/PM - problem-solving/decision-making.

PTA - parent teacher association.

STC - sound transmission class.

TDR - Transfer of Development Rights.

USA-CERL - U.S. Army Construction Engineering Research Laboratory.

USAEHA - U.S. Army Environmental Hygiene Agency.

USEPA - U.S. Environmental Protection Agency.

USGS - U.S. Geological Survey.

VA - Veterans' Administration.

TERMS

A-Weighted Sound Level - the sound pressure level in decibels as measured on a sound level meter using the A-weighted network. The A-weighting scale closely resembles the frequency response of human hearing, and therefore, provides a good indication of the impact of noise produced from transportation activity. Helicopters and vehicles produce noise best described in terms of ADNL (i.e., fixed-wing aircraft).

Air Installation Compatible Use Zoning (AICUZ) - Air Force and Navy program to decrease the possibility of a major catastrophe from aircraft accident and to prevent incompatible development in high noise exposure and accidental potential areas.

C-Weighted Sound Level - the sound pressure level in decibels as measured on a sound level meter using the C-weighted network. The C-weighting measures the low frequency component of a noise that can cause building and windows to shake and rattle and which is an important ingredient in a person's perception of the annoyance from blast activities. High amplitude noise resulting from armor, artillery, and demolition firing are best described in terms of CDNL.

Comprehensive Plan - a document or series of documents prepared by a planning commission or department setting forth policies for the future of a community. It is normally the result of considerable study and analysis of existing physical, economic, and social conditions, and a projection of future conditions. When adopted by a public body, such as a planning commission or governing body, it serves as a guide for many public decisions, especially land-use changes and preparation of capital improvements programs, and the enactment of zoning related growth management legislation.

Day-Night Average Sound Level - the 24 hour average frequency-weighted sound level, in decibels, from midnight to midnight, obtained after addition of 10 dB to sound levels in the night from midnight up to 7 a.m. and from 10 p.m. to midnight (0000 up to 0700 and 2200 up to 2400 hours). A-weighting is understood unless otherwise specified.

Density - the average number of families, persons, or housing units per unit of land; usually density is expressed "per acre." Thus, the density of a development of 300 units occupying 40 acres is 7.5 units per acre. The control of density is one of the basic purposes of zoning.

Encroachment - the term implies unguided use or development of the land surrounding a military installation.

Heliport - a facility designated for operating, basing, servicing, and maintaining helicopters.

Impulse Noise (Impulsive Noise) - noise of short duration (typically less than one second) especially of high intensity, abrupt onset and rapid decay, and often rapidly changing spectral composition. Impulse noise is characteristically associated with such sources as explosions, impacts, the discharge of firearms, the passage of supersonic aircraft (sonic boom) and many industrial processess.

Installation - a grouping of facilities, located in the same vicinity, that supports certain functions.

Integrated Noise Model (INM) - microcomputer program used to determine airport noise contours using an A-weighted scale.

Land Use Controls - a term generally referring to the use of public power techniques to control and/or guide land use and development. In actual use, the term normally refers to zoning, subdivision regulations, and official maps.

Ldn - Ldn is the annual average day-night sound level, expressed either in terms of dBA or dBC. It is used to quantify the noise environment using a full year's activity data and average weather conditions. It is called a "day-night" level since events that happen between 10 p.m. and 7 a.m. are penalized to reflect that noise at night is inherently more annoying. The penalty makes each nighttime event equivalent to 10 daytime events. Ldn has been shown to be the noise measure that most closely describes the noise environment and humans' attitudes about the noise.

MicroBNOISE - microcomputer program to determine impulse noise impacts of military operations at installations using a C-weighted scale.

Noise Exposure - the cumulative acoustic stimulation reaching the ear of a person over a specified period of time (e.g., a work shift, a day, a working life, or a lifetime).

Noise Zone I - an area where the day-night average sound level (DNL) is less than 65 decibels, A-weighted (dBA). This area, considered to have moderate to minimal noise exposure, is acceptable for noise sensitive land uses including housing, schools and medical facilities.

Noise Zone II - an area where the sound level is between 65 and 75 dBA DNL. This area is considered to have a significant noise exposure and is "normally acceptable" for noise sensitive land uses.

Noise Zone III - an area where the day-night sound level (DNL) is greater than 75 decibels, A-weighted (dBA). This zone is considered an area of severe noise exposure and is unacceptable for noise sensitive activities.

Policy - a statement or document of a public body that forms the basis for enacting legislation or making decisions. The policies under which zoning ordinances are enacted and administered should be found in a community's comprehensive plan.

Public Health or Welfare - all factors affecting the health and welfare of man, including, but not limited to:

a) human health
b) the natural environment
c) wildlife
d) private property
e) shorelines
f) beaches.

Sound Level - the quantity in decibels measured by an instrument satisfying requirements of American National Standard Specification for Sound Level Meters, S1.4-1971. Sound level is 10 times the common logarithm of the exponential-time-average of frequency-weighted squared sound pressure of 20 micropascals. A squared pressure time constant of 125 milliseconds is used for "fast" averaging, and one second for "slow" averaging.

Sound Pressure - the instantaneous difference between the actual pressure and the average or barometric pressure at a given point in space, as produced by sound energy.

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