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**EMERGENCY PREPAREDNESS IN CALHOUN COUNTY:**  
AN ANALYSIS OF POLICY LEADER AND COMMUNITY  
PERSPECTIVES

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SPRING 2002



**Emergency Preparedness:**  
An Analysis of Policy Leader and Community Perspectives

**Spring 2002**

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## EXECUTIVE SUMMARY

The purpose of this report is to provide Congressman Bob Riley (R-AL) with findings about the state of emergency preparedness in Calhoun County, as it relates to CW (CW) storage and incineration at the Anniston Army Depot. We addressed the situation in Calhoun County with this research question: **Given that incineration is set to start at the Anniston Army Depot in September 2002, what information would provide the basis for practical dialogue about emergency preparedness in Calhoun County and provide a possible foundation for policy leaders to reach consensus over this critical issue in order to ensure citizen acceptance, understanding and compliance?**

For over ten years, residents of Calhoun County have known that the U.S. Army was considering incineration as the means of destroying CW at the Anniston Army Depot. The impending start of incineration has highlighted the need for an emergency preparedness plan for the community. The Army is set to begin incineration in September 2002, yet the community still lacks a working emergency preparedness plan. The goal of this project is to assess the lack of consensus concerning the plan. Recognizing that experts in CW, emergency planning, and policy have been involved in the Calhoun County situation from the start, our intent is not to debate the finer details of the plan or discuss the merits of incineration or any other CW destruction technology. Rather, we set out to clearly portray the positions of all of the stakeholders involved so that consensus can be built. Our hope is that the information we obtained from the Calhoun County Community Survey and our policy leader interviews will contribute to a better understanding of the problem and facilitate better communication and cooperation between policy leaders, while increasing community preparedness for the destruction of CW.

## MAJOR FINDINGS

Our overall findings are intended to provide new and valuable information about policy leader and community perceptions of the current problem, emergency preparedness, and community impacts. In addition, we examined the implications that these perceptions have on relationships, risk mitigation, and compensation. Our group hopes that these findings will provide the basis for practical dialogue about emergency preparedness in Calhoun County and a possible foundation for policy leaders to reach consensus over this critical issue.

### PREFERRED METHOD OF WEAPONS DESTRUCTION

- Most policy leaders prefer the method of incineration and feel that most residents prefer incineration while only a vocal minority opposes it. However, our survey found that **the community is divided over the issue of incineration**. About half of all community survey respondents prefer incineration as a method of weapons destruction, while the remainder of residents are divided between preferring to wait for the development of other methods and preferring the use of an existing alternative technology.

## PROBLEM PERSPECTIVES

- In the view of local policy leaders, **Anniston, Alabama is a unique situation**, and therefore, cannot be easily compared to Johnston Atolle or Toella, Utah. Unlike other U.S. CW stockpiles, the Anniston Army Depot is located in a community with more than 70,000 residents. Policy leaders are concerned that attempts to force a standardized federal structure on a unique, local situation will prevent the proper treatment and protection of Calhoun County, placing them in greater danger.
- **The definition of maximum protection varies among policy leaders, thereby creating an obstacle to consensus.** Policy leaders were uniform in describing the components of maximum protection in terms of safety measures and the protection of citizens. While some policy leaders believe that maximum protection is not achievable, others presented us with steps necessary to ensure maximum protection. These ranged from the distribution of personal protective gear (protective hoods) to the over-pressurization of all schools and hospitals.
- Local policy leaders have not reached consensus on what it will take to prepare for a chemical emergency. This translates into the **lack of a single voice** with which to educate and communicate with the public. As a result, open and effective communication between policy leaders and agencies has been compromised and public confidence in emergency preparedness has been undermined.
- Policy leaders tend to understand their roles, responsibilities, and constraints, and those of their counterparts in other official positions, in conflicting ways. **Common knowledge on the clear roles assumed by policy leaders does not exist.**
- **Residents with special needs were of great concern to policy leaders.** Special needs individuals include those with difficulty walking, driving, or those that are otherwise unable to comply with the emergency response plan (sheltering-in-place, evacuation, or the utilization of protective hoods). The majority of policy leaders contacted addressed the importance of identifying those with special needs and devising a plan to ensure their safety.
- **Policy leaders agreed that the public lacks proper education** on the issues surrounding CW incineration and emergency preparedness. The community survey reinforces this belief that citizens do not know how to respond in the event of an emergency. Of those survey respondents who seem to know what they should do, there exists a substantial fraction who indicate that they would not comply with those instructions. This matter is further complicated by the fact that some policy leaders disagree about whether the responsibility for education lies at the federal or local level.
- **Sixty-five percent of community survey respondents reported that television is their primary source of information.** However, an individual's source of information did not appear to have an effect on their knowledge of the emergency response plan or of sheltering-in-place procedures. Nevertheless, respondents who relied upon the radio for information were much more likely to doubt the effectiveness of the emergency plan.

## EMERGENCY PREPAREDNESS

- **There is substantial confusion over the current state of emergency preparedness** in Calhoun County. As a result, residents are not prepared in the event of a chemical accident at the Anniston Army Depot.
- **If an accident happened today, non-compliance rates would be substantial.** The non-compliance rates for sheltering-in-place would be 21 to 47 percent. Similarly, the non-compliance rate for evacuation measures would be 29 to 35 percent. Emergency planners must take a serious look at mitigating non-compliance rates. In addition, families with children are likely to think of their children's safety before their own. Of the parents living within eight miles of the Depot, almost 47 percent stated that they would pick up their child from school in the event of an accident.
- **The community is looking for consistent government leadership in emergency preparedness.** Sixty-two percent of the respondents indicated that listening for directions was a required component of the emergency response plan. This finding places a high burden on government officials at all levels and indicates that a coordinated emergency response plan is necessary.

## COMMUNITY IMPACTS

- **The purpose and benefits of the incineration of CW in Calhoun County are national in scope; however, the costs associated with incineration are localized.** These “community impacts” affect every aspect of community life and can be costly to the public. In the context of Anniston, Alabama this includes: 1) risk, 2) the financial burden of reducing air infiltration for sheltering-in-place and, 3) the stigma associated with the storage and incineration site and how it impacts residential property values, use and enjoyment of property, and business migration.

### **Risk**

- Residents of Calhoun County perceive both the storage and incineration of CW to pose serious risks to the community. However, **on average, the storage of CW is perceived to be slightly riskier than incineration.** Nevertheless, approximately 50.2 percent of respondents perceived the incineration of CW as presenting a high risk to the community.
- **Most survey respondents report being concerned about negative impacts on their families' health.** In addition, many citizen groups believe that the incineration of CW in Calhoun County will release dangerous pollutants into the air that would have a negative impact on human health and the degradation of the natural environment. These concerns are particularly relevant considering the background PCB contamination that has affected the local community.

### **Financial Burden of Reducing Air Infiltration**

- Anniston has the largest number of dwellings built before 1970 and the largest number of dwellings built before 1950 of any of the eight CW sites. In our community survey of Anniston, **only 59 percent of the respondents said it would be possible to make one room in their home airtight** if they had to use a sheltering-in-place kit. The average reported household cost to “make one room airtight” was \$2961.27.

### **Stigma**

- Our analysis demonstrates that **respondents are willing to pay less for homes near the Anniston Army Depot**, than they would pay for homes located further away.
- Many policy leaders perceive the presence of CW in Calhoun County to have a **negative impact on the ability of the community to attract new businesses**. Survey respondents echoed this belief with 56.4 percent of respondents indicating that the incineration of CW would decrease the number of new businesses coming into the county.
- **Many survey respondents indicated that living near the Anniston Army Depot would have a negative impact on their use and enjoyment of their homes**. Approximately half of all respondents indicated that living near the Depot would result in their decreasing or stopping activities such as working in their lawn and garden, having outdoor barbecues and picnics, and allowing their children to play outside.

### **USE OF INCENTIVES**

- **As a result of the perceived costs associated with incineration, incentives may be necessary to help balance the costs and benefits of hosting the incineration facility and to increase local support of CW destruction**. The majority of community survey respondents stated that mitigation and compensation measures would make them either more favorable to incineration or maintain their current level of support.
- Our analysis revealed that **mitigation of risk is much more important to the community than compensation**. Therefore, if incentives are to be effective in Calhoun County, mitigation must be offered, and the community should be involved in the identification of mitigation options. A disproportionate emphasis on compensation could result in a substantial portion of the community perceiving compensation as a bribe.
- Overall, the community preferred evacuation route improvements, relocation, the coverage of medical costs, and protective suits for emergency responders. **Those who opposed incineration as the CW destruction method responded most favorably to relocation and evacuation route improvements**.

## COMMUNICATION

- **Who the public trusts affects what they believe about incineration and the emergency preparedness plan.** Those citizens who expressed trust in policy leaders at all levels of government viewed storage and incineration as significantly less risky than citizens who distrusted even one group of leaders. These citizens were also more confident that the emergency preparedness plan would effectively protect the community.
- Each policy leader has a stake in increasing public trust for their counterparts in other involved governments. Given the interlocking roles each plays in emergency preparedness, it should come as no surprise that community distrust for any one of these policy leaders erodes confidence in the entire program. **The implication is that each leader must assist in the enhancement of the capacities, credibility, and community-mindedness of each of the others and then contribute to the education efforts.**

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## INTRODUCTION

For over ten years, residents of Calhoun County have known that the U.S. Army was considering incineration as the means of destroying chemical weapons (CW) at the Anniston Army Depot. The impending start of incineration has highlighted the need for an emergency preparedness plan for the community. The U.S. Army is set to begin incineration in September 2002, yet the community still lacks a working emergency preparedness plan. The purpose of this report is to provide Congressman Bob Riley (R-AL) with findings about the state of emergency preparedness in Calhoun County, as it relates to CW storage and incineration at the Anniston Army Depot. We addressed the situation in Calhoun County with this research question: **Given that incineration is set to start at the Anniston Army Depot in September 2002, what information would provide the basis for practical dialogue about emergency preparedness in Calhoun County and provide a possible foundation for policy leaders to reach consensus over this critical issue in order to ensure citizen acceptance, understanding and compliance?**

This first chapter provides an introduction to the history of the CW stockpile in the United States and in Anniston, Alabama, and the current emergency preparedness situation in Calhoun County. In addition, we discuss our project proposal, our research methodology, and the structure of this report.

## CHEMICAL WEAPONS STOCKPILE: A BRIEF HISTORY

The history of CW stockpiles is pertinent to the current situation in Anniston, Alabama, as it provides background and aids understanding of the current lack of consensus. In the following discussion we provide information on CW stockpile sites around the country, the Chemical Weapons Convention Treaty, the presumptive method of CW disposal- incineration-, and the uniqueness of Anniston in relation to the other CW stockpile sites.

## CHEMICAL WEAPONS STOCKPILE IN THE UNITED STATES

The United States military has long been on the cutting edge of the development and use of technology for the defense of a nation, which included the exploration of CW. The military produced many more CW than were detonated, and so long-term storage of these dangerous weapons became necessary. During the 1940's the military began secretly stockpiling these weapons in nine depots across the nation. Eventually, it was no longer a secret where these stockpiles existed; Utah, Oregon, Johnston Island, Alabama, Kentucky, Maryland, Indiana, Arkansas, and Colorado all became home to the unwanted munitions (refer to Figure 1.1). Then in 1993, the United States joined with 129 other nations in signing the Chemical Weapons Convention Treaty, which went into effect on April 29, 1997. In hopes of creating international peace and security, the treaty provides for the complete destruction of all CW and chemical weapon production capabilities. The treaty required signatories to comply by the set deadline, April 29, 2007 (Organisation for the Prohibition of Chemical Weapons, Date Unknown). The treaty did not, however, specify the preferred means of CW destruction. The Army originally selected incineration as the most tested and trusted means

of chemical weapon destruction in the early 1980's (NRC, 1999). The National Academy of Sciences supported the Army's choice of incineration in 1984 (NRC, 1999).

**Figure 1.1: Locations of U.S. Chemical Weapons Stockpile Sites**



**Locations of U.S. Chemical Weapons Stockpile Sites**

SOURCE: *Chemical Weapons Working Group, 2002*

## CHEMICAL WEAPON STOCKPILE IN ANNISTON

Chemical weapons were first transported to Calhoun County in 1940, but the full purpose of the Anniston Army Depot was not known by the community until 1960. Since that time, there have been several leaks, reminding everyone of the imminent need to establish an emergency preparedness plan. With construction on the incinerator now complete, the reality of incineration has placed the spotlight on the Federal Emergency Management Agency (FEMA), the Alabama Emergency Management Agency (EMA), Calhoun County Commissioners, and the Army as they discuss what an emergency preparedness plan for Calhoun County should entail.

Anniston is different from the other eight storage sites in that it exposes more people to potential harm than any other site. In contrast, CW storage sites like Toelle, Utah and Johnston Island, have relatively small populations that surround the site. Although Aberdeen has the same number of housing units as Anniston, these homes are newer and safer structures (Vogt and Sorensen, 1994, 6-7). As of 1999, almost 30,000 housing units were located within nine miles of the Anniston incineration facility (Oak Ridge National Laboratory, 1999). Furthermore, there are approximately 83,000 citizens that live in the immediate response zone (IRZ), the most dangerous zone (Oak Ridge National Laboratory, 1998).

## CHEMICAL WEAPONS EMERGENCY PREPAREDNESS: A BRIEF HISTORY

In order for an emergency preparedness plan to be developed, there has to be a certain level of consensus among affected parties. In the subsequent discussion, we provide information regarding the responsibilities of various federal, state, and local officials, including a particularly significant disagreement among officials concerning emergency preparedness equipment.

### FEDERAL EMERGENCY PREPAREDNESS

The Chemical Stockpile Emergency Preparedness Program (CSEPP), which was established by Congress in 1985, places the responsibility for emergency preparedness with two groups: Army and FEMA. A Memorandum of Understanding was signed by the Army and FEMA in August 1988. The MOU outlines the roles of each agency as well as areas of needed cooperation between the two in an effort to maximize efficiency of resources. FEMA agreed to assume responsibility for off-post emergency planning activities while the Army maintained its original program role of providing on-post technical assistance and review of, and support to, FEMA. In 1994, the management structure of CSEPP was changed when the Army and FEMA adopted a Joint Memorandum streamlining the program and enhancing the cooperative relationship between the two agencies. According to this memorandum, the Army continues to take the lead in all CSEPP affairs. Specifically, “the Army institutes on-post preparedness plans, upgrades response capabilities, conducts necessary training, and integrates on-post and off-post emergency preparedness capabilities” (CSEPP Planning Guidance, 1994, ch.2-p. 5). FEMA, on the other hand, plays a support role, working with state and local governments in “developing off-post emergency preparedness plans, upgrading response capabilities, and conducting necessary training” (ch.2-p.5). FEMA and the Army, in cooperation with one another, will “develop protocols for assessment of readiness of state and local jurisdictions and Army installations...while FEMA regional offices continue to review plans and evaluate exercises and training” (ch.2-p.5).

In 1997, the Army and FEMA entered into a revised Memorandum of Understanding addressing “some of the management problems that were caused by unclear roles and responsibilities and the lack of coordination” (GAO, 2001, p. 3). According to this MOU, FEMA is responsible and accountable for all aspects of off-post emergency preparedness. Particularly, FEMA is charged with administering off-post funds; supporting development of response plans; preparing, developing, delivering and evaluating training; providing technical assistance; and developing programs to evaluate off-site readiness capability<sup>1</sup> (p. 5). The role of the Army was defined as continued management of on-post (installation) emergency preparedness and the provision of technical and financial support for both off-post and on-post activities (p. 5).

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<sup>1</sup> Found at [http://www.fema.gov/library/ct01\\_01.htm](http://www.fema.gov/library/ct01_01.htm)

## STATE AND LOCAL EMERGENCY PREPAREDNESS

Congress established a framework for emergency preparedness at the state and local level by passing The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986. This legislation requires emergency planning at the state and local levels in order to increase knowledge within communities. This framework outlines three main requirements. First, local and state emergency planning efforts must include public awareness of potential chemical hazards; second, local and state planning agencies must assist in preparing communities for potential emergencies, including ways to prevent and respond to emergencies; and last, agencies must make available pertinent information necessary for effective emergency planning (EPA, Date Unknown)

Specifically, EPCRA mandates the establishment of State Emergency Response Commissions (SERCs) (EPA, Date Unknown). These SERCs are charged with coordinating Local Emergency Planning Committees (LEPCs) who in return coordinate local districts and supervise them.

## CALHOUN COUNTY EMERGENCY PREPAREDNESS

The 1988 MOU between the Army and FEMA “authorizes the Secretary of the Army to provide maximum protection for the environment, the general public, and workers when carrying out the destruction of the United States chemical stockpile” (CSEPP Planning Guidance, 1988, ch.2-p.2). The definition of “maximum protection,” however, changes depending upon whom you ask. This creates varying levels of expectations for policy leaders and sets them up to disagree.

The General Accounting Office issued reports in 1996 and 2001, evaluating the preparedness of Alabama, as well as other stockpile sites. In the August 2001 report, CSEPP was criticized for not providing local communities with adequate assistance (GAO, 2001). Specifically, the GAO rated the following critical elements of emergency preparedness in Calhoun County as partial: distribution of tone alert radios, coordination of evacuation and sheltering-in-place protective action strategies, staffing of positions to man 24-hour tasks, construction of over-pressurization systems of identified facilities, and guidance on reentry planning (GAO, 2001). “Calhoun County in Alabama is far from being fully prepared, does not have an agreed-upon response plan, and has not done enough to educate the public about the program” (GAO, 2001, p. 3).

While the United States signed the Chemical Weapons Convention Treaty in 1993 with the understanding of completing the destruction of CW by 2007 (Organisation for the Prohibition of Chemical Weapons, Date Unknown), the U.S. Army has announced it does not foresee completion until 2009. Facing opposition to incineration and lack of support from FEMA to release \$40.5 million for protective equipment and supplies to protect public buildings, as agreed upon by the Department of Defense in November 2001, continued delays may further push back this date. On February 1, 2002, Alabama Governor Don Siegelman announced plans to file suit to delay incineration given Calhoun County’s lack of emergency preparedness. This same day, FEMA agreed to release \$25 million of the \$40.5 million previously held up by the agency. Five days later, on February 6, FEMA and other federal representatives met with delegates from Calhoun County in an effort to reach consensus on emergency preparedness. Delegates attempted to hold FEMA accountable for a November Department of Defense agreement, authorizing distribution of federal funds to Anniston for emergency preparation efforts. Consensus, however, was not reached in the

matter. Consequently, Governor Siegelman filed suit on February 14, 2002, to prevent commencement of incineration and surrogate trial burns. The Calhoun County Chamber of Commerce countered by petitioning the Governor not to delay incineration. Despite this lawsuit, surrogate trial burns began on March 16 and ended the following week. Shortly thereafter, FEMA agreed to release \$7 million to be applied toward protective equipment for residents closest to the Anniston Army Depot.

Although twice the amount of federal funds has gone towards preparing Calhoun County for incineration (\$107.8 million, as of August 2001) than to the next most expensive community (Oregon - \$49.5 million), there is still great public outcry that the community is not prepared for the risk that it has been required to assume (GAO, 2001). Despite this funding, local, state, and federal officials are still unable to reach a consensus on emergency preparedness.

If state and local officials do not believe there is a workable emergency preparedness plan in place, it will be difficult for the Anniston Army Depot to begin destruction of the CW stockpile (GAO, 2001). If the state delays the start of incineration, it will cost the Army millions of additional dollars and it will prolong the risk posed by continued storage of CW (GAO, 2001). If the Army proceeds with incineration and there is no agreed upon emergency plan, the perception of risk for incineration is likely to be exacerbated. It is clearly in the best interest of all parties involved to reach an agreement on emergency preparedness as soon as possible.

## THE PROPOSAL

Our research team is made up of six graduate students from the George H.W. Bush School of Government and Public Service at Texas A&M University. With a focus on public service and administration, students are required to complete a semester-long consulting project. A “capstone” experience, this project is the culmination of our educational experiences while at the Bush School.

In serving as the client for our capstone project, Congressman Bob Riley has placed the community first. Calhoun County, the area most affected by the storage and destruction of CW, falls within his congressional district. Reaching a consensus on CW emergency preparedness in Calhoun County is a priority of Congressman Riley and the focus of this project.

In a preliminary meeting with representatives from Congressman Riley’s office, our team was charged with two tasks: 1) to identify policy leader and community perspectives of emergency preparedness in Calhoun County, and 2) to assess the magnitude of impact the presence of CW and the incinerator has had on the local community. We accomplished this charge by performing background research, conducting a Calhoun County community survey and over 40 policy leader interviews, and analyzing the resulting data. This analysis of our collected data serves as the backbone of our report.

## POLICY LEADERS

In an attempt to gather valuable information about the current situation, we identified policy leaders who have a substantial stake in the Calhoun County chemical demilitarization process. The roles of these individuals include decision-making, implementing, regulating, and funding elements essential to community preparedness and policy-making. Policy leaders also include community organizations, coordinating and support agencies, and interest groups. Specifically, leaders and agencies contributing to the creation of an emergency preparedness plan were identified as critical stakeholders.

Local policy leaders comprise both city and county officials, consisting of elected, appointed and non-office holding positions. State policy leaders include elected, appointed and non-office holding positions, as well. Federal policy leaders consist of representatives from defense, regulatory, budgetary, and emergency agencies. A partial list of the policy leaders contacted, and a copy of the interview request letter sent, are included in this report as Appendix A and Appendix B. In order to uphold our commitment to protect the identity of those interviewed, we attribute interview findings to “policy leaders,” and do not assign specific viewpoints to individuals or their organizations.

## RESEARCH METHODOLOGY

To identify methods useful in improving communication and cooperation among government and community leaders and the public, and to address techniques that may be utilized in the design and implementation of effective emergency preparedness in Calhoun County, we have implemented a multi-phase approach.

Primary research was conducted during phase I and included the review and analysis of federal documents produced by the General Accounting Office, Department of Defense, and Department of Energy; local newspaper articles; Congressional records; journal articles; and relevant websites. A series of video-conferences were also held with Congressman Riley’s office to clarify our charge, provide and obtain feedback, and define the focus of our analysis.

Phase II of our project included the creation of a community telephone survey as well as the generation of interview questions to be asked of identified policy leaders. Our purpose in conducting a community telephone survey was to gauge community perceptions regarding local, state and federal policy leaders; emergency preparedness; communication; community impacts; and compensation and mitigation measures (refer to Appendix C for Calhoun County Community Survey and Frequency report).

Phase III of our efforts included the implementation of the Calhoun County Community Survey, completed by the University of New Mexico’s Institute for Public Policy. The Institute conducted the survey using their computer-assisted, telephone-interviewing laboratory, which randomly selected interviewees. More than 700 Calhoun County resident interviews were completed by March 31, 2002. Respondents were selected using a random-digit dialing (RDD) sampling frame that gives equal probability of inclusion to all households with working telephones in Calhoun

County, Alabama. (Refer to Appendix D for technical summary report, which includes survey operation rate, overall response rate, refusal rate, and sampling error.)

Phase IV was marked by a site visit to Anniston, Alabama where team members interviewed local policy leaders and federal policy leaders living in Calhoun County. Telephone interviews of additional local, state and federal policy leaders were conducted in the following weeks.

The final phase of our project included analysis of the community survey and policy leader interview responses. Various forms of data analysis were conducted including descriptive statistics, comparison of means tests, logit regression analysis, and contingent purchase analysis. Analyses of leader interviews and report writing were also incorporated into phase V.

## **REPORT METHODOLOGY**

For purposes of this report, we assume that the method of CW destruction will be incineration. We do this not because we advocate incineration, but because evaluation of incineration and its alternatives is beyond the scope of this study. With this in mind, our goal in this project is to provide analysis that assists the community in its efforts to reach a state of preparedness so that destruction of CW (by whatever means) can proceed as safely as possible.

This report uses Calhoun County Community Survey and policy leader interview data to obtain an overview of policy leader and community viewpoints on issues such as incineration, emergency preparedness, trust, and risk (Chapter 2). This discussion is followed by a detailed look at emergency preparedness in Calhoun County, including policy leader and community preferences and understanding of the current plan (Chapter 4). Then, survey and interview data are used to assess the magnitude of impact the presence of CW and the incinerator has had on the local community (Chapter 3). Next, we explore how these perceived impacts can serve as a basis for considering the use of mitigation and compensation measures to increase public acceptance of incineration (Chapter 5). Chapter 6 focuses on how the state of interagency relationships and public communication affects public fear and trust surrounding the incineration of CW in Calhoun County. Finally, we describe further research that will assist movement toward consensus on an effective chemical emergency preparedness program for Calhoun County.. Our group hopes that our findings will provide the basis for practical dialogue about emergency preparedness in Calhoun County and a possible foundation for policy leaders to reach consensus over this critical issue.



## PROBLEM PERSPECTIVE

In an effort to identify methods by which communication and cooperation can be improved among governments, community leaders, and the public, and to assist in the design and implementation of effective emergency preparedness in Calhoun County, a series of interviews was conducted, and an extensive community survey was implemented. More than 40 in-person and telephone interviews were conducted with policy leaders, and more than 700 phone surveys of randomly selected community residents were completed.

Policy leader interviews were conducted to develop an accurate understanding of what community leaders are thinking about the CW disposal issue, what organizations are planning or doing with regard to the potential risk presented by the CW, and what steps are being taken to address the issue of emergency preparedness in Calhoun County. A partial list of the policy leaders interviewed is included in this report as Appendix A.

The Calhoun County Community Survey was implemented to gather data on the perceptions, understandings, and opinions of local citizens on the issue of emergency preparedness. A listing of questions and response frequencies is included in this report as Appendix C.

The following discussion addresses the problems posed by CW storage and disposal from the perspectives of both policy leaders and community respondents, employing the data collected in both surveys.

## POLICY LEADER PERSPECTIVES

In conducting this research, we identified leaders at the federal, state, and local levels and contacted them for interviews. These individuals included elected officials and other policy makers; officials from regulatory agencies, emergency response agencies, economic and community development agencies; and representatives of community organizations and interest groups. These identified policy leaders were contacted and interviewed in an attempt to capture the full range of policy perspectives among the active participants in the Calhoun County CW storage and disposal issues. During the interview process two broad categories of data were gathered: 1) the leader's perspectives on incineration and emergency preparedness, and 2) the leader's understanding of the community's needs and perspectives regarding CW storage and destruction and emergency preparedness.

### LOCAL POLICY LEADER PERSPECTIVES

The following describes the perspectives of local leaders, as developed in our community leader interviews, on three issue areas: 1) their functions and tasks relating to CW emergency preparedness, as well as their perceptions on the functions and tasks of other leaders, 2) definitions and

components of “maximum protection” as it applies to the CW issue in Calhoun County, and 3) processes and procedures associated with the implementation of CW emergency preparedness. It is important to note that “local leaders” include both city and county stakeholders, as well as community organizations and interest groups.

### **Functions and Tasks**

After policy leaders defined or framed the current situation, they were asked a series of questions designed to identify their perspectives on critical functions and tasks relating to roles and responsibilities, structural frameworks and processes, obstacles in generating consensus, and interagency communication.

### **Roles and Responsibilities**

Local policy leaders were asked to define their roles and responsibilities with respect to emergency preparedness. Local officials, leaders, and emergency responders identified their roles as protecting the citizenry; raising public awareness; improving the emergency preparedness plan; and serving as advocates for the needs of the community. Ensuring that CW destruction begins on schedule was also identified as one of their responsibilities.

In defining the perceived roles and authorities of other policy leaders, we identified inconsistencies. The way in which a policy leader identified his/her position, responsibilities and authority, often differed from the ways in which other policy leaders described that same person’s role and authority. Specifically, we identified institutional constraints and different levels of knowledge among policy leaders, and we believe that this may contribute to the observed inconsistencies.

### **Structural Frameworks and Processes**

Responses regarding structural frameworks and processes revealed that identification of those responsible for implementing the technical component of an emergency preparedness plan varied, while identification of those responsible for funding safety provisions of the plan remained consistent. Perspectives on communication of the emergency preparedness plan to agencies as well as the general public revolved around two opinions.

Specifically, policy leaders have a basic understanding of the chain of command in the event of an emergency. The details of this chain and the precise duties assumed by other policy leaders remain unclear. In most cases, there is a clear understanding of the distinction between on-post (Army) and off-post (civilian) responsibilities and authorities. Local policy leaders acknowledge the federal government’s responsibility in funding CW destruction and the distribution of this money by the Federal Emergency Management Agency (FEMA).

While all policy leaders agreed that the public lacks proper education on the issues of chemical incineration and emergency preparedness, two perspectives were commonly reported: weaknesses lie at either the federal level or at the local level. These perspectives, however, are related to the policy leader’s job position and are linked to perceptions regarding funding and the distribution of responsibilities and authority; proximity to, and understanding of, Calhoun County communities; and responsibility to increase public awareness. Specifically, local policy leaders argue that those at the federal level have failed in their efforts to properly educate the public. Therefore, local officials and agencies are now predominantly responsible for communicating to and educating the public.

## Obstacles in Generating Consensus

We asked local policy leaders to identify both obstacles to, and opportunities for, achieving consensus on eliminating CW and planning for emergencies. Responses were dominated by three related themes: 1) bureaucracy and bureaucratic processes, 2) monetary issues, and 3) perceptions of trust, believability, respect and authority. It is interesting to note that policy leaders did not identify interagency communication as an obstacle or problem until we asked specific questions about patterns of communication and interactions among the involved policy leaders.

## Interagency Communication

When asked to provide perspectives on interagency communication between local, state and federal entities, responses differed by the respondent's position and level of government. Many respondents identified positive relationships and open communication channels with officials or agencies sharing similar viewpoints on emergency preparedness and/or preferred methods of CW destruction. While the majority of policy leaders felt that communication among local entities was open and effective, the lack of agreement on substantive issues among them was identified as a problem. Disagreement centers on perspectives of emergency preparedness and incineration, including the roles and responsibilities of policy leaders. Many local leaders identified communication flow between local and state levels, and local and federal levels as more problematic than local communication flow. Again respondents acknowledged the delineation between on-post (Army) and off-post (civilian) responsibilities and the lack of communication links between the two. This lack of communication and knowledge sharing is an obstacle to emergency preparedness and the disposal of CW.

## **Maximum Protection**

Definitions of maximum protection and preferences regarding emergency preparedness options differed greatly among local policy leaders. "Maximum protection" means different things to leaders at different levels, thereby creating an obstacle to consensus. While a portion of our respondents believe that maximum protection simply is not achievable, they did present us with their definitions which often included ways of increasing safety. Steps identified to increase protection ranged from the distribution of personal protective gear (protective hoods); to over-pressurization of all schools and hospitals; to the implementation of every conceivable measure to protect the community from harm.

In defining what to do in the event of an emergency, some respondents operationalized "maximum protection" as implementing evacuation and/or shelter-in-place with the distribution of protective hoods to residents in the "pink zone," or the immediate response zone, those zones closest to the Depot. In discussing incineration, many policy leaders emphasized the need for the Army and its contractors to be both competent and diligent in the incineration process so as to reduce the risk of an accident due to human error. One policy leader identified "maximum protection" as an individual's personal choice or comfort zone with respect to the perceived risks posed by CW, and suggested that it would vary from person to person.

While the definitions of "maximum protection" are quite different among policy leaders, they share similar perspectives on the various safety methods in consideration. A frequently expressed opinion was that protective hoods will not work and are not a viable option. Respondents cited the inability of hoods to be effective if individuals have facial hair or fluctuate in their weight. Concern

was also raised over the protection of infants and children, and the necessity for individuals to carry hoods at all times. The small likelihood that an accident will occur “when convenient,” and the difficulty in training the public on the proper use of protective hoods were cited as major points of contention. In addition, the majority of respondents found evacuation to be the least viable option, citing traffic congestion and the increased possibility of accidents; the inability to practice an evacuation plan; and the marginalization of those without transportation.

Respondents also addressed the concerns associated with both sheltering-in-place and evacuation. Preferences toward sheltering-in-place and evacuation were divided, even among those most closely linked to the local community. Some community leaders felt that sheltering-in-place is not a viable option, while others felt it is the best option available. Those most closely linked to the local community did tend to support the distribution of protective hoods to residents in the pink zone. Still other local policy leaders preferred sheltering-in-place, acknowledging that it does have its place as a viable option in the emergency preparedness of Calhoun County.

Also of great concern to all of the policy leaders interviewed were residents with special needs including those with difficulty walking or driving, such as the elderly, and their ability to shelter-in-place, evacuate, or utilize protective hoods. The majority of policy leaders contacted addressed the importance of identifying those with special needs and devising a plan to ensure their safety. Retrofitting the homes of special needs residents in the pink zone and prioritizing them as the first to receive assistance from emergency responders were suggested safety measures. Similarly, policy leaders many recognized the need for tiered responses, or the endorsement of various safety methods according to location and proximity to the depot. All respondents were in general agreement with regard to the level of risk associated with those residents living in the immediate response zone. Policy leaders acknowledged that the greatest risk of CW storage and destruction exists for pink zone residents and that the amount of time they have to react in the event of an emergency is a critical issue in emergency preparedness.

In the same way, the time necessary to notify residents throughout the area in the event of an emergency was also addressed. Concerns surrounding interagency communication and the availability and quality of radios for emergency response agencies and officials at local, state and federal levels were identified. Many policy leaders expressed the need to ensure that pertinent individuals and agencies be equipped with radios of the same frequency range to enable for efficient communication in the event of an emergency.

While policy leader responses varied, it is clear that definitions of maximum protection are identified in terms of safety measures and the protection of citizens.

### ***Processes and Procedures***

Overall, three important themes were conveyed with respect to incineration and emergency preparedness. First, in the view of all of local policy leaders interviewed, Anniston, Alabama is a unique situation and, therefore, cannot be easily compared to Johnston Island or Toelle, Utah. Unlike other U.S. CW stockpiles, the Anniston Army Depot is located in the midst of a community with more than 80,000 residents. Second, of great concern to policy leaders are attempts to force a standardized federal structure on to a unique, local situation. The implications of taking a standardized approach prevent proper treatment and protection of Calhoun County communities, placing them in greater danger. Almost every local policy leader contacted expressed the opinion that federal decision makers are “too far removed” from the local situation to suggest what is best for the community or to guide community responses. Perceived as outsiders, it is difficult for

federal officials to identify with residents and understand the situation from a local perspective. Third, the principal concern among all local policy leaders contacted is that of safety. Concerns regarding destruction of CW were expressed only in terms of public safety, and not in terms of financial incentives. Of primary concern to policy leaders is the protection and education of Calhoun County residents. Leaders addressed policy options and preferences with a focus on safety and protection.

## **LEADER PERCEPTIONS OF COMMUNITY PERSPECTIVES**

Policy leaders also provided us with their perceptions of the community regarding incineration and emergency preparedness. The following discussion outlines the major themes that emerged with respect to community preferences, concerns, and levels of knowledge. The four themes presented below explore: 1) risks and preferences, 2) confidence and trust, 3) levels of public understanding, and 4) safety and preparedness.

### ***Risks and Preferences***

The consensus among local leaders regarding the community's support for incineration is that a vocal minority of local residents is opposed to incineration in weapons in Calhoun County. A number of policy leaders outlined the percentage of the community in favor of and against incineration. One leader claims that 70 percent of the public is in favor of incineration, while the remaining 30 percent is in opposition. A different leader indicated that 20 percent of the population is in favor of incineration, 20 percent is in opposition to incineration, and the remaining 60 percent is either undecided or indifferent. Others took the opportunity to comment on the process by which the incineration option has been proposed and implemented, noting in particular that community members essentially have become resigned to the idea of incineration, or "worn down" to grudging acceptance. The variation in perceptions of the community results, in part, from policy leader perspectives on the roles, responsibilities, and authority of other stakeholders.

### ***Confidence***

While many stakeholders refrained from discussing in detail perceptions of trust, competency and believability, many were willing to discuss the broader theme of the differing capacities of local leaders and decision makers in comparison with those at the federal level. Again, these perceptions of confidence and trust are the by-product of the positions held by local policy leaders. For example, with respect to public education, local leaders feel that the federal level has failed to properly educate the citizenry; consequently, the responsibility now primarily rests with local leaders. Another theme that arose surrounded the perceptions of the roles and authorities of other policy leaders. Where inconsistencies exist, levels of trust, competency and believability associated with policy leaders are compromised. Some leaders also noted issues over agency credibility, citing concerns over the validity of information released to the public.

### ***Levels of Understanding***

A substantial majority of local leaders interviewed revealed serious concern with the public's lack of knowledge, awareness and understanding of incineration and emergency preparedness methods

and consequences. For the most part, leaders feel that a significant fraction of local residents are confused and unclear about what to do in the event of an emergency. Based on the location and proximity to the Depot, policy leaders perceive different understandings of what is required of the various sectors of the community in the event of an emergency. Policy leaders attribute this phenomenon to the lack of communication with the public and weak education campaigns.

### ***Safety and Preparedness***

As representatives of the community, policy leaders identified community concerns as primarily related to safety and preparedness. In describing what local leaders thought would make the community at large more receptive to incineration as the chosen method for destruction of CW, responses included diverse safety and awareness measures as well as procedural elements. Various safety measures included the over-pressurization of all schools and hospitals, the education of the public on the incineration process and protection issues, and the continued dissemination of evacuation maps and literature. Process oriented elements included consensus building among policy leaders, assurance that strict guidelines preventing the transportation of weapons into Anniston for incineration are upheld, and developing a track record of incinerating without accident. The way in which policy leaders perceive the community's perspectives on incineration and emergency preparedness tends to mirror their own perspectives on the issues. For example, many local leaders in favor of incineration feel that the majority of the community is also in favor of incineration.

## **STATE AND FEDERAL POLICY LEADER PERSPECTIVES**

State and federal policy leaders were also interviewed in an attempt to acquire the full range of perspectives on CW storage and destruction and emergency preparedness. The following discussion will identify the perspectives of state and federal leaders on three issue areas: 1) their functions and tasks as related to emergency preparedness, 2) definitions and components of "maximum protection" as it applies to Calhoun County, and 3) processes and procedures associated with the implementation of emergency preparedness. It is important to note that state and federal leaders include both those living in Calhoun County and non-residents of the County.

### ***Functions and Tasks***

The same questions were asked of state and federal policy leaders as local leaders. These questions identified state and federal perspectives on critical functions and tasks relating to roles and responsibilities, structural frameworks and processes, obstacles in generating consensus, and interagency communication.

### **Roles and Responsibilities**

State and federal policy leaders were asked to define their roles and responsibilities. State leaders primarily identified their functions as "support" roles to both local and federal policy leaders. Federal leaders identified their roles as the entity responsible for the destruction of the state's CW stockpile or for providing emergency preparedness support for CW destruction. Additionally, federal policy leaders took responsibility for making information accessible to the public. These

policy leaders, however, did not include emergency preparedness planning in the definition of their roles.

### **Structural Frameworks and Processes**

In distinguishing the level of responsibility associated with policy leaders and emergency preparedness and community education, responses were inconsistent. Perspectives held by state leaders indicate that local leaders are not being heard by agencies. Other state leaders, however, hold that communication channels with local leaders are open and effective. Federal policy leaders residing in Calhoun County concluded that they have been successful in communicating with the local community; still others identified local leaders as sources of miscommunication. Federal policy leaders not residing in Calhoun County recognized the lack of a unified front among local leaders and emphasized the need for local, state and federal policy leaders to join together for the sake of the community. The lack of consensus, or “one voice,” frustrates the community and impacts federal policy leaders who attempt to identify current perspectives on incineration and emergency preparedness.

### **Obstacles in Generating Consensus**

Specific obstacles to consensus identified by state policy leaders include battles over monetary issues, local policy leader perspectives, and vocal opposition to incineration. Federal leaders expressly identified the lack of a united voice among local policy leaders not only as an obstacle to consensus, but an obstacle to the commencement of incineration. Federal policy leaders, viewing incineration as the solution to the destruction of CW, consider the perspectives of this vocal minority to be an obstacle to increased consensus, thereby delaying the incineration process.

### **Interagency Communication**

State and federal policy leaders provided their perspectives on interagency communication and relationships between local, state and federal entities. State leader responses describing communication channels differ; they are either perceived as limited and not effective or as improving. These improvements were perceived to be the result of a previous task force comprised of various policy leaders and decision makers. A federal policy leader identified accountability as a key issue in communication, citing that federal officials are required to account for and document their regulations and communications while local policy leaders are not held to the same level of scrutiny. Because of this perception of uneven accountability, these leaders identified building trust among the public as a challenge. Federal leaders not residing in the County reported difficulties in communicating with local leaders, conveying information, and receiving clear messages regarding local level preferences, knowledge, opinions, perceptions, and risks, therefore describing constraints of interagency communication.

### ***Maximum Protection***

Both state and federal policy leaders preferred incineration as the best method for destroying the stockpile of CW at Anniston. The majority of these leaders, while not providing detail, did define maximum protection as the implementation of every conceivable measure to protect Calhoun County residents. One state leader reported that too many safeguards are in place at the incinerator site to allow an accident to occur. However, should an unforeseen accident take place, this policy

leader noted that evacuation is not possible. Instead, shelter-in-place and fans, together with proper education, were identified as a sufficient safety method.

### **Processes and Procedures**

State leader responses, while reflecting the need for improved public education, do not give way to shared themes. One state leader identified policy leaders and politics as the issue, as opposed to interagency communication. Additional differences were apparent when one state leader identified Anniston as a unique situation from other stockpile areas, while a different state leader applied the lessons learned from Johnston Island and Toelle, Utah to Anniston. Federal leaders on the other hand, acknowledged weaknesses at the local level, making particular reference to the lack of unity among local stakeholders. This lack of consensus was cited as causing confusion regarding incineration and emergency preparedness, resulting in local inefficiencies.

### **SUMMARY**

The policy leader interviews conducted provide an in-depth look at the perspectives of local, state and federal leaders on chemical weapon storage and destruction and emergency preparedness. Several basic themes emerged from our interviews. First, while policy leaders define maximum protection differently, there is consensus on the way in which it is conceptualized. Policy leaders described the components of maximum protection in terms of safety measures and the protection of citizens. Second, local policy leaders have not reached consensus on what it will take to prepare for a chemical emergency. This translates into the lack of a single voice with which to educate and communicate with the public. Third, public education efforts have been weak. Consequently, the public is not properly informed on emergency preparedness issues. Fourth, policy leaders tend to understand their roles, responsibilities, authorities, and constraints, and those of their counterparts in other official positions, in conflicting ways. Common knowledge on the clear roles assumed by policy leaders does not exist. Fifth, the lack of leader consensus coupled with misunderstandings of the roles assumed by policy leaders creates obstacles to communication. Open and effective communication between policy leaders and agencies has been compromised, and public confidence in emergency preparedness has been undermined. Last, consensus does exist with respect to one key element; Anniston is a unique situation and cannot be force into a standardized federal structure regarding emergency preparedness.

## **COMMUNITY PERSPECTIVES**

In the event of an actual chemical emergency, it will be essential that residents of the community accept, understand and comply with safety plans if these policies are to be effective. For that reason, it is critical to understand residents' perspectives. In this section we provide an overview of the community's perception of risks associated with the CW (CW) at the Anniston Army Depot.

In order to obtain a representative sample of the concerns, beliefs and preferences of residents of Calhoun County, we used a systematic telephone survey that contacted seven hundred- thirty-one



residents during February and March of 2002. When designing the survey instrument, we identified five areas of concern for question generation: emergency preparedness, compensation, mitigation, trust, and demographics. From these themes, a series of questions was devised. These questions were worded to avoid miscommunication, confusion, or leading respondents to specific answers.

The response rate of callers asked to participate in the survey was over fifty-five percent, an unusually high response rate for phone surveys. Random selection of participants increased the likelihood that the sample data is representative of the larger community as a whole (see Appendix C for a description of the sample). Demographics collected from participating respondents mirror the data reported by the 2000 Census for Calhoun County. Thus, we can be reasonably confident that the data are representative of Calhoun County.

## COMMUNITY PERCEPTION OF RISK

One concept important to understand from the community perspective is the risk of storing CWs at the Anniston Army Depot and the risks of the chosen method of destruction, incineration. Residents' perception of risk will affect their acceptance of and compliance with emergency plans. Therefore, survey questions were created to assess risks resulting from the process of having and destroying CWs – storage and incineration – as well as the concern that incineration may have adverse effects on family health or quality of life.

### **Storage**

The risks that residents of Calhoun County attach to the storage of CWs at the Anniston Army Depot must be assessed because it is one that the residents have been living with for decades. Residents' perceived risk of storage also provides a baseline with which to compare their perceived risk of destruction of the weapons, which will become important to those making policy recommendations and decisions.

To assess perceived risks, respondents were asked to evaluate the level of risk to themselves and their family that would be associated with storing CWs at the Anniston Army Depot.

Now I would like you to evaluate the level of risk to you and your family that would be associated with different situations. Using a scale where zero means there is no risk and ten means there is an extreme risk, how much risk do you associate with each of the following:

Storing CW at the Anniston Army Depot

(answer scale) 0 no risk → 10 extreme risk

The mean response was 6.7. Over sixty-two percent of the responses were above mid-scale, meaning closer to extreme risk being involved. Overall, the residents find the process of storing CWs to be risky.

Another way to assess the community's concerns about the storage of CWs at the Anniston Army Depot is to evaluate how likely residents believe it is that an accident will occur during storage.

Now, using a scale from zero to ten where zero means an accident will not occur and ten means an accident is certain to occur, how likely do you think it is that there will be an accident involving the CW stored at the Depot?

(answer scale) 0 will NOT occur → 10 CERTAIN to occur

The mean response on a ten-point scale was 4.5. Over twenty-one percent responded at mid-scale (five), and the distribution of responses is heavier below mid-scale than it is above mid-scale. With the heavy responses below mid-scale and a mean of 4.5, it is evident that residents do not think a chemical accident during storage is extremely likely.

In summary, even though the residents perceive storage to be quite risky, a large portion feels comfortable that serious accidents during the process of storage will not be very likely. Public perceptions on this issue are important because, whether or not the Depot proceeds with destruction, this risk is already present and will remain until the stockpile is destroyed. The only way the community can mitigate this risk is to consider taking on other risks.

### ***Incineration***

One such risk the community will take on is the destruction of the stockpile in accordance with the Chemical Weapons Convention (CWC) (OPCW, Date Unknown). The current program, nearing start-up, calls for destruction of the CWs through incineration. Recently, the Army completed construction of an incinerator at the Anniston Army Depot and ran test burns on the facility. Results of the test burns are being used to determine whether the incinerator meets regulation standards.

Our community survey sought to assess the residents' perceptions of the risks of CW incineration. One question asks the respondents to evaluate the level of risk to themselves and their family that would be associated with incinerating CWs at the Anniston Army Depot. The question was asked as follows:

Now I would like you to evaluate the level of risk to you and your family that would be associated with different situations. Using a scale where zero means there is no risk and ten means there is an extreme risk, how much risk do you associate with each of the following:

Incinerating CW at the Anniston Army Depot

(answer scale) 0 no risk → 10 extreme risk

The mean response, on a ten-point scale, was 6.1. Over fifty-five percent of the respondents rated risk of incineration over the mid-scale response. It can be concluded then that the residents feel the process of incineration is very, if not extremely risky. It should be pointed out, though, that the mean response for risk of incineration is below the mean risk of storage.

Similar to storage questioning, our community survey sought to assess how likely respondents perceive an accident to occur during incineration. The question was asked as follows:

Using a scale from zero to ten where zero means an accident will not occur and ten means an accident is certain to occur, how likely do you think it is that there will be an accident at the Depot during the CW incineration process?

(answer scale) 0 will NOT occur → 10 CERTAIN to occur

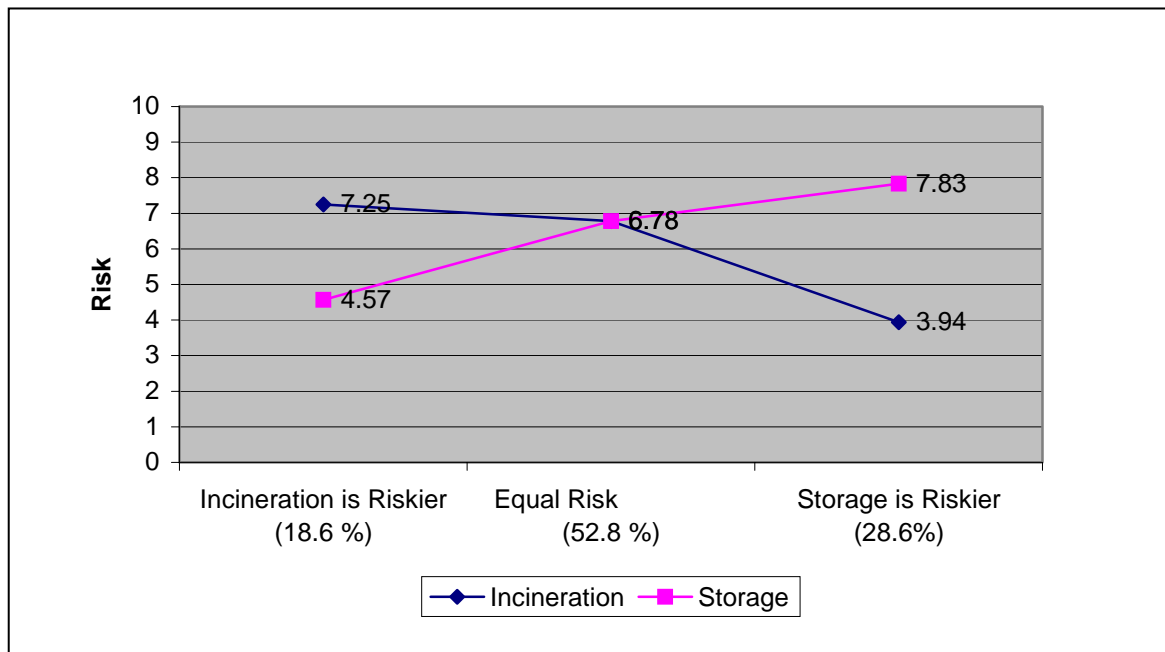
The mean value for response to this question is 4.2. Interestingly, over fifty-one percent of the community responded below mid-scale, meaning that on average an accident is not perceived to be likely to occur during incineration.

In summary, a majority of the community believes incineration to pose significant risks, but a majority responded that a chemical accident during the incineration process is not likely. Overall, the likelihood of an incineration accident was seen to be lower than an accident during storage. When comparing risks of storage and incineration, it can be concluded that the community feels that both storage and incineration are risky. It is noteworthy that residents believe that a serious accident is more likely to occur in CW storage than in CW incineration.

### **Comparative Analysis**

Further exploration of the relationship between perceived risks of storage and incineration uncovers a new layer of understanding. By subtracting a respondent's risk value for incineration from the risk value of storage, we were able to discern which process the community perceived to be riskier. Three distinct groups emerge from this analysis. Exactly 18.6 percent of our respondents perceive incineration to be riskier than storage, while 52.8 percent (a majority) believe both are equally risky, and 28.6 percent believes that storage poses a greater risk than incineration. Plotting the risk values for both storage and incineration also illustrates these distinct groups (see Figure 2.1). Upon closer examination, it is evident that those who rank storage riskier than incineration have a much larger range of risk (from 3.94 average risk of incineration to 7.83 average risk of storage) than those who rank incineration as riskier (from 4.57 risk of storage to 7.25 risk of incineration). The "storage is riskier" group has a mean risk of storage of 7.83, almost an 8 on a ten-point scale, and their mean risk of incineration is below 4. That is over a one-point difference in range between the two groups. The implication is that there are different groups with varying perceptions of risk within the community. These varying perceptions result in different assumed levels of risk. Each group and their associated level of risk must be considered and addressed by safety plans in order to ensure the greatest possible acceptance, understanding, and compliance.

Figure 2.1: Comparison of Storage and Incineration Risk Values



SOURCE: *Calhoun County Community Survey, 2002*

### Other Factors

It has already been pointed out that the community has lived with the storage process of CWs at the Anniston Army Depot for decades. This is not the case with the incineration process. This lack of experience with the incineration process brings about other concerns for the community regarding effects on their daily lives.

One such concern is possible adverse effects on personal health. Respondents were asked to rate their level of concern about health risks in the following question:

Considering the distance from your home to the Anniston Army Depot storage site and incinerator, I would like to know how concerned you are about the risks to you and your family's health?

Please rate your level of concern on a scale from zero to ten where zero means not at all concerned and ten means very concerned.

(answer scale) 0 not at all concerned → 10 very concerned

The mean response on a ten-point scale was 6.5. Almost sixty percent of the community respondents rated their concern above mid-scale. This indicates that a majority of the community is concerned about effects of storage and incineration on their family's health. This fear will need to be addressed for full community acceptance of the incineration process.

Another impact assessed by the community survey is the overall effect living near the Anniston Army Depot has on the quality of life for the community.

Overall, do you think that living near the Depot would have a major effect, minor effect, or no effect on your quality of life?

1. major effect
2. minor effect
3. no effect

The distribution of answers was spread evenly over three responses: 32.5 percent predicted no effect, 34.8 percent predicted minor effects, and 32.7 percent predicted major effects. The somewhat even distribution shows varying community perceptions of impact the Depot will have on the community. These varying factions must be recognized and addressed in order to gain community acceptance as a whole.

## COMMUNITY PREFERENCES

Another important concept assessed by the community survey was residents' preferences for destruction of the stockpile. Even though this project assumes that incineration will be the chosen method of destruction, it could prove beneficial to identify what part of the community is for and against this method of stockpile destruction. Community views on incineration could provide a critical "control" variable that can explain a great deal of the variation in perception of the problem. Even though it is not the focus of our report, it will help inform the discussion about key aspects of the problem.

The community respondents were asked about their preferences regarding methods for disposing of the CW stockpile at the Depot. They were given three options: to proceed with the incineration as planned, wait until other methods are better understood, or to proceed with an alternative to incineration.

Which of the following options most closely matches your preference for handling the CW stored at the Anniston Army Depot? Would you prefer to:<sup>2</sup>

1. Proceed with incineration of the CW as planned;
2. Wait until other methods of destroying the CW are better understood;
3. Proceed with an alternative to incineration, such as using wet chemicals to neutralize the nerve agent.

Almost fifty percent of the respondents chose proceeding with incineration as their preferred option. Of the other fifty percent, 34 percent preferred to wait for a better understanding of other methods of destruction, and 17 percent wanted to proceed now with an alternative to incineration. The response to this question showed no clear majority, but did show incineration to be supported by a plurality of the community.

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<sup>2</sup> To avoid any leading effect, the answer choices were offered in random order for each respondent.

## TRUST ISSUES

One challenge in maintaining and destroying a chemical stockpile is that the community must trust other people to actually carry out the destruction in a safe and effective manner. This is a lot to ask of the residents of Calhoun County, given their perception of the associated risks and perceived likelihood of serious accidents. The concept of trust can be broken into components of competence, believability, and representation of community interests. When surveying the community, the respondents were given four stakeholders to rate on these trust factors: the U.S. Army, FEMA, the Alabama Department of Emergency Management (ADEM), and local, city or County Officials. These official were chosen because of their direct responsibility for and the community's reliance upon provisions of emergency preparedness.

To assess competency, the respondents were asked to rate the competency of the four stakeholders on a ten-point scale where zero means not at all competent and ten means completely competent. The question was worded as follows:

Now I would like to know how competent you believe various individuals or groups are to make decisions about the safe storage and incineration of CW. On a scale from zero to ten where zero means not at all competent and ten means completely competent, how would you rate the following?

(asked separately) The U.S. Army, the Federal Emergency Management Agency or FEMA, The Alabama Department of Emergency Management (ADEM), and local, city, or county officials.

(answer scale) 0 Not at all competent → 10 Completely competent

Analyzing the mean scores, all measures (competence, believability, and representation) are rated at above mid-scale (see Table 2.1). With regards to competence, it is evident that the community trusts the Army and FEMA, on average, to have the greatest technical knowledge to make decisions regarding safe storage and incineration of CWs. The ADEM also rated quite high, with the local officials having the lowest mean competence score.

A question was also asked regarding the believability of statements made by the four identified stakeholders.

When thinking specifically about the CW at the Anniston Army Depot, I would like to know whether you would believe statement made by various individuals or groups. On a scale from zero to ten where zero means not at all believable and ten means completely believable, how would you rate the following individuals or groups?

(asked separately) The U.S. Army, the Federal Emergency Management Agency or FEMA, The Alabama Department of Emergency Management (ADEM), and local, city, or county officials.

(answer scale) 0 Not at all likely → 10 Very likely

The mean responses are shown in Table 2.1. This time, FEMA had the highest mean score, with both the Army and ADEM with close numbers. Again, the local officials' believability scores were lower (though, still above mid-scale).

**Table 2.1 Trust Components**

<b>Components of Trust</b> (on a scale from zero to ten)	Competence	Believability	Representation
The U.S. Army	6.6	6.0	5.8
FEMA	6.4	6.2	6.1
Alabama Dept. of Emergency Management	6.0	6.0	6.0
Local, City or County Officials	5.1	5.4	5.7

SOURCE: *Calhoun County Community Survey, 2002*

A third aspect of trust involves representation of community interests. The community survey question asked:

Using a scale from zero to ten where zero means not at all likely and ten means very likely, how likely is it that the following groups or individuals would make decisions about the storage and incineration of CW in your area that are in the best interest of people in your community?

(asked separately) The U.S. Army, the Federal Emergency Management Agency or FEMA, The Alabama Department of Emergency Management (ADEM), and local, city, or county officials.

(answer scale) 0 Not at all likely → 10 Very likely

Shown in Table 2.1, FEMA and ADEM received the highest mean ranking with the Army and local officials following behind.

As seen in Table 2.1, the survey respondents consistently gave the federal and state agencies higher average trust scores than were given to local leaders. But averages can be misleading, particularly when there is substantial variation in reported trust scores. For that reason, we used a clustering procedure to identify subgroups in the sample that share common views on the trustworthiness for policy leaders.<sup>3</sup> On the basis of this, views on trust as reported by the community allow us to identify four distinct clusters of citizens:

- those who give high trust scores to all leaders;
- those who trust local leaders and the ADEM, but not the federal agencies;
- those who give low trust scores to all leaders; and
- those who distrust local leaders but trust federal agencies and ADEM moderately.

<sup>3</sup> The clustering procedure was K-means clustering, using the SPSS statistical package.

These clusters of citizens become very important in subsequent analysis.

The identified levels of trust and subsequent clusters of trust patterns have significant implication for policy outcomes. Knowledge of trust is essential to alleviate concerns, particularly when the population is dependent on the Army to safely and effectively undertake CW destruction. Community trust must be incorporated into any plan if the community is to accept, understand and comply.

## **SUMMARY**

The information gathered and reported by the community survey provides important findings. The community sees storage, which they have lived with for decades, as quite risky. In order to alleviate the risks presented by CW storage, the community must destroy the weapons present at the Anniston Army Depot. Incineration, the presumed method of CW destruction, is also seen as quite risky, but is not rated as risky, on average, as CW storage. The residents don't feel that an accident is very likely to occur during either incineration or storage processes. As policy preferences, nearly 50 percent of the community supports proceeding with incineration, while the other half would prefer an alternative or to wait for development of new technology to destroy the CWs. One possible reason for the divided preferences might be related to the fact that a majority of the community is concerned about health risks related to the presence of the Anniston Army Depot. The equal distribution regarding quality of life impacts shows the community has varied and distinct perceptions of how incineration will impact the quality of life in their community. There are factions of the community that hold distinct trust patterns regarding storage or incineration of the CWs, which affect overall community support of any policy. These findings will be helpful to understand the perceptions of residents of Calhoun County.

## **CONCLUSION**

The information provided by the policy leader interviews and the Calhoun County Community Survey offers the opportunity to identify issue areas where policy leaders and community members perspectives conflict. The above analyses uncover two specific issue areas where perspectives diverge.

- A majority of local policy leaders perceive that the community is largely in favor of incineration, while only a vocal minority is in opposition. The community survey, however, shows that 49.1 percent of the community chooses incineration as the preferred method for handling CWs. The remaining 50.9 percent of the respondents are split over proceeding with a current alternative or waiting for other technologies to be better understood.
- The majority of local policy leaders feel that the community would be most receptive to local intervention regarding community education of emergency preparedness because the federal government is too far removed from the local situation. The community survey, however, illustrates a different perspective. Respondents rate local leaders lower than state and federal



policy leaders with respect to three factors of trust; competency, believability, and representation of community interest.

The perspectives of various local, state, and federal policy leaders, as well as, the community, should be kept in mind for the duration of this report. The data gathered provided new and valuable information on CW storage, destruction, and emergency preparedness in Calhoun County. Significant relationships between policy leader perspectives and community survey responses are analyzed, drawing upon the similarities and differences that may exist.

## COMMUNITY EMERGENCY PREPAREDNESS

Anniston presents a difficult case for emergency planning and preparedness. Among the communities with CW (CW) stockpiles, it combines one of the largest proximate populations with a relatively elderly housing stock. Combined with a regional geography of river valleys, hills and mountains, and traversed by an uneven network of roads and highways characteristic of rural areas, the region presents a substantial challenge for planners who must prepare for the unlikely prospect of a major chemical accident. The plan must account for regional variations in topography, population density, transport networks, and a host of other factors. Given that complexity, a vital ingredient will be public awareness of the plan, knowledge of what it calls for, and confidence that the plan will provide reasonable public protection in the event that a chemical accident occurs.

In this Chapter, we turn to the question of the current status of public understanding, acceptance and compliance with the Calhoun County emergency planning efforts. To do this, we begin with an assessment of the perspectives of the policy leaders. These leaders can provide valuable insight into the current level of preparedness of the County residents, and can highlight important potential trouble spots in efforts to fully develop the plan. We then turn to the residents of Calhoun County, and evaluate the degree of understanding and acceptance of the plan. We also ask hard questions about what the residents plan to do in the event of an emergency, in contrast to what they believe the plan calls for them to do. Next, we examine a special subpopulation – families with school children – to understand how they plan to respond to a chemical emergency. Finally, we estimate the size of the “special needs” population in Calhoun County, and look at the special problems confronting this population.

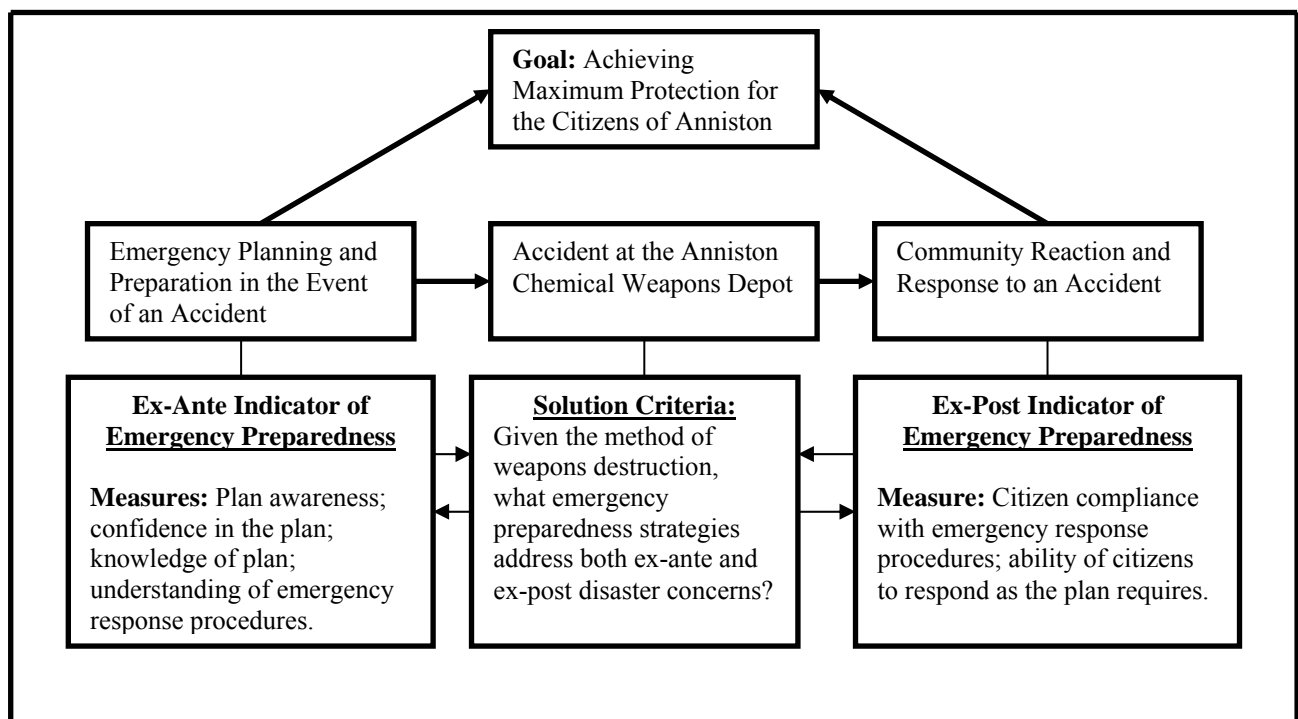
### BACKGROUND

Over the last ten years, the federal government has spent \$107.8 million trying to ensure the safety of the residents of Anniston. This funding figure represents 30 percent of the total funds expended in all communities and is twice as much as the next closest state, Oregon, which received \$49.5 million. (General Accounting Office, 2001,11-13). Despite this expenditure, the residents of Calhoun County are not prepared in the event of an emergency. Why is this? According to the General Accounting Office, the lack of preparedness is due to conflict between local and federal officials. GAO states that the community is not prepared because of disagreements in five areas: notification systems, coordinated plans, over-pressurization projects, shelter-in-place strategies, and protective suits. This analysis does not take issue with the GAO findings, but suggests their analysis is incomplete. GAO, per its congressional mandate, is primarily charged with auditing federal programs. The GAO analysis assumes that the priorities agreed upon, and funded, by local and federal agencies are indeed the priorities of the Anniston-area community. The purpose of this analysis is to test this assumption.

Our analysis is based on five assumptions.<sup>4</sup> First, government programs should focus on improving the lives of the citizens they serve. Second, the residents of a community, called level one or primary stakeholders, should be the focal point of all government actions. Third, a problem cannot be managed unless accurate measurement systems are in place. Fourth, emergency planning and preparation before an accident are focused on addressing the community's response during and after an accident. Fifth, emergency planning, although related, is not dependent on the technology used to destroy weapons stockpile.

Our approach is to examine the insights, beliefs and perspectives of both policy leaders and Calhoun County residents to develop a baseline understanding of current readiness for a chemical emergency. In both cases, our focus is on the degree to which the plan satisfies the basic criteria of public confidence, awareness, understanding of response requirements, and ability of citizens to respond in the event of chemical emergency.

**Figure 3.1: Emergency Preparedness Assumptions Model**



SOURCE: *Institute for Science, Technology, & Public Policy, 2000*

<sup>4</sup> The analysis methodology was derived from the 2000 handbook of the Leadership Development for Integrated Emergency Response Program (LDIER). The National Emergency Response and Rescue Training Center (NERRTC), the Emergency Services Training Institute, and the Institute of Science and Technology Policy are sponsors of the LDIER program.

## POLICY LEADER PERSPECTIVES

Leaders generally agreed that preparation for emergency response in Calhoun County is a complex undertaking. Leaders also agree that confusion, disagreement over appropriate plan procedures, and interagency conflict have spawned confusion among area residents, and perhaps undermined confidence that the plan will provide adequate protection. Some policy leaders were concerned that, due to confusion and lack of confidence, area residents would choose not to comply with plan requirements.

At the same time, most of the policy leaders we interviewed were reasonably optimistic that, once a plan was developed and promulgated, members of the public would seek to comply. Preconditions of public compliance were seen to be (a) consensus among relevant policy makers and emergency responders that the plan would be effective and (b) broad and successful public education of what the plan would require. Many policy leaders expressed considerable frustration at the difficulty in achieving consensus.

Two aspects of the overall process appear to have made achievement of consensus more difficult. First, the CW demilitarization and the CSEPP programs are complex, interrelated processes that require close and continuing coordination across a myriad of agencies at the federal, state, and local level. While the lion's share of the emergency preparedness activities are undertaken at the local level, the funding generally flows through federal agencies (Defense to FEMA to state agencies and, finally, to local governments and agencies.) A further complicating factor is that county-level governments in Alabama are constitutionally constrained in how they can generate revenues to support these programs, making dependence on the federal funding acute. Second, in the view of the local policy leaders, the emergency preparedness process has been designed to provide standard kinds and levels of assistance across the array of CW sites. This has made it difficult for local communities to obtain recognition of special circumstances and differences characterizing their emergency preparedness needs. In the worst case, the presumption of a standardized approach makes it appear to some that requests for funding to handle unique local requirements are merely efforts to acquire funding. Understandably, this appearance undermines confidence, mutual respect and communication on all sides.

In our view, the current design of the CW emergency preparedness policy builds in unnecessary hurdles for successful implementation. The complexity of the intergovernmental process and funding flow, coupled with the attempt to treat all CW sites as roughly equivalent, places an enormous burden on officials at all levels of government. The presumptions and incentives of this process appear to us to undermine the kind of cooperation and communication that are essential to developing a clear consensus on a plan that is most effective for the Anniston area.

A more particular set of concerns about emergency preparedness focused on special subpopulations of county residents. Potential problem, raised by a number of the policy leaders, was that parents of area school children would disregard shelter-in-place (SIP) instructions and seek to retrieve their kids from local schools. Most had heard anecdotal evidence that fear for the safety of their children would lead some parents to attempt to ignore or circumvent plan instructions to leave kids in schools, where (in some cases) over-pressurization provides protection. A second subpopulation of concern was residents with mobility impairments who might have difficulty with

either evacuation or taking necessary steps for sheltering-in-place. Of particular concern was that little was known about the mobility impaired; how many are there? What are their special concerns?

Overall, the policy leaders were in consensus that the Anniston area is not ready for a chemical emergency. While estimates varied, most agreed that the public lacked confidence in current planning efforts, and expected that there would be considerable confusion about what to do in the event of a chemical emergency. Worse, some feared that a significant fraction of the public would choose not to comply. Most pointed to confusion and disagreement among officials as the reason for these difficulties, and in our assessment the problem is exacerbated by the overall structure of the CW emergency preparedness process. Finally, the policy leaders expressed concerns about the willingness and ability of special subpopulations to implement the plan.

Clearly, from the perspective of the policy leaders, the challenges facing emergency preparedness in Calhoun County are substantial. We now turn to an analysis of emergency preparedness from the viewpoint of Calhoun County residents.

## CALHOUN COUNTY RESIDENT'S PERSPECTIVES

In order to determine the current state of emergency preparedness in Anniston, this analysis is divided into two phases. The first phase is focused on the general population. The second phase is focused on identified special needs populations.

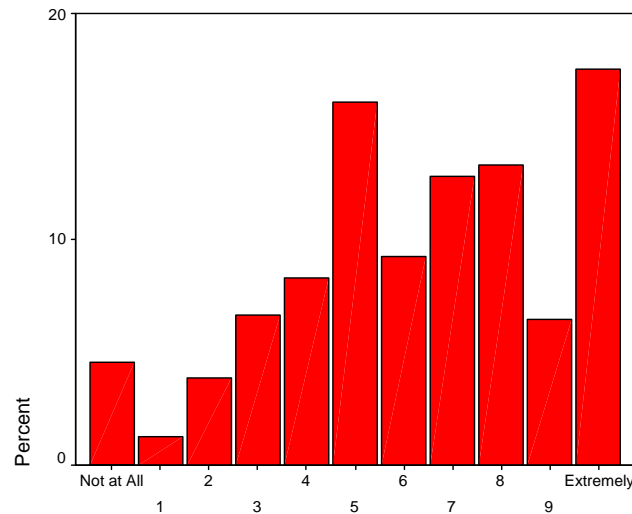
The analysis of the general population will assess the community's awareness and knowledge of the emergency plan, their confidence that the plan will protect them, and whether or not the community will comply with the plan in the event of an emergency. The analysis of the special needs populations makes comparisons to the general population as well as analyzes unique characteristics with the sub-population.

### **INDICATORS OF PLAN AWARENESS AND KNOWLEDGE**

Given the developing nature of the emergency preparedness plan in Calhoun County, and variations in plan procedures over the course of its evolution, policy leaders expected us to find substantial public confusion over what the plan calls for them to do in the event of a chemical emergency. Our survey of Calhoun County confirmed these expectations.

First, 95 percent of our respondents told us that they had heard or read about the County’s “emergency preparedness plan for responding to a chemical emergency at the Anniston Army Depot.” However, by their own admission there was substantial variation in understanding of the plan.

**Figure 3.2: Knowledge of the Plan**



How knowledgeable are you about the emergency preparedness plan?

SOURCE: *Calhoun County Community Survey, 2002*

As is evident in Figure 3.2, a substantial fraction - 25 percent - of the respondents scored themselves below mid-scale, indicating poor knowledge of the plan. Another 41 percent rated themselves at the mid-point. At the top end of the scale, over 17 percent rated themselves as “extremely knowledgeable” about the plan.

In order to know what the plan calls for, residents need to know in which of the emergency plan response “zones” they reside. Zones closer to the Depot, dubbed “pink zones,” require immediate responses to a chemical emergency, and are unlikely to permit time for safe evacuation. Therefore we sought to measure public understanding of their zone or residence. We first asked: “Do you live in the emergency response ‘pink zone?’” Table 3.1 shows the percentage of respondents who said they lived in the “pink zone,” broken out by distance of their residence from the Depot boundary.

**Table 3.1: Reported Residence in “Pink Zone” by Distance from Depot**

Distance from Depot Boundary	Report Living in “Pink Zone”	Do Not Live in “Pink Zone”
Zero to 4 Miles	88.2%	11.8%
Five to 8 Miles	73.4%	26.6%
Nine to 12 Miles	50.8%	49.2%
Thirteen to 16 Miles	34.2%	65.8%
Seventeen or More Miles	26.0%	74.0%

SOURCE: *Calhoun County Community Survey, 2002*

As can be seen in Table 3.1, and as we would expect, the proportion of respondents who reported living in the “pink zone” dropped steadily with distance from the Depot. For those closest to the Depot (within 4 miles) nearly 9 out of 10 said they lived in the Zone. At the same time, confusion is evident in that a significant fraction of those who live substantial distances from the Depot also think they live in the “pink zone.”

Another more demanding criterion of knowledge of the emergency response plan was to ask the respondents if they knew the emergency response zone number for their residence (refer to Table 3.2). Approximately 83 percent said they did not know. Twenty-one percent of those living within four miles of the Depot said they knew which emergency response zone they lived in, and the number was lower for those further away. Depending on distance from the boundary, 79 to 90 percent of the population was unable to correctly identify whether or not they lived in the “pink zone.” Most alarming is the number of residents living in immediate danger, the “pink zone,” that are unable to properly make the distinction. Of the residents living within 4 miles of the boundary, 79 percent were not able to make a proper identification. Of the residents living four to eight miles, almost 84 percent were not able to make a proper identification of their zone. Therefore, to the extent that effective response to a chemical emergency requires knowing which zone one resides in, the community is currently unprepared for such an emergency.

**Table 3.2: Reported Residence in “Pink Zone” by Distance from Depot**

Distance from Depot Boundary	Don’t Know Zone	Do Know Zone
Zero to 4 Miles	79.2%	20.8%
Five to 8 Miles	83.6%	16.4%
Nine to 12 Miles	81.6%	18.4%
Thirteen to 16 Miles	90.2%	9.8%
Seventeen or More Miles	85.5%	14.5%

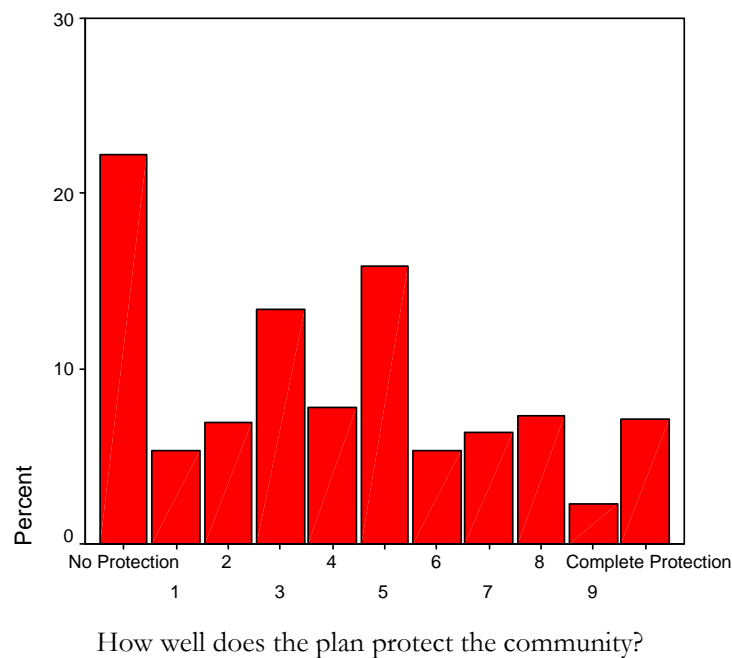
SOURCE: *Calhoun County Community Survey, 2002*

Overall, the status of plan awareness is quite mixed. While a vast majority of residents have heard of the plan, they rate themselves as only moderately knowledgeable about that plan. That is consistent with their ability to identify the response zone in which they reside.

## PUBLIC CONFIDENCE IN THE PLAN

As is evident in Figure 3.3, confidence in the emergency preparedness plan is not high. Over half (56 percent) rate the plan below the scale mid-point, indicating little confidence that the plan would protect the community residents. Given the current status of the plan, and the generally modest understanding of the plan by the community residents, this low level of confidence should come as no surprise.

**Figure 3.3: Confidence in the Plan**



SOURCE: *Calhoun County Community Survey, 2002*

## PUBLIC COMPLIANCE IN AN EMERGENCY

Assuming a plan was widely understood, its effectiveness depends on the willingness of the local residents to follow its directions in the event of an emergency. One might expect that such willingness would depend on whether residents believe the plan will, in fact, provide protection to the community. What do the residents of Calhoun County believe the emergency response plan would require of them in the event of an emergency? Would they follow those requirements?

While most respondents identified listening for directions as a required option (refer to Table 3.3), there was quite mixed response on whether sheltering-in-place or evacuation were required. This is as one might expect, given that the requirements may vary by location.



**Table 3.3: Emergency Response Requirements as Understood by the Public**

Emergency Response Option	Yes, Option Is Required	No, Not Required
Listen for Directions and Follow Them	62.5%	37.5%
Immediately Shelter in Place	39.8	60.2
Evacuate the Area	46.5	53.5
Something Else	9.1	90.9

SOURCE: *Calhoun County Community Survey, 2002*

However, when broken out by distance from the Depot boundary, there is only slight variation in the understood emergency response requirements as shown in Table 3.4.

**Table 3.4: Response Options by Distance of Residence from Depot**

Distance from Depot Boundary	Shelter-in-Place Required (%)	Evacuation Required (%)
Zero to 4 Miles	48.5%	40.8%
Five to 8 Miles	40.5%	42.5%
Nine to 12 Miles	38.2%	46.5%
Thirteen to 16 Miles	41.2%	56.5%
Seventeen or More Miles	33.3%	50.0%

SOURCE: *Calhoun County Community Survey, 2002*

Sheltering-in-place is seen as a plan requirement by substantial percentages of respondents in all regions, though the fraction is highest (48.5 percent) among those closest to the Depot boundary. Forty percent of those who live within 4 miles of the Depot boundary believe they should evacuate, rising to 50 percent for those living at greatest distance. Overall, however, there is no clear association between distance from the Depot and the emergency response procedures that community residents believe are required of them.

Respondents were read an array of options, including evacuation and sheltering-in-place, and asked which of these actions they would take in a chemical emergency (for full question wording, see the Appendix C). In Tables 3.5 and 3.6 we show the relationships between residents' beliefs about whether the plan calls for them to evacuate or shelter-in-place in a chemical emergency, and what they say they would actually do in that event.

**Table 3.5: Respondent Compliance with (Believed) Plan Requirements for Sheltering-in-Place**

	Would Not Shelter	Would Shelter	Total
Should Not Shelter	79.1%	20.9%	100%
Should Shelter	47.4%	52.6%	100%

SOURCE: *Calhoun County Community Survey, 2002*

**Table 3.6: Respondent Compliance with (Believed) Plan Requirements for Evacuation**

	Would Not Evacuate	Would Evacuate	Total
Should Not Evacuate	65.1%	34.9%	100%
Should Evacuate	28.7%	71.3%	100%

SOURCE: *Calhoun County Community Survey, 2002*

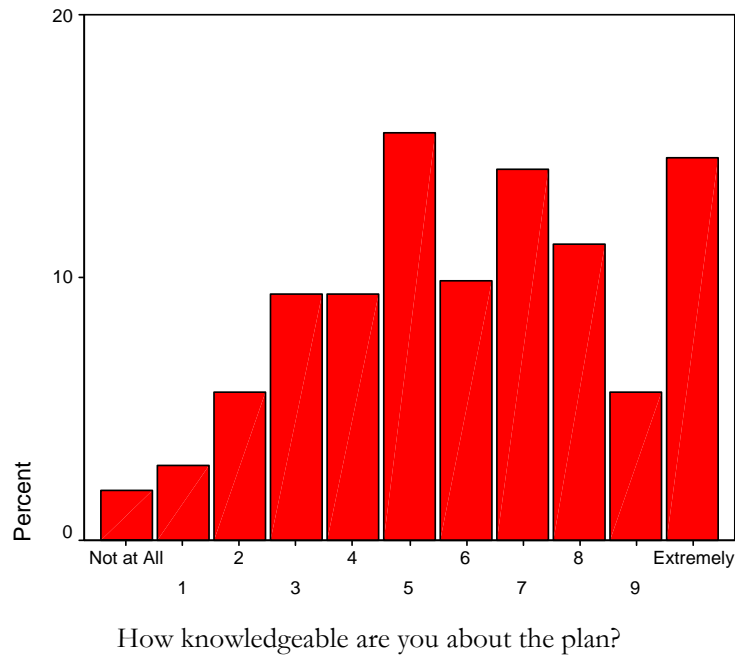
As Tables 3.5 and 3.6 indicate, not all residents expect to comply with the plan requirements in the event of an emergency. Of those who believed that sheltering-in-place was required, nearly half - 47 percent - said they would not take shelter in the event of a chemical emergency. Of those who believed that evacuation was *not* called for by the plan, 35 percent said they would evacuate. Almost 30 percent who thought evacuation was required would refrain from evacuation. Thus, a significant fraction of the community says they would not comply with what they believed to be the requirements of the emergency preparedness plan. What explains this non-compliance? We find some evidence that those who do not believe the plan will protect the community are more likely to refuse to comply with the plan.

## SPECIAL SUB-POPULATIONS

Based on conversations with community leaders, two sub-populations were identified as needing special attention in the emergency planning process. These two sub-populations are families with children and special needs residents. For each sub-population a comparison was made between their self-reported knowledge of the emergency plan and an indicator of actual knowledge of the plan. Based on this comparison, some conclusions can be drawn regarding the current state of preparedness. In addition to this general comparison, each sub-population will be assessed based on unique characteristics within the sub-population.

### ***Families with School Children***

The survey indicated that 29 percent of the Anniston population have children attending either school or daycare. As indicated by Figure 3.4, these families are evenly distributed, between 16 and 23 percent, among the five distance categories. If the “pink zone” is defined as eight miles from the boundary, 40.9 percent of the families with children live inside the “pink zone” while 59.1 percent reside outside the pink zone. The majority of families with kids stated that they were familiar with the emergency preparedness plan for Anniston. On a scale of 0, no knowledge, to 10, extremely knowledgeable, the mean response was 6.01. Looking at the distribution in Figure 3.4, it is evident that the distribution is skewed toward higher knowledge responses.

**Figure 3.4: Families with Kids**

SOURCE: *Calhoun County Community Survey, 2002*

Despite the indication of knowledge of the plan, 82.3 percent of the families with children sub-population could not properly identify whether or not they lived in the pink zone. Looking at the data based on distance from the boundary, Table 3.7, yields the same result. The lack of consistency on these two measures ranges between 80 and 90 percent regardless of the distance from the boundary. Assuming that the basis of any emergency plan is zone identification, the lack of congruency between these two measures is alarming.

**Table 3.7: Reported Residence in “Pink Zone” by Distance from Depot**

Distance from Depot Boundary	Don't Know Zone	Do Know Zone
Zero to 4 Miles	81.1%	18.9%
Five to 8 Miles	80.4%	19.6%
Nine to 12 Miles	81.0%	19.0%
Thirteen to 16 Miles	90.3%	9.7%
Seventeen or More Miles	84.8%	15.2%

SOURCE: *Calhoun County Community Survey, 2002*

It is generally assumed that the first instinct of parents would be to protect their children from harm. The survey data indicates that families with children are predisposed to place a high priority

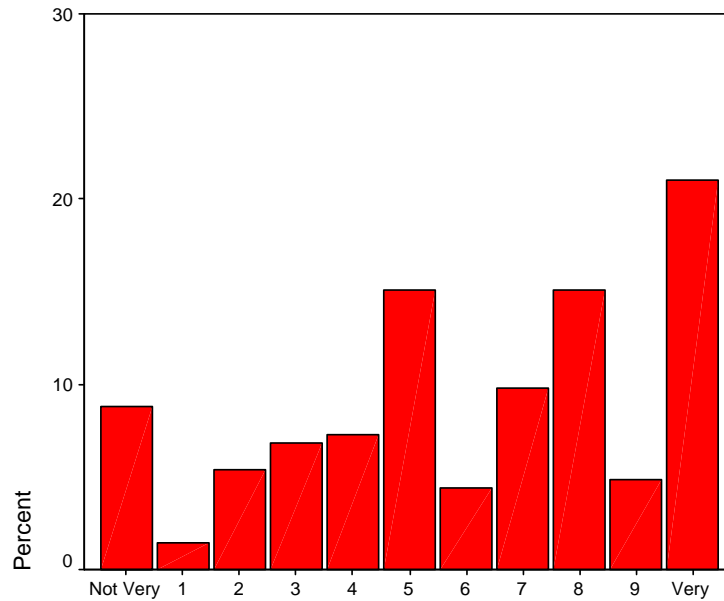
on the safety of their children. The survey asked parents what they would do if an accident happened while their children were at school. Almost 59 percent of families stated they would pick up their kids from school (refer to Table 3.8). Breaking the aggregate data down by distance from the depot boundary, residents within eight miles are more likely to leave their kids in the hands of school administrators. Residents that live nine miles or greater are more likely to pick up their kids from school.

**Table 3.8: Response Options by Distance of Residence from Depot**

<b>Distance from Depot Boundary</b>	<b>Leave Kids (%)</b>	<b>Pick Up Kids (%)</b>
Zero to 4 Miles	24.7%	15.4%
Five to 8 Miles	28.8%	17.9%
Nine to 12 Miles	16.4%	22.8%
Thirteen to 16 Miles	16.4%	15.4%
Seventeen or More Miles	13.7%	28.5%

SOURCE: Calhoun County Community Survey, 2002

Surprisingly, 41 percent of all residents with children would leave their children in the custody of school personnel. However, the public, as evidenced in Figures 3.5, holds school personnel in high regard. The survey asked respondents to rate the competence of teachers' and administrators' ability to protect their children in the event of a chemical emergency. The response was based on a 0, low confidence, to 10, high confidence. The average response was a 6.07, and the largest single category was a 10. There is no statistical difference between the distance from the boundary and the attitude toward school personnel. In other words, school personnel are highly trusted when it comes to ensuring the safety of children.

**Figure 3.5: Families with Children**

How confident are you that school personnel would protect your child in the event of a chemical emergency?

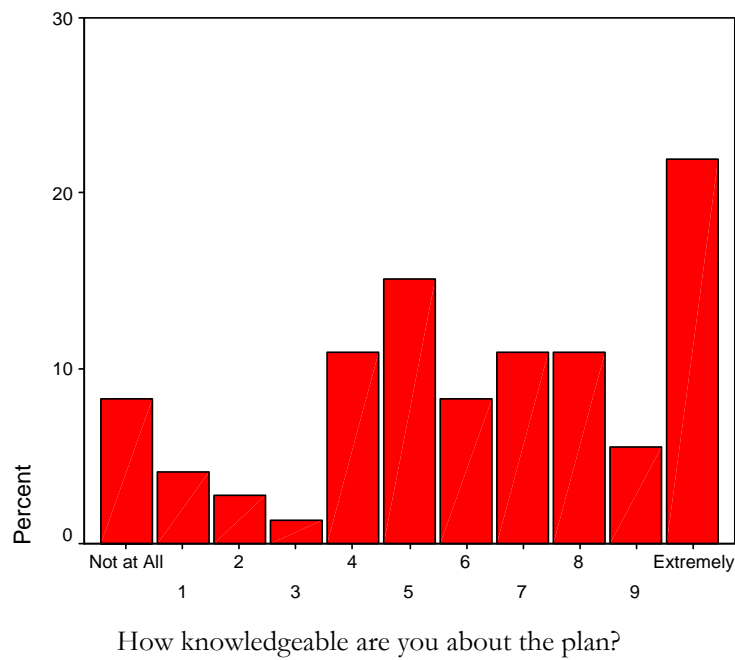
SOURCE: *Calboun County Community Survey, 2002*

### **Residents with Special Mobility Needs**

Many community leaders identified special needs populations as a preparedness concern. The survey indicated that only 12.4 percent of the population is self-described as a special need resident. The average age of the special needs sub-population is 51.41 years, and 61 percent are female. The educational attainment of this group is 47.6 percent with at least some college. Additionally, 42 percent of this sub-population resides within eight miles of the Depot boundary. Almost 20 percent reside zero to four miles from the boundary.

Although most residents in this sub-population indicated that they were extremely knowledgeable about the emergency preparedness plan (refer to Figure 3.6), only 17.8 percent of the aggregate could properly identify whether or not they lived in the “pink zone.” Looking at the data by the distance grouping, 60.2 percent to 87.5 percent of the special needs residents could not accurately identify whether or not they live in the “pink zone” (refer to Table 3.9). The fact that 82 percent of all special needs resident could not properly identify their emergency preparedness zone is cause for alarm.

**Figure 3.6: Special Needs Population**



SOURCE: *Calhoun County Community Survey, 2002*

**Table 3.9: Reported Residence in “Pink Zone” by Distance from Depot (Special Needs)**

Distance from Depot Boundary	Don't Know Zone	Do Know Zone
Zero to 4 Miles	60.2%	30.8%
Five to 8 Miles	87.5%	12.5%
Nine to 12 Miles	83.3%	16.7%
Thirteen to 16 Miles	87.5%	12.5%
Seventeen or More Miles	84.6%	17.6%

SOURCE: *Calhoun County Community Survey, 2002*

## CONCLUSION

In order for a community to be prepared to respond to an emergency, emergency-response strategies must be aligned with individuals' ability to comply, in addition to their willingness to comply. For instance, if an elderly person were told to shelter-in-place, but did not have the physical capabilities, he or she would be unable to comply with the plan. Similarly, if the community plan is to shelter-in-place, but the first reaction of residents is to flee and not comply, it could be concluded that the emergency plan does not adequately protect the community. Although this research does not cover every aspect of the emergency preparedness issue, the evidence suggests that there is both substantial confusion and substantial non-compliance over the current state of emergency preparedness in Anniston. As a result, residents are not prepared in the event of a chemical accident at the Anniston Army Depot.

There are four key findings imbedded in this analysis. They are:

- Residents say that they have heard of the plan, but yet are not able properly identify whether or not they live in the “pink zone.” This finding not only applies to the general population, but cuts across both of the special sub-populations, families with kids and special needs, as well.
- In the event of an emergency, community safety is dependent upon unambiguous emergency response instructions. Sixty-two percent of the respondents indicated that listening for directions was a required component of the emergency response plan. This finding places a high burden on government officials at all levels. A coordinated emergency response plan is a must.
- Emergency planners must take a serious look at mitigating non-compliance rates. If an accident happened today, the non-compliance rates for shelter-in-place would be 21 to 47 percent. Similarly, the non-compliance rate for evacuation measures would be 29 to 35 percent.
- As expected, families with children are more likely to think of their children's safety before their own. Of the parents living within eight miles of the Depot, almost 47 percent stated that they would pick up their child from school in the event of an accident. Residents living greater than eight miles felt even stronger about picking up their kids from school. This finding is despite the high level of trust the community places in school personnel. This measure is a strong indicator for emergency planners. In order to have an effective community response plan, the needs of this sub-population must be incorporated.

## COMMUNITY IMPACT

In the last forty years, two opposing trends have occurred: the public is becoming more concerned with the environmental and health effects of industrial facilities, while their overall trust of technology and government has steadily declined. But economic theory suggests that even with technological risks, the public will support hazardous facilities as long as the benefits sufficiently outweigh the risks (Flynn, et.al, 1992). What economic theory does not always take into account, however, is that while the distribution of impacts at a worldwide, nationwide, or even statewide level can be beneficial to the public, the distribution of local impacts can be costly to the public. Turning to the Anniston situation, the chemical demilitarization program is clearly of substantial benefit to the world and to the nation. However, the cost in terms of the risk of continued storage and a potential accident during destruction is concentrated locally. These conditions warrant a hard look at potential impacts of the chemical demilitarization program in the Anniston area.

### DEPARTMENT OF DEFENSE STUDY

In June 2001, the Department of Defense (DOD) released the study *Assessment of the Need for Assistance to Communities Affected by Chemical Demilitarization: Final Report*. The study was conducted to ascertain whether or not the federal government should compensate the eight communities affected by demilitarization activities, including Anniston, Alabama. Using a regional economic model, the consultant for DOD, Institute for Defense Analyses (IDA), determined that the “Anniston core county could experience a net loss over 35 years of \$1,800,000 and that the region could experience a net loss of \$1,900,000, but the state of Alabama could gain \$26,400,000 over the same period” (IDA, 2001, p. S-4). In other words, even though the county and region would lose, the state of Alabama as a whole would be able to recoup to the tune of \$22,700,000.

When these figures were calculated, IDA omitted factors or “additional considerations” that were beyond the scope of the study. According to the study’s authors, these were not factors included in the economic model. It is possible that the report’s key finding - that Alabama is benefiting from the demilitarization activities - is a result of their omissions. Consequently, this section on impacts will focus on some of these “additional considerations” in the DOD study and how they relate to community impacts.

### CHAPTER FOCUS

The two primary concerns that went beyond the scope of the DOD study were 1) “the perceived inadequacy of evacuation options, and 2) the inability to attract and retain business investments. The latter concern was related to the common complaint of declining property values due to the stigma caused by chemical agent incineration and other demilitarization activities” (IDA, 2001, pp. S5-S6). Since we are using our survey data as the basis of our analysis, we can’t discuss all of the impacts regarding the perceived inadequacy of evacuation options, such as the cost of



improving infrastructure. However we will discuss the financial impact of having to make one room airtight for those members of the population, for whom, for a variety of reasons, evacuation is not an option. Depending on the age and construction of residents' homes, it may be necessary to make a financial investment to make one room sufficiently airtight for the purpose of sheltering-in-place. The second concern, stigma, we will discuss as it specifically relates to residential property values, use and enjoyment of property, and business attraction.

## AIR INFILTRATION REDUCTION

According to the Department of Energy's commissioned report *Assessment of Housing Stock Age in the Vicinity of Chemical Stockpile Sites* (1999), "the key factor in sheltering-in-place effectively centers on the level of protection offered by the structure. Rate of air infiltration into a structure determines the 'leakiness.' Buildings with low infiltration rates will afford residents higher levels of protection during a plume passage than those with high infiltration rates" (p. 1). A variety of factors can influence a structure's infiltration rate, including outdoor meteorological influences, building design, general climatic conditions of the region, adequate building codes that contribute to energy efficiency, and age of building (Oak Ridge National Laboratory, 1999).

Due to the high air exchange rate of old and/or poor structures, it is uncertain whether they would provide adequate protection should a chemical vapor release occur at the Anniston Army Depot (Oak Ridge National Laboratory, 1999). Since the age of the structure can be a major cause of high infiltration rates, the Oak Ridge National Laboratory did a survey for the Department of Energy assessing the age of the residential housing stock in each of the eight CW stockpile sites with chemical activities. According to the Oak Ridge survey, Anniston has the largest number of dwellings built before 1970 and the largest number of dwellings built before 1950 of any of the eight sites. As can be seen in Table 4.1, a total of 60 percent of the entire Anniston housing stock is within a 15 km radius of the chemical stockpile site, as well as being built before 1970.

**Table 4.1: Anniston Housing Stock**

Distance from CSEPP stockpile	Total housing units	Built before 1950	% of total	Built before 1970	% of total
10 km (6.2 miles) radius	4,611	765	17%	2,489	54%
15 km (9.3 miles) radius	25,066	6,244	25%	15,141	60%

SOURCE: *Oak Ridge National Laboratory, 1999*

To calculate the costs of reducing air infiltration the Oak Ridge National Laboratory looked at a study of almost 15,000 weatherized homes. "According to this study it costs about \$250 to caulk, weatherstrip, and seal a home" (Oak Ridge National Laboratory, 1999, p. 12). Based on this estimate it would cost almost \$1.8 million to implement an air infiltration reduction program for just

the pre-1950 residential housing stock in Anniston and a little over \$4.4 million to implement an air infiltration reduction program for the entire pre-1970 housing stock in Anniston.<sup>5</sup> <sup>6</sup>

In our own community survey of Calhoun County, only 59 percent of the respondents said it would be possible to make one room airtight in their home if they had to use a sheltering-in-place kit. Of those 59 percent of the respondents, 37 percent said that it would cost less than \$100 to implement an air infiltration reduction program or in other words, make one room airtight. The next largest group (26 percent), said it would cost between \$1001 and \$5000 to make one room airtight. The average household cost to “make one room airtight,” according to the respondents of the Calhoun County community survey, was \$2961.27. The median value was \$700.00. The breakdown in cost for the respondents is as follows:

**Table 4.2: Cost of Air Infiltration Reduction**

Cost to make one room airtight	Less than or equal to \$100	\$101-500	\$501-1000	\$1001-5000	\$5001-10,000	Greater than 10,001
Percentage of respondents who said it was possible to make one room airtight	37.1%	12.6%	9.4%	26.3%	7.2%	7.6%

SOURCE: *Calhoun County Community Survey, 2002*

By applying the respondents’ average cost to make one room airtight (\$2961.27) to Oak Ridge’s estimate of the Anniston housing stock (pre-1950: 6,244 & pre-1970: 15,141), the total cost estimate for the pre-1950 residential housing stock would be \$18.5 million, and for the entire pre-1970 residential housing stock, \$44.8 million. By applying the median value (\$700), the total cost estimate would be \$4.4 million and 10.6 million, respectively. In either case, using both the average and median values to estimate the total cost to Anniston produces significantly higher numbers than Oak Ridge’s estimate. If sheltering-in-place is required, these results show that there is a potentially significant financial impact on the Anniston community.

## STIGMA OF ANNISTON’S CHEMICAL WEAPONS STOCKPILE AND DEMILITARIZATION FACILITY

The potential stigma resulting from Anniston’s chemical weapon (CW) stockpile and demilitarization facility was the second concern of Anniston residents that wasn’t addressed in the DOD study. “A ‘stigma’ is a term of art used by appraisers, developers, and financial institutions to represent ‘impacts on value stemming from the increased risk associated with the property’ and the resulting limits on an owner’s ability to sell or finance the property. Generally it refers to the discount required to compensate buyers, investors, or lenders for the risks which affect the

<sup>5</sup> Community Against Pollution, a citizen group in Anniston, is currently preparing to do a door-to-door assessment of resident homes in the “pink zone.”

property's value" (Gibson, 1995, p. 391). According to Peter J. Patchin (1991) of *Contaminated Properties-Stigma Revisited*, "some estimates have shown that an aggregate loss in property values due to hazardous contamination could well exceed ten percent of the total real estate value in the United States" (Gibson, 1995, p. 389). The question for this study is whether the presence of the CW stockpile has stigmatized properties in the Anniston area.

## RESIDENTIAL PROPERTY VALUES

To assess the possibility of stigma in Anniston we conducted an experiment to determine if there was indeed a stigma. Our test considered whether the attractiveness of a home in Anniston is materially affected by proximity to the Depot, holding other factors constant. Put differently, does the distance from the Anniston Army Depot affect the likelihood that a buyer would purchase a home in Anniston? In our experiment the respondents were randomly assigned into three different groups, those that were told: 1) the home they were considering to buy was 6 miles away from the Anniston Army Depot, 2) the home they were considering to buy was 1½ miles away from the Anniston Army Depot, and 3) the home they were considering to buy was ½ mile away from the Anniston Army Depot. Once the respondents were assigned to the three distance groups, they were then each given a house price that ranged from \$10,000 to \$100,000. Afterwards they were told the following story:

In consideration of the sale, the realtor raises several issues. First, the realtor explains that the industrial area four miles away includes the site of a plant that once manufactured PCBs. PCBs are a possible cancer-causing chemical that leaked from the plant several decades ago. That site is now the subject of an ongoing lawsuit, although no PCBs have been detected anywhere in the neighborhood. Your realtor also explains that the Anniston Army Depot used to store CW, and that the Army plans to destroy these weapons over the next six years. The storage and destruction sites are in the middle of the depot, and the home is located [6, 1½, or ½ miles] (depending on treatment group) from the boundary of the depot.

Over time, some of the CW stored at the depot have leaked, although none of the toxic chemicals have been detected off of the depot. On the advice of the National Research Council, the Army has decided to use incineration to destroy the weapons. The Army and National Research Council have concluded that the largest risk of chemical release comes from storage. However, several local citizen groups have argued that the incineration of the CW also poses a significant risk to the health of the community.

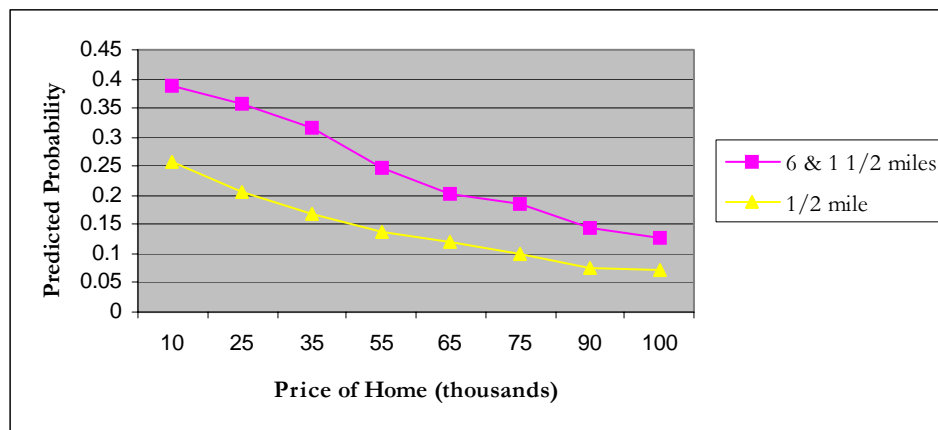
Imagine that the seller of the home would finance the house and charge no closing costs. Your costs would only be the monthly payments, but of course this money would not be available for groceries, debt, or other expenses.

In the story that was told to the respondent, both the distance from the PCB site and the neighborhood description were held constant. (For complete question wording, see Appendix C). The only descriptor that changed among each of the three groups was the house's distance from the "storage and destruction" site (6, 1½, or ½ miles). Therefore, if the experiment worked as intended, the only attribute of the home that varied systematically in the mind of the respondent was the distance from the Depot, and hence, proximity to the CW stockpile. If the stockpile has a stigmatizing effect on home prices, we would expect a greater reluctance to purchase the home described as closest to the Depot.

To analyze the data we derived from the question above, we used a logistic regression to calculate the probability that a respondent would agree to buy the home, given the price offered (\$10,000 to \$100,000), perceived risk of storage, and the distance from the storage and destruction site (6 miles and 1 ½ miles or 1/2 mile). The estimated probabilities from the 1½-mile group were not statistically different from those for the 6-mile group; consequently, these groups were aggregated when plotting the probabilities that the respondent would purchase the home.

In Figure 4.1 below, the probability of buying the house is shown on the Y-axis, whereas the price (\$10,000 to \$100,000) is shown on the X-axis. The “triangle” curve represents the people closest to the depot (1/2 mile) and the “square” curve represents the people further away (6 and 1½ miles).

**Figure 4.1: Probability of Buying a House in Anniston Given the Distance from the Incinerator**



SOURCE: *Calhoun County Community Survey, 2002*

Shown in Figure 4.1, as the price of a home goes up, the probability of buying that home goes down. Over the entire range, however, the home that is ½ mile away from the Depot is much less likely to be purchased than the home at the 6-mile point. As indicated in Table 4.3, if the home was described as being 6 miles from the Depot, 32 percent of the respondents said they would buy the average-priced house (\$55,940). If the house was described as being 1½ miles away from the storage and incinerator site, the probability of the respondent buying the average-priced house drops another 8 percent, to 24 percent. When the house was described as ½ mile away, the probability of buying the average-priced house dropped to 12 percent, a difference of 20 percent from the original 6-mile mark.

**Table 4.3: Distance from Incinerator and Probability of Buying a House**

House Distance from Incinerator and Storage Site	Probability of Buying the Average-Priced (\$55,940) House
6 miles	32%
1 ½ miles	24%
½ miles	12%

SOURCE: *Calhoun County Community Survey, 2002*

Overall, the results of our experiment show that there is evidence of stigma; the closer the home is to the Depot, the lower the willingness to buy. Thus, residents of Anniston who currently live within 6 miles of the Depot may thus be affected by the stigma of the storage and destruction site. As the proximity to the Depot reduces the attractiveness of the home to prospective buyers, the market price will fall as well.<sup>7</sup>

## USE AND ENJOYMENT OF PROPERTY

Besides examining whether or not the stigma of demilitarization activities affects property values, we also wanted to know if stigma affected Calhoun County residents' use and enjoyment of their property. "The term 'use and enjoyment' comprehends the interests that a person may have in the actual present use of the land for residential, agricultural, commercial, industrial, and other purposes. Additionally, it includes the pleasure, comfort, and enjoyment a person normally derives from the occupancy of land" (Gibson, 1995, pp. 408-409).

Our question is whether living in close proximity to the Depot and the CW stockpile would affect the ways in which residents can enjoy their residential properties. To determine how different uses and enjoyment of property correlates with proximity to the Anniston Army Depot storage site and incinerator, we asked respondents to think about the following four activities that would take place on their property:<sup>8</sup>

- Working on their lawn and in their garden,
- Having outdoor barbecues and picnics,
- Letting children play outside in their yard, and
- Growing fruits and vegetables in their yard for their own use

We posed the question, "Would living in a neighborhood next to the Anniston Army Depot storage site and incinerator cause you to stop the activity altogether, reduce it a lot, reduce it a little, or would it have no effect?" Table 4.4 shows the pattern of responses. For two activities – working on the lawn and garden and having outdoor barbecues – a majority of respondents said proximity to the Depot would have no effect. Half of our respondents said they would curb their children's play in the yard, and 59 percent would reduce or cease growing and eating fruits and vegetables grown in their yards.<sup>9</sup>

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<sup>7</sup> The actual magnitude of the price differentiated can be calculated using hedonic pricing techniques (see S. Farber for a comparison of techniques). Given the time and resource instrument for this study, we were unable to conduct such an analysis.

<sup>8</sup> The four activities were randomly applied to the Calhoun County community survey to avoid order bias.

<sup>9</sup> Though the question only referred to the Depot and the CW incinerator, it is possible that the respondents' answers could have been influenced by the presence of PCB's in the Anniston area.

**Table 4.4: Use and Enjoyment of Property**

	Have No Effect	Reduce It A Little	Reduce It A Lot	Stop the Activity Altogether
<b>Working on their lawn and in their garden</b>	55 %	17 %	16 %	12 %
<b>Having barbeques and picnics</b>	54 %	22 %	13 %	12 %
<b>Letting their children play outside in their yard</b>	50 %	18 %	18 %	14 %
<b>Growing fruits and vegetables in their yard for their own use</b>	42 %	12 %	16 %	29 %

SOURCE: *Calhoun County Community Survey, 2002*

Interestingly, those respondents who lived closer to the Depot (less than 15 miles) were less likely to say they would curtail the use and enjoyment of their property. This may be due to a number of factors: selection bias (i.e., who chooses to live close to the Depot), psychological effect (i.e., the people who live closest to the facility have grown accustomed to the Depot and the possible threats), and variations in familiarity with incineration could all be reasons why the people who live furthest away would be more likely to stop all activities than the respondents who lived closest to the facility. In sum, our respondents indicated that proximity to the Depot and incinerator might well have an impact on the use and enjoyment of their properties. Some activities in particular – such as allowing children to play outdoors and enjoying homegrown fruits and vegetables – appear to be vulnerable. This data suggests that the losses to the community may extend beyond financial expenses and reduced property values.

## **BUSINESSES ATTRACTION**

As documented in other areas with hazardous facilities, such as Times Beach, Missouri, and Love Canal, New York, the stigmatization of a place could result in unfavorable responses on the part of potential immigrants as well as potential businesses (Slovic, Layman, Kraus, Flynn, Chalmers, Gessel, 2001). To find out whether residents of Anniston felt this way we asked the question, “Overall, do you think that the incineration of CW at the Anniston Army Depot would increase, decrease, or have no effect on the number of new businesses moving into your county?” As you can see in Table 4.5, more than half, or 56 percent of the respondents said that they think the incineration of CW at the Anniston Army Depot would decrease the number of new businesses moving into their county. This belief was also expressed in our interviews with representatives of citizen groups. Most policy leaders – particularly those charged with representing and recruiting businesses – did not expect incineration to deter businesses from relocating to the Anniston area.

**Table 4.5: Business Relocation**

<b>Will incineration increase, have no effect, or decrease the number of new businesses moving in?</b>	<b>Increase</b>	<b>No Effect</b>	<b>Decrease</b>
<b>Percentage of respondents</b>	13.4%	30.2%	56.4%

SOURCE: *Calhoun County Community Survey, 2002*

Assuming that the Depot employees and the residents who live closest to the facility have greater familiarity with CW issues, we wanted to see if they would be more inclined to say that the number of businesses moving in would increase due to incineration. We performed a crosstabular analysis to see if the respondents who were employed by the Anniston Army Depot were more likely to say that incineration would have no effect or would increase the number of businesses moving in than non-employees. The data showed, however, that Depot employees were just as likely to say that incineration would have a negative effect on the number of businesses moving in as were non-employees. Moreover, the data indicated that the respondents who lived closest to the Depot (0-4 miles) were more likely to say that incineration would decrease the number of businesses moving into the county. In conclusion, both Depot employees and residents close to the Depot were no less likely to believe incineration would act as a deterrent to businesses moving to the County. Apparently, then, this concern is broadly shared among the community residents.

## CONCLUSION

Are the “additional considerations” omitted from the IDA assessment of community impacts of the Anniston area of any significance? Our analysis suggests that they are, and that the losses to Calhoun County residents may be substantial. Overall, these findings show that:

- The burden of cost weighs heavier on the people who live closest (0-4 miles) to the storage and incinerator site.
- Property values in Anniston are predicted to be affected significantly by the stigma of the demilitarization site.
- The use and enjoyment of property is predicted to be slightly affected by incineration.
- Business migration into the county is predicted to be somewhat negatively affected by incineration.

These findings mean that the demilitarization facility has a greater impact, both in terms of financial impacts and the impacts on property use and enjoyment, than have been previously identified in the IDA study. Therefore, the impacts on Anniston residents, especially those who live closest to the facility, should be readdressed due to the costs associated with reducing air infiltration and the identified stigma of the demilitarization facility.



## INCENTIVES

As mentioned previously, from the local perspective, Calhoun County is being asked to bear substantial costs, whereas the benefits derived from chemical demilitarization are realized by the state, nation, and world. Incentives may help balance this perceived benefit/cost imbalance and decrease local opposition to hosting undesirable facilities (Carnes, et al., 1982).

Incentives can be divided into two main categories: mitigation and compensation. Mitigation refers to actions designed to decrease negative impacts and potential risks associated with the operation of a facility (Carnes, et al., 1982). Alternatively, compensation is defined as payment for the assumption of risk or damages that occur as the result of an emergency or accident (Carnes, et al., 1982).

This chapter discusses incentives as policy tools. First, it contains a discussion of compensation and mitigation measures. Then, it evaluates the use of incentives in Calhoun County by discussing the incentive preferences of stakeholders and the community. Finally, it examines the effect of trust and risk on the incentive preferences of residents and evaluates the potential use of incentives in Calhoun County.

## MITIGATION

Mitigation of risk is an essential step in the siting of an undesirable facility. Appropriate mitigation measures are largely determined by the local community's perception of risk. Therefore, if mitigation measures are to be successful policy tools, the community must be involved in the development of mitigation options (Carnes, et al., 1982). There are two categories of mitigation measures: engineering mitigation and institutional mitigation (Gregory, Kunreuther, Easterling, & Richards, 1991).

### ENGINEERING MITIGATION

Engineering mitigation refers to technical precautions that are put into place to make a facility more resistant to accidents. If risks associated with a facility are uncertain or unfamiliar, then engineering mitigation might not reassure a worried community. Instead, it may increase public apprehension. For example, "when the U.S. Army revealed plans to stockpile safety and emergency evacuation equipment near the site of a planned CW incinerator in Kentucky, local opposition to the project was reported to be heightened rather than calmed" (Gregory, et al., 1991, p. 672). These types of reactions are particularly likely to occur when a community consistently hears that a process is safe, yet sees preparation for serious accidents. Given that preparation for a worst-case scenario is necessary, this creates an almost inevitable tension between potentially hazardous activities and the local community.

## INSTITUTIONAL MITIGATION

Institutional mitigation involves decreasing risk through empowering the local community in siting decisions. These types of efforts may be particularly useful for overcoming community mistrust of public officials involved in the siting and operation of the facility (Gregory, et al., 1991).

Examples of institutional mitigation measures include:

- **Buffers/Land Use Management:** Land can be purchased around a facility in order to prevent human occupation. This can include the use of relocation, development rights, and easements.
- **Relocation.** Relocation could include people living in homes near the facility or in homes that are unable to meet minimum safety requirements. People wishing to relocate could dedicate their property to the government and be paid the fair market value.
- **Monitoring/Detection:** If there are doubts about institutional credibility, independent monitoring by the local community may decrease local apprehension.
- **Emergency Response/Preparedness:** Personnel, equipment, training, and plans should be in place to respond to any emergencies and promote a feeling of safety within the community.
- **Public Education:** Public education can include education about the facility and its safety features, as well as, the emergency response plan (Carnes, et al., 1982).

## COMPENSATION

Mitigation used alone is unlikely to reduce opposition to an undesirable facility because it is not possible to eliminate all risk associated with a facility (Carnes, et al., 1982). As a result, compensation measures may be needed to redress negative impacts resulting from a facility such as economic losses, impacts on human health, decreases in quality of life, and degradation of the natural environment (Jenkins-Smith & Kunreuther, 2001). Examples of compensation measures include:

- **Trust Funds.** Once created, trust funds would compensate people suffering damages from an emergency or accident associated with the facility.
- **Insurance Scheme.** An insurance pool could be created in which all, or part, of the premiums would be paid by the government. Residents would file claims for damages against this pool. Precedents for “federal involvement in insurance for low probability/high risk events include the Price Anderson Act and the National Flood Insurance Program” (Carnes, et al., 1982, p. 31).
- **Assumption of Liability.** The government could provide written assurance to assume liability for damages resulting from an emergency or accident associated with the facility. This could include assumption of medical costs in the event of an accident or land value guarantees.

- **Contracts.** The federal government and local governments could enter into contracts ensuring local compensation in the event of an accident
- **Economic Benefits.** Economic benefits could include direct payments to the local community or families/individuals or tax incentives, such as credits and deductions
- **Provision of Bonus Community Services or Infrastructure Development.** Bonus services or infrastructure could be provided to the local community to compensate the perceived costs of the facility. Examples include job training programs, scholarship funds, parks, cultural resources, schools, police protection, fire protection, roads, and bridges (Carnes, et al., 1982).

## USE OF INCENTIVES IN CALHOUN COUNTY

The purpose and benefits of the incineration of CW in Calhoun County are national in scope; however the costs associated with incineration are localized. Therefore, many residents of Calhoun County perceive a benefit/cost imbalance.

### PERCEPTIONS OF LOCAL COSTS

As noted earlier in this report, the community perceives numerous costs associated with the incineration of CW. These perceived costs impact every aspect of community life, and can serve as a basis for considering the use of mitigation and compensation measures. These costs include the following:

- **Risk.** Residents of Calhoun County perceive both the storage and incineration of CW to pose serious risks to the community. However, on average the storage of CW is perceived to be slightly riskier than incineration. Nevertheless, approximately 50.2 percent of respondents perceived the incineration of CW as presenting a high risk to the community (See Chapter 2).
- **Property values.** Our analysis demonstrates that respondents are willing to pay much less for homes near the Anniston Army Depot, than homes located further away. In addition, the number of respondents who would consider buying a home decreases with distance to the Depot (See Chapter 3).
- **Business relocation.** Many policy leaders perceive the presence of CW in Calhoun County to have a negative impact on the ability of the community to attract new businesses. Survey respondents echoed this belief with 56.4 percent of respondents indicating that the incineration of CW would decrease the number of new businesses coming into the county (See Chapter 3).
- **Use and enjoyment of property.** Many survey respondents indicated that living near the Anniston Army Depot would have a negative impact on their use and enjoyment of their homes. Approximately half of all respondents indicated that living near the Depot would result in their

decreasing or stopping activities such as working in their lawn and garden, having outdoor barbecues and picnics, and allowing their children to play outside (See Chapter 3).

- **Health.** Most survey respondents report being concerned about negative impacts on their families' health. In addition, many citizen groups believe that the incineration of CW in Calhoun County will release dangerous pollutants into the air that would have a negative impact on human health and the degradation of the natural environment. These concerns are particularly relevant considering the background PCB contamination that has affected the local community (See Chapter 3).

As a result of these perceived costs associated with incineration, incentives may be necessary to help balance the costs and benefits of hosting the incineration facility and to increase local support of incineration. To determine the effect of incentives on this benefit/cost imbalance, we examined the effect of compensation and mitigation measures on an individual's preferred method of CW destruction.

## INITIAL ACCEPTANCE OF INCINERATION

At the time of the writing of this report, the presumptive method for the destruction of the CW stockpile is incineration.<sup>10</sup> As indicated by our interviews with community leaders, most stakeholders prefer the method of incineration to other options of CW destruction. Only citizen group representatives and several local officials were opposed to incineration. In addition, stakeholders overwhelmingly felt that most residents prefer incineration and that only a vocal minority opposes it. However, our survey found that the community is divided over the issue of incineration. Slightly less than half of all respondents prefer incineration as a method of weapons destruction, while the other 50.9 percent of Calhoun County residents are divided between preferring to wait for the development of other methods or using an existing alternative technology. These percentages are shown in Table 5.1.

**Table 5.1: Preferred Method of Weapons Disposal**

Which of the following options most closely matches your preference for handling the CW stored at the Anniston Army Depot?	Incineration	Wait for other methods	Alternative technology
Percentage of respondents	49.1%	33.9%	17%

SOURCE: *Calhoun County Community Survey, 2002*

## RESPONSIVENESS TO INCENTIVES

The responsiveness of the community to incentives was determined in two ways. First, policy leaders were asked what they believed would make the community more receptive to the idea of CW incineration. For purposes of comparison, community survey respondents were then asked their opinion of four mitigation measures and three compensation measures. They were asked whether

<sup>10</sup> It is not the purpose of this report to promote incineration or a particular technology. Since incineration is the presumptive method of CW destruction, we tried to assess community receptiveness and acceptance of this method.

the measures would make them more favorable, less favorable, or stay the same regarding incineration.<sup>11</sup>

## MITIGATION

Local policy leaders agreed that mitigation measures were extremely important. This is because they overwhelmingly felt that Calhoun County is not prepared for a chemical emergency. Concerns mentioned by policy leaders included the following:

- First responders do not have necessary equipment and training to respond to an emergency.
- The special needs population has not been identified, so many of them will not be able to respond to an emergency.
- The community is confused about what do in the event of an emergency because of the “multiple voices” that are giving them conflicting information.
- The community has not been educated about what to do in the event of an accident and there have been no practice scenarios.

Mitigation measures that local policy leaders agreed were important were protective suits and equipment for first responders, more over-pressurized schools and buildings, public education, relocation, and the retrofitting of homes to be airtight. Policy leader perceptions of protective hoods for residents were mixed, with many arguing that they gave residents a false sense of protection. Concerns raised by local policy leaders about protective hoods included the following:

- Inability of residents to carry the hoods everywhere
- Inability of hoods to be effective for residents with facial hair, glasses, or who experienced weight loss/gain
- Difficulty in training the public about the correct usage of hoods
- Inability of hoods to protect infants and children

From the public perspective, mitigation is equally important. Most Calhoun County residents surveyed did not feel that the current emergency preparedness plan in Calhoun County provides adequate protection; 55.5 percent of respondents believed that the current plan provided little to no protection for the community. Furthermore, 52.3 percent of residents do not feel that they would be notified soon enough to respond in the event of a chemical emergency.

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<sup>11</sup> Compensation and mitigation options were presented in random order to prevent an order effect in responses.

To gauge community receptiveness to mitigation measures, survey respondents were asked the following questions regarding four mitigation measures.

Would your views regarding the incineration of CW at the Anniston Army Depot become more favorable, less favorable, or stay the same under each of the following circumstances?

1. If protective suits were provided for local emergency responders?
2. If protective hoods were provided for civilians living near the depot?
3. If roads, highways, and bridges were improved to enable easier evacuation in the case of an accident?
4. If you knew that residents living near the facility would be compensated for relocating?<sup>12</sup>

The majority of respondents stated that all four mitigation measures would make them either more favorable to incineration or stay the same, and approximately half of all respondents stated that mitigation measures would make them more favorable to the idea of incineration. As shown in Table 5.2, some respondents stated that mitigation measures would make them less favorable to incineration. Therefore, it is important to look at the net increase in favorability (% more favorable - % less favorable) for the four mitigation measures to assess their effectiveness as policy tools.

**Table 5.2: Overall Responses to Mitigation Measures**

	More Favorable	Stay the Same	Less Favorable	Net Favorability
Evacuation Route Improvements	50.5%	34.5%	4.8%	45.7%
Relocation	50.0%	33.2%	6.7%	43.3%
Protective Suits for ERs	45.6%	37.5%	6.0%	39.6%
Hoods for Residents	39.5%	40.2%	9.3%	30.2%

SOURCE: *Calhoun County Community Survey, 2002*

As seen in Table 5.2, residents responded most favorably to evacuation route improvements and relocation. Those preferring incineration responded most favorably to evacuation route improvements and protective suits for emergency responders, while those who did not prefer incineration responded most favorably to relocation and evacuation route improvements (see Table 5.3). As was true for the policy leaders, providing protective hoods for residents was the least effective mitigation measure for increasing acceptance of incineration.

<sup>12</sup> For the purposes of this report, relocation is considered to be a mitigation measure. This decision was based upon discussions with local stakeholders that indicated that requests for relocation were based upon safety concerns, not a desire for economic restitution.

**Table 5.3: Net Favorability of Mitigation Measures**

	<b>Prefer Incineration</b>	<b>Does Not Prefer Incineration</b>
Evacuation Route Improvements *	58.0%	45.2%
Relocation	43.9%	52.4%
Protective Suits for ERs	49.2%	42.3%
Hoods for Residents	31.5%	36.1%

\*Difference of means is statistically significant

SOURCE: *Calhoun County Community Survey, 2002*

## COMPENSATION

Since the storage and incineration of CW involves inherent uncertainty and risk, mitigation measures can never achieve “zero risk.” As a result, compensation measures may be necessary to redress the remaining negative impacts perceived by the community. Local policy leaders consistently avowed that safety was the primary concern of the community and never specifically identified any compensation measures that they felt would make the community more favorable to the idea of incineration. In general, it appeared to us that policy leaders perceived compensation as a second-order issue that should only be addressed once mitigation measures were explored.

To gauge community receptiveness to compensation, survey respondents were asked the following questions regarding three compensation measures.

Would your views regarding the incineration of CW at the Anniston Army Depot become more favorable, less favorable, or stay the same under each of the following circumstances?

1. If economic benefits were provided to residents living near the facility?
2. If you were assured that medical costs would be covered for anyone harmed by a chemical emergency?
3. If you were assured that the difference in value of your property before and after a chemical emergency was financially covered?

As shown in Table 5.4, the majority of respondents stated that compensation measures would make them either more favorable to incineration or have no effect. Table 5.5 shows the net effect of each of the compensation measures for those who prefer incineration as a means of CW destruction and for those who prefer an alternative option. When looking at the net increase in favorability (% more favorable - % less favorable), it becomes evident that respondents who preferred incineration responded more favorably to every compensation measure. Economic compensation was the least effective measure for both groups.

**Table 5.4: Overall Responses to Compensation Measures**

	<b>More Favorable</b>	<b>Stay the Same</b>	<b>Less Favorable</b>	<b>Net Favorability</b>
Medical Costs Covered	46.3%	36.1%	6.8%	39.5%
Property Value Guarantee	42.2%	38.7%	7.6%	34.6%
Economic Compensation	37.9%	42.5%	7.8%	30.1%

SOURCE: *Calhoun County Community Survey, 2002*

**Table 5.5: Net Favorability of Compensation Measures**

	<b>Prefers Incineration</b>	<b>Does Not Prefer Incineration</b>
Medical Costs Covered*	53.8%	36.0%
Property Value Guarantee*	47.7%	30.8%
Economic Compensation	35.6%	33.4%

\*Difference of means is statistically significant

SOURCE: *Calboun County Community Survey, 2002*

## COMMUNITY PREFERENCES FOR INCENTIVES

When ranking community responsiveness to the incentive measures presented, it is evident that mitigation is more important to the community than compensation. This finding supports the judgment of local stakeholders that safety is the primary concern of the community. Respondents preferred evacuation route improvements, relocation, protective suits for emergency responders, and the coverage of medical costs in the event of an accident over property value guarantees and economic benefits.

However, perhaps the most important information this analysis yields is the effect of incentive measures on the opinions of those who were initially opposed to incineration. Overall, those who did not prefer incineration responded most favorably to relocation programs, and evacuation route improvements, and least favorably to all of the compensation measures. These rankings are shown in Table 5.6.

**Table 5.6: Community Rankings of Incentives**

<b>Ranking of Incentives by Community Survey Respondents</b>	<b>Ranking of Incentives by Community Survey Respondents not Preferring Incineration</b>
1. Evacuation Route Improvements	1. Relocation
2. Relocation	2. Evacuation Route Improvements
3. Medical Costs Covered	3. Protective Suits for Emergency Responders
4. Protection Suits for Emergency Responders	4. Hoods for Residents/Medical Costs Covered
5. Property Value Guarantees	5. Economic Benefits
6. Protective Hoods	6. Property Value Guarantees
7. Economic Benefits	

SOURCE: *Calboun County Community Survey, 2002*

If it is the desire of policymakers to increase public acceptance of incineration, especially the acceptance of people who do not currently prefer it, they should concentrate on the implementation of mitigation measures.

## IMPACT OF TRUST AND RISK ON RECEPTIVENESS OF INCENTIVES

Trust and perceived risk are both considered important preconditions to the use of incentives. According to Carnes, et al, trust in siting officials and a minimum package of health and safety measures must be guaranteed before the use of incentives can be successful (Carnes, et al., 1982). If these preconditions are not met, then incentives can be misunderstood by the community and



perceived as a bribe. In light of this information, it is important to evaluate incentive preferences on the basis of perceived trust and risk.

### **Trust**

As discussed previously in the report, respondents were grouped into trust clusters based on their views of federal, state, and local officials. There were four trust clusters: 1) those who trusted all levels of government, 2) those who trusted local and state officials, but not federal officials, 3) those who had little trust in all levels of government, and 4) those who trusted federal and state officials, but not local officials. The largest cluster was those who trust everybody (32.1 percent) and the smallest was those who trust nobody (14.4 percent). On average those who trust everybody responded most favorably to the use of incentives, while those who trust nobody responded least favorably. In addition, those who trust local/state officials responded more favorably to the use of incentives than those placing trust in federal/state officials. These results are shown in Table 5.7.

**Table 5.7: Net Favorability of Incentives, Grouped by Trust Clusters**

	<b>Trust Everybody (32.1%)</b>	<b>Trust Local &amp; State, Not Federal (29.0%)</b>	<b>Trust Nobody (14.4%)</b>	<b>Trust Federal &amp; State, not Local (24.6%)</b>
Evacuation Route Improvements	55.7%	54.8%	39.5%	49.4%
Relocation	50.7%	47.8%	46.1%	45.0%
Medical Costs Covered	51.3%	45.4%	32.9%	42.3%
Protective Suits for ERs*	51.8%	50.0%	32.2%	39.5%
Property Value Guarantees	39.9%	40.9%	37.3%	40.2%
Protective Hoods for Residents*	44.3%	36.8%	22.5%	28.2%
Economic Benefits	42.4%	33.6%	27.3%	30.2%

\*Difference of means is statistically significant

SOURCE: *Calhoun County Community Survey, 2002*

Overall, there is an observed relationship between trust and the incentives that respondents find favorable. Trust had the greatest effect on acceptance of protective suits for emergency responders and protective hoods for residents. Survey respondents who trust everybody or who trust local/state officials responded more favorably to all incentive measures, while respondents who trust nobody or who trust federal/state officials responded less favorably to all incentive measures. These groups may be less responsive to incentives, because they do not trust that officials will deliver incentives or they do not feel that incentives necessary. Nevertheless, respondents with low trust responded more favorably to mitigation measures and less favorably to compensation measures than other respondents. This implies that mitigation measures are more effective than compensation for increasing acceptance of incineration for individuals who have low trust in public officials.

## Risk

Perceived risk can also affect the success of incentives as policy tools. To determine the effect of risk on the preferred method of incineration, respondents were grouped by those who perceived low risk, moderate risk, and high risk in regards to the incineration of CW. Approximately half of all respondents perceived the incineration of CW as presenting high risk to the community.

Overall, perceptions of risk do appear to affect incentive preferences. As seen in Table 5.8, citizens who perceive incineration to be high risk responded more favorably to relocation and evacuation route improvements than any other measures. Those perceiving moderate risk responded more favorably than other respondents to all incentives, except relocation. Since citizens who perceive incineration to be high risk responded most favorably to mitigation measures, this would indicate that they do not believe that a minimum package of safety measures are in place in Calhoun County. As a result, compensation measures presented to the community before additional mitigation could result in the community perceiving compensation as a bribe.

**Table 5.8: Net Favorability of Incentives, Grouped by Perceived Risk**

	<b>Low Risk (28.7%)</b>	<b>Moderate Risk (21.1%)</b>	<b>High Risk (50.2%)</b>
Evacuation Route Improvements	47.4%	58.3%	50.2%
Relocation*	35.9%	51.4%	54.0%
Medical Costs Covered*	48.7%	51.5%	39.0%
Protective Suits for ERs*	44.2%	56.2%	40.1%
Property Value Guarantees	40.9%	47.1%	35.4%
Protective Hoods	29.5%	38.8%	34.6%
Economic Benefits	33.6%	44.2%	30.6%

\*Difference of means is statistically significant

SOURCE: *Calhoun County Community Survey, 2002*

## CONCLUSION

Incentives can be used to balance perceived benefit/cost imbalances in communities hosting undesirable facilities. In Calhoun County, many residents perceive a benefit/cost imbalance within the community due to the concentration of local costs and the dispersion of total benefits. To determine the effect of incentives on this benefit/cost imbalance, we examined the effect of compensation and mitigation measures on an individual's preferred method of CW destruction.

The majority of community survey respondents stated that mitigation and compensation measures would make them either more favorable to incineration or stay the same. Those who did not prefer incineration responded more favorably to mitigation than compensation, particularly to relocation and evacuation route improvements. In addition, respondents who have low trust in public officials or perceive high risk with the incineration process were more responsive to mitigation measures than compensation. These findings support the judgment of local stakeholders that safety is the primary concern of the community, and that compensation is a second-order issue. Overall, the community preferred evacuation route improvements, relocation, the coverage of medical costs, and protective suits for emergency responders.

## COMMUNICATION

The premise of this paper rests upon the assumption that incineration is going to occur in September. Given that assumption, the goal is then to consider what steps can be taken that will address the concerns of members of the community. Understanding their concerns, and how those concerns can be addressed, can both facilitate steps toward emergency preparedness and reduce opposition to the Army's efforts to destroy the stockpile of CW. Community concerns can take several forms, but the most urgent may be 1) the perception that the lives and well being of the citizens are endangered by chemical weapon storage and destruction, and 2) that chemical weapon storage and destruction have imposed significant costs on the local community. Broadly speaking, these concerns can be addressed in two ways. The previous chapter addressed ways in which the federal government can reduce the cost that the Calhoun County community has been asked to bear by offering a variety of incentives. This section will focus on how the state of interagency relationships and public communication has the potential to either create or assuage unfounded fears of the public. Clearly, the goal is not to silence valid concerns; however, fear based on misinformation has ravaged the community for too long.

## INTER-AGENCY RELATIONSHIPS

Legislation assigning responsibilities to various policy leaders has been passed in an attempt to ensure that communities are protected by an effective emergency preparedness plan. However, the legislation is powerless to make sure that the agencies cooperate fully. Calhoun County provides an example of how following the letter of law does not necessarily meet the intent of the law. The lack of coordination among the agencies charged with the protection of Calhoun County has resulted in a nonexistent emergency plan and a community torn by fear and confusion.

## AGENCY PERCEPTIONS OF COMMUNICATION

When we spoke with federal, state, and local policy leaders, there was no consensus as to whether a significant communication problem has impeded preparation for chemical weapon destruction. Some of the leaders spoke of communication in terms of whether or not regular and consistent conversation occurred, or was possible, between the various parties. However, other leaders spoke of communication in terms of how clearly they felt their concerns were heard and understood by other agencies.

Generally, the leaders concurred that all of the local agencies involved were on "speaking terms," meaning that at least these leaders verbally communicated. Leaders referred to regular meetings in which the local representatives of federal, state, and local agencies discussed concerns. However, there does seem to be a split between the local agencies and the Army. Both the Army and the local leaders spoke of this complete lack of communication. The Army explained the breach as unwillingness of other leaders to cooperate with the Army. Local policy leaders described the situation as one in which their repeated attempts to communicate or coordinate were ignored.

Addressing a different level of communication, great concern was expressed over the complicated plan for communication in the event of an accident. Multiple phone calls and decision makers are involved in finally signaling the responders and the citizens. Local policy leaders share the common belief that by the time all of the appropriate agencies and responders are alerted to the incident, too much time will have passed for citizens to react appropriately.

Though there are many distinct meanings of “communication,” the reality is that the condition of communication in Calhoun County has to do with much more than just who is “only a phone call away.” The state of communication rests heavily upon the degree to which concerns are heard and considered. Several interviewees expressed concern that this type of communication was not taking place. The rest of the chapter focuses on this level of communication.

## EVIDENCE OF FAILED COMMUNICATION

On several occasions, the policy leader interviewees brought up the imbalance of authority, responsibility, and knowledge among themselves. The current emergency plan does not effectively match duties with abilities. For instance, CSEPP mandates that local elected leaders (the Commissioners) are legally responsible to ensure that an emergency plan is “developed . . . reviewed . . . adopted . . . exercised . . . and implemented” (CSEP Planning Guidance, 1988, ch.8-p.3). The Commissioners are required to make the policy decisions, make the final call as to when and how the emergency plan should be executed, notify all of the appropriate responders, and decide when it is safe to return to normal life. But not only are the Commissioners not the experts in chemical leaks or public health, they are also limited by their authority to fund their decisions. The Alabama Constitution of 1901 does not permit the municipalities of Calhoun County the power and right to levy or collect taxes. The Commissioners are, therefore, dependent upon the state and federal agencies’ decisions to fund any protective measure the Commissioners deem necessary (i.e., infrastructure improvements).

Another issue raised was Calhoun County’s refusal to participate in scheduled “practices” in which first responders and the community act out their assigned duties and responses, as if an accident had taken place. While all of the surrounding counties have implemented and practiced emergency plans under the direction of CSEPP, Calhoun County has not settled on one plan, and they have refused to rehearse any kind of response. Some believe that the Commissioners simply did not want to rehearse the wrong drill, leading to more confusion when the plan changed with the distribution of hoods and more SIP kits. Others contend that the County refused to participate in drills as a means of manipulating FEMA into releasing more funds.

Varying feelings about the Citizen Advisory Council (CAC) provide further evidence of a lack of communication. Required by federal legislation and funded by the Army, the CAC is meant to serve as a liaison between the community and the chemical demilitarization program. The governor appoints three citizens who live and work in the area to serve on the council. One policy leader disclosed his impression that though the CAC members were once staunch anti-incineration proponents, the CAC has come to be made up of very pro-incineration citizens. Various opinions were given for the change in perspective. Those interviewees most prone to be opposed to incineration felt that the council has been “captured” by the Army. The fact that the Army funds and houses the Council in one an Army building only supports the theory of capture. The Army acknowledges the fact that Army funding of the Council could create the appearance of capture.

However, others feel that the CAC is an example of how education can change one's opinions. This group argues that as citizens become more knowledgeable about the process and the expertise of those performing the incineration, their fears are allayed and so they become honest converts to the pro-incineration side.

## **POSSIBLE EXPLANATIONS FOR FAILED COMMUNICATION**

Throughout the interviews, the tendency to think of communication as “the other guy’s” problem dominated the conversation. Most interviewees expressed frustration that after expressing their plans and concerns, the other officials still failed to listen or understand. These concerns and the examples above have a common theme of mistrust. The tendency of agencies to second-guess the “real” motives behind each other’s actions speaks volumes about the lack of confidence officials have in each other. When asked about community perceptions, every official responded that he or she felt trusted by the community, but then often doubted the level of trust placed in other agencies. Why the perceived lack of trust? Perhaps it stems from a lack of knowledge or understanding of each other’s position.

Congress has passed legislation, such as the Super Fund Amendments and Reauthorization Act (SARA), establishing the EPCRA. Such legislation has resulted in an overlapping organizational structure that is meant to govern the emergency preparedness plan (see CSEPP Organizational Chart in Appendix E for a description of the structure). This structure is open enough that the agencies included can easily escape responsibility and yet so narrowly defined in some areas that agencies can legitimately complain that someone else is not complying with the mandate. Consequently, agencies have avoided working together. It is apparent that many of the officials have either been so narrowly focused on the scope of their own task, or so distracted by other agencies’ failure to accomplish their tasks, that the larger picture is often missed.

Ultimately, the structure creates the greatest disadvantage for the local officials. Typically not career-bureaucrats, these officials have found themselves striving to work within a federal process to request safety measures and fight for funding. Placing the largest burden for acquiring knowledge in technology, funding, and communication on local officials, the structure provides no additional authority by which these officials can accomplish duties never provided for in a 100-year-old state constitution. Several different local policy leaders defined the conflict in Calhoun County as the Commissioners’ “hang up” on the money or the politics of the situation. The Commissioners, on the other hand, feel that because FEMA approval is the only means by which safety measures can be funded, these months before September are the last opportunity the Commissioners have to fight for the funding necessary to prepare the community.

## **STEPS TOWARD EFFECTIVE COMMUNICATION**

Clearly, the most important step is to bring together all of the actors to reach a level of consensus. The issue at stake – the safety of the community – is worth going to great efforts, and the actors involved will be the first to acknowledge the urgency of the situation. Given that much of the mistrust among the policy leaders can be explained by a lack of understanding of each other’s roles, a first step would be the creation of a discussion forum to bring together the various

government officials involved in the situation. Clear role definitions must be set out. The whole range of concerns, including the constraints that currently limit officials' abilities to carry out their assigned responsibilities, should be openly discussed. If a discussion forum proved ineffective, the introduction of a third party mediator may be necessary. Given the entrenched positions and the long history of conflict, a third party mediator may present the most promising option. Mediation has shown to be helpful in working through many public policy issues, especially land use issues (Lampe, 1999, 6). Mediation would seek to involve all of the responsible officials together to discover creative solutions that all parties can endorse (2).

Many of the same policy leaders met in a Task Force in the fall of 2001 that resulted in the Memorandum of Understanding in which FEMA made the infamous promise of "hoods." The initial reports from the Task Force were positive; policy leaders at all levels seemed to be in agreement over key issues. However, as more time passed, the leaders all seemed to once again polarize. Continual communication would have helped to prevent such regression.

A successful discussion forum has the potential to yield great gains. Policy leaders will have the opportunity to discover – and overcome – some very real institutional hurdles, such as the structural imbalance of responsibility and authority. By combining the efforts of experts in emergency planning (FEMA, AEMA, CCEMA), CW (Army), and community needs (Commissioners, City Councilmen, Citizens Against Pollution), real resource needs can be identified. Ultimately, the greater significance may lie in simply creating a level of understanding and trust among players as they get to know each other as people – not just as names filling a position. The hope is that eventually, informal channels for communication will form as actors work together for a common goal – the protection of Calhoun County's citizens. Only when these officials have reached consensus, are they fully prepared to communicate with the public.

## PUBLIC COMMUNICATION

Once policy leaders have agreed upon a community safety plan, they must turn their focus to communicating that plan to the community. First, these leaders need to assess the condition of their relationships with the public. The leaders' ability to communicate rests upon the willingness of the community to trust the information they receive. Next, policy leaders need to consider what education strategy to employ, including which communication mediums to use, and what role each leader will play.

### **COMMUNITY PERSPECTIVE ON COMMUNICATION**

There is little doubt in anyone's mind that communication with the public has ultimately failed. Every policy leader interviewee acknowledged that the citizens were unsure of what to do in the event of an emergency. The survey only confirmed what the leaders had told us. Ninety percent of the residents surveyed said they had heard of the emergency plan, which would indicate that some communication has occurred. However, we have already established that 83 percent of the citizens

do not even know what zone they live in, which is required to know the appropriate response. Furthermore, of the citizens that thought they knew what they should do, a large proportion of the population went on to say that they would not comply, which further indicates that misinformation is a serious problem (see Table 3.5 and Table 3.6 for a description of this group).

## CONDITIONS FOR COMMUNICATION

Our goal is not to place blame for failed communication. Rather, we want to identify the conditions for communication. Communication is critical to the citizens' safety. Regardless of the citizens' opinion of the policy leaders, they are dependent upon their leaders for information, guidance, and implementation of the emergency preparedness plan. Citizens can only be comfortable with this dependency if they have high levels of confidence in those upon whom they are forced to rely. Citizen compliance with policy leader information would naturally seem to be correlated with high confidence. One way we attempted to get at this comfort level was to ask questions about how the community perceived the major players in the incineration and emergency preparedness context. We used the following questions to address three aspects of trust to fully capture the nature of the relationships.

- Using a scale from zero to ten where zero means not at all likely and ten means very likely, how likely is it that the following groups or individuals would make decisions about the storage and incineration of CW in your area that are in the best interest of people in your community?
- Now I would like to know how competent you believe various individuals or groups are to make decisions about the safe storage and incineration of CW. On a scale from zero to ten where zero means not at all competent and ten means completely competent, how would you rate the following?
- When thinking specifically about the CW at the Anniston Army Depot, I would like to know whether you would believe statements made by various individuals or groups. On a scale from zero to ten where zero means not at all believable and ten means completely believable, how would you rate the following individuals or groups?

The survey focused upon those community leaders that were most involved in the decisions concerning the storage and incineration of CW, assuming that those same leaders would then be involved in emergency preparedness planning.

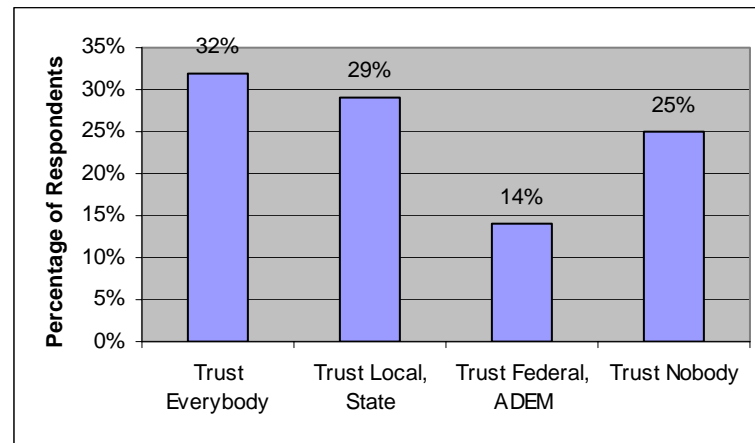
Once we gathered the data for how the community perceived the policy leaders on the basis of community-mindedness, believability, and competency, we assimilated the information and broke the community into the following four broad groups on the basis of their trust levels: 1) those who trust federal, state, and local officials; 2) those who trust the federal officials and the Army, but do not trust local officials; 3) those who trust local officials, but do not trust federal or Army officials; and 4) those who do not trust anybody.

The policy leaders we interviewed all told us that most of the community trusted the local officials because of their proximity to the citizens. Policy leaders reasoned that identification of the leaders as “one of their own” would bring about greater confidence in their leadership. However,



the survey did not fully support this assumption. As the distribution chart below portrays, there is a significant portion of the population (29.0 percent) that does have confidence in the local and state officials. Twenty-five percent of those surveyed placed confidence solely in the federal and Army officials. Of course, there were also those who were confident in all of the policy leaders (32.1 percent) and those who had no confidence in anyone (14.4 percent). In analyzing the responses, it is evident that a citizen's level of trust for one organization tends to move with the citizen's level of trust of all of the leaders, as a whole. In other words, as a citizen perceives the Army to show itself more competent, the citizen is more likely to trust the competency of local leaders.

**Figure 6.1. Community Breakdown by Trust Groups**



SOURCE: *Calhoun County Community Survey, 2002*

Citizen's trust preferences were highly correlated with how they perceived the risk of storage and incineration. Those citizens that expressed confidence in all levels of policy leaders (federal, state, and local) regarded both the storage and incineration of CW significantly less risky and an accident much more unlikely than did the rest of the citizens. When citizens were skeptical of either the local and state officials or the federal and Army officials, their fear of storage and incineration increased significantly. Furthermore, those citizens skeptical of all levels of government regarded the stockpile and incineration to be an accident waiting to happen. The table below demonstrates this relationship by displaying the mean values of the survey responses.

**Table 6.1. Perceptions of Risk and Likelihood of Accident**

	Likelihood of Storage Accident	Likelihood of Incineration Accident	Riskiness of Storage	Riskiness of Incineration
Trust Everybody	3.91	3.41	5.72	5.29
Trust Federal/Army	4.38	4.09	6.97	5.84
Trust Local/State	4.63	4.38	7.2	6.55
Trust Nobody	5.72	5.8	7.37	7.06

Table represents mean scores of survey respondents who answered the four questions on a scale of 0-10 where 0 means an accident will not occur/no risk and 10 means an accident is certain to occur/extreme risk.

SOURCE: *Calhoun County Community Survey, 2002*

Similar to the problem of lack of trust among the policy leaders, the varying levels of trust among the community can be explained by a lack of information. The lack of a clear emergency plan seems to have created deep-seated fear in many of the citizens. The understanding that local officials do not have the expertise to deal with demilitarization technology explains, in part, the lack of confidence citizens place in them. Citizens may also be much more aware of the limitations placed on the local officials to raise funds to advance the safety of the community, and so citizens look to the federal and state officials to provide the help needed.

Policy leaders may bear some responsibility for the lack of trust among the citizens. To whatever degree the leaders have sought to gain an audience by calling into question the believability, competency or community-mindedness of another group of leaders, public trust has been eroded. The lesson here for policy leaders is that they must put aside their differences and present a united front, if they hope to instill confidence – and ultimately compliance with an emergency plan – in the community. Distrust in any one of the policy leaders leads to increased fear of the situation. Distrust of all leaders simply creates undue alarm. This is not to say that legitimate concerns should not be voiced and addressed. Fruitful discussion, however, should be sought without trying to undermine the legitimacy of the “other guy.”

## EDUCATION STRATEGY

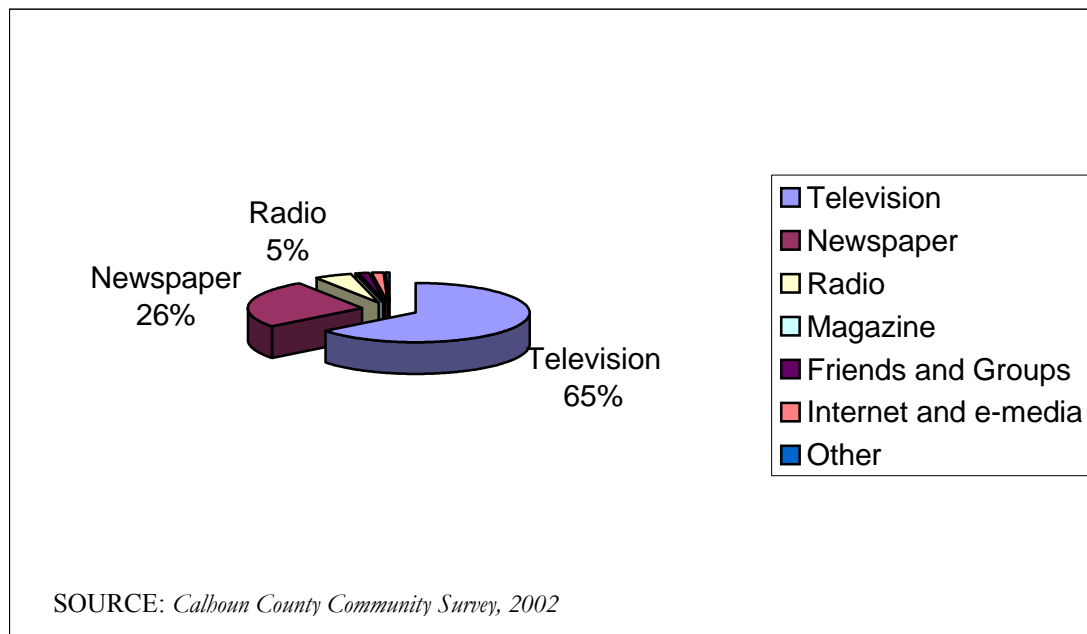
Just as Calhoun County has sought to emphasize its uniqueness compared to the other eight incineration sites, its citizens also have unique needs that must be considered when forming an education strategy. Each zone around the depot may have its own set of needs, and within the zones, there are unique needs of families and individuals. Given the extreme time pressure of the September start date for incineration, decision makers must consider the most expedient, thorough, and accurate methods for educating the public. They need to consider using structures that are already in place. The Army has already spent considerable resources on education and has begun

working with local groups to discover the needs of subsections of the population. Most recently, the Army contracted with the Community Against Pollution community group to perform a door-to-door needs assessment in order to ascertain what families require in order to be properly prepared. This bottom-up approach will allow officials to better address the safety of the special needs community. Still more needs to be done.

In keeping with the recommendation that policy leaders hold a discussion in which concerns are openly voiced and considered, similar communication with the citizens would be profitable. Forums for discussion already exist on some levels. The Citizen Advisory Council (CAC) is one example. Even policy leaders opposed to incineration cited the CAC as a potentially helpful institution – except that the credibility of the CAC seems to be in question, in the eyes of some. The fact that the Army recognizes the possibility that housing the CAC meetings could create questions about the legitimacy of the CAC indicates awareness of the problem. This awareness should be followed by a concerted effort on the part of the Army to separate itself from the operations of CAC. Those who support incineration have the most to gain by separating the CAC so that it acts as a truly independent liaison to help policy leaders gauge the level of understanding among the community and to help the community keep up with the decisions made by policy leaders.

An effective education strategy includes consideration of the best medium by which to convey information. This decision is based upon the preferences of the audience. The telephone survey asked citizens to what source of information they turned for local and state news. As Figure 6.2 indicates, citizens across the board replied that television was their primary source.

**Figure 6.2. Primary Sources of Information**



We performed more analysis to discover how the source of information was correlated to attitudes about specific issues of emergency preparedness. The three sources most significant, based upon the frequency of the survey responses, are the television, newspaper, and radio. In comparing

information sources with tendencies to trust one set of officials over another, it was clear that those who cited the newspaper and radio as their primary sources were significantly more likely to place higher confidence in the local and state officials. In considering information sources and preferred chemical weapon demilitarization technique, regardless of the primary source of information, there was significantly higher preference for incineration, as opposed to waiting or using an alternative technology. When comparing information sources and citizens' perceptions of risk, there seemed to be no particular correlation. It is interesting to note that citizens' source of information did not correlate to significantly different reported levels of knowledge of the emergency plan and knowledge of shelter-in-place procedures.

This information about the community's information sources provides insight in planning an education strategy. For instance, one could reason that newspaper subscribers and radio listeners are more confident in local and state officials because those mediums are more locally controlled (Anniston only acquired a local television news station this past spring), and so local and state officials may have had more access to this subgroup of the population. One could also conjecture that the newspaper and radio will then be effective mediums to reach the portion of the population that has greater confidence in the local and state officials. Television will be the quickest means of reaching the greatest number of people. The fact that the source of information does not seem to affect the level of knowledge, allows policy leaders to place confidence in the effectiveness of television, newspaper, and radio instructions.

## **EDUCATION ROLES**

When asked about who should be addressing the public with the emergency plan, local, state, federal, and Army officials agreed that the local officials were best suited to provide information to the public because their proximity to the people made them most trusted. State and federal officials described their roles merely as ones of "support, backup, on an as needed basis." While trust, being the summation of believability, competency, and likelihood to represent local interest, is fairly high for local officials, the data shows that people are not relying solely on the local officials' word for comfort. In fact, those who show the highest level of trust in the Army consider a storage and/or incineration accident least likely. Statistical regression indicates that the level of trust placed in the Army and local officials' greatly affects a significant portion of the community's perception of the risk posed by the stockpile and incinerator. As Table 6.1 demonstrated, citizen comfort is best achieved when all levels of authority are highly trusted. Therefore, the Army has no real choice but to step up to the challenge of education.

## CONCLUSION

The importance of communication in the issue of emergency preparedness cannot be overemphasized. Until the relevant policy leaders at the local, state, and federal levels reach consensus on an effective emergency preparedness plan, scarce energy and time will be wasted. What is evident from our study is that each policy leader has a stake in increasing public trust for their counterparts in other involved governments. Given the interlocking roles each plays in emergency preparedness, it should come as no surprise that community distrust for any of these policy leaders erodes confidence in the entire program. The implication is that each leader must assist in the enhancement of the capacities, credibility, and community-mindedness of each of the others. Additionally, consensus on the part of the officials will allow them to address the community in a unified voice that will dispel the confusion and fear currently felt. Individually, agencies have good intentions and the capability to effectively reach subsections of the population. Unity among themselves has the potential to reach every segment of the population and result in a knowledgeable, prepared community.

## AREAS OF FURTHER RESEARCH

While the data included in this report has provided a great deal of valuable information regarding policy leader and community perspectives, further research should be conducted. One area of future research would be a comparative analysis between the needs assessment currently being conducted by the Community Against Pollution and the reported results of our survey pertaining to the cost of “making one room airtight” to shelter-in-place. By doing this comparison, one could assess what the actual costs were compared to the reported costs. To quantify the stigma of the chemical weapons storage and incineration site on residential properties, we suggest using the hedonic pricing technique. Hedonic pricing techniques allow the researcher to calculate the actual magnitude of the price differentiated. Lastly, to more fully represent the state and federal policy leader perspective, we suggest more interviews be conducted.

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APPENDIX

## POLICY LEADER ACKNOWLEDGEMENTS

- Michael Abrams, Anniston Chemical Agency Disposal Facility
- David Baker, Community Against Pollution
- Dr. Bennett, Anniston School District
- C. Wayne Chandler, City of Anniston
- David Christian, Serving Alabama’s Future Environment
- Marilyn Daughdrill, Office of the Program Manager for Chemical Demilitarization
- Robert Downing, Calhoun County Commission
- John Duncan, Alabama Emergency Management Agency
- William Finch, City of Anniston
- James Hall, Community Against Pollution
- James Eli Henderson, Calhoun County Commission
- Don Hopper, Calhoun County Economic Development Council
- Hoyt W. “Chip” Howell, City of Anniston
- Kenneth Joiner, Calhoun County
- Rufus Kinney, Families Concerned with Nerve Gas Incineration
- Brenda Lindell, Families Concerned with Nerve Gas Incineration
- Benjamin Little, Anniston City Council
- Misty Milam, Anniston Chemical Demilitarization Outreach Office
- Herbert Palmore, Anniston City Council
- Leon Smith, City of Oxford
- Larry Sylvester, Calhoun County Chamber of Commerce
- Erma Wilkins, Alabama Citizen’s Advisory Commission
- Craig Williams, Chemical Weapons Working Group

## POLICY LEADER INTERVIEW QUESTIONS

1. How would you define or frame the current situation?
2. What do you feel your role and responsibility is in the creation of an emergency preparedness plan?
3. How confident are you that citizens will comply with the current emergency preparedness plan, including sheltering-in-place or evacuation?
4. How would you define “maximum protection?”
5. What obstacles do you feel are impeding the process of coming to greater consensus with respect to elimination of chemical weapons?
6. Are you experiencing challenges in communicating with other stakeholders including the public?
7. Do you have any suggestions as to how communication flow can be improved?
8. What is the best way to educate the community on the current emergency plan and related issues?
9. What do you think will make the public at large more receptive to the idea of incineration?
10. Given the incineration start date of September 2002, what steps do you feel need to be taken in order for the community to be prepared?

- Note: These questions represent the basic structure of the questions asked of local, state and federal policy leaders. Depending on the interviewee, questions may have been adjusted and/or supplemented.

## POLICY LEADER REQUEST FOR IN-PERSON INTERVIEW

Date

Name

Address

Dear ,

I am writing to request your assistance in a research project that is being undertaken by a group of my graduate students here at Texas A&M University. You are one of about 60 community leaders and decision makers my students would like to interview regarding the issues of emergency preparedness and the incineration of chemical weapons in Calhoun County, Alabama. Six of our best graduate students in public affairs are performing this study as part of their degree requirements. The focus of the study is to determine how to improve communication and cooperation between government, community leaders and the public in order to assist in the design and implementation of effective emergency preparedness in Calhoun County. The study and report are undertaken as part of the graduate program requirements at the George H. W. Bush School of Government and Public Service. Congressman Bob Riley has graciously agreed to act as my students' client for this project and will receive a report in May.

An important aspect of the study is to develop an accurate understanding about how community leaders like you are thinking about the chemical weapons disposal issue, what organizations are planning or doing with regard to the potential risk presented by the chemical weapons, and what kinds of steps are being taken to address the issue of emergency preparedness in Calhoun County. Information derived from these interviews will be used in the development of a report for Congressman Riley. We will of course be happy to provide you with a copy of the report, once it is completed in May.

The information you provide through an interview can be entirely confidential at your request. The interview will be conducted by telephone, though my students may request an in-person meeting to follow up on this initial discussion. These initial interviews will be coded at Texas A&M and only the researchers involved in the project will have access to them. All information will be aggregated and reported in summary form only. One of my students will be contacting you by telephone in the next week or so. I hope you will be able to schedule about 20 minutes of your time to respond to their questions. If you have any questions about this study, you may call me at (979) 862-3028 for more information. Alternatively you can send an email message to me at [hjsmith@tamu.edu](mailto:hjsmith@tamu.edu).

As is true of any research of this kind at Texas A&M University, this project has been reviewed and approved by the University's human subjects Institutional Review Board. For research-related problems or questions regarding subjects' rights, the Institutional Review Board may be contacted through Dr. Richard E. Miller, Texas A&M's IRB Coordinator, at (979) 845-1811.

My students and I will greatly appreciate a few minutes of your time, and I believe you will find the results of their research to be of interest.

Sincerely,

Hank C. Jenkins-Smith, Ph.D.  
Professor of Public Policy  
Joe R. and Teresa Lozano Long Chair of Business and Government  
George H. W. Bush School of Government and Public Service  
Texas A&M University

## POLICY LEADER REQUEST FOR TELEPHONE INTERVIEW

Date

Name

Address

Dear ,

I am writing to request your assistance in a research project that is being undertaken by a group of my graduate students here at Texas A&M University. You are one of about 60 community leaders and decision makers my students would like to interview regarding the issues of emergency preparedness and the incineration of chemical weapons in Calhoun County, Alabama. Six of our best graduate students in public affairs are performing this study as part of their degree requirements. The focus of the study is to determine how to improve communication and cooperation between government, community leaders and the public in order to assist in the design and implementation of effective emergency preparedness in Calhoun County. The study and report are undertaken as part of the graduate program requirements at the George H. W. Bush School of Government and Public Service. Congressman Bob Riley has graciously agreed to act as my students' client for this project and will receive a report in May.

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My students and I will greatly appreciate a few minutes of your time, and I believe you will find the results of their research to be of interest.

Sincerely,

Hank C. Jenkins-Smith, Ph.D.  
Professor of Public Policy  
Joe R. and Teresa Lozano Long Chair of Business and Government  
George H. W. Bush School of Government and Public Service  
Texas A&M University



ANNISTON ALABAMA SURVEY RESPONSES

**Q1\_educ** What is your highest level of education?

	<u>&lt;H.S. Grad.</u>	<u>H.S. Grad.</u>	<u>Voca. Sch.</u>	<u>Some College</u>	<u>College Graduate</u>	<u>Post-Grad Degree</u>
%	1	2	3	4	5	6
	12.0	27.8	2.7	28.9	19.2	9.3

**Q2\_age** How old are you? (verbatim response)

Mean
46.2

**Q3\_gender** As part of the survey, I am required to ask: are you male or female?

	<u>Female</u>	<u>Male</u>
%	0	1
	58	42

**Q4\_live Calhoun** How long have you lived in Calhoun County? (verbatim response)

Mean
26.6

**Q5\_Ownh** Before continuing, I would like to remind you that this is not a sales call. We are conducting public policy research, and at no time will I ask you to buy anything.

I would like to know whether you currently own or rent your home?

	<u>Something Else</u>	<u>Rent</u>	<u>Own Home</u>
%	0	1	2
	4.5	17.4	78.1

**Q6\_prb1** Using a scale where zero means you are certain you will not buy another home, and ten means you are certain that you will buy another home, how certain are you that you will buy another home in the next five years in Calhoun County?

%	<u>Certain will not</u>										<u>Certain Will</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	58.6	4.4	4.0	2.9	1.8	10.0	1.3	2.4	3.5	1.3	9.9	2.4	

**Q7\_prb2** Using a scale where zero means you are certain you will not buy a home, and ten means you are certain that you will buy a home, how certain are you that you will buy a home in the next five years?

%	<u>Certain will not</u>										<u>Certain Will</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	58.6	4.4	4.0	2.9	1.8	10.0	1.3	2.4	3.5	1.3	9.9	2.4	

**Q8\_dist** To control for distance from the Depot affects in the previous question, respondents were randomly assigned one of three ranges of distance from the Depot.

%	<u>One-half mile</u>	<u>One and one-half miles</u>	<u>Six miles</u>
	1	2	3
	32.7	33.8	33.5

**Q9\_cost** To control for pricing effects in the previous question, respondents were randomly assigned one of eight prices of homes.

%	10	25	35	55	65	75	90	100	Mean
	14.0	12.8	12.4	12.5	11.6	12.7	11.0	12.9	55.7

**Q10\_cont** Now I want you to think about a particular kind of home, and imagine that it has been offered to you for sale. It was built in 1980, and has 3 bedrooms, 2 bathrooms, a recently remodeled kitchen, and is in good condition. It has 1,600 square feet of living space, overall. Most houses in the immediate neighborhood are owner occupied, though some are rentals.

To put the location of the home in perspective, it is located in an Anniston suburb in a well-kept neighborhood with lots about a quarter acre in size. Several parks are nearby and it is in the Anniston School District. There is an industrial area about four miles away, and the Anniston Army Depot is Çlabel(q10)È to the west.

In consideration of the sale, the realtor raises several issues. First, the realtor explains that the industrial area four miles away includes the site of a plant that once manufactured PCBs. PCBs are a possible cancer-causing chemical that leaked from the plant several decades ago. That site is now the subject of an ongoing lawsuit, although no PCBs have been detected anywhere in the neighborhood.

Your realtor also explains that the Anniston Army Depot used to store chemical weapons, and that the Army plans to destroy these weapons over the next six years. The storage and destruction sites are in the middle of the depot, and the home is located Çlabel(q10)È from the boundary of the depot.

**Q11\_cvq** Imagine that the seller of the home would finance the house and charge no closing costs. Your costs would only be the monthly payments, but of course this money would not be available for groceries, debt, or other expenses.

If the seller was asking Ç, label (q11) È, would you buy the house?

%	<u>No</u> 0	<u>Yes</u> 1
	78.6	21.4

**Q12\_cert** To be sure I've understood your answer, let me ask the question in a different way. Using a scale from zero to one hundred, where zero means you are certain that you would not buy the house for Çlabel(q11)È, and one hundred means you are certain that you would buy the house for Çlabel(q11)È, where would you place your answer on the scale?

Mean
20.5

**Q13\_driv** Now we would like you to evaluate the level of risk to you and your family that would be associated with different situations. Using a scale where zero means there is no risk and ten means there is an extreme risk, how much risk do you associate with each of the following:

Driving a car in your county.

%	<u>No risk</u>								<u>Extreme Risk</u>		Mean	
	0	1	2	3	4	5	6	7	8	9		10
	11.3	4	11	12.8	10	24.8	6.5	6.7	4	0.9	7.9	4.3

**Q14\_h2o** Drinking the tap water at your residence.

%	<u>No risk</u>								<u>Extreme Risk</u>		Mean	
	0	1	2	3	4	5	6	7	8	9		10
	27.9	7.8	10.5	8.7	5.9	13.2	4.9	4.0	5.5	3.8	7.8	3.6

**Q15\_incw** Incinerating chemical weapons at the Anniston Army Depot.

%	<u>No risk</u>								<u>Extreme Risk</u>		Mean	
	0	1	2	3	4	5	6	7	8	9		10
	11.0	4.2	6.3	7.2	4.8	12.0	4.3	4.8	9.8	5.6	30.0	6.1

**Q16\_stor** Storing chemical weapons at the Anniston Army Depot.

%	<u>No risk</u>								<u>Extreme Risk</u>		Mean	
	0	1	2	3	4	5	6	7	8	9		10
	10.1	2.9	3.5	5.1	4.3	11.4	4.5	5.2	10.3	6.8	35.8	6.7



**Q17\_mile** Approximately how many miles do you live from the boundary of the Anniston Army Depot?

%	0-2	2.1-6	6.1-9	9.1-12	12.1-25	25.1+	Mean
	15.8	16.5	13.2	19.1	25.7	6.4	3.43

**Q18\_hpln** Have you heard or read about Calhoun County’s emergency preparedness plan for responding to a chemical emergency at the Anniston Army Depot?

%	<u>No</u> 0	<u>Yes</u> 1
	11.3	88.7

**Q19\_pzon** Using a scale from zero to ten where zero means not at all knowledgeable and ten means extremely knowledgeable, how knowledgeable do you consider yourself to be about the Calhoun County chemical emergency preparedness plan?

%	<u>Not at all knowledgeable</u>						<u>Extremely knowledgeable</u>						Mean
	0	1	2	3	4	5	6	7	8	9	10		
	4.5	1.3	3.9	6.6	8.3	16	9.2	12.8	13.3	6.5	17.5	6.3	

**Q20\_zone** To the best of your knowledge, do you live in the emergency response "pink zone"?

%	<u>Yes</u> 1	<u>No</u> 2
	55	45

**Q21\_strn** To the best of your knowledge, what is the number of your emergency response zone?

	<u>Provided Number</u>	<u>Didn't Know</u>	<u>Reported No Knowledge of the Plan (skipped question)</u>
	14.9	69.5	15.5

**Q22\_prot** Using a scale from zero to ten, where zero means no protection at all and ten means complete protection, please tell me how well the Calhoun County chemical emergency preparedness plan protects the residents of your community in the event of an actual chemical emergency?

%	<u>No Protection</u>						<u>Complete Protection</u>						Mean
	0	1	2	3	4	5	6	7	8	9	10		
	22.2	5.3	6.9	13.3	7.8	15.8	5.3	6.4	7.3	2.3	7.1	4.0	

**Q23\_1,2,3,4,5,99,97,oth** To the best of your knowledge, I would like to know what you think the chemical emergency plan says for you to do in the event that the emergency alarm sounds? Does it say to:

<u>Listen for Directions and follow them</u> 1		<u>Immediately begin shelter-in-place plan</u> 2		<u>Evacuate the area</u> 3		<u>Move to a safe building</u> 4		<u>Do something else</u> 5		<u>Don't Know</u>	
No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
37.5	62.5	60.2	39.8	53.5	46.5	93.7	6.3	99.2	0.8	73.1	26.9

**Q24\_1,2,3,4,5,99,97,oth** Considering what you know about the chemical emergency plan, I would like to know what action you would take if you heard the chemical emergency alarm go off when you were at home. Would you:

<u>Listen for Directions and follow them</u> 1		<u>Immediately begin shelter-in-place plan</u> 2		<u>Evacuate the area</u> 3		<u>Move to a safe building</u> 4		<u>Do something else</u> 5		<u>Don't Know</u>	
No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
46.1	53.9	66.5	33.5	48.1	51.9	98.1	1.9	99.0	1.0	74.7	25.3

**Q25\_1,2,3,4,5,99,97,oth** What action would you take if you heard the chemical emergency alarm go off when you were away from home, such as at work or shopping? Would you:

<u>Listen for Directions and follow them</u> 1		<u>Immediately begin shelter-in-place plan</u> 2		<u>Evacuate the area</u> 3		<u>Move to a safe building</u> 4		<u>Do something else</u> 5		<u>Don't Know</u>	
No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
43.6	56.4	69.4	30.6	50.9	49.1	97.9	2.1	98.9	1.1	65.2	34.8

**Q26\_dayc** Do you have children in school or daycare?

%	<u>No</u> 0	<u>Yes</u> 1
	65.2	34.8

**Q27\_tear** Using a scale from zero to ten where zero is not at all competent and ten is completely competent, how competent do you consider school teachers and administrators to be when it comes to ensuring the safety of your children in the event that a chemical emergency took place while your children were in school?

%	<u>Not At All Competent</u>										<u>Completely Confident</u>	
	0	1	2	3	4	5	6	7	8	9	10	Mean
	8.8	1.5	5.4	6.8	7.3	15.1	4.4	9.8	15.1	4.9	21.0	6.1

**Q28\_chld** If the chemical emergency alarm were to sound while your children were in school, which of the following actions best describe how you would respond? Would you:

	<u>Leave your children at the school</u>	<u>Pick up your children</u>
%	0	1
	37.8	62.2

**Q29\_sned** Do you, or anyone in your household, have special needs, such as difficulty walking or driving, which would require assistance in the event of an accident?

	<u>No</u>	<u>Yes</u>
%	0	1
	87.6	12.4

**Q30\_hear** Have you heard about the "safe and protective buildings" that are part of the chemical emergency preparedness plan?

	<u>No</u>	<u>Yes</u>
%	0	1
	60.8	39.2

**Q31\_bldg** Do you know where the nearest "safe and protective building" is located?

	<u>No</u>	<u>Yes</u>
%	0	1
	44.3	55.7

**Q32\_safe** Are you satisfied with the number of "safe and protective buildings?"

	<u>No</u>	<u>Yes</u>
%	0	1
	64.8	35.2

**Q33\_sat** Are you satisfied with the locations of "safe and protective buildings?"

	<u>No</u>	<u>Yes</u>
%	0	1
	49.8	50.2

**Q34\_leak** If a chemical leak did occur, do you feel that you would be notified soon enough to respond?

	<u>No</u>	<u>Yes</u>
%	0	1
	52.3	47.7

**Q35\_shkn** Do you consider yourself to be very knowledgeable, somewhat knowledgeable, slightly knowledgeable, or not at all knowledgeable about sheltering in place?

	<u>Not at all Knowledgeable</u>	<u>Slightly Knowledgeable</u>	<u>Somewhat Knowledgeable</u>	<u>Very Knowledgeable</u>	<u>Mean</u>
%	0	1	2	3	
	25.8	22.1	37	15.1	1.41

**Q36\_kit** Do you have a "shelter in place kit"?

	<u>No</u>	<u>Yes</u>
%	0	1
	89.1	10.9

**Q37\_room** If you were to use a "shelter in place kit," would it be possible to make one room in your home airtight?

	<u>No</u>	<u>Yes</u>
%	0	1
	40.9	59.1

**Q38\_cost** How much do you think it would cost to make one room in your home airtight using a "shelter in place kit?"

%	<\$100	\$101-500	\$501-1000	\$1001-5000	\$5001-10000	>\$10000	Mean
	69.8	4.8	3.5	9.9	2.7	2.9	\$2961.27

**Q39\_lik** Now, using a scale from zero to ten where zero means an accident will not occur and ten means an accident is certain to occur, how likely do you think it is that there will be an accident involving the chemical weapons stored at the Depot?

<u>An accident will not occur</u>								<u>An accident is certain to occur</u>				
%	0	1	2	3	4	5	6	7	8	9	10	Mean
	13.2	6.9	11.9	8.3	7.2	21.5	4.7	6.9	6.6	2.0	10.8	4.5

**Q40\_acci** Using the same scale, how likely do you think it is that there will be an accident at the Depot during the chemical weapons incineration process?

<u>An accident will not occur</u>								<u>An accident is certain to occur</u>				
%	0	1	2	3	4	5	6	7	8	9	10	Mean
	16.2	9.7	11.4	7.9	6.3	19.2	5.4	5.1	6.7	1.8	10.2	4.2

**Q41\_army** Using a scale from zero to ten where zero means not at all likely and ten means very likely, how likely is it that the following groups or individuals would make decisions about the storage and incineration of chemical weapons in your area that are in the best interest of people in your community?

The U.S. Army

%	<u>Not at all likely</u>										<u>Very likely</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	11.3	4.1	5	5.7	5.6	16.7	6	7.5	10.8	6.3	20.9	5.8	

**Q42\_fema** The Federal Emergency Management Agency or FEMA

%	<u>Not at all likely</u>										<u>Very likely</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	8.3	2	3.4	6.5	4.6	16.9	8	10.2	16	4.9	19.1	6.1	

**Q43\_alab** The Alabama Department of Emergency Management

%	<u>Not at all likely</u>										<u>Very likely</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	7.7	2.4	4.4	5.2	5.2	17.8	9	11.8	14.3	6.1	16.2	6.0	

**Q44\_loc** Local, city, or county officials

%	<u>Not at all likely</u>										<u>Very likely</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	9.6	2.6	5.2	6.7	7	17.6	7.4	9.4	12.2	6.4	16	5.7	

**Q45\_army** Now I would like to know how competent you believe various individuals or groups are to make decisions about the safe storage and incineration of chemical weapons. On a scale from zero to ten where zero means not at all competent and ten means completely competent, how would you rate the following?

The U.S. Army

%	<u>Not at all competent</u>										<u>Completely competent</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	7.1	2.1	3	5.5	4.4	13.4	6.6	9.7	14.3	7.8	26	6.6	

**Q46\_fema** The Federal Emergency Management Agency or FEMA

%	<u>Not at all competent</u>										<u>Completely competent</u>		Mean
	0	1	2	3	4	5	6	7	8	9	10		
	6.6	2	3.5	4.4	6.3	14.5	7.9	11.3	16.3	7.4	19.8	6.4	

**Q47\_alab** The Alabama Department of Emergency Management

%	<u>Not at all competent</u>							<u>Completely competent</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
	9	1.8	4.4	4.6	6.8	16.4	9.9	11.7	13.5	6.1	15.8	6.0

**Q48\_loc** Local, city, or county officials

%	<u>Not at all competent</u>							<u>Completely competent</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
	11.8	3	6.9	8.9	8	18.2	9.4	9.2	10.9	3.4	10.3	5.1

**Q49\_army** When thinking specifically about the chemical weapons at the Anniston Army Depot, I would like to know whether you would believe statements made by various individuals or groups. On a scale from zero to ten where zero means not at all believable and ten means completely believable, how would you rate the following individuals or groups?

The U.S. Army

%	<u>Not at all believable</u>							<u>Completely believable</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
	8.6	2.7	5.3	7.1	5.8	15.4	7.9	9	11.7	8.3	18.2	6.0

**Q50\_fema** The Federal Emergency Management Agency or FEMA

%	<u>Not at all believable</u>							<u>Completely believable</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
	6.7	1.9	3.6	5.4	6.4	15.6	11.4	9.6	16.5	6.3	16.6	6.2

**Q51\_alab** The Alabama Department of Emergency Management

%	<u>Not at all believable</u>							<u>Completely believable</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
	7.5	1.5	4.3	4.9	6.4	18.2	9.6	13.9	15.4	4.2	14.1	6.0

**Q52\_loc** Local, city, or county officials

%	<u>Not at all believable</u>							<u>Completely believable</u>				Mean
	0	1	2	3	4	5	6	7	8	9	10	
	10.2	1.6	7	7.7	8.1	17	8.3	13.5	12.9	3.9	9.8	5.4

**Q53\_frsk** Considering the distance from your home to the Anniston Army Depot storage site and incinerator, I would like to know how concerned you are about the risks to you and your family's health?

Please rate your level of concern on a scale from zero to ten where zero means not at all concerned and ten means very concerned.

<u>Not at all concerned</u>											<u>Very concerned</u>		
%	0	1	2	3	4	5	6	7	8	9	10	Mean	
	10.1	3.8	6.9	4.7	4.2	10.7	4.2	4.7	9.3	3.9	37.5	6.5	

**Q54\_lawn** Thinking about the following activities, would living in a neighborhood next to the Anniston Army Depot storage site and incinerator cause you to stop the activity altogether, reduce it a lot, reduce it a little, or would it have no effect?

Working in your lawn and garden?

%	<u>Have no effect</u>	<u>Reduce it a little</u>	<u>Reduce it a lot</u>	<u>Stop the activity</u>
	0	1	2	3
	54.7	17.4	16.2	11.7

**Q55\_bbq** Having outdoor barbecues and picnics?

%	<u>Have no effect</u>	<u>Reduce it a little</u>	<u>Reduce it a lot</u>	<u>Stop the activity</u>
	0	1	2	3
	53.7	21.6	12.6	12.1

**Q56\_play** Letting children play outside in your yard?

%	<u>Have no effect</u>	<u>Reduce it a little</u>	<u>Reduce it a lot</u>	<u>Stop the activity</u>
	0	1	2	3
	50.3	18.2	17.7	13.8

**Q57\_vegi** Growing fruits and vegetables in your yard for your own use?

%	<u>Have no effect</u>	<u>Reduce it a little</u>	<u>Reduce it a lot</u>	<u>Stop the activity</u>
	0	1	2	3
	42.3	12.3	16.4	29

**Q58\_evac** Are you or any members of your family or household employed at the Anniston Army depot?

%	<u>No</u>	<u>Yes</u>
	0	1
	84.2	15.8

**Q59\_qol** Overall, do you think living near the Depot would have a major effect, minor effect, or no effect on your quality of life?

	<u>No effect</u>	<u>Minor effect</u>	<u>Major effect</u>
%	0	1	2
	32.5	34.8	32.7

**Q60\_bis** Overall, do you think that the incineration of chemical weapons at the Anniston Army Depot would increase, decrease, or have no effect on the number of new businesses moving into your county?

	<u>Decrease</u>	<u>No effect</u>	<u>Increase</u>
%	0	1	2
	56.4	30.2	13.4

**Q61\_cwpg** Which of the following options most closely matches your preference for handling the chemical weapons stored at the Anniston Army Depot. Would you prefer to:

	<u>Incineration</u>	<u>Wait until other methods</u>	<u>Alternative</u>
%			
	49.1	33.9	17

**Q62\_eben** Now I would like to know whether your views regarding the incineration of chemical weapons at the Anniston Army Depot would become more favorable, less favorable, or stay the same under each of the following circumstances:

If economic benefits were provided to residents living near the facility?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	8.8	48.2	43

**Q63\_suit** If protective suits were provided for local emergency responders?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	6.7	42	51.2

**Q64\_hood** If protective hoods were provided for civilians living near the depot?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	10.4	45.2	44.4



**Q65\_comp** If you knew that residents living near the facility would be compensated for relocating?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	7.4	37	55.6

**Q66\_evac** If roads, highways, and bridges were improved to enable easier evacuation in the case of an accident?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	5.3	38.4	56.3

**Q67\_mc0s** If you were assured that medical costs would be covered for anyone harmed by a chemical emergency?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	7.6	40.5	51.9

**Q68\_vdif** If you were assured that the difference in value of your property before and after a chemical emergency was financially covered?

	<u>Less favorable</u>	<u>Stay the same</u>	<u>More favorable</u>
%	0	1	2
	8.6	43.7	47.7

**Q69\_hsiz** Including yourself, how many people currently live at your residence?

	Mean
	2.8

**Q70\_ph\_1** How many different residential phone lines do you have in your household? By this we mean phones with different numbers, but do not include business lines or cellular phones.

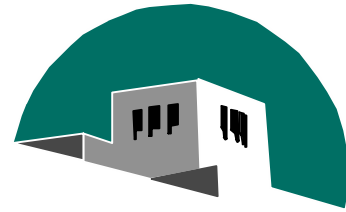
	0	1	2	3	4	Mean
	0.3	84.2	13.6	1.6	0.3	1.2

**Q71\_ethn** From the following options do you consider yourself to be:

	<u>White, non-Hispanic</u> 1	<u>Asian</u> 2	<u>African American</u> 3	<u>Hispanic</u> 4	<u>American Indian</u> 5
	75.4	0.3	12.8	0.8	5.3

**Q72\_oth** What source of information do you most rely on for your local and state news?

	Television	Newspaper	Radio	Magazines	Friends	Other
Pub 02	63.7	26.4	5.2	0.2	0.8	3.8



The University of New Mexico

**CALHOUN COUNTY, ALABAMA  
CHEMICAL WEAPONS INCINERATION  
STUDY:**

SUMMARY TECHNICAL REPORT

**April 2002**

**PREPARED FOR  
HANK JENKINS-SMITH,  
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by the

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## **TECHNICAL SUMMARY REPORT: CALHOUN COUNTY, ALABAMA CHEMICAL WEAPONS INCINERATION STUDY**

### **1. Introduction**

In collaboration with Texas A&M University, the University of New Mexico Institute for Public Policy (IPP) completed a random household telephone survey of residents in Calhoun County, Alabama to assess public perceptions of risk associated with chemical weapons and their incineration at the Anniston Army Depot. This technical report describes the final call dispositions, including the survey response, cooperation, and refusal rates. The survey questionnaire is included as an appendix. Overall, this report provides the basis for understanding the data collection methodology and for assessing the quality of the survey data.

### **2. Overview of the Survey Methodology**

The survey method employed was a county-level household telephone survey, using a random-digit dialing (RDD) sampling frame that gives equal probability of inclusion to all households with working telephones in Calhoun County, Alabama. The random sampling process was extended to the random selection of respondents within households by selecting from among adult residents (i.e., those 18 years of age and older) the individual who had the most recent birthday.

The survey was conducted using the IPP Survey Research Center's computer assisted telephone interviewing (CATI) system and nineteen-station survey laboratory. Trained interviewers conducted the survey under full-time supervision using a protocol that includes 10 call attempts per RDD number, respondent appointment tracking and follow-up, and reluctant respondent persuasion when necessary.<sup>13</sup> The protocol is designed to maximize both the survey response rate and the consistency with which the survey is applied to assure maximum data validity and reliability.

### **3. Survey Response Summary**

Overall, 734 survey interviews were conducted between March 5 and 31, 2002, which included 672 complete and 62 partial interviews. The overall survey response rate was 56% and the cooperation rate was 60%. Table 1 shows the final disposition codes for those surveys attempted in this study, as well as the final disposition rates. Note that the rates shown below reflect the maximum outcome rates for each of the three categories and are based on the publication *Standard Definitions: Final Disposition of Case Codes and Outcome Rates for RDD Telephone Surveys and In-Person Household Surveys* (AAPOR: 1998).<sup>14</sup>

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<sup>13</sup> The typical commercial standard is three call attempts.

<sup>14</sup> The following formulas were used to calculate the response, cooperation and refusal rates for each of the twelve monthly samples used in this study:

$$\text{Response Rate} = \text{Comp} / \text{Comp} + \text{Partials} + \text{Appts} + \text{Scr Ref} + \text{Others}$$

**Table 1: Final Disposition of Attempted Calls**

<i>Category</i>	<i>Totals</i>
Completes	672
Partials	40
Break-offs	22
Appointments not Completed	0
Screened Refusals/Not converted	451
Other (Illness, Death, Language Barrier)	89
<i>Disposition Rates</i>	
Response Rate	55.9%
Cooperation Rate	60.1%
Refusal Rate	37.1%

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Cooperation Rate =  $\text{Comp} / \text{Comp} + \text{Partials} + \text{Scr Ref}$

Refusal Rate =  $\text{Partials} + \text{Scr Ref} / \text{Comp} + \text{Partials} + \text{Appts} + \text{Scr Ref} + \text{Others}$

**APPENDIX A: RESPONSE SUMMARY**  
**ALABAMA CHEMICAL WEAPONS INCINERATION STUDY**

Included in this Appendix is a complete version of the final survey instrument implemented between March 5 and March 31, 2002. All skip patterns and experimental treatments are reflected in the survey instrument.

Question # 1 Page # 1

Hello, my name is \_\_\_\_\_. I'm calling from the University of New Mexico.

We're conducting research regarding issues that face Alabama residents. This is not a sales call, and your telephone number was selected at random. In order to be sure that I am speaking to an eligible household in our research area, I need to know what county you live in.

[Calhoun County] CONTINUE

[OTHER COUNTIES or DK/NA, say] Thank you for your time. Have a nice evening.

[Classify as "WRONG LOCALE"]

Of the adults who are at least 18 years of age or older living in your household, may I please speak to the one who has had the most recent birthday?

[ORIGINAL RESPONDENT] Should you choose to participate in our survey, your answers to the questions will remain confidential. The University releases no information as to how any particular individual answers the survey, and does not sell or give away the lists of randomly generated phone numbers used in our research. You can refrain from answering any questions that make you feel uncomfortable, and you can end the survey at any time. This call may be monitored for quality control purposes. Should you have any questions regarding our research I can give you the telephone number of our project director, Amy Goodin. Would you complete a survey with me?

[NEW RESPONDENT OR APPT w/NAME] Hello, my name is \_\_\_\_\_. I'm calling from the University of New Mexico.

We're conducting research regarding issues that face Alabama residents. This is not a sales call, and your telephone number was selected at random. Are you the person at least 18 years of age who has had the most recent birthday?

Should you choose to participate in our survey, your answers to the questions will remain confidential. The University releases no information as to how any particular individual answers the survey, and does not sell or give away the lists of randomly generated phone numbers used in our research. You can refrain from answering any questions that make you feel uncomfortable, and you can end the survey at any time. This call may be monitored for quality control purposes. Should you have any questions regarding our research I can give you the telephone number of our project director, Amy Goodin. Would you complete a survey with me?

[ANSWERING MACHINES: Remember we only leave 2 messages!]

Hello, my name is \_\_\_\_\_. I'm calling from the University of New Mexico. This is not a sales call. Our research group is conducting a study on important issues facing Alabama residents, and your participation would be greatly appreciated. Your phone number was selected at random and your answers will be kept confidential. We'll call back in the next day or two. Thank you.

[Quick Hangup Intro]

Hi, my name is \_\_\_\_\_. I'm a student at the University of New Mexico, and as part of a research project I am calling people like you about important issues facing Alabama residents.

Are you the person in your household who has had the most recent birthday and who is at least 18 years of age?

[YES] Continue

[NO] May I please speak to that person?

[NO] Thank you for your time; have a nice evening.

Should you choose to participate in our survey, your answers to the questions will remain confidential. The University releases no information as to how any particular individual answers the survey, and does not sell or give away the lists of randomly generated phone numbers used in our research. You can refrain from answering any questions that make you feel uncomfortable, and you can end the survey at any time. This call may be monitored for

quality control purposes. Should you have any questions regarding our research I can give you the telephone number of our project director, Amy Goodin. Would you complete a survey with me?

[HESITANT RESPONDENT INFO]

If respondent asks what survey is about, tell them issues facing Alabama residents. Also, this is an opportunity for them to express their opinion about public policy issues.

Do not discuss clients -- have them call Amy.

This is not a sales call.

Your telephone number was chosen at random.

This is public policy research and all of your answers will be kept confidential.

If you have further questions, I can give you the telephone number of our project director: Amy Goodin (505) 277-1099.

-Check List- (Number of items: 1 Min: 1 Max: 1)  
1 Calhoun

Question # 2 Page # 2

I would like to ask you a couple of background questions. First, what is the highest level of education you have completed?

[DO NOT READ]

-Check List- (Number of items: 8 Min: 1 Max: 1)  
1 Elementary or some high school  
2 High school graduate/GED  
3 Trade or vocational certification  
4 Some college/Associates degree  
5 College graduate, or  
6 Post-grad degree  
-99 DK/NA  
-97 Dropout

Question # 3 Page # 3

How old are you?

[DK/NA = -99]

-Dbase- (Number of items: 2)  
Age  
«Integer: -99 ≤ i ≤ 999 »

Question # 4 Page # 4

As part of the survey, I am required to ask: are you male or female?

-Check List- (Number of items: 4 Min: 1 Max: 1)  
1 Male  
0 Female  
-99 DK/NA  
-97 Dropout

SKIPS from Q4



IF q4=-97      SKIP TO: 89

Question # 5      Page # 5

How long have you lived in Calhoun County?

[Interviewer note less than 6 months equals 0, more than 6 months equals 1.]

-Dbase- (Number of items: 2)

Number of years

«Integer: -99 ≤ i ≤ 99999 »

Question # 6      Page # 6

Before continuing, I would like to remind you that this is not a sales call. We are conducting public policy research, and at no time will I ask you to buy anything.

I would like to know whether you currently own or rent your home?

-Check List-      (Number of items: 5      Min: 1      Max: 1)

2      Own home

-97      Dropout

-99      DK/NA

1      Rent

0      Something else

SKIPS from Q6

IF q6=2 SKIP TO: 7

IF q6<2 SKIP TO: 8

IF q6=-97      SKIP TO: 89

Question # 7      Page # 7

Using a scale where zero means you are certain you will not buy another home, and ten means you are certain that you will buy another home, how certain are you that you will buy another home in the next five years in Calhoun County?

-Check List-      (Number of items: 13      Min: 1      Max: 1)

0      0 Certain you will not buy another home

1      1

2      2

3      3

4      4

5      5

6      6

7      7

8      8

9      9

10      10 Certain you will buy another home

-99      DK/NA

-97      Dropout

SKIPS from Q7

IF q7=1 SKIP TO: 9

IF else SKIP TO: 9

Question # 8      Page # 8

Using a scale where zero means you are certain you will not buy a home, and ten means you are certain that you will buy a home, how certain are you that you will buy a home in the next five years?

-Check List- (Number of items: 13 Min: 1 Max: 1)

- 0 0 Certain you will not buy a home
- 1 1
- 2 2
- 3 3
- 4 4
- 5 5
- 6 6
- 7 7
- 8 8
- 9 9
- 10 10 Certain you will buy a home
- 99 DK/NA
- 97 Dropout

Question # 9 Page # 9

[Do Not Read]

Please pick the top option

-Check List- (Random) (Number of items: 2 Min: 1 Max: 1)

- 1 Treatment
- 0 Control

SKIPS from Q9  
IF q9=-97 SKIP TO: 89

Question # 10 Page # 10

[Do Not Read]

Please pick the top option

-Check List- (Random) (Number of items: 3 Min: 1 Max: 1)

- 1 one-half mile
- 2 one and one-half miles
- 3 six miles

Question # 11 Page # 11

[Do Not Read]

Please pick the top option

-Check List- (Random) (Number of items: 8 Min: 1 Max: 1)

- 100 \$100,000
- 10 \$10,000
- 35 \$35,000
- 55 \$55,000
- 90 \$90,000
- 75 \$75,000
- 25 \$25,000
- 65 \$65,000

Now I want you to think about a particular kind of home, and imagine that it has been offered to you for sale. It was built in 1980, and has 3 bedrooms, 2 bathrooms, a recently remodeled kitchen, and is in good condition. It has 1,600 square feet of living space, overall. Most houses in the immediate neighborhood are owner occupied, though some are rentals.

To put the location of the home in perspective, it is located in an Anniston suburb in a well-kept neighborhood with lots about a quarter acre in size. Several parks are nearby and it is in the Anniston School District. There is an industrial area about four miles away, and the Anniston Army Depot is «label(q10)» to the west.

Question # 12 Page # 12

-Check List- (Number of items: 1 Min: 1 Max: 1)  
1 CONTINUE

SKIPS from Q12

IF q9=1 SKIP TO: 13

IF else SKIP TO: 14

In consideration of the sale, the realtor raises several issues. First, the realtor explains that the industrial area four miles away includes the site of a plant that once manufactured PCBs. PCBs are a possible cancer-causing chemical that leaked from the plant several decades ago. That site is now the subject of an ongoing lawsuit, although no PCBs have been detected anywhere in the neighborhood.

Your realtor also explains that the Anniston Army Depot used to store chemical weapons, and that the Army plans to destroy these weapons over the next six years. The storage and destruction sites are in the middle of the depot, and the home is located «label(q10)» from the boundary of the depot.

Question # 13 Page # 13

Over time, some of the chemical weapons stored at the depot have leaked, although none of the toxic chemicals have been detected off of the depot. On the advice of the National Research Council, the Army has decided to use incineration to destroy the weapons. The Army and National Research Council have concluded that the largest risk of chemical release comes from storage. However, several local citizen groups have argued that the incineration of the chemical weapons also poses a significant risk to the health of the community.

-Check List- (Number of items: 1 Min: 1 Max: 1)  
1 CONTINUE

Question # 14 Page # 14

Imagine that the seller of the home would finance the house and charge no closing costs. Your costs would only be the monthly payments, but of course this money would not be available for groceries, debt, or other expenses.

If the seller was asking «label(q11)», would you buy the house?

-Check List- (Number of items: 4 Min: 1 Max: 1)  
0 No  
-97 Dropout  
-99 DK/NA  
1 Yes

SKIPS from Q14

IF q14=-97 SKIP TO: 89

Question # 15 Page # 15

To be sure I've understood your answer, let me ask the question in a different way. Using a scale from zero to one hundred, where zero means you are certain that you would not buy the house for «label(q11)», and one hundred

means you are certain that you would buy the house for «label(q11)», where would you place your answer on the scale?

[DK/NA = -99      DROPOUT = -97]

-Dbase- (Number of items: 2)  
Level of certainty (0 to 100)  
«Integer:  $-99 \leq i \leq 100$  »

Question # 16      Page # 16

Now I would like you to evaluate the level of risk to you and your family that would be associated with different situations. Using a scale where zero means there is no risk and ten means there is an extreme risk, how much risk do you associate with each of the following:

Driving a car in Calhoun County.

[NEXT 3 SCREENS ARE RANDOM]

-Check List-      (Number of items: 13      Min: 1      Max: 1)

0	0 no risk
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 extreme risk
-99	DK/NA
-97	Dropout

SKIPS from Q16  
IF q16=-97      SKIP TO: 89

Question # 17      Page # 17

Drinking the tap water at your residence.

-Check List-      (Number of items: 13      Min: 1      Max: 1)

0	0 no risk
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 extreme risk
-99	DK/NA
-97	Dropout

Question # 18      Page # 18

Incinerating chemical weapons at the Anniston Army Depot.

-Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 no risk  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 extreme risk  
 -99 DK/NA  
 -97 Dropout

Question # 19 Page # 19

Storing chemical weapons at the Anniston Army Depot.

-Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 no risk  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 extreme risk  
 -99 DK/NA  
 -97 Dropout

Question # 20 Page # 20

Approximately how many miles do you live from the boundary of the Anniston Army Depot?

[DK/NA = -99 DROPOUT = -97]

-Dbase- (Number of items: 2)  
 Number of miles  
 «Integer: -99 ≤ i ≤ 99999 »

SKIPS from Q20  
 IF Q20:2=-97 SKIP TO: 89

Question # 21 Page # 21

Have you heard or read about Calhoun County's emergency preparedness plan for responding to a chemical emergency at the Anniston Army Depot?

-Check List- (Number of items: 4 Min: 1 Max: 1)  
 0 No  
 -97 Dropout  
 -99 DK/NA

1 Yes

SKIPS from Q21

IF Q21<1 SKIP TO: 32

IF Q21=-97 SKIP TO: 89

Question # 22 Page # 22

Using a scale from zero to ten where zero means not at all knowledgeable and ten means extremely knowledgeable, how knowledgeable do you consider yourself to be about the Calhoun County chemical emergency preparedness plan?

-Check List- (Number of items: 13 Min: 1 Max: 1)

0 0 Not at all knowledgeable

1 1

2 2

3 3

4 4

5 5

6 6

7 7

8 8

9 9

10 10 Extremely knowledgeable

-99 DK/NA

-97 Dropout

Question # 23 Page # 23

To the best of your knowledge, do you live in the emergency response "pink zone"?

-Check List- (Number of items: 4 Min: 1 Max: 1)

1 Yes

2 No

-99 DK/NA

-97 Dropout

Question # 24 Page # 24

To the best of your knowledge, what is the number of your emergency response zone?

[DK/NA = -99 DROPOUT = -97]

-Dbase- (Number of items: 2)

Zone number

«Text»

Question # 25 Page # 25

Using a scale from zero to ten, where zero means no protection at all and ten means complete protection, please tell me how well the Calhoun County chemical emergency preparedness plan protects the residents of your community in the event of an actual chemical emergency?

-Check List- (Number of items: 13 Min: 1 Max: 1)

0 0 No protection at all

1 1

2 2

3 3

4 4

5	5
6	6
7	7
8	8
9	9
10	10 Complete protection
-99	DK/NA
-97	Dropout

## Question # 26 Page # 26

To the best of your knowledge, I would like to know what you think the chemical emergency plan says for you to do in the event that the emergency alarm sounds? Does it say to:

[READ OPTIONS - CHECK ALL THAT APPLY]

[IF "DO SOMETHING ELSE"] What would that be?

- Check List Open- (Number of items: 7 Min: 1 Max: 5)
- 1 Listen for directions and follow them
  - 2 Immediately begin a shelter in place plan
  - 3 Evacuate the area
- 99 DK/NA  
-97 Dropout
- 4 Move to a "safe building"; or
  - 5 Do something else «»

## Question # 27 Page # 27

Considering what you know about the chemical emergency plan, I would like to know what action you would take if you heard the chemical emergency alarm go off when you were at home. Would you:

[READ OPTIONS ONLY IF NEEDED - CHECK ALL THAT APPLY]

[IF "DO SOMETHING ELSE"] What would that be?

- Check List Open- (Number of items: 7 Min: 1 Max: 5)
- 1 Listen for directions and follow them
  - 2 Immediately begin a shelter in place plan
  - 3 Evacuate the area
- 99 DK/NA  
-97 Dropout
- 4 Move to a "safe building"; or
  - 5 Do something else «»

## Question # 28 Page # 28

What action would you take if you heard the chemical emergency alarm go off when you were away from home, such as at work or shopping? Would you:

[READ OPTIONS ONLY IF NEEDED - CHECK ALL THAT APPLY]

[IF "DO SOMETHING ELSE"] What would that be?

- Check List Open- (Number of items: 7 Min: 1 Max: 5)
- 1 Listen for directions and follow them
  - 2 Immediately begin a shelter in place plan
  - 3 Evacuate the area

- 99 DK/NA  
 -97 Dropout  
 4 Move to a "safe building"; or  
 5 Do something else «»

Question # 29 Page # 29

Do you have children in school or daycare?

- Check List- (Number of items: 4 Min: 1 Max: 1)  
 0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

SKIPS from Q29

IF Q29<1 SKIP TO: 32  
 IF Q29=-97 SKIP TO: 89

Question # 30 Page # 30

Using a scale from zero to ten where zero is not at all competent and ten is completely competent, how competent do you consider school teachers and administrators to be when it comes to ensuring the safety of your children in the event that a chemical emergency took place while your children were in school?

- Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 Not at all competent  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 Completely competent  
 -99 DK/NA  
 -97 Dropout

If the chemical emergency alarm were to sound while your children were in school, which of the following actions best describe how you would respond? Would you:

Question # 31 Page # 31

- Check List- (Number of items: 4 Min: 1 Max: 1)  
 0 Leave your children at the school  
 -97 Dropout  
 -99 DK/NA  
 1 Pick up your children

OR

Question # 32 Page # 32

Do you, or anyone in your household, have special needs, such as difficulty walking or driving, which would require assistance in the event of an accident?

- Check List- (Number of items: 4 Min: 1 Max: 1)



0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

Question # 33 Page # 33

Have you heard about the "safe and protective buildings" that are part of the chemical emergency preparedness plan?

-Check List- (Number of items: 4 Min: 1 Max: 1)

0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

SKIPS from Q33

IF Q33<1 SKIP TO: 37

IF Q33=-97 SKIP TO: 89

Question # 34 Page # 34

Do you know where the nearest "safe and protective building" is located?

-Check List- (Number of items: 4 Min: 1 Max: 1)

0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

Question # 35 Page # 35

Are you satisfied with the number of "safe and protective buildings?"

-Check List- (Number of items: 4 Min: 1 Max: 1)

0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

Question # 36 Page # 36

Are you satisfied with the locations of "safe and protective buildings?"

-Check List- (Number of items: 4 Min: 1 Max: 1)

0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

Question # 37 Page # 37

If a chemical leak did occur, do you feel that you would be notified soon enough to respond?

-Check List- (Number of items: 4 Min: 1 Max: 1)

0 No  
 -97 Dropout  
 -99 DK/NA  
 1 Yes

## Question # 38 Page # 38

Do you consider yourself to be very knowledgeable, somewhat knowledgeable, slightly knowledgeable, or not at all knowledgeable about sheltering in place?

- Check List- (Number of items: 6 Min: 1 Max: 1)
- 0 Not at all knowledgeable
  - 97 Dropout
  - 99 DK/NA
  - 1 Slightly knowledgeable
  - 2 Somewhat knowledgeable
  - 3 Very knowledgeable

## Question # 39 Page # 39

Do you have a "shelter in place kit"?

- Check List- (Number of items: 4 Min: 1 Max: 1)
- 0 No
  - 97 Dropout
  - 99 DK/NA
  - 1 Yes

## Question # 40 Page # 40

If you were to use a "shelter in place kit," would it be possible to make one room in your home airtight?

- Check List- (Number of items: 4 Min: 1 Max: 1)
- 0 No
  - 97 Dropout
  - 99 DK/NA
  - 1 Yes

SKIPS from Q40

IF q40=-97 SKIP TO: 89

## Question # 41 Page # 41

How much do you think it would cost to make one room in your home airtight using a "shelter in place kit?"

[USE A WHOLE NUMBER AND DO NOT USE A "\$" SIGN -- Confirm amount]

[DK/NA = -99 DROPOUT = -97]

-Dbase- (Number of items: 2)

Dollars as a whole number

«Integer: -99 ≤ i ≤ 999999 »

## Question # 42 Page # 42

Now, using a scale from zero to ten where zero means an accident will not occur and ten means an accident is certain to occur, how likely do you think it is that there will be an accident involving the chemical weapons stored at the Depot?

- Check List- (Number of items: 13 Min: 1 Max: 1)
- 0 0 will NOT occur
  - 1 1
  - 2 2
  - 3 3
  - 4 4

5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 CERTAIN to occur  
 -99 DK/NA  
 -97 Dropout

Question # 43 Page # 43

Using the same scale, how likely do you think it is that there will be an accident at the Depot during the chemical weapons incineration process?

-Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 will NOT occur  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 CERTAIN to occur  
 -99 DK/NA  
 -97 Dropout

Question # 44 Page # 44

Using a scale from zero to ten where zero means not at all likely and ten means very likely, how likely is it that the following groups or individuals would make decisions about the storage and incineration of chemical weapons in your area that are in the best interest of people in your community?

[NEXT 4 SCREENS ARE RANDOM]

-Check List- (Number of items: 1 Min: 1 Max: 1)  
 1 CONTINUE

Question # 45 Page # 45

The U.S. Army

-Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 Not at all likely  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 Very likely  
 -99 DK/NA  
 -97 Dropout

## Question # 46 Page # 46

The Federal Emergency Management Agency or FEMA

-Check List- (Number of items: 13 Min: 1 Max: 1)

0	0 Not at all likely
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 Very likely
-99	DK/NA
-97	Dropout

## Question # 47 Page # 47

The Alabama Department of Emergency Management

-Check List- (Number of items: 13 Min: 1 Max: 1)

0	0 Not at all likely
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 Very likely
-99	DK/NA
-97	Dropout

## Question # 48 Page # 48

Local, city, or county officials

-Check List- (Number of items: 13 Min: 1 Max: 1)

0	0 Not at all likely
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 Very likely
-99	DK/NA
-97	Dropout

## Question # 49 Page # 49

Now I would like to know how competent you believe various individuals or groups are to make decisions about the safe storage and incineration of chemical weapons. On a scale from zero to ten where zero means not at all competent and ten means completely competent, how would you rate the following?

[NEXT 4 SCREENS ARE RANDOM]

-Check List- (Number of items: 1 Min: 1 Max: 1)  
1 CONTINUE

## Question # 50 Page # 50

The U.S. Army

-Check List- (Number of items: 13 Min: 1 Max: 1)  
0 0 Not at all competent  
1 1  
2 2  
3 3  
4 4  
5 5  
6 6  
7 7  
8 8  
9 9  
10 10 Completely competent  
-99 DK/NA  
-97 Dropout

## Question # 51 Page # 51

The Federal Emergency Management Agency or FEMA

-Check List- (Number of items: 13 Min: 1 Max: 1)  
0 0 Not at all competent  
1 1  
2 2  
3 3  
4 4  
5 5  
6 6  
7 7  
8 8  
9 9  
10 10 Completely competent  
-99 DK/NA  
-97 Dropout

## Question # 52 Page # 52

The Alabama Department of Emergency Management

-Check List- (Number of items: 13 Min: 1 Max: 1)  
0 0 Not at all competent  
1 1  
2 2  
3 3  
4 4

5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 Completely competent  
 -99 DK/NA  
 -97 Dropout

## Question # 53 Page # 53

Local, city, or county officials

-Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 Not at all competent  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 Completely competent  
 -99 DK/NA  
 -97 Dropout

## Question # 54 Page # 54

When thinking specifically about the chemical weapons at the Anniston Army Depot, I would like to know whether you would believe statements made by various individuals or groups. On a scale from zero to ten where zero means not at all believable and ten means completely believable, how would you rate the following individuals or groups?

[NEXT 4 SCREENS ARE RANDOM]

-Check List- (Number of items: 1 Min: 1 Max: 1)  
 1 CONTINUE

## Question # 55 Page # 55

The U.S. Army

-Check List- (Number of items: 13 Min: 1 Max: 1)  
 0 0 Not at all believable  
 1 1  
 2 2  
 3 3  
 4 4  
 5 5  
 6 6  
 7 7  
 8 8  
 9 9  
 10 10 Completely believable  
 -99 DK/NA  
 -97 Dropout

## Question # 56 Page # 56

The Federal Emergency Management Agency or FEMA

-Check List- (Number of items: 13 Min: 1 Max: 1)  
0 0 Not at all believable  
1 1  
2 2  
3 3  
4 4  
5 5  
6 6  
7 7  
8 8  
9 9  
10 10 Completely believable  
-99 DK/NA  
-97 Dropout

## Question # 57 Page # 57

The Alabama Department of Emergency Management

-Check List- (Number of items: 13 Min: 1 Max: 1)  
0 0 Not at all believable  
1 1  
2 2  
3 3  
4 4  
5 5  
6 6  
7 7  
8 8  
9 9  
10 10 Completely believable  
-99 DK/NA  
-97 Dropout

## Question # 58 Page # 58

Local, city, or county officials

-Check List- (Number of items: 13 Min: 1 Max: 1)  
0 0 Not at all believable  
1 1  
2 2  
3 3  
4 4  
5 5  
6 6  
7 7  
8 8  
9 9  
10 10 Completely believable  
-99 DK/NA  
-97 Dropout

## Question # 59 Page # 59

Considering the distance from your home to the Anniston Army Depot storage site and incinerator, I would like to know how concerned you are about the risks to you and your family's health?

Please rate your level of concern on a scale from zero to ten where zero means not at all concerned and ten means very concerned.

-Check List- (Number of items: 13 Min: 1 Max: 1)

- 0 0 Not at all concerned
- 1 1
- 2 2
- 3 3
- 4 4
- 5 5
- 6 6
- 7 7
- 8 8
- 9 9
- 10 10 Very concerned
- 99 DK/NA
- 97 Dropout

SKIPS from Q59

IF Q59=-97 SKIP TO: 89

Question # 60 Page # 60

Thinking about the following activities, would living in a neighborhood next to the Anniston Army Depot storage site and incinerator cause you to stop the activity altogether, reduce it a lot, reduce it a little, or would it have no effect?

[NEXT 4 SCREENS ARE RANDOM]

-Check List- (Number of items: 1 Min: 1 Max: 1)

- 1 CONTINUE

Question # 61 Page # 61

Working in your lawn and garden?

[Read only if ER needs prompting]

-Check List- (Number of items: 6 Min: 1 Max: 1)

- 3 stop the activity
- 2 reduce it a lot
- 1 reduce it a little
- 0 have no effect
- 99 DK/NA
- 97 Dropout

Question # 62 Page # 62

Having outdoor barbecues and picnics?

[Read only if ER needs prompting]

-Check List- (Number of items: 6 Min: 1 Max: 1)

- 3 stop the activity
- 2 reduce it a lot



- 1 reduce it a little
- 0 have no effect
- 99 DK/NA
- 97 Dropout

Question # 63 Page # 63

Letting children play outside in your yard?

[Read only if ER needs prompting]

- Check List- (Number of items: 6 Min: 1 Max: 1)
- 3 stop the activity
  - 2 reduce it a lot
  - 1 reduce it a little
  - 0 have no effect
  - 99 DK/NA
  - 97 Dropout

Question # 64 Page # 64

Growing fruits and vegetables in your yard for your own use?

[Read only if ER needs prompting]

- Check List- (Number of items: 6 Min: 1 Max: 1)
- 3 stop the activity
  - 2 reduce it a lot
  - 1 reduce it a little
  - 0 have no effect
  - 99 DK/NA
  - 97 Dropout

Question # 65 Page # 65

Are you or any members of your family or household employed at the Anniston Army depot?

- Check List- (Number of items: 4 Min: 1 Max: 1)
- 0 No
  - 97 Dropout
  - 99 DK/NA
  - 1 Yes

SKIPS from Q65

IF q65=-97 SKIP TO: 89

Question # 66 Page # 66

Overall, do you think living near the Depot would have a major effect, minor effect, or no effect on your quality of life?

- Check List- (Number of items: 5 Min: 1 Max: 1)
- 2 Major effect
  - 1 Minor effect
  - 0 No Effect
  - 97 Dropout
  - 99 DK/NA

Question # 67 Page # 67

Overall, do you think that the incineration of chemical weapons at the Anniston Army Depot would increase, decrease, or have no effect on the number of new businesses moving into your county?

- Check List- (Number of items: 5 Min: 1 Max: 1)
- 2 Increase
  - 1 No effect
  - 0 Decrease
  - 97 Dropout
  - 99 DK/NA

Which of the following options most closely matches your preference for handling the chemical weapons stored at the Anniston Army Depot. Would you prefer to:

[CLICK on "A" and read options in ALPHABETIC ORDER -- DO NOT read the letters for each option]

Proceed with INCINERATION of the chemical weapons as planned;

Wait until OTHER METHODS of destroying the chemical weapons are better understood and then decide which technology to use;

Proceed with an ALTERNATIVE to incineration, such as using wet chemicals to neutralize the nerve agents.

- Question # 68 Page # 68
- Check List- (Random) (Number of items: 3 Min: 1 Max: 1)
- 1 A
  - 2 B
  - 3 C

- Question # 69 Page # 68
- Check List- (Number of items: 5 Min: 1 Max: 1)
- 1 Proceed with the INCINERATION as planned
  - 2 Wait until OTHER METHODS are better understood
  - 3 Proceed with an ALTERNATIVE to incineration
  - 97 Dropout
  - 99 DK/NA

Question # 70 Page # 69

Now I would like to know whether your views regarding the incineration of chemical weapons at the Anniston Army Depot would become more favorable, less favorable, or stay the same under each of the following circumstances:

[NEXT 7 SCREENS ARE RANDOM]

- Check List- (Number of items: 1 Min: 1 Max: 1)
- 1 CONTINUE

Question # 71 Page # 70

If economic benefits were provided to residents living near the facility?

- Check List- (Number of items: 5 Min: 1 Max: 1)
- 2 MORE favorable
  - 1 Stay the same
  - 0 LESS favorable
  - 97 Dropout

-99 DK/NA

Question # 72 Page # 71

If protective suits were provided for local emergency responders?

-Check List- (Number of items: 5 Min: 1 Max: 1)

2 MORE favorable

1 Stay the same

0 LESS favorable

-97 Dropout

-99 DK/NA

Question # 73 Page # 72

If protective hoods were provided for civilians living near the depot?

-Check List- (Number of items: 5 Min: 1 Max: 1)

2 MORE favorable

1 Stay the same

0 LESS favorable

-97 Dropout

-99 DK/NA

Question # 74 Page # 73

If you knew that residents living near the facility would be compensated for relocating?

-Check List- (Number of items: 5 Min: 1 Max: 1)

2 MORE favorable

1 Stay the same

0 LESS favorable

-97 Dropout

-99 DK/NA

Question # 75 Page # 74

If roads, highways, and bridges were improved to enable easier evacuation in the case of an accident?

-Check List- (Number of items: 5 Min: 1 Max: 1)

2 MORE favorable

1 Stay the same

0 LESS favorable

-97 Dropout

-99 DK/NA

Question # 76 Page # 75

If you were assured that medical costs would be covered for anyone harmed by a chemical emergency?

-Check List- (Number of items: 5 Min: 1 Max: 1)

2 MORE favorable

1 Stay the same

0 LESS favorable

-97 Dropout

-99 DK/NA

Question # 77 Page # 76

If you were assured that the difference in value of your property before and after a chemical emergency was financially covered?

-Check List- (Number of items: 5 Min: 1 Max: 1)  
 2 MORE favorable  
 1 Stay the same  
 0 LESS favorable  
 -97 Dropout  
 -99 DK/NA

Finally, I need some basic background information about you.

What is the zip code at your residence?

[DK/NA = -99]  
 [Dropout = -97]

Question # 78 Page # 77

-Dbase- (Number of items: 2)  
 Enter all five digits  
 «Integer: -99 ≤ i ≤ 99999 »

SKIPS from Q78  
 IF q78:2=-97 SKIP TO: 89

[Interviewers:  
 Please CONFIRM zip code.]

Question # 79 Page # 78

Including yourself, how many people currently live at your residence?

[DK/NA = -99; Dropout = -97]

-Dbase- (Number of items: 2)  
 Enter number in household  
 «Integer: -99 ≤ i ≤ 99 »

SKIPS from Q79  
 IF q79:2<2 SKIP TO: 81

Question # 80 Page # 79

How many of those are 18 or older?

[DK/NA = -99; Dropout = -97]

-Dbase- (Number of items: 2)  
 Enter number 18 or older  
 «Integer: -99 ≤ i ≤ 99 »

Question # 81 Page # 80

What source of information do you most rely on for your local and state news?

[DO NOT READ OPTIONS. IF RESPONDENT NAMES SEVERAL SOURCES]:

Which one is the most important source of information?

[If "Other" and a source is not named, ask]: What would that be?

-Check List Open- (Number of items: 8 Min: 1 Max: 1)

- 1 Television
- 2 Newspapers
- 3 Radio
- 4 Magazines
- 5 Friends and groups
- 99 DK/NA
- 97 Dropout
- 6 Other «»

SKIPS from Q81

IF q81=-97 SKIP TO: 89

Question # 82 Page # 81

On a scale of political ideology, individuals can be arranged from strongly liberal to strongly conservative.

Which of the following categories best describes your views?

Would you say that you are:

[READ OPTIONS]

-Check List- (Number of items: 9 Min: 1 Max: 1)

- 1 Strongly liberal
- 2 Liberal
- 3 Slightly liberal
- 4 Middle of the road
- 5 Slightly conservative
- 6 Conservative, or
- 7 Strongly conservative
- 99 DK/NA
- 97 Dropout

Question # 83 Page # 82

Do you belong to any environmental groups or organizations?

-Check List- (Number of items: 4 Min: 1 Max: 1)

- 0 No
- 97 Dropout
- 99 DK/NA
- 1 Yes

Question # 84 Page # 83

How many different residential phone lines do you have in your household? By this we mean phones with different numbers, but do not include business lines or cellular phones.

[DK/NA = -99; Dropout = -97]

-Dbase- (Number of items: 2)

Enter number of phone lines

«Integer: -99 ≤ i ≤ 99 »

From the following options, do you consider yourself to be:

## [READ OPTIONS]

Question # 85 Page # 84  
 -Check List Open- (Number of items: 9 Min: 1 Max: 1)  
 5 American Indian  
 2 Asian  
 3 Black  
 4 Hispanic  
 1 White non-Hispanic, or  
 -99 DK/NA  
 -98 Refused  
 -97 Dropout  
 6 Something else «»

SKIPS from Q85  
 IF q85=-97 SKIP TO: 89

[IF JUST "White" ]: Is that "White, Non-Hispanic," or just "White?"

[IF SOMETHING ELSE]: How would you describe your racial or ethnic background?

Question # 86 Page # 85  
 I'm going to read you some broad income categories. Please STOP me when I get to the one which includes the estimated annual income for your household for the year 2001.

Was it:

[If the R interrupts you with their income go ahead and enter the value.]

-Check List- (Number of items: 11 Min: 1 Max: 1)  
 1 Less than \$5,000,  
 2 \$5,000 to less than \$15,000  
 3 15 to less than 25,  
 4 25 to less than 35,  
 5 35 to less than 50,  
 6 50 to less than 75,  
 7 75 to less than 100,  
 8 100 to less than 150,  
 9 More than \$150,000  
 -99 DK/NA  
 -97 Dropout

Question # 87 Page # 86  
 Thinking back to when I first contacted you, how would you describe your feelings about participating with us? Would you say that you were very reluctant, somewhat reluctant, slightly reluctant, or not at all reluctant to participate with our research?

-Check List- (Number of items: 6 Min: 1 Max: 1)  
 3 Very reluctant  
 2 Somewhat reluctant  
 1 Slightly reluctant, or  
 0 Not at all reluctant  
 -99 DK/NA  
 -97 Dropout

Question # 88 Page # 87

Thank you, for taking the time to complete this interview.

Good bye.

-Check List- (Number of items: 1 Min: 1 Max: 1)  
1 CIAO!

Question # 89 Page # 88

[Did this respondent dropout?]

-Check List- (Number of items: 2 Min: 1 Max: 1)  
1 Yes  
0 No

SKIPS from Q89

IF q89=0 SKIP TO: 91

Question # 90 Page # 89

[At what number did the respondent dropout? Enter the number of the last valid response.]

-Dbase- (Number of items: 2)  
Question number here  
«Integer:  $0 \leq i \leq 88$  »

Question # 91 Page # 90

[Enter the number of attempts made to acquire this interview. Count all calls including the current attempt.]

-Dbase- (Number of items: 2)  
Number of tries  
«Integer:  $1 \leq i \leq 12$  »

Question # 92 Page # 91

[ENTER COMMENTS]

-Dbase- (Number of items: 2)  
Comments  
«Text»

Was this survey conducted in:

Question # 93 Page # 92

-Check List- (Number of items: 2 Min: 1 Max: 1)  
1 English  
0 Spanish

OR

Question # 94 Page # 93

[PRESS YOUR FORWARD BUTTON TO MOVE ON; THIS SCREEN ENTERS THE TIME ZONE, AREA CODE AND PHONE NUMBER FOR THE RESPONDENT.]

-Dbase- (Number of items: 8)  
Time Zone  
«Text»

Area Code

«Text»

Phone Number

«Text»

FIPS

«Text»

Question # 95 Page # 94  
Interview ID and Station Number

-Dbase- (Number of items: 4)

Enter your name here

«Text»

Enter your station number

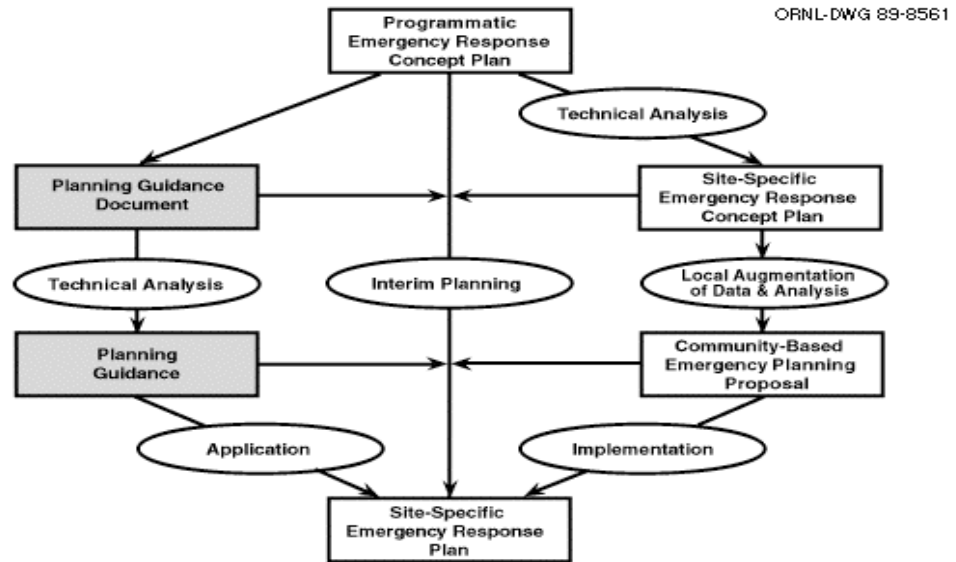
«Integer:  $0 \leq i \leq 20$  »

Question # 96 Page # 95  
[This completes the survey. Enter Survey Completed only after correcting all information.]

-Check List- (Number of items: 1 Min: 1 Max: 1)



CSEPP Organizational Chart



**Fig. 1 The Chemical Stockpile Emergency Preparedness Program Process**

SOURCE: *Planning Guidance for the Chemical Stockpile Emergency Preparedness Program, Date Unknown*