UNITED STATES CHEMICAL POLICY: RESPONSE CONSIDERATIONS

A thesis presented to the Faculty of the
U.S. Army Command and General Staff College
in partial fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

by

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Chemical weapons have been a controversial subject for years. Even before the Germans introduced modern chemical warfare on 22 April 1915 during World War I, issues concerning use of asphyxiating gases and other chemical agents surfaced. Discussions often became emotional and clouded the issues of the effects of this type of warfare. Propaganda and sensational contributed to negative public opinion and impacted on policy development.

This study examines the development of the US's chemical policy by looking at significant events over time and analyzing developments and trends. An answer to the question of whether or not the US will respond with chemical weapons following use by a third world country against US military forces is concluded based on study findings.

This study concludes that the US will not respond with chemical weapons against a third world country such as Iraq. Such use of chemical weapons would reverse the developments the US has made in recent years. The political considerations and the impact on future negotiations toward the banning of chemical weapons would be detrimental if the US did retaliate with chemical weapons.

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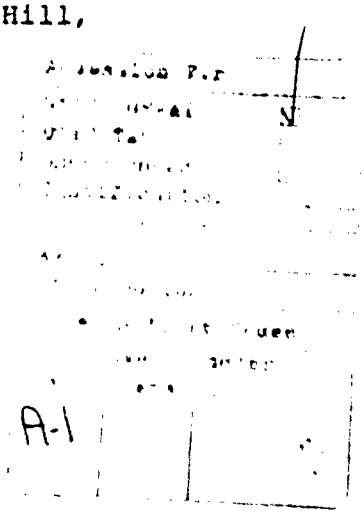

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ABSTRACT

UNITED STATES CHEMICAL POLICY: RESPONSE CONSIDERATIONS by MAJ Lewis L. VanDyke, USA, 112 pages.

Chemical weapons have been a controversial subject for years. Even before the Germans introduced modern chemical warfare on 22 April 1915 during World War I, issues concerning use of asphyxiating gases and other chemical agents surfaced. Discussions often became emotional and clouded the issues of the effects of this type of warfare. Propaganda and sensationalism contributed to the negative public opinion and impacted on policy development.

This study examines the development of the United States' chemical policy by looking at significant events over time and analyzing developments and trends. An answer to the question of whether or not the United States will respond with chemical weapons following use by a third world country against United States military forces is concluded based on study findings.

This study concludes that the United States will not respond with chemical weapons against a third world country such as Iraq. Such use of chemical weapons would reverse the developments and trends the United States has made in recent years. The political considerations and impact on future negotiations toward banning chemical weapons would be detrimental if the United States did retaliate with chemical weapons.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

General

The mention of chemical weapons or chemical warfare brings to mind feelings of fear and horror for many people. A significant contributor to this emotional response is past use of chemical warfare and media coverage of this topic. Survivors of World War I returned to the United States providing personal accounts of the effects of gas used during that war. Charles E. Heller provided an example of how veterans can influence public opinion with just a comment in his introduction of Chemical Warfare in World War I: The American Experience, 1917-1918.

> Gas victims continually reminded the general public of the effect of chemical weapons, as illustrated by the often repeated story of a veteran's coughing fit being explained by a tap on the chest and an apologetic, "Gas you know."[1]

Whether true or not, the impact of examples such as this contributed to the public abhorrence of this particular form of warfare. Throughout history, personal feelings to include those of key leaders such as then President

Roosevelt influenced decisions and actions concerning chemical weapons and warfare.

Background

Use of chemicals in conflict dates back to 500 B.C. when the Spartans conducted an attack on an Athenian city which they had under siege.[2] As part of the attack the Spartans placed a lighted mixture of wood, pitch, and sulfur under the walls prior to committing soldiers. The idea was to generate fumes which would incapacitate the Athenians and provide an advantage to the Spartans.[3]

Examples exist throughout history of both successful and unsuccessful employment of some type of chemical agent or mixture during wars. There were attempts to counter the effects, but in some cases the new weapon was so successful that with improvements the weapon or technique remained in use for many years. One example of such a weapon is "Greek Fire" which the Byzantine Greeks used in 673 A.D. at the siege of Constantinople. This new weapon was quite successful and became the forerunner of the modern day flamethrower. A mixture of petroleum, pitch, various resins, sulphur, and quicklime made up the original "Greek Fire."[4]

Chemical warfare was only one of many technological advances that would occur in the evolution of warfare. Users sought lethality and improved accuracy above all

other improvements. Chemical weapons seemed to provide high lethality and psychological effects at a small cost. One idea considered in the late 1600's was the use of poisoned bullets. This idea did not receive support from the French or the Germans and in 1675 both France and Germany agreed not to use this type of weapon. Article 57 of the Strasbourg Agreement of 27 August 1675 stated that neither France nor Germany would use poisoned bullets.[5] This agreement was the first concerning prohibitions against chemical agents and warfare in modern history and was the beginning of many such types of agreements.

The introduction of chlorine gas on the battlefield during World War I ushered in the modern age of chemical warfare. In this instance, the Germans opened pressurized tanks of chlorine gas and let the wind carry it over the enemy. The military made changes to both offensive and defensive operations attempting to counter the effects of this new weapon.

Both sides made extensive use of chemical weapons during World War I. Continuous experimentation with different types of agents and methods of delivery resulted in the introduction of mustard gas and gas shells to the battlefield.

Between World War I and the 1980's, infrequent use of chemical warfare occurred. In 1935 and 1936, Italy used mustard gas against the Ethiopians who had no protection

from the effects. Both Allied and Axis forces stocked chemical weapons and prepared to use them during World War II, but the war ended with neither side initiating chemicalwarfare. Egypt's intervention in Yemen from 1963 to 1967 included allegations of chemical weapons use. Reports in the late 1970's alleged Vietnamese use of chemical weapons in Laos and Kampuchea.[6]

The Iran-Iraq War, 1980-1988, became a major exception to this status quo and provided verifiable evidence demonstrating the danger of use of chemical warfare by third world countries. Extensive use of chemical weapons by Iraq and some use by Iran once again became part of the battlefield. In many cases the targets were unprotected soldiers and civilians which contributed significantly to the effects achieved by these attacks.

Proliferation of chemical weapons in third world countries has grown tremendously in the last ten years. With more and more third world countries possessing chemical weapons, their use against United States military forces could become a reality. This possibility requires consideration, review, and evaluation of the United States' response options.

Documented use of chemical weapons by third world countries in internal conflicts, and wars between third world countries, shows their willingness to employ this type of weapon. Such use of chemical weapons raises the

question of what the United States' response will be if any of these countries use chemical weapons against our forces. United States soldiers train in situations which simulate enemy use of chemical weapons and take protective measures to increase their probability of surviving a chemical attack. Nevertheless, we tend to ignore the offensive aspects of chemical warfare.

Purpose of the Thesis

The purpose of this study is to determine if the United States would use chemical weapons as a response to Iraqi use against our military forces. In this study, I will look at chemical weapons as a possible United States response based on the criterion of United States policy. Certain aspects identified as influencing policy, along with studies on chemical issues, will provide a foundation for analyzing policy development and trends.

Assumptions

Making the following assumptions allowed me to focus on my research question and conduct this study during a time of possible significant changes in United States policy.

1. Iraq will use chemical weapons in the event of a war against United States military forces. This provided a basis for considering the United States response.

2. Chemical weapons are available to United States forces. The logistics concerning chemical weapons are an issue both politically and operationally. I chose to assume chemical weapons were available so the option of employing chemical weapons was open to the United States.

3. Actual events occurring during the development of this thesis will not negate the value of this study. Rapid changes in situations throughout the world show that accurate predictions of what will occur in the future are difficult if not impossible to make. My focus in this study is on the developments and trends concerning chemical weapons employment policy. If proven incorrect by some future event, my study will provide a basis for studying changes which contributed to taking a different course of action from the one I select.

Definition of Terms

I found variations and occasional incorrect use of military definitions in different literature sources reviewed. Some of the differences can be attributed to the time period in which the literature was written. I based the following definitions on those provided in Joint Chiefs of Staff Publication 1-02. It provides a common reference for terms which I use throughout this study.

Chemical Warfare - All aspects of military operations involving the employment of lethal and

incapacitating munitions/agents and the warning and protective measures associated with such operations.

Chemical Agent - A chemical substance intended for use in military operations to kill, seriously injure, or incapacitate man through its physiological effects. Excluded from consideration are riot control agents, herbicides, smoke and flame.

Biological Agent - A microorganism or toxin derived from microorganisms, plants or animals which causes disease in man, plants, or animals or causes the deterioration of materiel.

Nuclear Warfare - Warfare involving the employment of nuclear weapons.

Conventional Weapon - A weapon which is neither nuclear, biological nor chemical.

Binary Munitions - Munitions containing two chemicals which will mix and react after the weapon is fired to form a lethal agent.

First Use - Employment of chemical or nuclear weapons for the first time during a conflict.

Individual Chemical Protective Equipment - Clothing and gear worn or carried to prevent ill effects from contact with a Nuclear, Biological, Chemical (NBC) hazard. The ensemble includes mask, hood, gloves, boots, and overgarment.

Weapons of mass destruction - In arms control usage, weapons that are capable of a high order of destruction and/or of being used in such a manner as to destroy large numbers of people. They can be nuclear, chemical, biological, and radiological weapons, but exclude the means of transporting or propelling the weapons wnere such means are a separable and divisible part of the weapon.

Limitations

The main focus of my thesis is on the United States policy and response based on this policy. The following limitations encountered did not present significant problems in completing this study.

Credible unclassified data on chemical weapons possessed by Iraq was not available.

Unclassified doctrine and policy on Iraqi employment of chemical weapons were not available.

Significant events in the past year could result in a review of and possible changes to United States doctrine. I used current published doctrine for development and analysis in this study.

The stated policy concerning chemical warfare has evolved over several decades. My focus was on analysis of the developments and trends of this policy and actions taken concerning chemical warfare. Changes could quickly

develop if a war with Iraq occurs. I used stated public policy as a basis for conducting this study and will provide comments in my final chapter if events result in policy changes or execution of classified contingency plans.

Delimitations

The time constraint of completing my thesis during the Command and General Staff College Course required delimitations on the study. The delimitations established provide a focus on chemical weapons use and policy development. Selection of these delimitations limited the focus; however research required reviewing and considering both nuclear and biological weapons where literature grouped chemical weapons with them. I will address some of these delimitations in my conclusions and recommendations chapter.

This study did not:

1. Consider the use of biological weapons by Iraq.

2. Consider use of nuclear weapons by the United States as a response to Iraq's use of chemical weapons.

3. Include terrorist activities or covert operations.

4. Include covert or overt attack against the United States mainland.

5. Consider use of chemical weapons by another country or use by Iraq against an ally or Israel. 6. Consider the logistics of moving chemical weapons to the theater of war.

7. Include use of classified sources.

This study considered United States doctrine and policy only in answering the research question.

This study used a time constraint of an attack occurring within the next five years for considering the United States' response.

Significance of the Study

For over four decades the United States has focused on a European scenario and considered the Soviet Union as the greatest potential threat. Developments have occurred in the last few years resulting in a significant decrease in a perceived Soviet threat and an increase of situations requiring a United States military presence in third world countries. Iraq's invasion of Kuwait and the United States' deployment of troops to Saudi Arabia in August 1990 made this study both timely and necessary.

The proliferation and documented use of chemical weapons in recent conflicts involving third world countries necessitate a review of our stated policy and evaluation of

the options available should a third world country use chemical weapons against United States forces. A United States military response to any third world situation requires consideration of retaliation involving chemical weapons. Iraq's possession and use of chemical weapons are a matter of record. An analysis of stated policy and consideration of actions taken based on this stated policy can provide insight into the probability of a United States chemical response.

Forecast of Chapters

Chapter 2 presents my findings after conducting a review of the available literature. I provided comments on specific sources which were of particular help.

Chapter 3 provides an explanation of the methodology and procedures I used in conducting this study. It also addresses some of the strengths and weaknesses in the method chosen. This chapter explains the procedures used in developing this study by describing how I collected, organized, and analyzed information to arrive at the conclusions presented in the final chapter. A brief overview of the organization of the information covered by the other chapters will conclude chapter 3.

Chapter 4 presents aspects having a significant impact on policy development and consideration of chemical

weapons employment. These aspects of military employment provide a basis for analysis conducted in chapters 5 and 6.

Chapters 5 and 6 provide an analysis of developments and trends in United States chemical policy using significant events such as the Hague Convention in 1899 and the signing of the bilateral Chemical Disarmament Agreement by the United States and the Soviet Union in 1990 as a basis.

Chapter 7 provides my conclusions and comments on the findings. I will provide recommended topics for further study based on findings, questions surfaced, and the delimitations placed on my study.

ENDNOTES

[1]Charles E. Heller, Chemical Warfare in World War I: The American Experience, 1917-1918, No. 10, (Combat Studies Institute, Fort Leavenworth, Kansas, 1984), 3.

[2]John Hemsley, The Soviet Biochemical Threat to NATO, (New York: St. Martin Press, 1987), 66.

[3]Heller, Chemical Warfare in WWI, 3.

[4]Hemsley, Biochemical Threat, 66.

[5]Hemsley, Biochemical Threat, 67.

[6]Chemical Warfare - A Real and Growing Threat, AUSA Special Report, ed. Frederick J. Kroesen, Association of the United States Army (Arlington, Virginia: Association of the United States Army, 1989), 9.

CHAPTER 2

REVIEW OF LITERATURE

Possession and use of chemical weapons has had extensive coverage in every type of media. This tremendous amount of literature provides good coverage of the historical events where use, consideration of use, or discussion of chemical warfare has occurred. A study of policy development requires looking at significant events over time and following through to current events. In my review of sources I found the topics are not new. Issues present prior to the use of gas by the Germans in 1915 are still in the forefront of literature today. Many advances in technology and discovery of new chemical agents occurred over time, but there was very little progress toward accepting or supporting the use of chemical warfare.

Prior to 1989, the Soviet threat provided the focus for most published literature. Significant events in 1989-1990 require careful reconsideration of our focus and expansion of our analysis. The fall of the Berlin Wall, reunification of Germany, and the threat of economic collapse and challenges to the Communist system in the Soviet Union provide examples of changes in the political

arena. United States' withdrawal of all chemical weapons from Germany, signing of the bilateral chemical agreement between the Soviet Union and the United States, and the Iraqi invasion of Kuwait with subsequent deployment of troops by several nations to Saudi Arabia demonstrate actions affecting military operations. These are some significant examples of recent historical events showing a shift in the mindset of where the most likely threat of chemical warfare exists. Despite this shift, many of the concepts and facts in literature concerning chemical warfare prior to this turbulent and changing year remain valid. This allows the application of these concepts and facts in different situations such as the crisis in the Persian Gulf.

I divided the available sources into categories to facilitate commenting on them. Some sources cover chemical weapons extensively while others combine chemical with nuclear and biological. I only provided specific comments on sources which I used extensively in completing this study. Other referenced sources contain information and data which were critical to my analysis and conclusions.

Books

The Stockholm International Peace Research Institute (SIPRI) published a six volume study in the

1970-1975 time frame titled The Problem of Chemical and Biological Warfare. Three of the volumes, Volume I The Rise of CB Weapons, Volume II CB Weapons Today, and Volume IV CBW Disarmament Negotiations 1920-1970 were especially useful in completing this study because of the background and discussion of information related to policy and developments in chemical warfare. Though the title combines chemical and biological warfare, the study separates chemical and biological subjects throughout the work. The study provides comprehensive coverage of chemical weapons development and use from World War I through publication. I found the information presented in an objective manner and very useful. SIPRI publishes a yearbook to update developments in this field. I found this work frequently cited in my research.

Frederic J. Brown's book Chemical Warfare-A Study in Restraints uses World War II as a case study to look at nations not using chemical warfare even though they possessed the capability. His book provides coverage of chemical weapons use in World War I, developments between the wars, and factors leading to the decision not to use chemical weapons in World War II. Many of the topics covered in this 1968 publication are in the forefront of discussions today.

Robert Harris and Jeremy Paxman's book A Higher Form of Killing provides a good historical overview of the

development of chemical warfare. Beginning with the introduction of modern chemical warfare in World War I, this book presents events involving chemical warfare. It then covers disarmament actions such as Nixon's announcement banning biological weapons and statement of the United States chemical weapons policy as well as rearmament through production of binary weapons.

Edward M. Spiers' book Chemical Weaponry provides a look at the prospects of chemical warfare and international response to its use. Spiers looks at the development of chemical agents and protective equipment since World War I. He covers use from World War I through the war between Iran and Iraq.

James Kendall's book Breathe Freely! The Truth about Poison Gas (1938) provides an interesting perspective on poison gas and how media coverage contributes to public concern over gas attacks. His intention was to clarify many of the rumors and calm the fears of the public about poison gas. He presents a case of the public not being well informed due to the media coverage and exaggeration of facts. Articles which present the facts do not make as much of an impression on the public. Circulation is limited because these articles often omit the horrors and paranoia over mass casualty effects which are news. This slants the public's view of chemical weapons. He contends that the media overstates the effects of chemical weapons

and that civilians must become aware of the facts and remain calm. Many of Kendall's arguments, although dated due to developments since publication of his book, remain valid today.

Other books provided useful data on casualties from chemical use and covered the development of the United States policy concerning chemical warfare and weapons.

Periodicals

The volume of information available on my research topic was extensive. Many articles combined chemical with nuclear and biological topics. These provided additional background information and many points for consideration. This combination of nuclear, biological, and chemical topics required careful consideration of the conclusions or suggestions presented. The limits placed on this study provided focus for research and allowed for discarding of material which was not pertinent.

Periodicals provided both historical and current information concerning chemical weapons. In gathering information, careful evaluation of the source and the point of view of many of the articles available was necessary. The merit of some articles required evaluation and in some cases disregarding of conflicting opinions and conclusions. I did include varying points of view taken throughout history to analyze policy and its impact on

decisions concerning chemical weapons. Many of the events occurring in 1989 and 1990 had a significant impact on the evolution of the United States chemical weapons policy. Periodicals were my primary source of information covering current events.

Government Publications

I found several government sources covering the topic of chemical warfare. They ranged from detailed hearings in Congress on a specific issue to broad coverage in both technical and field manuals. Older government publications provided good historical information on chemical warfare or chemical weapons. More recent literature often referenced these sources to support particular points.

Many government publications present specific information on events such as then-Secretary of State Alexander M. Haig's report Chemical Warfare in Southeast Asia and Afghanistan in 1982. Others such as the Report of the Chemical Warfare Review Commission in 1985 provided findings to Congress on chemical warfare issues along with recommendations based on the findings.

The Army has manuals devoted to technical data on the effects of chemical weapons, protective measures, and decontamination procedures. The technical data provided good background information, but was beyond the scope of my

study. Field manuals concerning chemical weapons cover the "how to" from an operational point of view and were a good source of information. The focus of these manuals is on NBC defense. FM 3-100 NBC Operations is the capstone manual on NBC and provides a good overview by incorporating and summarizing topics on NBC defense. The series of FM 3-3 NBC Avoidance, FM 3-4 NBC Protection, and FM 3-5 NBC Decontamination provide specific details on each of these topic areas. Even though defense oriented, many of the points made in field manuals provided information on the military advantages and disadvantages of offensive use of chemical weapons. I did not evaluate doctrine presented in these manuals, but did cover the evolution of doctrine as part of the changes in policy.

FM 100-1 The Army provides the basic reference and definitions of the principles of war. FM 100-5 Operations provides more details and explanation of the principles in Appendix A. The principles of war provide a framework for considering military advantages and disadvantages of a United States response with chemical weapons.

The volume of literature available on chemical warfare made narrowing my focus essential. The challenge was maintaining a focus on the purpose of my thesis. There are many other interesting and relevant thoughts and ideas on the topic of chemical warfare. These thoughts and ideas could easily cloud the primary objective of reviewing

policy developments and trends concerning chemical warfare. I offer suggestions for further research in my conclusions.

CHAPTER 3

METHODOLOGY

I used both a historical research methodology and an analytical framework in completing my thesis. I limited my study to trends and developments in chemical policy. The historical review provided a background and perspective of the evolution of chemical warfare from the Hague Convention in 1899 to the present. I concentrated on the national policy developed during this time period. After presenting events involving chemical warfare or chemical weapons, I provided an analysis of the impact of those events and changes that occurred in developments and trends. Analysis of actions taken and the resultant United States chemical policy changes give insight into future decisions when similar situations require a response. In the analysis, I used certain aspects which continually influenced the consideration of chemical weapons employment and evolution of chemical policy. After considering the evolution to current stated policy, I presented developments emphasizing certain parts of the policy.

The focus of my research question was on possible offensive action by the United States based on past

developments and trends in national chemical policy and military doctrine. I used a scenario involving a third world country in stating my research question because of changes in the United States relationship with the Soviet Union, possession and use of chemical weapons by third world countries, and finally the real possibility that the question may face our leaders in the near future. Looking at past events and analyzing the options chosen and decisions made provide a basis for making conclusions on future courses of action.

The narrow focus of my research question allowed me to look at how the United States chemical policy developed over time. I chose certain significant events to analyze. The strength of this method is being able to follow a topic through history and make conclusions concerning future decisions.

By looking at the United States chemical policy and considering certain aspects impacting on chemical weapons use, a reliable prediction of future decisions is possible. The weakness in making predictions based on current policy is that our policy can change, just as it has in the past, based upon the political climate and leadership. Also, circumstances surrounding an event can become overriding factors and lead to decisions which are contrary to those normally expected.

The Combined Arms Research Library (CARL) at the United States Army Command and General Staff College (CGSC), Fort Leavenworth, Kansas was the primary source of literature. Interlibrary loans through CARL provided access to material not available at CARL. This provided additional information, but I found the multiple types of sources at CARL covered my topic well. I used only unclassified material in completing this study. The focus of my thesis and declassification of material covering chemical warfare in recent years supported an unclassified thesis. Classified data and opinions are available for a more in-depth analysis of United States chemical warfare policy, but were not included in this thesis.

Organization and presentation of the findings in this study are found in chapters four through seven. Chapter 4 presents aspects which significantly influence consideration of chemical weapons employment and development of chemical policy. Chapters 5 and 6 present a chronological study and analysis of developments and trends in chemical policy using the aspects presented in chapter 4. Chapter 7 presents conclusions drawn in the study. After presenting the conclusions, I offer suggested topics for future related research.

Events occurring during completion of this study warranted an epilogue. The epilogue provides an

opportunity to comment on events which occurred after the 1 January 1991 cutoff for information included in the thesis.

CHAPTER 4

ASPECTS OF CHEMICAL WEAPONS EMPLOYMENT

There are several aspects which, over time, have distinctly influenced chemical weapons employment and development of chemical policy. Aspects considered in this study are: military advantages/disadvantages, psychological impact, public opinion, views and opinions of personnel who have served or are serving in the public sector, and impact on coalitions and alliances. The focus of this study is on chemical weapons response by the United States based on stated chemical policy. These aspects provide a framework to look at the development and evolution of our chemical policy. Significance of a certain aspect may vary in different situations over time. Recurrence of a certain aspect as a significant factor could show a trend in what influenced policy development. A study of trends and developments in policy based on different aspects allows a relatively high degree of confidence in predicting future events.

Military Advantages/Disadvantages

One aspect for consideration is the military advantages or disadvantages of chemical weapons employment. A military perspective provides important input to selecting a course of action. Consideration of the impact of chemical weapons use on both friendly and enemy operations determines if use supports the operation as a combat multiplier. The resulting advantages or disadvantages could lead to a recommendation contrary to other aspects. The nine principles of war; objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity, provide reference points for discussing these advantages and disadvantages.

The Army generally accepts the principles of war as an effective framework which facilitates the study and pursuit of war. The principles of war provide general concepts which offer a high assurance of success if followed. FM 3-100 provides a discussion of nuclear, biological and chemical operations using the nine principles of war. Appendix A of this thesis contains an extract of this discussion. Certain principles such as objective, surprise, security, and maneuver are more applicable and provide good areas for consideration when looking at policy development over the last century.

We assume employment of chemical weapons to be an attempt by the enemy to achieve an objective. Our response to his use can significantly influence his next action and his success. Response with chemical weapons would require the enemy to take protective measures or suffer chemical weapons effects. Protective measures would degrade the performance of his forces and remove his advantage of fighting unencumbered. One of the questions asked in the United States' decisionmaking cycle is, "would our use discourage or stop the enemy's further use?" Consideration of the enemy's response can significantly impact on how the United States would respond to use of chemical weapons on our soldiers.

Psychological Impact

Soldiers can exhibit the psychological impact of battlefield stress either mentally or physically. The threat of chemical warfare can compound the effects of battlefield stress. Rumors of chemical weapons use and exaggeration of effects can cause mental distraction from duty. The stress level in a unit increases when an actual chemical attack occurs. Accomplishing any task requires including the mental thought process of how to avoid becoming a chemical casualty. Wearing the protective gear separates a soldier from others. This, along with the mental and physical degradation, physical fatigue, heat,

and visual restriction from wearing the protective gear can all impact on the soldier psychologically. Tough, realistic, and repetitive training to meet a chemical threat will build confidence and reduce that stress.[1]

Debate on the issue of humaneness of chemical weapons continues and influences the manner in which people think about chemical warfare. Pro and con arguments often exaggerate or misinterpret facts to make their points. James Kendall provides an example of this exaggeration in his book Breathe Freely! The Truth About Poison Gas:

> The alarmist and the ultra-pacifist love to quote the fact that one ton of mustard gas is sufficient to kill 45,000 people. This would indeed be true if 45,000 people all stood in line with their tongues out waiting for the drops to be dabbed on, but they are hardly likely to be so obliging. One steam-roller would suffice to flatten out all the inhabitants of London if they lay down in rows in front of it, but nobody panics at the sight of a steam-roller.[2]

Propaganda, along with the invisible threat of chemical weapons, creates fear and dread of chemical warfare. Acceptance of mutilation and death by conventional weapons does not carry over to chemical weapons. There is something about the use of chemical weapons people do not like.[3] This psychological aspect greatly influences public opinion.

Public Opinion

Public opinion can be significant in influencing policy development. In a democratic society, the elected officials are sensitive to how these people feel about issues. Leaders desire the support of the people for actions taken. Basing policy on public opinion is dangerous because public opinion can change quickly and significantly on certain issues.[4] The emotion involved when discussing chemical weapons gives this warning credence. Propaganda campaigns, misinformation, and personal feelings can strongly influence the public's opinion. The resulting positions taken on the issue of chemical warfare can appear illogical. The influence of public opinion on developments in chemical policy and employment of chemical weapons may lead to changes which do not support national objectives.

Public Leaders' Views and Opinions

The views and opinions of individuals who have served or are serving in the public sector can significantly impact on chemical weapons issues and policy. For example, the authority to employ chemical weapons lies with the President of the United States. His personal feelings could influence him to totally disregard recommendations for using chemical weapons.

Many people in the public sector gain credence from the position they hold or have held in the past. Expressions of agreement or disagreement on an issue can influence other aspects impacting on that issue. An individual wishing to gain support for a certain course of action can do so through publicity and belief in the individual's credibility by others.

Response of the Coalition

Countries form coalitions for mutual defense and support in performing a mission. The position of other members of a coalition are factors considered when making decisions. Coalition response to United States retaliation with chemical weapons would be very complex. It is difficult to state a general coalition response. Each country would require evaluation before suggesting their response.

The coalition formed against Iraq under United Nations' authority after Iraq's invasion of Kuwait on 2 August 1990 is considered to be fragile. The commitment of a majority of the forces gives the United States significant influence in the actions taken to enforce the United Nations' resolutions. Some of the countries involved have had poor or no relations with the United States. They have varying reasons for becoming part of the coalition.

Other points which contribute to the fragility of the coalition include religious differences, Arabs fighting against fellow Arabs, dislike and distrust of the United States, and the feeling by some Arab countries that the invasion of Kuwait by Iraq is an Arab issue. Even consideration of retaliatory use of chemical weapons by the United States could draw some negative responses. United States use could cause protests in Arab countries, prompt use by another country, or result in escalation to nuclear weapons. The overall effect could be a breakdown of the coalition due to disagreement with United States' actions by certain Arab countries. This could leave the United States with few allies to pursue the war against Iraq. Some Arab countries sympathizing with the Iraqis could even begin to provide support to Iraq. These actions could result from the perception that use of chemical weapons by the United States is "overkill" based on the other response capabilities available. The coalition response is an important military as well as political consideration.

Many of the aspects considered in this study overlap. One aspect may be a serious consideration in a certain situation and significantly influence developments in another aspect. Focusing on some of the more significant and recurring aspects allows analysis of developments in chemical policy. This can provide a perspective for consideration of possible responses in the

future. The United States' response today can influence future actions. For instance, condemnation of another countries' use of chemical weapons becomes much less effective if the United States retaliates with chemical weapons after Iraqi employment against our forces.

ENDNOTES

[1]James Kendall, Breathe Freely! The Truth about Poison Gas (London: Camelot Press Ltd, 1938), 110.

[2]U.S. Army, FM 26-2, Management of Stress in Army Operations (Washington, D.C.: U.S. Army, August 1986), 26.

[3]Individual and Group Behavior in Toxic and Contained Environments, ed. R. J. Ursano, (Bethesda, MD: Uniformed Services University Health Sciences, December 1987), 12.

[4]Frederic J. Brown, Chemical Warfare, A Study in Restraints (Princeton: Princeton University Press, 1968), 211-212.

CHAPTER 5

Policy Development 1899-1969

In the late 1800's advances in technology provided new methods of conducting war. The buildup of military forces and arms progressed at an alarming pace. Countries continued to build up their arms and develop new ways of conducting war in an attempt to protect themselves from neighboring countries. The fear of another country gaining an advantage in weaponry or superior forces seemed to dominate the thoughts of every country. Defense against becoming weak and vulnerable led to an arms race. This continuous build-up required a significant expenditure of money by each country and had a negative impact on national economies.[1]

Russia proposed a conference to discuss development of peaceful means to settle differences and put an end to the arms race. Other nations agreed to attend the conference and consider the ideas proposed by Russia. This meeting became known as the Hague Peace Conference of 1899.[2]

Different methods of employing chemical warfare had been developed throughout history. Technological advances

in munitions and discovery of different chemical agents offered the potential for new methods of conducting warfare.[3] Many of the Hague attendees expressed concern over a new method which involved filling projectiles with what was referred to as "asphyxiating and obnoxious gases," resulting in a weapon of possible significant military value. This led to a proposal to ban filling projectiles with gases. The United States provided its first statement on chemical weapons policy in response to this proposal by casting the only dissenting vote on banning gas shells.[4]

General Alfred Thayer Mahan, the United States representative, offered an explanation for the negative vote which became part of the record. General Mahan made three points. First, development and testing of such a weapon should occur before banning it. Second, the effects from this new type of weapon were unknown. Third, no one could determine the validity of arguments about the inhumaneness of such a weapon until it was developed and tested.[5] The position of the United States toward chemical weapons or gases was no different than toward other new weapons. Until they were tested and the actual effects known, limitations and banning were not appropriate.

The psychological impact of fear and inhumaneness of using gas-filled projectiles contributed to the development of this proposal. The overriding factor in the

position taken by the United States was possible loss of military advantages. At the time of the proposal, the United States saw a ban as limiting options on pursuing military objectives. As an example, if gas-filled weapons effectively defeated the enemy without commitment of troops, its use in one location would allow massing of more troops in another location. Another consideration was violation of the principle of security due to this new method of conducting war: surprise and disadvantage for our military in a future war by enemy development and employment after the ban.

The issue of banning gas-filled projectiles appeared on the agenda at the second Hague Peace Conference held in 1907.[6] The United States maintained its position of making no distinction between gas warfare and other methods of conducting war. Mahan's explanation espoused a policy which did not support use of projectiles filled with gas, but did not reject the possibility. Debate concerning this policy and speculation on the possibility of use in a future war continued. Developments during World War I eliminated the significance of the issue's debate.

Prior to the United States entry into World War I, chemical warfare was a part of the conflict. The Germans introduced modern chemical weapons to the battlefield on 22 April 1915. They released 5730 cylinders of chlorine gas against French soldiers at Ypres.[7] The immediate

reaction was horror and disbelief that the Germans had used such a method of war.

The British did not lose the opportunity to appeal to the emotions concerning this new method of conducting war. They first used propaganda concerning chemical warfare by emphasizing and exaggerating the effects on unprotected soldiers.[8] This propaganda program changed as the British prepared to employ their gases against the Germans. The focus then shifted to the necessity to retaliate. The United States received most of its information on the war from the French and British. After British retaliation with chemical weapons, news on chemical warfare was practically nonexistent.[9] The United States followed the events occurring in Europe but did not investigate the effects or impact of the use of gases. The policy of the United States at this time was to remain neutral. Neutrality included no overt preparation for war. This inactivity created many problems for the United States as she committed troops to the conflict.[10]

The United States entered the war knowing both sides were employing gases. Lack of information gathering on or obtaining equipment for chemical warfare resulted in unpreparedness of the American Expeditionary Force (AEF) both defensively and offensively for what it encountered. The lack of training and equipment for protection from gas attacks resulted in greater initial losses for the United

States and fueled the propaganda fed back to the public on the horrors of chemical warfare.[11]

The commitment of the AEF brought with it an acceptance that the United States would be involved in chemical warfare. There was no significant debate on the issue.[12] After arriving in France the Commander of the AEF, General John J. Pershing, quickly recognized the significance of chemical warfare and ordered implementation of efforts to correct AEF deficiencies.

Development of defensive and offensive capabilities occurred within months of the United States arrival in Europe. Initially, the greatest efforts were defensive in nature. The United States developed training programs and provided protective masks to the soldiers. General Pershing formed the AEF Gas Service (which evolved into the Chemical Warfare Service) to coordinate the training and logistical requirements. The United States then began building plants to produce an offensive chemical capability.[13] A statement in Chemical Warfare by Amos A. Fries and Clarence J. West, "In gas warfare, a vigorous offense with gas is the best defense against gas" [14] reflected the attitude adopted by the United States after arrival in France.

During the early years of World War I the general feeling was that no involvement by the United States was the best policy. News of the use of gases in Europe and

the propaganda from Britain and France did reach the United States. There was some interest in the escalation of the land war through use of gas, but no action beyond discussion occurred. Initially the threat (and therefore interest of the Americans) was with the war at sea.[15] This overshadowed the escalation to use of gas in the land war.

The United States policy on chemical warfare was one of necessity by the time the AEF arrived in France. Escalation to and acceptance of chemical warfare by the other countries left the United States little choice. Two military considerations were the overriding influences on United States actions taken: overcoming the disadvantages from enemy chemical use and attempts to achieve military objectives. The trench warfare of World War I led to static defensive operations. Objectives included holding the defensive lines, breaking the stalemate, and taking the offensive. To maintain parity on the battlefield, and attempt to achieve the objectives, the United States joined her allies in employing chemical weapons.

Allied propaganda efforts did have some influence when the public's attention turned to the land war and commitment of American troops. The psychological impact involved concern for our soldiers exposure to this horrible form of warfare. The public did not seriously question the

use of chemical warfare since it appeared to be a necessary response to the enemy's use of chemical weapons.

After the arrival of the AEF in France, the Chemical Warfare Service supervised a tremendous effort to meet the training and protection requirements created by chemical warfare. An offensive chemical capability became a reality as the United States built plants to produce chemical munitions. Production increased as the war continued. Artillery shells filled with gas rose from 10 percent of the inventory in 1917 to 20 percent of the inventory in 1918.[16] The momentum was such that an even greater escalation in use of chemical weapons would have occurred if an armistice had not been signed in 1918. The plan for increased production and authorization of a gas fill of 25 percent of all artillery shells in 1919 reflected this trend.[17]

The armistice in 1918 brought an end to World War I where United States involvement included use of chemical weapons. Initial plans after the war involved an attempt at ending the emphasis on chemical warfare. The United States initiated actions which it believed would provide adequate national security in the area of chemical warfare without excessive commitment of resources or involvement of the public.

The policy of neutrality before entering World War I placed the United States behind in chemical warfare

technology and defensive needs. United States losses to gas attacks in World War I totalled twenty seven percent, 70,752 gas casualties out of 258,338 total United States casualties.[18] The United States recognized this was a large number of casualties from chemical warfare. She concluded one reason was the initial lack of preparedness. Plans after the war included continuation of research and development in the areas of chemical weapons and warfare to avoid repeating this mistake.[19]

The War Department had different plans for the Chemical Warfare Service. The demobilization plans included disbanding the Chemical Warfare Service, transferring responsibilities to the Engineers, and little or no effort and money spent in this area. However, Pandora's box was open. The involvement of special interest groups and individuals insured the issue of chemical warfare stayed in the public's mind. The mix of facts and fiction contributed to the controversy, confusion, and eventually to public opinion against chemical warfare.

Brigadier General Amos A. Fries, who as Lieutenant Colonel Fries was in charge of the Chemical Warfare Service during the war, did not agree with disbanding the Chemical Warfare Service. After failure to change this plan using military channels, Brigadier General Fries took his arguments to the civilian sector. His actions to influence Congress through various special interest groups were

successful. The National Defense Act of 1920 established the Chemical Warfare Service as a separate service.[20]

After signing the Armistice, the Allies recognized a need for some provisions in the peace treaty addressing Germany's chemical capabilities. The Treaty of Versailles included Article 171 which prohibited Germany from manufacturing or importing items for conducting chemical warfare. This did not address the strong organic chemical industry still available in Germany. How to weaken this industry to ensure compliance with the prohibitions became a controversial issue. The American chemical industry realized the potential for technological and economical gains from this issue.

Using national security as a reason, the chemical industry mounted an extensive propaganda effort to obtain the secrets of Germany's chemical industry. President Wilson recognized this hidden agenda and publicly disagreed with this tie between economic and military issues. He successfully blocked any provision to the Versailles Treaty which gave economic gains to the American chemical industry.[21]

The chemical industry's efforts did not end with this failure. With Germany retaining its extensive chemical production capability, the American chemical industry focused its propaganda campaign on influencing tariffs and embargoes on chemical products. Between 1919

and 1921, a deliberate program by both the American chemical industry and the Chemical Warfare Service flooded the public with information on chemical warfare. The propaganda campaign included both pro and con viewpoints. The information ran the gamut from accurate to excessive exaggeration and speculation on the dangers and effects of chemical warfare. Those arguing for chemical warfare cited statistics of the much lower death rate from chemical weapons compared to conventional weapons. Their appeal was to the humaneness in using chemical weapons. Arguments against chemical warfare cited examples such as a ton of mustard gas having the ability to kill 45,000 people.[22]

The influence of the views of an individual during this time frame is exemplified by the efforts of Brigadier General Fries. He first attempted to gain support within the military. Unsuccessful there, he used his civilian contacts, in political positions and the chemical industry, to influence Congress. His continuing efforts and strong belief in the need for the Chemical Warfare Service saved it from elimination.

Confusion on the real effects of chemical weapons resulted from the massive media coverage of so many different points of view concerning chemical weapons. Arguments on the humaneness and advantages of chemical weapons fell on deaf ears. The psychological impact of the terrible consequences of chemical weapons became the

predominant idea which remained in the thoughts of the public. Public opinion became so inflamed by all the information on the dangers and effects of chemical warfare that the public wanted to abolish it.[23] Frederic J. Brown states: "By 1921, it [chemical warfare] had become the bete noire [black beast] of World War I, a symbol of the inhumanity of modern war."[24] These public feelings and opinions did not disappear and influenced United States policy at future conferences dealing with the issue of chemical warfare.

Two significant conferences which included the topic of chemical warfare occurred in the 1920's. The first was the 1921-22 Washington Arms Conference convened by the United States. There is little doubt that public opinion, along with the support of President Harding, influenced adding the chemical warfare issue to the agenda and the final position taken by the United States. Brown in Restraints states: "The driving force behind the poison gas negotiations at the Washington Arms Conference was public opinion."[25]

The main body of delegates at the Washington Arms Conference formed a subcommittee to consider the issue of gas warfare. This subcommittee determined that chemical munitions could not be prohibited and, with limitations on use against noncombatants and cities, treatment should be the same as for conventional munitions. The United States

delegates disagreed with this policy and proposed gas warfare prohibition. This was a change in policy for the United States but consistent with public opinion. A public opinion survey late in 1921 on the issue of abolishing chemical warfare reported 366,975 in favor of abolishment and nineteen in favor of retention with restriction in use.[26]

Prohibition of chemical warfare was part of the final agreement which the delegates signed on 6 February 1922. The Senate easily ratified the conference agreement, but it never took effect. A condition required for the agreement to become effective was unanimous ratification by the five countries attending the conference. The French government did not ratify the agreement due to nonconcurrence with a provision on submarine warfare.[27]

The second significant conference held during the 1920's was the Geneva Convention in 1925. The United States' policy remained consistent with that presented at the earlier Washington Arms Conference. The United States spearheaded an effort to include a provision prohibiting the use of gas. The effort was successful and the delegation signed what is commonly referred to as the Geneva Gas Protocol. Most nations agreed to the protocol with reservation of the right to retaliate against any nation who used chemical warfare against them first.[28]

It did not prevent research, production, or stockpiling of chemical weapons.

The Geneva Protocol encountered resistance from many organizations in the United States who did not agree with the prohibition of gas use in war. The Chemical Warfare Service organized support against ratification, basing its argument on the need for military preparedness. It was almost a year before presentation of the Protocol to the Senate for ratification. These organizations' influence was significant enough that the Senate failed to ratify the Protocol.[29]

The World Disarmament Conference in 1932 provided another attempt to gain agreement on banishing chemical warfare. The United States maintained its position of supporting the prohibition of use of chemical weapons in war, but supported peacetime actions which ensured readiness for a chemical war. The European position supported prohibition of peacetime preparation. The final position adopted at the conference included prohibition of peacetime preparation. President Roosevelt accepted this position on 16 May 1932, but the conference agreements were never formalized into a treaty.[30] United States policy makers remembered the experiences of World War I and potential unpreparedness led the military to a strong stand on maintaining the right for peacetime readiness.

After World War I, we see a change in the United States policy from limiting to prohibiting the use of chemical weapons while maintaining the right to peacetime readiness for chemical warfare. Three separate international conferences resulted in no formal ratification of this policy. This situation did not change until 1975.

In 1937, Congress passed a bill changing the designation of the Chemical Warfare Service to the Chemical Corps. President Roosevelt provided a statement as part of his veto which emphasized the national policy on chemical warfare. In his veto President Roosevelt stated:

> It has been and is the policy of this Government to do everything in its power to outlaw the use of chemicals in warfare. Such use is inhuman and contrary to what modern civilization should stand for.
>
> I am doing everything in my power to discourage the use of gases and other chemicals in any war between nations. While, unfortunately, the defensive necessities of the United States call for study of the use of chemicals in warfare, I do not want the Government of the United States to do anything to aggrandize or make permanent any special bureau of the Army or the Navy engaged in these studies. I hope the time will come when the Chemical Warfare Service can be entirely abolished.
>
> To dignify this Service by calling it the "Chemical Corps" is, in my judgment, contrary to a sound policy.[31]

This statement supported the national policy and recognized the need for continued defensive research and development.

The period just prior to World War II included at least two known cases of chemical warfare use. In 1935-36, Italy used mustard gas against Abyssinia. In 1937 Japan began use of mustard gas against China.[32] This use by Italy, who had signed the Geneva Protocol, and Japan, who had not, led to debate and action by many other countries. Part of the action taken was rearmament with chemical weapons. The United States became part of this rearmament movement.[33] This action supported the United States' policy stated in 1932 during the World Disarmament Conference: military preparedness in peacetime for chemical warfare was necessary. The position agreed on at the conference was prohibition of peacetime preparation, but was never formalized into a treaty. President Roosevelt compromised on the chemical preparedness issue in an attempt to gain some type of agreement on other issues concerning military actions. He was hoping an agreement at this conference would stem the military growth and conditions developing in Europe. Neither this nor other attempts were successful in stopping events leading up to World War II.

World War II began with nations fully expecting enemy use of chemical weapons. Publicly, nations made attempts to prevent use of chemical weapons. Only hours after the war began, England and France signed an agreement with Germany stating they would not initiate chemical

warfare. England expressed very little confidence in this agreement, but made the effort anyway.[34] The United States, although not committed to any formal international agreement, stated it would support the Geneva Protocol. Privately, nations prepared for chemical warfare.

Because of the United States' lack of confidence in statements or agreements disavowing first use of chemical warfare, and the secrecy surrounding the stockpiling of chemical weapons, several interesting events occurred during the war.

-The United States covertly provided chemical weapons to Great Britain prior to entering the war. After entering the war, every theater of war contained chemical storage facilities.[35]

-In 1942 President Roosevelt, who strongly opposed using chemical weapons, formally threatened Japan with use if she did not stop using chemical weapons against China.[36]

-The United States informed Germany about a chemical storage facility located at Anzio, Italy in 1943. German munitions hit the facility damaging some of the weapons and releasing gas. The United States warned Germany to avoid an accusation involving the United States initiation of chemical warfare.[37]

-The United States tried to maintain tight security and secrecy on movement and location of chemical weapons.

The Germans sank the USS Harvey, which was loaded with mustard gas while at port in Bari, Italy in December 1943. Initially General Eisenhower received approval from President Roosevelt to attempt to keep the disaster a secret. Doctors listed various reasons for the injuries and deaths from exposure to the mustard gas. The effects were so widespread however, that rumors of the disaster continued to grow. Within two weeks seventy sailors who went overboard and at least 1000 civilians in the town died from exposure. Many others experienced severe blisters. In February 1944, the United States released a statement confirming the presence of mustard gas on the ship and emphasizing its policy of no first use of chemical weapons.[38]

Maximizing military advantages or minimizing disadvantages, and the views and opinions of national leaders were the dominating aspects in these decisions. The United States' objective was preparedness for a chemical attack while deterring enemy use. The movement and positioning of chemical weapons supported these objectives.

Violation of the principle of security in two cases in 1943 was necessary. Avoiding misinterpretation of the accidental release of chemical agents when German bombs hit a chemical storage dump and the USS Harvey outweighed the advantage of maintaining security. Belief that the Allies

initiated chemical warfare could have led to use by the Axis powers. These events involving covert supplying and stockpiling of chemical weapons showed the resolve and support of the United States to retaliatory use of chemical weapons if the Axis powers initiated chemical warfare. The United States covertly supplied and positioned chemical weapons so that it could retaliate quickly and effectively.

President Roosevelt expressed the national policy in detail in a statement on 8 June 1943.

> I have been loath to believe that any nation, even our present enemies, could or would be willing to loose upon mankind such terrible and inhumane weapons.... Use of such weapons has been outlawed by the general opinion of civilized mankind. This country has not used them, and I hope that we never will be compelled to use them. I state categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.... Acts of this nature committed against any one of the United Nations will be regarded as having been committed against the United States itself and will be treated accordingly. We promise to any perpetrators of such crimes full and swift retaliation in kind.... Any use of gas by any Axis power, therefore, will immediately be followed by the fullest possible retaliation upon munitions centers, seaports and other military objectives throughout the whole extent of the territory of such Axis country (emphasis mine).[39]

The personal feelings of President Roosevelt and the national policy on chemical warfare were clearly reflected in his statement. Military actions supported this policy to a point -the stockpiling- of course we can only suppose we would have retaliated.

Even with this guidance, one situation late in the war demonstrated how escalation to first use of chemical weapons could occur. The availability of and effects possible from use of chemical weapons drew a recommendation from the military tc use chemical weapons against Japanese held islands in the Pacific. Exaggeration of Japanese capabilities and the argument of lowering the number of United States casualties by using chemical weapons led to favorable consideration and recommendation up to the Joint Chiefs of Staff.[40] The press supported use as shown by stories with headlines like: "We Should Gas Japan" (1943) and "You Can Cook 'Em Better With Gas" (1944).[41] Public opinion polls showed an increase in support between 1944 and 1945. Results varied based on how the poll phrased the question. The greatest support seen was 40% in favor of use of gas against the Japanese if it would save American soldiers' lives.[42] The Joint Chiefs of Staff, after debating the recommendation over several days and considering the impact of use of chemical weapons, did not make a recommendation to the President.[43] This decision not to make a recommendation in effect was a decision not to violate the Geneva Protocol by initiating chemical warfare.

The decision not to use chemical weapons in the Pacific left open to speculation the difference chemical weapons could have made in the fierce and costly battles to

regain control of the islands. Reports to Congress concluded that use of chemical weapons would have been the better way. One report stated the use of chemical weapons could have allowed recapture of Iwo Jima intact and saved 2500 American casualties.[44] The debate and speculation on why neither side employed chemical weapons and their possible impact continues even today.

Prior to and during World War II, the United States recognized the potential threat of chemical war and took steps to prepare for it. The United States realized the military advantages of maintaining security through preparing for chemical warfare while continuing to pursue Allied objectives. In the event that Axis powers initiated chemical warfare, preparedness would minimize the impact and allow the Allied powers to continue pursuit of its objectives under these different conditions. This covert preparation for retaliation against an enemy's first use of chemical weapons went beyond the policy expressed by President Roosevelt in 1937. These actions were in line with his 8 June 1943 statement which was explicit on national policy including retaliation with chemical weapons if used against the United States or its allies. This capability to retaliate would avoid repeating the mistake made prior to entering World War I.

The use of the atom bomb by the United States at the end of World War II ushered in another step in the

evolution and escalation of war. Interest in this new weapon and debate on its potential overshadowed the chemical issue for the next decade. The policy of no first use while retaining the right to retaliate stated by President Roosevelt in 1943 remained in effect. In February 1950, President Truman decided there was no need to change the policy.

No changes to the national policy on chemical warfare resulted from the United States involvement in the Korean War. As part of its propaganda campaign, the North Koreans and Chinese made allegations that the United States was employing chemical and biological weapons. The United States denied the allegations. The North Koreans and Chinese refused to allow an independent organization to investigate and examine their evidence and it was never substantiated. Air Force General Earle E. Partridge did propose using chemical weapons on rice paddies, which would be more effective than conventional munitions in delaying or denying the Koreans access to these areas.[45] The proposal never received any serious consideration by his superiors.

Chemical policy was reviewed during the 1950's as changes in situations and relations with other countries occurred. Programs focused their efforts on developments in delivery methods and different types of nerve agents. In 1956, the policy changed from retaliatory only to one

where Presidential approval of chemical weapons use could be granted anytime he determined necessary during war. This policy did not require first use by the enemy.[46] This change was never made public until years later, after the policy announced by President Nixon in 1969 was in effect.[47] The public disclosure of this charge did not include the reasons for making it. Emphasis on President Nixon's statement overshadowed the revelation of the now obsolete change in policy.

In the 1960's decisions by the United States to use two chemicals during its involvement in the Vietnam conflict resulted in more restrictions in the chemical policy. During this conflict the United States used two nonlethal chemicals groups: riot control agents and herbicides. This use drew a lot of criticism and created a significant international debate on the issue of whether the Geneva Protocol included these chemicals. The United States maintained that the Geneva Protocol did not exclude the use of these chemicals. Arguments for use of riot control agents included humaneness, fewer casualties in tunnel clearing operations, and fewer civilian casualties who were often used by the Communists as shields. The use of herbicides to clear the dense jungles relied on similar arguments. Operation Ranch Hand sprayed defoliants on the dense jungles stripping away the foliage. This took away the opportunity for the enemy to set up ambushes or hide in

these areas. Later missions sprayed crops, attempting to deny food supplies to the enemy.[48]

A significant public outcry began when the initial announcement of missions involving riot control agents and herbicides occurred. Critics saw this as using gas even though they were nonlethal.[49] The international criticism of the United States' use of these two chemicals mounted and culminated in a Hungarian resolution to the United Nations in 1966 condemning the use of riot control agents and herbicides in Vietnam as violations of international law and protocol. Debate on the issue and compromises on the wording of the resolution continued until 1969. The resolution passed by the General Assembly and signed by the United States was a weak version of the original proposal calling on all nations to observe the Geneva Protocol.[50]

The military received approval to use riot control agents and herbicides because of the tactical advantages gained. Achieving objectives with less casualties was the strongest argument in favor of use. Denying the enemy cover to conduct surprise attacks against friendly patrols and gaining freedom of maneuver in the jungles were definite advantages.

In the 1960's, several domestic and foreign incidents occurred involving chemical weapons.

-In 1960 at Rocky Mountain Arsenal, the Army began disposal of GB nerve agent by drilling a hole 2000 feet in the ground and pouring the agent into an underground reservoir. This halted in 1966 after tremors occurred in the area. The Army investigated the possibility of removing the nerve agent. The investigation revealed that the Army had poured 165 million gallons in the reservoir but, even if attempted, only 300 gallons a day could be pumped out. The Army could not remove the nerve agent.

-In March 1968, an accident occurred at Dugway Proving Grounds, Utah involving VX nerve agent. A spray tank on an Air Force F4 Phantom jet failed to shut off after release on a target. As the aircraft climbed from the target, VX drifted over Skull Valley killing approximately 6000 sheep.

-In the summer of 1969, a VX munition leakage on Okinawa resulted in 23 soldiers being hospitalized.

-In the summer of 1969, the public discovered the United States had lethal chemical weapons stored in West Germany.

These events only added to the public criticism and the unpopularity of chemical weapons.[51] The impact of years of propaganda and loss of confidence in the ability, even in peacetime, to control chemical weapons effects increased the fear of their existence. The psychological

fear of an accident involving chemical weapons near a civilian population center was not acceptable.

The pressures of public opinion mounted along with the debate at the United Nations. During the debates at the international level, President Nixon was busy with domestic issues. He ordered a study and review of United States' strategy on both chemical and biological warfare. On 25 November 1969 he issued a statement on chemical and biological weapons which specifically referred to the United States chemical warfare program:

> As to our chemical warfare programs, the United States:
> -Reaffirms its oft-repeated renunciation of the first use of lethal chemical weapons.
> -Extends this renunciation to the first use of incapacitating chemicals.[52]

This statement clarified the chemical policy of the United States which became more restrictive and clear by inclusion of incapacitating chemical agents. President Nixon did not address riot control agents and herbicides in this statement. The United States was still using these chemicals in Vietnam.

The seventy years covered in this chapter show significant changes in United States chemical policy after its inception in 1899. Policy development began before the use of modern chemical weapons out of concern over the possible effects from their use. The Hague Peace Conferences included prohibitions on chemical weapons. The

United States did not agree with these prohibitions. The initial position taken by the United States was one of not excluding weapons whose effects and potential military advantages were unknown and which could possibly make future wars more humane. This argument of chemical warfare humaneness continued to be debated.

Events in World War I led the United States into a policy of accepting the use of chemical weapons. Public opinion against the use of chemical weapons increased significantly during this time frame. The United States did employ chemical weapons during World War I, but the government and public feelings led to a change in policy immediately after the war. Policy evolved from restrictions on use of chemical weapons by the United States to prohibition with the right to retaliate which became known as "no first use policy". Public opinion, as a result of propaganda, greatly influenced this change.

The overall result of these changes in the United States' policy and attempts to include the policy in international agreements raised our threshold of escalation to chemical warfare. Although not party to any international agreement, and particularly the Geneva Protocol, the United States publicly stated it would follow the policy set forth in the Protocol.

Preparations for World War II included production of chemical weapons. Expectations on both sides included

possible escalation to using chemical weapons. The United States publicly declared its policy on chemical warfare during the war with a statement in 1943 by President Roosevelt. Lack of initial preparedness, fear of retaliation in Europe against ourselves and our allies, potential for large scale escalation, and aversion to violation of the international agreement against first use of chemical weapons were reasons the United States did not use chemical weapons during World War II. The publicly stated policy on chemical warfare did not change after the war. Emphasis/attention on the Cold War and nuclear weapons pushed the issue of chemical warfare into the background. There was no desire or need in the minds of our leaders to single out chemical weapons for debate. Several administrations accepted the policy until President Nixon's announcement in 1969.

Developments in the 1960's resulted in a revision of United States policy. There was heavy international and domestic criticism of the United States' use of riot control agents and defoliants in Vietnam. Fueled by propaganda against their use in Vietnam, along with other negative publicity, public opinion became extremely critical of chemical weapons. President Nixon considered international and public opinion along with the results of an internally ordered review of chemical policy. He then restated our chemical policy in 1969. His statement

provided clarification and reflected a trend away from use of any type of chemical weapons by including more restrictions in national chemical policy.

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CHAPTER 6

POLICY DEVELOPMENT AFTER 1969

The period from 1969 to the present involved shifts in th amount of attention given to chemical issues. Even during this time frame provided opportunities for confi mation of or changes in the national chemical policy. A study of these changes and actions taken based on this policy provide a basis for addressing the question of what the United States response would be to chemical weapons use against our soldiers.

In 1969, President Nixon announced his intent to resubmit the Geneva Protocol to the Senate for ratification. He submitted the Protocol in 1970. Again, the Senate failed to ratify it. Controversy over the omission of riot control agents and herbicides led the Foreign Relations Committee to refuse support of ratification until the resolution of this issue.[1] This setback concerning the ratification of the Geneva Protocol did not prevent decisionmaking on related issues concerning chemical weapons.

In 1970, Congress passed Public Law 91-441 placing severe restrictions on a broad range of actions involving

chemical weapons. Transporting, testing, procurement, or disposal of toxic chemical agents and munitions required formal advance notification to Congress. The Secretary of Defense had to certify the requested action was in the interest of National Security.[2] These restrictions severely hampered routine operations involving the chemical stockpile.

Public opinion significantly contributed to the passing of this law. Events in the 1960's caused concern and fear that the probability of a disastrous accident near a civilian population was growing. The public wanted legislation to reduce that possibility. The public law restrictions on chemical activity paralleled a continuing decline in the Army chemical forces. Several significant but unrelated events contributed to this.

First, there was a lot of negative publicity from the controversy over events in the 1960's covered in chapter 5. Public concern over environmental safety issues came to the forefront. The Vietnam conflict received the majority of the military's attention and efforts in the late 1960's and early 1970's. No use of toxic chemical weapons in armed conflict led to questioning the need for a large chemical force for decontamination operations storage responsibilities. This and the decision to maintain an Army force structure of sixteen divisions made the chemical force structure an easy target. Finally,

because of a thaw in the Cold War, the focus of the military turned away from a Soviet threat in Europe.[3] This had been our major justification for building up our chemical capability during the 1960's.

The threat perceived in the early 1970's was massive Soviet chemical strikes in Western Europe against the North Atlantic Treaty Organization (NATO). Reports and discussions suggested use of tactical nuclear weapons as a possible response to this type of Soviet attack.[4] The nuclear concept may have been only a remote possibility, but it contributed to lowering the interest and efforts of the United States in its chemical capabilities. The possibility of the United States' responding to a Soviet chemical attack with nuclear weapons complicated the decision cycle of the Soviet Union concerning first use of chemical weapons. Escalation to nuclear war as a result of employment of chemical weapons added effects that may not have been acceptable when the Soviets considered options for an attack.

This idea of nuclear weapons as a response to Soviet use of chemical weapons posed a dangerous situation. The arguments for this policy suggested it as a response, but stopped short of looking at the implications. The lowering of the nuclear threshold and impact of using nuclear weapons were not discussed in these proposals. Because of the open discussion of such a

possibility in the United States, this response option may have influenced the Soviet's plans against NATO during the early 1970's. I found no published Soviet literature addressing this. The possibility of the United States escalating to nuclear weapons was slight or nonexistent. Justifying the decline of chemical capabilities in this manner was convenient but not realistic.

The combination of these factors allowed issues concerning United States chemical readiness to slip into the background. Chemical forces became vulnerable to reductions. In 1972, a significant step in this continuing trend occurred when the Army decided to deactivate the Army Chemical School at Fort McClellan, Alabama. Responsibilities for chemical defense were transferred to the Ordnance School at Aberdeen Proving Grounds, Maryland. The United States Army allowed its chemical training, equipment, technology, and force structure to decline to an all time low. There was very little interest or involvement in chemical warfare capabilities. This decline in chemical capabilities was largely based on a perception that the threat of escalation to a nuclear war would diminish the likelihood of a Soviet chemical attack.

A reevaluation of the decline in the chemical arena occurred after the 1973 Yom Kippur War between Egypt and Israel. The United States unilateral de-emphasis on chemical warfare proved to be just that. Captured

Soviet-made equipment in Egypt showed the Soviet Union had continued to develop and field equipment for conducting chemical warfare.[5] This evidence led to a review of the capabilities of the United States in 1975. Suddenly the subject of chemical capabilities became a concern.

The findings of the review were no surprise. The United States chemical capability was severely deficient. This prompted government support of an increase in the military emphasis on chemical issues. Actions initiated to correct many of the deficiencies identified required a reversal of decisions made in the first half of the 1970's. Military changes and recommendations for doctrine, defensive equipment, training, force structure, and chemical weapons occurred.[6]

The leadership evaluated the vulnerabilities caused by the neglect of our chemical program. The deficiencies in the capability to detect and protect against a chemical attack resulted in our lack of security against the threat. Our limited capability to retaliate could result in not deterring Soviet use of chemical weapons or our inability to retaliate and force the enemy to the same protection conditions required of our soldiers in a chemical environment. This could ultimately lead to a failure to achieve political objectives. The military provided recommendations which sought to correct these deficiencies across the board.

The actual achievements were only on the defensive side. The recommendations concerning binary chemical weapons production will be discussed in a later part of this chapter. Congress approved money for chemical defense requirements resulting in emphasis on being able to survive an attack and operate in a chemical environment. The build-up in chemical forces and emphasis on training led to reactivation of the Army Chemical School at Fort McClellan in 1980. Militarily the focus was to avoid surprise and train for survival. The renewed interest and actions were not changes in policy. The United States recognized the threat, realized its lack of preparedness against the threat, and took actions to correct many of the deficiencies.

Two events impacting on policy did occur in 1975. President Ford signed Executive Order 11850 renouncing use of chemical herbicides and riot control agents in warfare and Congress finally ratified the Geneva Protocol.[7] The controversy leading to failure of ratification of the Geneva Protocol in 1970 was over the issue of whether the Protocol included herbicides and riot control agents. The President's signing of Executive Order 11850 renouncing first use of these chemicals demonstrated a change in the leadership's view on this issue. The advantages of formally ratifying the Protocol outweighed the advantages of freedom to use these chemicals in future wars. These

developments formalized restrictions on chemical warfare and support of nonuse of chemical weapons in war. Coverage of the use and effects had increased with questions on the long term effects and how the United States was employing these chemicals being the major topic. This influenced public opinion which contributed to initiation of both of these actions and the final position taken.

In 1980, a modification to the national chemical policy occurred. The United States reviewed its strategy of trying to achieve a chemical disarmament agreement and decided to turn its efforts from dealing only with the Soviet Union to working through the United Nations. This move to working through the United Nations came after little progress over a three year period in negotiations with the Soviet Union. In conjunction with turning its efforts toward the United Nations, the United States made an addition to the chemical policy stating that the United States desired to eliminate the threat of chemical warfare through arms control. The objective was to "eliminate the threat of chemical warfare by obtaining a complete verifiable ban on the development, production, stockpiling, and transfer of chemical weapons."[8]

In 1981, the United States produced environmental samples as evidence (water from a Kampuchean village and rock samples from two separate sites in Laos) that chemical weapons were used in these countries. The United Nations

received this evidence and sent an independent team to investigate. The team was not allowed to visit sites where alleged use of chemicals occurred. They did gather testimony of refugees but could not confirm origin of the samples provided by the United States. The results of the United Nations investigation disappointed the United States.[9]

The Soviet Union invaded Afghanistan in 1979. Evidence indicated use of a variety of chemical weapons during that conflict by the Soviets. The United States position was that there was little doubt that the Soviets used chemical weapons in this conflict. There have been critics of this allegation such as Dr. Matthew Messelson, professor of biochemistry at Harvard University. The critics' base their argument on the lack of substantial evidence. The SIPRI report in 1985 supported the critics position. It referred to the reports of use as allegations and indicated there was a lack of evidence confirming many of the reports.[10]

The allegations of Soviet use or supply of chemical weapons in Afghanistan, Kampuchea, and Laos surfaced in the late 1970's. The claim was that new types of agents found may have been biological agents. The debate on these mycotoxins ran from whether they were chemical or biological, to the issue of proving the Soviets used and supplied the agents. In 1982, Secretary of State Haig

submitted a report to Congress outlining the use of chemical and toxin weapons in Afghanistan, Kampuchea, and Laos.[11] An update in Nov 1982, reported continued use and appealed for support from the international community to halt these violations of international treaties.[12] Overall, an international response was almost nonexistent. Some public outcry occurred, but had no real impact on those employing the weapons. The United States military response to the reports was emphasis on national security through support for binary weapons production.

The Iran-Iraq War, 1980-1988, saw use of chemical weapons by both countries. In 1982 reports of chemical use received national attention. Iraq reportedly used chemical weapons against the Iranian human wave attacks.[13] After this use, Iran attempted to publicize and focus world attention on Iraq's use. Although Iran later used chemical weapons against the Iraqis, world attention continued to focus on the extensive Iraqi use.

The United States coordinated its efforts and response to the use of chemical weapons through the United Nations by providing information collected and supporting a statement of condemnation. The United Nations sent teams to investigate claims of chemical weapons use in 1984, 85, and 86. The teams confirmed Iraq's use of mostly mustard and some nerve agents against Iran.[14]

The United States response to Iraq's use of chemical weapons received criticism in the press and from elected officials who felt more should have been done. Attempts to coordinate a response through the United Nations met little success. Some critics claimed the lack of response by the United States, a response based on shortsighted desires for Iran to not win the war, contributed to and actually encouraged further use of chemical weapons.[15] Others argued that unilateral sanctions were ineffective. This would only result in the United States giving up foreign military sales. The United States understood this and realized the only effective method of dealing with use of chemical weapons was through international efforts.[16] During the events just discussed, the debate on the production of binary chemical weapons continued.

Proposals to develop a binary chemical weapon originated in 1954.[17] The concept placed two relatively non-toxic chemicals in separate containers for storage. These separate chemical components were significantly easier to maintain and did not require the safety measures of unitary chemical munitions. The containers could be placed in a munition designed to mix the chemicals upon firing and form a lethal chemical agent.

The topic of binary production was politically sensitive. New developments in the threat in the 1970's

led to requests for funding binary productions in 1973. Arguments supporting the request included the need for updating the chemical stockpile to deter the Soviet threat. This required munitions which were compatible with weapons systems and doctrinal changes. The safety and environmental improvements of producing binary munitions to replace the unitary stockpile gave credence to defense of this idea. A request for binary production became part of the FY 83 military budget request.[18]

Many people expressed concern over the modernization of the United States chemical stockpile. They argued this could send the wrong message to third world countries who were attempting to put chemical weapons in their arsenal as an option.[19] The public was against the development or production of any new chemical weapons. Even though explanations stated the United States was only modernizing its stockpile using modern technology, support was difficult to obtain.[20] Development and production of binary chemical weapons appeared to contradict efforts toward achieving chemical disarmament.

Arguments against binary production by one group were turned around as arguments for production by other groups. Supporters argued that the proliferation of chemical weapons required a credible retaliatory capability until we achieved a verifiable ban. The degradation of the unitary stockpile required new production to maintain a

retaliatory capability. Also, the progress toward binary production appeared to influence the Soviets toward becoming more serious about chemical disarmament negotiations.[21]

The military aspect presented several advantages to binary production. It supported maintaining security against the threat. Upgrading our capability supported our policy option of retaliation to first use of chemical weapons by an adversary. A credible retaliatory capability also supported deterrence. The military established a need for binary weapons, but other factors contributed to delay in production approval and funding. In 1987 we produced the first binary rounds at Pine Bluff Arsenal, Arkansas.[22] Congress cautiously appropriated money for binary production requiring specific conditions be met. One condition was concurrence of NATO to the United States binary chemical program.[23] To gain this concurrence, the United States agreed to withdraw its chemical stockpile from Germany. The actual withdrawal occurred between July and September 1990.[24]

This agreement to withdraw our chemical stockpile from Germany met opposition during the mid 1980's. Many felt the United States would weaken its military capability to support the national chemical policy if chemical weapons were not a part of the retaliation consideration. Since this removal of the chemical stockpile from Germany was

unilateral, the Soviet Union did not give up anything in regard to disarmament. This failure to tie the withdrawal to some progress on chemical disarmament with the Soviet Union concerned many of our civilian and military leaders. They felt the United States lost an opportunity to reduce the chemical superiority of the Soviet Union. The major focus at this time was still on the Soviet Union as the threat.

Our leadership determined continued production was not compatible with the emphasis on the policy of banning chemical weapons. To the public and many other countries, two different actions appeared to be occurring at the same time. President Bush and other senior leaders' emphasis appeared to be primarily on banning chemical weapons. Yet, the United States proceeded in the production of binary chemical munitions. In May 1990, the United States stopped production and shelved plans for any further binary production.[25] To remove the confusion and set a clear path for the United States, the binary production ended after production of only a small portion of the planned quantity of munitions. The emphasis on the policy of banning took priority over the policy of chemical weapons as a deterrent and retaliatory option.

In June 1990, the United States and the Soviet Union took positive steps toward chemical disarmament. They signed a bilateral agreement which called for

destruction of all but 5000 tons of chemical weapons by both countries over a 10 year period.[26] The ultimate goal is achievement of an international ban and total destruction of all chemical stockpiles.

The United States' attempts to achieve some type of agreement began in 1977 through negotiations with the Soviet Union. Efforts shifted in 1980 to the United Nations when no agreement with the Soviet Union appeared likely. Efforts shifted back to negotiations with the Soviet Union as relationships improved. Progress, not just declaration of the intent to ban chemical weapons, was made with the signing of the bilateral agreement.

The impact of the bilateral agreement on our chemical policy is significant. This agreement does not support our military capability to execute the previously stated national policy option of retaliation with chemical weapons in response to use of chemical weapons by an enemy. The removal of chemical weapons as a retaliatory option means conventional or escalation to nuclear war are our options. This agreement exemplified the United States' trend toward use of conventional weapons as a response to any enemy use of chemical weapons. The sincerity of the United States in achieving a world-wide ban on chemical weapons gained credibility from signing the bilateral agreement.

In August 1990, the United States deployed troops to Saudi Arabia as part of a United Nations force in response to Iraq's invasion of Kuwait and declared annexation. The scenario for asking the basic research question focussed on Iraq as the country which would use chemical weapons against United States soldiers. This presents a worst case third world scenario. Iraq has a large military, possesses a stockpile of chemical weapons, and demonstrated a willingness to use them during the Iran-Iraq War. In this scenario, determining if our response to a third world country's use of chemical weapons would include chemical weapons requires consideration from several aspects.

Many military experts view the use of chemical weapons by Iraq (or any third world country) against the United States as a harassing or last ditch effort. Use would continue as long as the capability existed. This conclusion means that Iraqi use would not be a consideration in the decision of the United States of how to retaliate. Iraqi use may delay, but would not change the final outcome: defeat of Iraq.

The coalition stability in the Middle East could impact on the chemical weapons use decision. The Arab nations still believe that even though they are fighting against Iraq they are Arab brothers of the Iraqi people. Saddam Hussein used the term infidels when describing the

United States people. He appealed to other Arabs to make the war a holy war against the infidels. Many of the Arab countries still view the United States as an outsider, but remained with the coalition.

Even after Iraq's use of chemical weapons, use in response by the United States could be viewed as unnecessary. Arab support of the coalition could dissolve. The military and political advantages of fighting as part of a coalition would weigh heavily in considering what response option to choose.

In a desert environment there are disadvantages to use of chemical weapons. A highly mobile war would mean combat forces would be difficult to target. There is little key terrain and use of persistent chemical agents to create obstacles could be identified and bypassed. Maintaining an effective level of persistency would require a tremendous quantity of munitions. The logistical effort and support required to maintain an effective level of persistency may be more productively used to accomplish other missions.

There are significant military advantages to be gained if the United States decided to use chemical weapons. It would require the Iraqis to wear protective equipment and at least achieve parity in degradation. The current Iraqi chemical defense training level is unknown, but they have Soviet equipment which causes greater

degradation than its United States counterparts. The United States would achieve an overall advantage because of its soldiers training, protection, and preparation for chemical warfare. There are very few water sources for decontamination, but the United States trains in MOPP gear exchange without requiring water. Finally, the United States could use more chemical munitions overall than the Iraqis adding to the disadvantage for the Iraqis.

If authorized to use chemical weapons, the military would attempt to achieve surprise by mixing chemical munitions with conventional munitions when they first retaliate and as part of its ongoing response. Also, the United States could possibly speed disintegration of any Iraqi offensive and distract them from their mission as the Iraqi soldiers encounter the effects of the chemical weapons. Finally, disruption of the enemy's command and control and a decrease in friendly casualties all argue for United States use of chemical weapons as a combat multiplier.

The period after 1969 saw very few changes in the chemical policy. Most actions taken reflected changes in parts of the policy. The most significant policy change was the addition of the statement that the United States would continue efforts to negotiate a verifiable ban on production and stockpiling of chemical weapons in 1980.

This had been part of negotiations at chemical disarmament meetings since the late 1970's.

Declarations toward disarmament were initially only rhetoric. At the beginning of the 1990's these statements gained credibility through ending binary production, removal of the chemical stockpile from Germany and signing the bilateral agreement with the Soviet Union. This emphasis on banning and progress toward at least bilateral disarmament with the Soviet Union will weigh heavily on the consideration of using chemical weapons against a third world country.

The military impact of chemical weapons disaramament is the need for a reevaluation of strategy to align it with the direction of current national chemical policy. Against a third world country, this could mean dependence on conventional weapons. Against the Soviet Union, it could lead to escalation to nuclear warfare. The openness of the United States and past record of abiding by our international agreements indicate we would not secretly produce chemical weapons after stating we would comply with all agreements made.

Many people question the sincerity of the Soviets in this most recent bilateral agreement. Allegations of use in the Afghanistan conflict seem to support doubt in the sincerity of the Soviets to comply with the bilateral agreement barring any use of chemical weapons.

In the early 1970's the United States allowed an overall decline in its chemical capability. Reemphasis on chemical capabilities occurred after the Yom Kippur War when findings concerning the Soviet's chemical developments and improvements emerged. Emphasis was initially defensive in nature with developments in doctrine, training and equipment. Efforts to modernize the chemical stockpile gained momentum. Some binary chemical weapons production occurred, but stopped when it was determined not to support chemical weapons disarmament.

The current national policy regarding chemical weapons includes the following elements:

1. No first use of chemical weapons.

2. Efforts to negotiate a verifiable ban on production and stockpiling of chemical weapons.

3. Maintaining measures for defense against chemical attacks.

4. Deterrence, by threat of retaliation, of chemical attack by an adversary.[27]

The options for any type of response could be supported by this stated policy. It is the addition of and emphasis on efforts to negotiate a verifiable ban that emerged as most important after 1969. This influenced actions taken by the United States concerning chemical weapons and appears to be the focus of the current leadership. President Bush stated

in a campaign speech in October 1988 that he wanted to be remembered as the President who obtained "a complete and total ban on chemical weapons. Their destruction forever -- that's my solemn mission."[28] Developments show some progress in that direction.

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CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

It is my conclusion that the United States military response to chemical weapons use by Iraq against United States forces would not include chemical weapons. Current trends and developments in the national chemical policy show evolution toward not using this option in this conflict. The political stigma attached to use of chemical weapons could greatly outweigh the military advantages gained through use.

Over time, the statements and actions of the United States appeared contradictory in many situations. Before World War I, the declaratory policy contained some mention of prohibition of chemical weapons. Actions taken did not always seem to support this policy. The United States employed chemical weapons in World War I and openly prepared to employ them in World War II. Controversy developed over the United States' use of chemical herbicides and riot control agents in Vietnam. The argument for modernizing the chemical stockpile by producing binary munitions appeared very contradictory to supporting prohibition of chemical weapons.

What appeared to be contradictory and ambiguous can be interpreted another way. The United States has always maintained (as part of its policy) the right to retaliate to an enemy's use of chemical weapons. The actions taken supported keeping the retaliatory option open. The ambiguity in the past could have been intentional. Keeping all possible options open requires the enemy to consider them in his planning.

The United States clarified its position on chemical warfare in both its policy statement in 1985 and actions taken in 1989 and 1990. Adding the goal of banning chemical weapons production and stockpiling to its chemical policy statement, then ending binary munitions production and signing a bilateral agreement with the Soviet Union set a definite precedence. The United States, and especially the administration under President Bush, demonstrated by word and deed the sincerity in attempting to ban all chemical weapons.

The goal of deterrence and the right to retaliate against a chemical attack by an adversary are still part of the national chemical policy. What has changed are the options the United States indicates it is willing to consider. Chemical weapons are not one of them.

The United States will rely on other means to defeat a third world country who uses chemical weapons. Forming a coalition to provide overwhelming political,

economical, and military advantages such as that used against Iraq after its invasion of Kuwait is one option. Despite its internal chemical production capabilities, a third world country needs outside support to sustain operations. United States participation in a coalition under United Nations authority makes the issue an international one. International cooperation can isolate a country and its capability to conduct any type of warfare.

By not using chemical weapons in retaliation, the United States sets a standard. This allows the United States to condemn the use of chemical weapons and aggressively strive for international condemnation and effective sanctions. The improvements in the United States - Soviet Union relationship make pursuing this strategy more realistic. Soviet support of the policy to ban chemical weapons, and therefore, nonsupport of a third world country's use of chemical weapons improves the chances for successfully achieving an international ban.

The potential risks involved in the United States direction concerning chemical weapons are significant. The proliferation of chemical weapons in third world countries is a real threat in any future conflict. A third world country could ignore the rhetoric about chemical warfare and use chemical weapons in any level of conflict. What is necessary as part of chemical weapons disarmament is an international agreement to take harsh actions against any

country employing chemical weapons. Condemnation and harsh actions could make use of chemical weapons very unfavorable.

The military must not become complacent on the topic of chemical warfare because of the trend away from offensive use by the United States. Even if chemical weapons use is not an option considered by the United States and the current decline in offensive capability continues, we still must maintain a strong defensive capability. More emphasis on providing protection and decreasing the degradation from operating in a chemical environment would support our policy of deterring enemy use. Progress in this area increases the soldiers' ability to continue to fight and win in a chemical environment.

The military must not disregard studying offensive use of chemical weapons. First, it is important to consider because of potential enemy use. How, when, and where an enemy may employ chemical weapons and the response to this use could reduce our casualties and contribute to winning. Next, policy has changed in the past and may do so in the future. Steps toward banning chemical weapons are only in the formulative stages and may not be successful. The military has an obligation to consider all options so it can provide advice on any course of action if called on to do so. Prior consideration of advantages and disadvantages of offensive use of chemical weapons

allows the military to develop the best recommendation based on guidance and the situation.

During the conduct of this study many topics for future research surfaced. One of the most significant is determining what the implication of reducing and eventually destroying our chemical stockpile is. Does this lower the threshold of escalation to nuclear warfare if conventional weapons fail to achieve the national objectives?

The question of how realistic the goal of achieving a ban on chemical weapons really is has received some debate. The United States plans to reduce and eventually, based on a verifiable ban on chemical weapons production and stockpiling, destroy its chemical stockpile. Is such an international ban possible? Third world countries do not have the same value system as developed countries. What may appear illogical to the United States may be considered a necessity for survival to a third world country. Possession of chemical weapons by a third world country gives it what some call "the poor man's atomic bomb". Why should they be willing to give up a weapon many feel partially closes the technological gap between them and countries possessing nuclear weapons?

Another question related to recent developments in banning chemical weapons is what sanctions are necessary and how they can be enforced. International sanctions appear to be the only effective way to influence another

country and truly achieve a ban on chemical weapons use. Does the road to achieving international sanctions require unilateral action by the United States? Are economic losses by the United States in foreign military sales or some other area necessary to demonstrate the United States' resolve for achieving an effective response to chemical weapons use? Several arguments imply that the failure of the United States to take action against Iraq during the Iran-Iraq War lowered the threshold for chemical weapons use.

The delimitations placed on this study offer many ideas for additional research. Changes in world situations and relations give new perspectives to topics related to chemical warfare. The pace of changes and availability of new information offer many areas related to chemical warfare to research and analyze.

EPILOGUE

Developments in the "Gulf Crisis" continued during the completion of this thesis. An air war was initiated on 16 January 1991 followed by a ground war on 24 February. Although Iraq did not use chemical weapons, the events which occurred allow some observations on the topic of chemical weapons and the United States policy.

There was a lot of concern and discussion over the possibility of Iraq using chemical weapons. The United States acknowledged the threat, but the response of the President and other key leaders to questions or comments on the subject never provided details on how we would retaliate if Iraq did use chemical weapons. They warned Saddam Hussein that use would receive an overwhelming response. The position they maintained is in clear agreement with our stated national chemical policy which leaves retaliation options open to whatever is necessary to achieve our objectives.

Soldiers involved in the initial attack wore protective gear and had their protective masks immediately available. They assumed the worst case scenario and were prepared for it. The United States felt confident that its

soldiers were trained, and ready to fight and win even in a chemical environment. Soldiers interviewed expressed concern and apprehension, but they felt they were trained and ready. This display of confidence even when expecting enemy use of chemical weapons is significant. Psychologically, the message sent to the world was that the United States felt chemical weapons are not decisive and we can defeat an enemy without resorting to retaliation with chemical weapons.

The manner in which the United States dealt with the expected Iraqi use of chemical weapons showed confidence in other means of conducting war. This confidence became a factor during the war. The United Nations forces simply overwhelmed the Iraqi Army. This display of military power by the largely United States backed United Nations coalition against the fourth largest army in the world may contribute a great deal to success in future progress on chemical disarmament. The United States' actions during this war strengthens our position of seeking a verifiable ban on chemical weapons.

APPENDIX

APPENDIX

PRINCIPLES OF WAR AND NBC OPERATIONS

The principles of war serve as a guide for our forces. The principles have essentially stood the tests of time, analysis, and practice. The principles of war include -

* Objective
* Offensive
* Mass
* Economy of Force
* Maneuver
* Unity of Command
* Security
* Surprise
* Simplicity

Decisive, and attainable objectives are central to any military operation. Leaders continue to recognize the criticality of clearly defined objectives even as battlefield conditions change with enemy use of NBC weapons. Leaders and staff improve their understanding of assigned missions by wargaming different courses of action. Alternative scenarios including NBC conditions, are integrated into the wargaming to ensure critical contingencies are considered.

The principle of offensive directly relates to attaining a common objective. Leaders use initiative, and apply the principle of NBC Contamination Avoidance to maintain freedom of action and achieve required results. In the spirit of the offense, leaders minimize the time their soldiers spend in full chemical protective gear. Leaders make intelligent decisions that effectively balance mission accomplishment versus the anticipated threat. Combined arms task forces mass combat power at the decisive time and place. Effective and timely use of hasty and deliberate smoke, NBC reconnaissance, and decontamination each contributes to additional combat power. Obscuring the massing of our forces; determining when and where to avoid contamination; and decontaminating to retain flexibility of action support leader efforts to maintain the initiative.

Leaders apply economy of force in using the minimum essential combat power for secondary efforts. Commanders use deception, including hasty and deliberate smoke, to achieve superiority at key places. NBC contamination avoidance passive measures (e.g., cover, concealment, dispersion) also support the achievement of economy of force. Leaders consider all available lethal (e.g., flame) and non-lethal (e.g., smoke) measures to use against an enemy in achieving crucial advantages.

Our maneuver places the enemy in a position of disadvantage. We use our organic and attached NBC reconnaissance assets to find uncontaminated and contaminated areas. Leaders use this information to exploit success and maintain freedom of action.

In unity of command, task force commanders use all assigned and attached assets. Chemical combat support elements respond to the commander's intent. The chemical unit leader prepares a plan that fully supports the mission. Leaders make maximum use of all attached units, and subordinates ensure the intent is fulfilled through continuous, maximum application of all combat power. Security is analogous to the force protection component of combat power. Units battle focus their training ensuring that needed protective measures are integrated into readiness preparation. Units know they are proficient in operations under NBC conditions. Leaders, both officers and NCOs, set the example and standard in their proficiency on individual soldier survival tasks (e.g., use and maintenance of MOPP gear). Thorough preparation of units and leaders helps to ensure the preservation of needed strength for the critical times.

We surprise the enemy, and strike him at a time and place, or in a manner, for which he is unprepared. In chemical warfare (CW) operations, we use our chemical

weapons in retaliation, against an enemy to strike quickly in order to decisively affect the outcome of the battle.

Effective use of obscurants also contributes to surprise. The enemy reacts slowly, because our forces are concealed under limited visibility conditions.We also surprise an enemy with unexpected use of flame on the battlefield.

Simplicity provides clear and concise plans and orders to ensure rapid and thorough understanding. Leaders and soldiers understand the Army doctrine of NBC defense, avoidance, protection, and decontamination. Leaders ensure clarity in plans and orders. Units conduct mission essential training under NBC conditions. This supports stripping away any false illusions in operations under NBC conditions and supports a direct approach to the battlefield environment. This approach will reduce the chances for misunderstanding and confusion, and support the principle of simplicity.

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