

CHAPTER ONE

PURPOSE AND GOALS

Today's Russia is not our enemy.

President George W. Bush, May 1, 2001

In 1999, the Natural Resources Defense Council's (NRDC) Nuclear Program initiated a Nuclear War Plans Project to spur new thinking about nuclear arms reductions and the risks and consequences of nuclear conflict. What we faced then—and what we face now—was an arms reduction process at a standstill. On the surface, the standstill was caused by the failure to ratify the START II Treaty. It was further exacerbated by disagreements over the details of START III reductions and the impact of a U.S. missile defense program. But the real stumbling block was a “veto” exerted by the United States’ central nuclear war plan—the Single Integrated Operational Plan (SIOP). Initiated in the Cold War, the SIOP continues to dictate U.S. nuclear war matters and hold all reduction options hostage.

No one doubts that the SIOP’s logic and assumptions about nuclear war planning influence U.S. national security policy, arms control strategy, and international politics. What is less clear is what those specific assumptions are, and whether the nuclear war planning process is rational, or is actually a hall of mirrors, creating extravagant requirements, yet blind to what would happen if they were used. Most of the assumptions about planning for nuclear war are put beyond debate because of excessive government secrecy. The public and the experts are also at a disadvantage by lacking tools to perform independent assessments of the fundamental premises of nuclear deterrence. NRDC set out to change that.

Given the central role that the SIOP plays in armament issues and national security policy, NRDC decided to create a tool that would help us understand this largely secret process. We began our project when, for the first time, information and computer power could allow a non-governmental organization to recreate many of the calculations of nuclear war planning, thereby allowing a credible approximation of the U.S. SIOP. Changes in Russia have resulted in the increasing availability of detailed information about its nuclear and military forces, as well as the supporting civil, military, and industrial infrastructures. High-quality maps, satellite photography, population distribution data, and meteorological data are now available electronically. We also have a basic understanding of the SIOP itself, its structure, and many of the assumptions that go into it. State-of-the-art weapons-effects models are also

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available and can be run on personal computers. All of these new resources can be combined in sophisticated geographic information systems (GIS) with customized visualization software. The result is a high quality, real-world target database that simulates nuclear war scenarios using the actual data about forces, weapons, populations, and targets. For the first time, we can now model in an unclassified way the nuclear weapons effects on individual targets and on the Russian civilian population from single, combined, and large-scale attacks.

This report is the first product to utilize the databases and the GIS systems we have developed to simulate nuclear war conflicts. Our goal has been to build a target database using a variety of unclassified data. We have developed a database for Russia that contains almost 7,000 records for prospective nuclear targets extending to over 90 fields of data. We have integrated population data with the target database. The target and population databases are the underpinnings of an analytical tool that we have designed to enable us to evaluate different scenarios at current force levels or for smaller proposed levels in the future. This model allows us to evaluate a variety of nuclear strategies and targeting concepts.

Our databases and tools have provided us with a greater appreciation of the complexity of the SIOP process, a process that transforms potential adversaries from flesh and blood into targets and outputs. The scenarios we present in our report have been arrived at through thousands of time-consuming calculations. They determine the levels of damage to targets and the statistical probabilities of civilian casualties depending upon monthly variation in wind patterns, and whether the civilian population is sheltered or in the open.

The major objectives of this initial application of our simulation tool are:

- ▶ To provide an independent, open assessment of the fundamental premises of the current U.S. nuclear war plan, known as the Single Integrated Operational Plan
- ▶ To analyze the levels of damage inflicted by striking nuclear weapons targets with greatly reduced forces
- ▶ To heighten public and policymaker awareness of the present-day consequences of the use of nuclear weapons, including the risks to specific targets in Russia
- ▶ To encourage the adoption of new Presidential guidance that directs the elimination of the SIOP as it is currently defined and practiced, and the deployment of remaining forces at considerably lower alert levels—both essential steps toward deeper reductions in nuclear force levels

Two related objectives should be emphasized as well:

- ▶ To introduce a human context into the debate about nuclear strategies and alternative nuclear force structures
- ▶ To inject some basic honesty into the nuclear debate by providing data that reveals how a counterforce attack could kill almost as many millions of people as a counter-value attack

As the number of strategic nuclear weapons grew during the Cold War, war planners and insiders tended to theorize about what levels of damage and death

a potential adversary (e.g., Soviet Union/Russia) must sustain to be deterred. The measure of sufficiency centered on calculations about how many U.S. weapons would survive after a Soviet/Russian first strike, and the probabilities of achieving high levels of physical destruction against large numbers of dispersed and hardened targets. Absent in this process was any real knowledge about whether the level of damage was perceived by the other side as enough to deter the use of nuclear weapons. All of this theorizing was done in the greatest secrecy, where the characteristics of weapons, the targets, and the content of the nuclear war plan was one of the government's biggest secrets. Even last year during Senate hearings, senior military and civilian leaders in charge of the SIOP refused to answer questions in open or closed testimony regarding how many civilians would be killed in a U.S. nuclear attack against Russia. Perhaps a better approach would be for an open nuclear war planning process that challenged political leaders to account for the reasons behind their nuclear policies and forced them to describe what would happen if nuclear warfare ever occurred.

It is now an article of faith that a counterforce strategy—that is, the targeting of U.S. nuclear weapons against Russian nuclear and military forces—was more rational and moral than a countervalue strategy that targets urban populations. As we will demonstrate, if the United States mounted a strictly counterforce strike today, withholding attacks on cities and population centers, the casualties would still be in the tens of millions. To put it bluntly, the United States needs to face up to the human realities of nuclear weapons, and the consequences of its bloated nuclear arsenal.

Even if the United States chooses to cause tens of millions of casualties, the government could do it with remarkably few weapons. This truth is obscured in the dogma of counterforce, shielded behind walls of secrecy that deny what horrendous human effects a counterforce strike would create. Honesty about the actual effects of the use of nuclear weapons, whether counterforce or countervalue, should force a reevaluation of what is really necessary to deter Russia, or any other adversary, from believing that it could attack the United States with nuclear weapons and avoid devastating retaliation. That same honesty should then spur action to reduce the number of nuclear weapons to minimal levels. In his May 1, 2001 speech at the National Defense University, President George W. Bush said that, "Today's Russia is not our enemy, but a country in transition with an opportunity to emerge as a great nation, democratic, at peace with itself and its neighbors."¹

Regardless of the efficacy or capability of missile defenses, it is time to admit that the existing strategic nuclear arsenal of thousands of warheads is an artifact of another day.

It is easy to assert that no plausible threat exists today or can be foreseen to justify maintaining over seven thousand strategic nuclear weapons, a significant portion of which are on hair-trigger alert. It is more difficult to create an analytical framework that offers a reasoned answer to how many weapons and what kind of planning constitutes deterrence. With our nuclear war simulation model, NRDC has attempted to provide that kind of tool, and as we will demonstrate in the report, our model tells us that today's nuclear policy is not the answer.

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AN OVERVIEW

In Chapter Two, we provide a brief review of the current nuclear situation, trace the history and evolution of U.S. nuclear war planning, and describe the process by which the SIOP is constructed. In Chapter Three, we describe the NRDC nuclear war simulation model and target database. Chapter Four focuses on a counterforce scenario that we believe is a close approximation of an option in the U.S. SIOP. In Chapter Five, we compare an attack on Russian nuclear forces with an attack on Russian cities, and we calculate the effects of targeting cities with a modest number of nuclear weapons. In Chapter Six, we conclude with a review of our findings and recommend several policy initiatives that we think should be pursued and implemented.

Our fundamental conclusion is that the U.S. nuclear war plan, as it is currently implemented, is a major impediment to further nuclear arms reductions. If deep reductions are to be achieved in the future we believe that there must be a thorough examination and critique of the SIOP planning process and the underlying assumptions that guide it. NRDC supports the reduction, and ultimate elimination of nuclear weapons. The elimination of the SIOP as it is currently defined and practiced will allow immediate reductions of existing forces to considerably lower alert levels, immediately improving safety and stability. The elimination of the SIOP will facilitate implementation of negotiated and unilateral reductions to levels that serve as the departure point for far deeper reductions and eventual elimination.

What does the elimination of the SIOP really mean? First and foremost it means the elimination of the doctrine of counterforce, that is, the elimination of the requirement to attack hundreds of targets at a moment's notice, with high "probabilities of kill" for each target type. Until the United States finds the right construct to eliminate nuclear weapons, it will undoubtedly possess a force of some type. We recommend that it be of minimal size, capable of surviving attack, and able to inflict sufficient levels of damage that are clearly enough to deter any contemplated nuclear attack on the United States. This report will prove that we can meet all of those goals with a surprisingly small number of weapons. The targets in a contingency war plan and the choreography of their execution are of secondary importance. Even this modest force could hold at risk tens of millions of people.