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Background Paper

CANADIAN INSTITUTE
FOR INTERNATIONAL
PEACE AND SECURITY

Number 16

January 1988

ACCIDENTAL NUCLEAR WAR: REDUCING THE RISKS

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"There is a latent fear, almost an intuitive or folk wisdom belief, . . . that something just has to go wrong in anything that complicated . . . people believe in Murphy's Law."

Paul Bracken

*The Command and Control of Nuclear Forces.*¹

In the popular imagination, an accidental nuclear war could be caused by the failure of a microchip, by a radar mistaking a flock of geese for incoming bombers, or by the unauthorized launch of nuclear weapons by a mad submarine captain. Like Murphy, most people believe that any complex machine will, sooner or later, 'go wrong.' Systems like those that control nuclear weapons seem especially likely to go wrong because, to the vagaries of mechanical devices, are added the ever-present possibilities of human error or bureaucratic foul-up.

DEFINING THE PROBLEM

The fear of accidental nuclear war is a broad topic with vague boundaries. Many problems are lumped together under the term. These range from simple technical errors to the miscalculation and unintended escalation which is sometimes referred to as 'inadvertent' nuclear war.

It is true that, in the early 1950s, a flock of geese was mistaken for Russian bombers and in 1960 a radar beam bounding off the moon mimicked a Soviet missile strike. In 1980, the failure of a microchip led to a false alarm at NORAD, the North American Aerospace Defence Command. Obviously none of these simple technical failures led to a launch of US weapons; the errors were detected in time to prevent a catastrophe.

Security analysts worry less about a simple accident and more about the danger posed by a prolonged international crisis. During heightened tensions, when suspicions run high and the emphasis is on rapid response, many inhibitory safeguards are removed. Under such conditions, it is feared that a false alarm or other ambiguous warning might lead to a nuclear war.

Inadvertent war is a more complex concept. It involves human error, misperceptions and miscalculations. World War I is often put forward as an example of a war which came about through compounded misunderstandings. Military mobilization in one country, mounted as a precautionary move to avoid being caught off guard, was interpreted as aggressive by other countries which then mobilized their own forces. The moves and counter-moves seemed to lead, inexorably, to a devastating war.

Another worry of politicians and researchers is the 'third party' scenario. The fear is that the use of nuclear weapons by a smaller nation or by terrorists could trigger a war between the superpowers. This is referred to as a 'catalytic' war.

The purpose of this paper is to explore the issues of 'accidental' and 'inadvertent' nuclear war and to review measures that have been taken, or might be taken in the future, to reduce the risk of catastrophe.

POSITIVE AND NEGATIVE CONTROL OF NUCLEAR FORCES

The following discussion refers to systems belonging to the United States because much more information is publicly available about these weapons than about those of the Soviet Union. For the purposes of this paper, it is assumed that the Soviet Union maintains at least as stringent control over its nuclear forces as does the US.²

FEB 19 1988

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