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6 February 1981

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Dear Matt,

I have read with great interest your paper and Robinson's enclosure.

First to the enclosure. HCN is, I agree, of no military value today. Even during WWII,when military masks provided very minimal defence, AC was of dubious value, for reasons there is no point in emphasizing here. The same applies to CNCl and $COCl_2$. Why the concern today? Are we planning to fight WWI over again?

With respect to mustard, it was of course effective during WWI. During WWII, we considered it of great interest, but after a most detailed study of the entire war situation we found one, only one, situation where it would have been the weapon of choice.

The treatment in your paper of target effects and relative defensive effectiveness are quite good. These were my primary concern for some thirty years. Perhaps because of these thirty years involvement, my position is somewhat stronger and more defined, but not to the extent to suggest modifying your own. There really are no precise values.

There is a very important point here. No field commander can ever be certain, in a chemical war, of the effectiveness of his chemical attack. This applies to both an offensive and a defensive posture. This uncertainty is greater by at least an order of magnitude than with any other weapon system. Field intelligence in a battle situation is most inadequate. All he would have are target effect estimates, and these would be no better than the data you and I are questioning. To ask a field commander to base his next action on these estimates is to ask him to court disaster. I wonder how many artillery officers are aware of the gross uncertainties in their chemical artillery tables. I doubt that the current proponents of chemical warfare are about to disillusion them. I am not, please, implying dishonesty here; rather, a disturbing overenthusiasm by people who know so little of a most difficult and complex subject.

It is my understanding that the DSB Panel was primarily to decide on completion of development and production of binary G and V munitions. When I developed and introduced into production the presently stockpiled munitions, I chose a straightforward approach and merely adapted and modified the designs of existing suitable munitions, for which we had a very large amount of field test knowledge. Even so, we conducted a very large number of static and then dynamic trials. We had to make numerous design changes as these trials progressed, and in some cases critically important changes they were. We would never have gone into production without all this engineering data, even on as simple an adaption program as we could devise.

The proposed binary munitions are not a simple change from other rounds but are an entirely new design. Their functioning will be entirely different from their predecessors. Engineering data must be obtained on cloud size and shape, rate of formation, yield, droplet size distribution, persistency, etc., etc., statically and dynamically, and in statistically significant numbers. These must be with live, not simulant, rounds. This is a large program; a few sub-rosa tests just will not do. Testing would have to be done in a variety of climates and terrains. Where, in the world of today, such an extensive program would be conducted is beyond me. Has the DSB panel considered this?

To embark on a multi-billlion dollar production program without the above testing program would be a criminal waste of money. To supply production-line rounds to our forces without confirmatory field trials would be worse.

Finally, perhaps my greatest concern is on the larger, military significance of the proposed binary program. For us to embark on this, with a clear signal and with our national policy that the weapon is not for first use but for retaliation in kind, is just what the Soviets would like us to do. Their first chemical attack would be preceeded by a full chemical alert to all their forces. All historic precedents indicate that this first surprise would be devastating to us. We would possibly be facing a military disaster. Our response in kind with chemicals against the fully alerted Soviets would be minimal, and probably trivial, in effect. The Soviets would have much to gain and very little to lose by a first use. We would be asking for it.

If, on the other hand, we stopped our chemical posturing, we could and would be sending the Soviets an unequivocal signal that their escalation to chemical warfare would probably trigger a response by us that would be far more devastating and effective.

This we have the ability to do and the Soviets know it.

Originally, the reason for developing the binary systems was to avoid public concern on our storage of great quantities of the toxic rounds here and to permit deployment of the new safer systems abroad. Is there any indication that this would be acceptable to, e.g., NATO? I doubt it. Of what value will these munitions be if they are not quickly available in the theater?

Finally, have we considered the probable eventual loss of Presidential control and a repeat of how we introduced CS into Viet Nam? In this case, we might not get away with it so cheaply.

I hope the above is of some value to you. What we do now may well determine what the Soviets do shortly thereafter. Please let me know if I can be of any further help.

Sincerely,

Saul Horowitz