

4/18/94

1. Title: Role of Non-Lethal Chemical Irritants

2. Type Effort: S&T

3. Proposed by: Warfare Systems Analysis Division (Code C0242)
Naval Air Warfare Center, Weapons Division
China Lake, CA

4. Capability Sought and Uses to which it could be Put:

Chemical weapons are not authorized for use because of political constraints and treaties. Non-lethal irritants were used in Southeast Asia with great success and are currently being used by US law enforcement agencies. During the 1960s all three services developed irritant dispensers.

Irritants have good potential for crowd control, peacekeeping, and military operations. Current peacekeeping operations often result in many fatalities. It is desirable to disperse a crowd and discourage people from violence without harming them. Potential military operations range from hand-to-hand special operations to rotary and fixed wing close air support missions. Two areas are especially lucrative; use against mixed populations of friendly and enemy personnel, and flushing personnel from hard targets.

Some irritants are highly potent in small concentrations for causing incapacitation, and are only lethal in extremely high (very unlikely) concentrations. They can be dispensed from non-lethal containers.

5. Technical Description:

An analysis will be performed to determine the potential for using non-lethal chemical irritants in crowd control, peacekeeping, and military operations. The study approach will entail the following steps:

- a. Research past effort
- b. Obtain update from Army on irritants and their characteristics
- c. Develop list of potential missions for non-lethal weapons
- d. Investigate role of irritants for these missions with military users
- e. Define irritant characteristics required to support each mission
- f. Obtain from Army or develop irritant effects models
- g. Obtain or develop scenario / operational situations
- h. Develop notional weapon concepts
- i. Evaluate the notional concepts' ability to fulfill mission requirements in operational environment
- j. Recommend list of weapon / irritant combinations that have high potential for important missions
- k. Develop brief and write final report

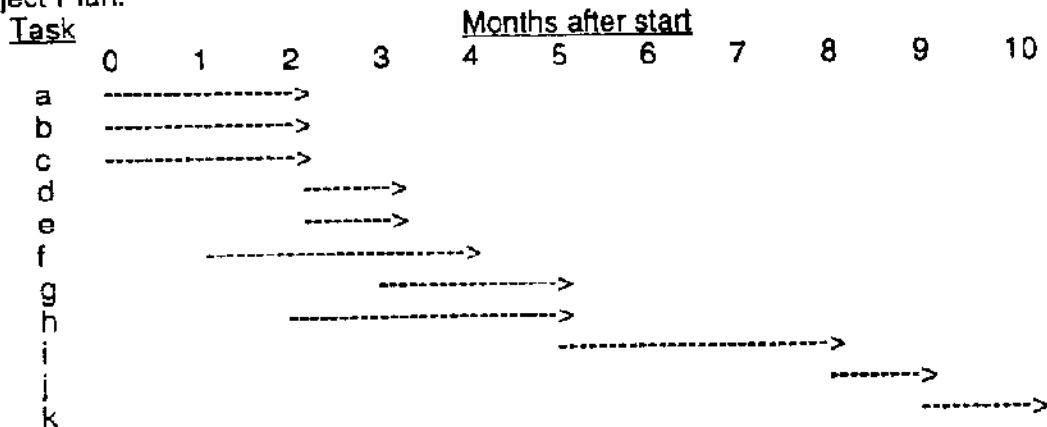
6. Risks and Limitations:

Technical risk is low due to large amount of work done in 1960s and the relative simplicity of developing these types of systems. There may be political risk. Most countermeasures are self defeating. For instance, it is difficult to operate any extended

ONR-NL.W.090
Role of Non-Lethal Chemical Irritants
Other

period of time in mask and protective clothing, especially in a hot or humid environment.

7. Project Plan:



8. Project Cost by Fiscal Year:

\$110K is requested for first year. Future funding would depend on results of first year.

9. Organizational Point of Contact:

Burt Galloway
Code C0242
Naval Air Warfare Center Weapons Division
China Lake, CA
Phone 619-927-3255, DSN 469-3255
FAX 619-939-2232, DSN 437-2232