

QUARTERLY TECHNICAL PROGRESS REPORT

1 August - 31 October 1971

Collection and general screening of material on personnel incapacitation was completed in August. These activities have since been pursued on a maintenance basis only. Recommendations were presented to [redacted] on August 23rd, as to the utilization of the remaining research effort. Since there appeared to be very little in the way of "brand new" ideas for incapacitation, we suggested that a systems approach be used in which several groups or families of techniques would be reviewed and reported on in as uniform a format as possible. This approach will ultimately provide a matrix of information by means of which characteristics of different techniques can be compared. Our main emphasis will be on potential applications, physiological considerations and recommendations for future research.

The first substantive report entitled "Electric Current as an Agent for Personnel Incapacitation," was completed in October. An outline of the substantive portion of this report is appended. Electric current appears to be a promising means of delivering a wide spectrum of incapacitation to a single individual (or a few individuals). Application of the agent can be well controlled and is reasonably safe under appropriate conditions.

The next subject area to be reviewed will be impact and its application as an incapacitating agent.

Administrative Aspects

1. A six-months no-cost extension of the project was granted on 20 September 1971. The new completion date is 30 April 1972. This time extension, along with an acceleration of the substantive work of the program will allow completion of the project within the extended time limit.

2. Expenditures to date:

	<u>Quarter Amount</u>	<u>% of total</u>	<u>Cumulative Amount</u>	<u>% of total</u>
Nov. 1970-Jan. 1971	\$ -	1.2	\$ -	1.2
Feb. - Apr. 1971		14.4		15.6
May-Jul. 1971		7.7		23.3
Aug.-Oct. 1971		22.3		45.6

OUTLINE

ELECTRIC CURRENT AS AN AGENT FOR PERSONNEL INCAPACITATION

- I. Potential Applications
- II. Physical Variables of Electric Current
- III. Physiological Considerations
 - A. Effects of Electrical Current on Humans
 - B. The Human Body as an Electrical Conductor
 - C. Skin Resistance
 - D. Burns and Other Thermal Injuries
 - E. Pulsed Current
 - F. Overcoming Skin Resistance
 - G. Path of Current Flow Through the Body
 - H. Physiological Conclusions
- IV. Other System Factors
- V. Equipment State of the Art
- VI. Recommendations