ANNEX "A"

STATEMENT OF WORK

Title: Casualty Management - Assistance with an anaesthetized animal model used for trauma research projects and training programs

Background:
A large animal model (domestic swine) was implemented in this laboratory in 1997. Previous studies conducted in this model have centered around Chemical Warfare Agents (CWAs). Due to the recent and ongoing conflicts in the world, the focus in military medicine has shifted to non-traditional battlefield injuries, specifically, blast injuries.

Of major interest are:
- Haemorrhage control
- Non-penetrating blast injury
- Shock and resuscitation
- Crush injury

Plans are in place to install research into these conditions here in Suffield. This will necessitate the expansion of our Domestic Swine Model (DSM) out of the operating room (OR) suite and adjust it once more to new and as of yet non-experienced field conditions. This may include the use of telemetric monitoring devices to capture physiological responses during experimentation.

Due to the ever-increasing demands of training medical first responders, the research program involving the DSM has suffered to a degree that threatens our international collaborations and commitments. An extension of the OR suite is being put into place, which will allow us to double our set-up and substantially increase our research capabilities. The new OR will have to be equipped and configured for use.

A radiometric assay has been used in our facility to determine Cholinesterase activities in blood samples taken during CWA research experiments. This assay is slow and outdated. First trials with a colorimetric assay used to determine these activities are currently undertaken. This "new" colorimetric assay will have to be compared to the "old" radiometric assay, validated, implemented; and then performed continuously as CWA research takes place.

Objective:
This proposal builds upon and complements prior work done in the OR suite in Suffield:
1) The research program shall be expanded to develop a shock and trauma model.
   a. To this extent, 2 more research tables shall be set up in a place yet to be determined.
2) The research capacity shall be increased to meet Section goals and commitments.
3) A modern, colorimetric assay shall be implemented and performed regularly to measure Cholinesterase activities in blood samples.

Scope of Work:
The contractor shall provide services in the following areas:
1) Development and upkeep of anaesthetic techniques to adjust our model to any situation that research or training will demand;
2) The implementation and validation of a colorimetric assay to measure cholinesterase activity;
3) Anaesthesia and instrumentation of domestic swine to monitor a variety of physiological parameters;
4) Research into new and state of the art monitoring equipment to keep the OR suite up to date;
5) Installation and configuring for use of two or more additional, fully instrumented research tables;
6) Assist in the delivery of training to medical responders;
7) Animal husbandry

Once a suitable area for additional research settings has been identified / acquired, the contractor shall provide assistance in getting this area ready for use in research. Two more operating tables shall be installed, with monitoring equipment mirroring the existing OR.

**Meetings:**
The work is to be carried out will take place on site at DRDC-Suffield. The contractor will conduct their work independently but will require regular contact with the Technical Authority. Routine schedule meetings (formal meetings) will not be required due to daily contact and review.

Ad hoc meetings with the contractor will occur as required to evaluate progress.

**Reports and Deliverables:**
The contractor shall provide monthly reports of staff activities.
A final report should outline all achievements accomplished during the term of contract, and delivered no later than 3 months after completion of the contract. The standard format for all reports shall be Microsoft office.

**Government Furnished Support/Equipment/Information:**
All work is to be carried out at DRDC-Suffield, Building 10 operating suite, and a new research facility currently in planning.

**Special Considerations:**
DRDC Suffield scientists will be responsible for the generation of any operational protocols required to carry out the proposed research, i.e. study approval forms, animal care protocols and such.

The unique requirements of this work will require the contractors to work on-site with DRDC animal facilities and animal care equipment. Contractor will be not be provided dedicated provided desk space, phone, or a computer. Connectivity to the DRDC intranet will be required to access training, operating suite calendars and to access shared files; this level of connectivity will be provided.

The contractors will receive training the following essential areas: Field safety; WHMIS; animal care; emergency response; chemical, biological and radiological safety.

Security Requirement checklist is attached for site access/enhanced reliability.

**Acceptance Criteria:**
The work will be monitored regularly for adherence to the work plan and to approve any modifications which may be required. Acceptance will be determined following examination, satisfactory completion and acceptance of the final report by the Technical authority.

**Estimated Cash Phasing:**
- FY 09/10: $67,000.00
- FY 10/11: $170,000.00
- FY 11/12: $170,000.00
- FY 12/13: $93,000.00