ANNEX A

STATEMENT OF WORK

RESEARCH SUPPORT FOR JIMP ESSENTIALS IN THE PUBLIC DOMAIN APPLIED RESEARCH PROJECT

SHORT TITLE: **Rsch Support to JIMP ARP**

1. BACKGROUND

As part of a global community, Canadian Forces (CF) personnel must be able to work effectively as part of a team, either in the context of coordinated joint operations or in collaboration with various government and nongovernment agencies and organizations, international organizations, or multinational military forces, embedded in diverse social and cultural settings. Thus, the mandate of the Collaborative Performance and Learning (CPL) Section of Defence Research and Development Canada (DRDC) – Toronto is to conduct research that will facilitate the realization of the full synergistic potential of teams operating in Joint, Interagency, Multinational, and Public (JIMP) environments (Baranski et al., 2006). Moreover, the capacity to be "JIMP-capable" is now cited by the Director of Land Concepts and Doctrine (DLCD) as an important enabler for the Army of Tomorrow. The challenge is to understand the critical human-centric, psychosocial and cognitive aspects of collaborative work and to develop methods and models to foster collaborative behaviour.

Although the CF, like many nations, is adopting a more comprehensive approach to operations, reflected in the concepts underlying JIMP, the reality of coordinating or integrating the activities and efforts of various military, government, and non-government agencies within a single mission space and mandate remains a daunting challenge (Gizewski & Rostek, 2007; Leslie, Gizewski, & Rostek, 2008). Indeed, getting these various partners "organized on battlefields, after disasters, and during crises can be like herding cats" (Carafano, 2008, p. 135). Furthermore, the Public (P) aspects of JIMP may pose the greatest challenges for the CF in terms of interfacing or collaborating with nonmilitary players. Winslow (2002), for instance, has explored tensions between militaries and non-governmental organizations (NGOs) in regard to organizational structure and culture, tasks and ways of accomplishing them, the control of resources, definitions of success and time frames, and information control and sharing. It is also clear that the Public aspects of JIMP encompass a highly heterogeneous collection of entities, including host nation populations, media agencies, NGOs, international organizations, and a range of commercial and private interests, that defy easy categorization and understanding.

As a result of the need to better understand the Public aspects of JIMP, the Organizational Behaviour (OB) Group within the CPL Section of DRDC Toronto has received approval to conduct an Applied Research Project (ARP), entitled "JIMP Essentials in the Public Domain: Implications for the Tactical Commander." The objectives of this ARP include: 1) a conceptual clarification of the P aspects of JIMP, with implications for the development of knowledge, education and training tools for the tactical commander; 2) identification of individual differences/aptitudes that facilitate effective collaboration in a JIMP environment, with implications for training, selection and teamwork; and 3) integration of historical and international perspectives on the Public aspects of JIMP.

In order to achieve the objectives of this ARP, research support will be required. This research support includes particular skills that will contribute to and allow for the rigorous investigation of the cognitive, social, and organizational aspects of individual and team performance in JIMP settings. The requirements will thus involve basic and applied research using both experimental and non-experimental methods, as

well as qualitative and quantitative data-analytic techniques. The requirements of this Task Authorization Contract (TAC) may also require expertise regarding the manner in which the military and NGOs, or other organizations or entities that fall within the Public domain of JIMP (both domestic and international), have functioned historically and are currently functioning.

Although it is anticipated that most of the contracting capacity provided by this TAC will be utilized by the CPL Section at DRDC Toronto – in particular, the OB Group – other CPL Groups, other DRDC Toronto Sections and, to a limited extent, other DRDC centres might utilize this TAC provided that the proposed work generally supports the objectives and requirements outlined in this statement of work.

2. REQUIREMENTS

The military scope for the research is targeted to operational, tactical, and training environments, and for all services within the CF, including Regular and Reserve Forces, as well as CF operations in the broader security context, particularly those that contribute to JIMP capability in the Public domain (e.g., CIMIC, DART, PRTs). Specific topics of inquiry would include, but not be limited to, theoretical, predictive, and empirical analyses of cognitive, socio-cultural, and organizational processes of collaborative behaviour, decision making in distributed or culturally diverse teams, the development of cultural awareness and cultural competency in a JIMP context, the development of trust between local populations (or other Publics) and military forces, and training and education in a JIMP context.

The support may take the form of, but is not limited to:

1. Conducting reviews of the scientific and military literatures on topics associated with individual and team performance and individual differences that promote effectiveness in JIMP settings.

2. Uni- and multi-variate analyses of data using a variety of parametric and non-parametric tests. Quantitative modeling of individual and group behaviours. Data collection may be required from existing but non-systematized sources (e.g., lessons learned), and data generated from original research.

3. Analyses of processes and activities, such as CF operations from an organizational perspective, including organizational culture, policies, and relations with NGOs in expeditionary contexts, but may also include domestic settings as required. Individual and team activities from a cognitive, social-psychological, and/or organizational perspective.

4. Access to military and civilian (e.g., NGO) subject matter experts (SMEs) to assist in aspects of research projects including those in the areas of stability and peace support operations and Effects-Based Operations (EBO), as well as development activities within JIMP contexts. Military or SME input may be required for assistance in the development of materials for research such as realistic scenario generation; as confederates in psychological and field experiments; and for expert judgments.

5. Provision of academic SMEs, where required, to assist in aspects of research that require highly specialized skills or knowledge in the behavioural, cognitive, social, and organizational aspects of collaboration in a JIMP context.

6. Developing new concepts and techniques for improving or measuring individual and team performance, organizational performance, and for improving team effectiveness within JIMP contexts.

7. Designing and providing technical assistance to original research using multiple research approaches including laboratory-based and field experiments, field studies, archival studies, as

well as focus group, interview, and survey studies, including the development and refinement of methods, equipment, software, participants, scheduling, plans, and procedures for studies, including those conducted in the field.

8. The analysis of qualitative and quantitative data using interviews, surveys, questionnaires, focus groups, experimental studies, and archival methods. This will typically involve repeated administration of questionnaires, surveys, or experimental procedures (in experimental or field settings) developed in conjunction with DRDC personnel; and compiling, analyzing and interpreting the results of these studies including any limitations of the results.

9. Compiling current educational and training approaches and procedures, as well as information from Army Lessons Learned that are related to JIMP contexts, and working with DRDC personnel to provide recommendations to current training programs with the specific aim of improving collaborative performance in JIMP environments (e.g., by generating recommendations for professional development seminars for the CF).

10. Preparation (or assistance in the preparation) of reports and journal articles on the results of research studies, and presentation of results of studies to military, NGO, DRDC, and academic audiences. Such reports may be in the form of annotated bibliographies, literature reviews, methods, and results, or recommendations based on the results of studies. Such reporting may take the form of written reports and/or verbal presentations as agreed upon with the SA. As always, it is expected that all work undertaken under this TAC will be of sufficiently high quality to permit peer-reviewed journal publication or scientific society presentation.

The orientation in the work to be called upon will mostly likely be towards the research end of the R&D spectrum. The work will not be directly associated with the procurement of a specific military system. It will emphasize the design and conduct of basic and applied research using multiple research, data-analytic, and predictive and explanatory methods, and will draw on expertise from multiple disciplines to address multiple requirements as outlined above.

3. REQUIRED RESOURCES

The contractor will be required to make available, sometimes on short notice, qualified specialists who have demonstrated their expertise in the cognitive, social, and behavioural sciences, especially cognitive, social and organizational psychology, and defence and security studies. The contractor should be in a position to handle multiple call-ups simultaneously. A reasonable estimate is that, after an initial ramp-up period, the contractor would be responsible for 3-5 callups at any given time with each one lasting between 6-18 months. It is anticipated that 90% of the work will involve contributions to ongoing projects and 10% will involve contributions to unforeseen priority needs of the client. In addition, it is anticipated that 90% of the work will be of an R&D nature and 10% will be technical support.

Academic credentials, skills, and relevant experience are all considered to be essential. The contractor must:

a) have staff able to meet the entry requirements of a relevant professional society (e.g., Society for Personality and Social Psychology; American Psychological Association; Canadian Psychological Association, Society for Judgment and Decision Making, or International Society for Political Psychology);
b) have staff assigned to projects that are trained at the graduate level, preferably with a PhD;
c) have staff that has clearly demonstrated a strong ability to conduct research and to be able to critically assess and apply the results of existing research;
d) have available a mix of professional personnel trained in the behavioural sciences, in particular social, organizational and cognitive psychology, and in defence and security studies;

e) be able to draw on academic resources as required for anticipated research;
f) anticipate and address any potentially sensitive ethical issues associated with the research and focal topics;
g) be able to plan, design, conduct, analyze and report on experimental and non-experimental research studies with both individuals and groups;
h) demonstrate knowledge of individual and team performance that is applicable to a range of CF domestic and expeditionary environments;
i) have experience in conducting social sciences research for the military in laboratory and field settings;
j) be able to communicate effectively both orally and in writing, including the publication and/or presentation of results in scientific and other professional settings; and
k) be able to interpret results in terms of implications for the military and NGOs.

It is anticipated that the contractor will conduct the work offsite. There is no anticipated requirement for the contractor to provide DRDC with onsite staff.

The contractor must have access to library facilities and resources for research purposes, and, ideally, have formal and informal relationships with the broader academic community conducting research pertinent to individual and team performance, and the dynamics and correlates of collaborative behaviour in JIMP contexts. Furthermore, the conduct of research involving the military and personnel from NGOs is a complex undertaking and requires considerable liaison and co-ordination, as well as attention to detail to ensure that scientific validity of the tests is not compromised. The contractor must have experience, and a demonstrated track record, in this regard. In addition, the contractor must be in a position to devote personnel resources to a long-term research program. Finally, an ability to respond quickly and flexibly to opportunities and constraints of research in a military and JIMP context is definitely an asset.

Travel will be required in connection with this TAC, including meetings with the Scientific Authority (SA) and project members of specific call-ups, conferences, and seminars and for the purpose of providing technical support to laboratory or field studies. All travel must be approved by the Scientific Authority prior to being taken, and conform to Treasury Board guidelines.

4. CATEGORIES OF PERSONNEL

Principal/Partner/Associate:

- PhD or Master's Degree, with 10 or more years of experience in defence or defence-related research concurrent with the present year.
- must be a member of a relevant professional association.
- must have experience as scientific lead of at least one major relevant project.

Senior Consultant/HF-Psych. Specialist:

- PhD or Master's degree, with 5 or more years of experience in defence or defence-related research concurrent with the present year.
- must be a member of a relevant professional association.
- must have experience in 11-20 relevant projects.

Consultant:

- PhD or Master's degree, with 2 or more years of experience in defence or defence-related research concurrent with the present year.
- must have experience in 5-10 relevant projects.

Researcher/Sr. Research Analyst/Specialist:

- Bachelor's degree, with at least 2 years of experience in defence or defence-related research concurrent with the present year.

Project Manager:

- Bachelor's degree or P.Eng with 5 or more years of experience in the management of at least 10 major defence or defence-related research projects since 2000.

5. REPORTS/DELIVERABLES

Deliverables for this TAC will be in the form of:

- research materials (e.g., surveys, test batteries, indices or coding procedures);
- data, including transcripts, quantitative and qualitative data sets, and taped interviews;
- reports, papers, and presentations;
- software developed for or during a call-up;
- bibliographies and reference documents**;**
- other deliverables as determined at the time of each call-up.

Contractor reports requiring a DRDC document number (e.g., all final reports) must include all necessary information required by DRDC's publication standard. The contractor will be supplied with an electronic word processing template to assist in the formatting of such documents. The number of reports will be identified in the DND 626 Call-up.The contractor will be expected to provide monthly reports for each call-up under this TAC. Further deliverables will be identified in each and every call-up as it pertains to the work.

6. GOVERNMENT-FUNDED EQUIPMENT (GFE)

The Crown will make available to the contractor any equipment that is needed to carry out the work. If Crown GFE is required, it will be at no cost to the contractor and must be returned prior to the release of holdback. The Contractor will be expected to maintain the equipment.

7. SECURITY

The work conducted under this contract will be unclassified. There will be no requirement for the contractor to work onsite.

8. ROLES & RESPONSIBILITIES

The table below is intended to clarify roles and responsibilities related to the management and administration of this contract after it is issued by PWGSC.

Role	***Description***
Contracting Authority	• PWGSC will be the contracting authority. • Initial receipt and review of progress reports and claims submitted by contractor. • Forward claims and reports to DRDC Toronto MMG for review and payment authorization. • Issue official correspondence from Canada regarding the quality of work performed. Issue Amendments to the Contract
Contract Scientific Authority (SA)	• Anticipate call-ups by regular communications throughout DRDC and other DND organizations. • Identify appropriate SMEs to advise the TAs. • Communicate regularly with TAs and with the contractor in order to monitor, review, and provide feedback to contractor about their performance. • Monitor, track, and report to DG/DRDC Toronto about activities relevant to this contract. • Prioritize tasking call-ups if required. • Authorize appointment of TAs and inform MMG of the appointments.
Call up Technical Authority (TA)	• Communicate with SA to verify that proposed call-up is appropriate in nature and can be afforded. • Ascertain that appropriate SME(s) are identified to support the work. • Prepare draft SOW for the call-up, including target start/completion dates. • Ensure security requirement is clearly identified for each call-up. • Verify validity of security clearances for contractor personnel identified to work on project. • Verify ability to travel abroad, if required, for contractor personnel identified to work on project. • Submit call-up SOW to DRDC Toronto MMG to initiate call-up administrative process. • Review tasking progress reports, related claims for payment, and recommend payment • Provide contractor performance feedback to SA.

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DRDC Toronto Materiel Management Group (MMG)	• Act as the primary DRDC Toronto interface with Contracting Authority (PWGSC) for all related administrative procedures and processes. • Review each SOW for accuracy and completeness and submit to contractor for initial cost proposal. • Issues call-up authorizations after approval from Contract SA. • Act as the primary DRDC Toronto interface with the contractor for all administrative procedures and processes related to financial claims and reports. • Report regularly to SA and to TAs about the rate of funds expenditure. • Forwards claims and reports to TA for review and approval. • Processes claims and issues payments. • Enforcement of maximum call-up value. • Consults with SA about all proposed call-ups. • Approves release of holdback claim for payment based on final deliverables.

9. REFERENCES

Baranski, J. et al. (2006). *Building our S&T future: DRDC Toronto's S&T challenges* (DRDC Toronto TM 2006-038). Defence R&D Canada – Toronto.

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Leslie, A., Gizewski, P., & Rostek, M. (2008). Developing a comprehensive approach to Canadian Forces operations. *Canadian Army Journal, 9,* 11-20. http://www.journal.forces.gc.ca/vol9/no1/04-leslie-eng.asp

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LIST OF ACRONYMS

ARP	**Applied Research Project**
CF	**Canadian Forces**
CIMIC	**Civil-Military Cooperation**
CPL Section	**Collaborative Performance and Learning Section**
DART	**Disaster Assistance Response Team**
DG	**Director General**
DND	**Department of National Defence**
DLCD	**Director of Land Concepts and Doctrine**
DRDC	**Defence Research and Development Canada**
EBO	**Effects-Based Operations**
GFE	**Government Furnished or Funded Equipment**
JIMP	**Joint, Interagency, Multinational, Public**
MMG	**Materiel Management Group**
NGO	**Non-Governmental Organization**
OB Group	**Organizational Behavior Group**
PRT	**Provincial Reconstruction Team**
PWGSC	**Public Works Government Services Canada**
SA	**Scientific Authority**
SME	**Subject Matter Expert**
TA	**Technical Authority**
TAC	**Task Authorization Contract**