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1250-29 (DSTOV-5)

8 July 1983

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CONSOLIDATED ARMX 83 BRIEFING NOTES

- References:
- A. 1250-29 (DSTOV-5), 28 Apr 83
  - B. Minute DSIS-2, 7 Jun 83
  - C. 1250-29 (DOGC), 20 Jun 83

1. The subject material requested at Reference A and B has been assembled and is available from DSIS in microfiche as "Armx 83 Briefing Notes". Not included are the keynote addresses and general comments - they are a part of Reference C and have been copied to each DRE.

2. The briefing notes are:

- (1) Introduction to the Targets Program at DRES, Dr. F. Christie, DRES
- (2) ROBOT-9: A Rocket-Boosted, Sea-Launched Target System, Mr. G. Coffey, DRES
- (3) Overview of Training-Related Work at DCIEM; Dr. D. Pearce, DCIEM
- (4) Tank Gunnery Training; Dr. L. Magee, DCIEM
- (5) Army Training Ammunition R&D; Mr. M. Fortier, DREV
- (6) Impact of New Computer Technology on Simulation and Training; Dr. G. Amey, DST(SE)
- (7) New Directions in Training and Training Technology; Capt P. Chatelier, USN, OUSDRE

Canada

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*- a -*

- (8) Applications of the Helmet-Mounted Display, Dr. M. McKinnon, CAE Electronics
- (9) Developments in Aerospace Simulation and Training, Mr. N. Jeffrey, DTA(A)
- (10) Tactical Signal Simulator for EW Training, Mr. M. Gale, Canadian Astronautics Ltd

Presented, but not available for printing:

- (11) An Air-to-Air Gunnery Target System, Mr. G. Coffey, DRES
- (12) Blowpipe Missile Training Range Facilities, Mr. W. Jones, DRES

3. At Reference C, DCDS requested approval for ARMX 85, tentatively planned as a tri-service activity at CPB Ottawa(S). For information, CRAD will be expected to provide session chairmen, briefers and bound copies of Proceedings for distribution at ARMX 85.

*G.B. Spindler*

G.B. Spindler  
for Director Science and Technology  
(Ordnance and Vehicles)  
Research and Development Branch

Attachment:

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Reference C)

- b -

1250-29 (DOGC)

20 June 1983

Distribution List

ARMX 83 REPORT

Reference: 1250-29 (DOGC) dated 27 May 1983 (enclosed)

1. You are asked to note the enclosed ARMX 83 report prepared by DGMPO (DOGC 3).
2. The Army Technology Training Device Exhibition was held at 3t Hubert 20-23 April to inform senior army commanders and their staffs on the latest technology in training devices and to promote understanding between industry and DND. Approximately 3000 attended during the three days of the event to view the wares and activities of the 63 exhibitors from seven countries outside of Canada.
3. ARMX 83 was most effective and an unqualified success in enhancing the awareness and potential benefits of modern training technology, particularly for the land environment. I am investigating the possibility of sponsoring a similar tri-service exhibition in 1985, probably in Ottawa and I seek your agreement in principle to conduct such an exhibition.

*D.N. Mainguy*  
D.N. Mainguy  
Vice-Admiral

Deputy Chief of the Defence Staff  
for Chief of the Defence Staff

Enclosure: 1

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Industry, Trade and Commerce (2)  
Department of Supply of Services (2)  
Solicitor General/RCMP (2)  
Ministry of Transportation (2)  
Revenue Canada, Customs and Excise

8. A list of names and addresses of exhibitors is contained in Annex B. The Invitees list is at Appendix 1, to Annex B. The Participants list is Appendix 2 to Annex B. Statistics reflecting the response of companies to ARMX invitations are in Annex H.

#### SPECTATORS

9. A wide cross section of ranks from Senior NCO to General from many CF bases and varied backgrounds including police forces totalling about 2900 visited ARMX 83. While visitors found the displays very impressive, exhibitors stated they had never experienced such interaction and quality of spectators. Attendance by day was as follows:

20 Apr 83 - MND, DM, DCDS, Comd FMC, Combat Development Committee, 500 others.

21 Apr 83 - Police Forces (Federal, Provincial, Municipal) 1600 others.

22 Apr 83 - Service Attaché Corps, 800 others.

#### PRINCIPAL SPEAKERS/TIMETABLE

10. Four principle speakers each gave about a 35 minute talk. In addition CRAD, DREV, DRES and DCIEM gave presentations on DND R&D activities. LGen Belzile gave the opening address including Army Training requirements. Col Little, DPSL discussed DND contractual arrangements, Capt Paul Chatelier (USN) gave a presentation on new directions in training and training technology in the US, and Mr. Peter Charleton, Spar Aerospace (formerly BGen Charleton, DGAEM) talked about Industry's point of view in dealing with DND. All presentations were well received and copies of addresses were in great demand by the exhibitors.

11. LGen Belzile's opening address is attached as Annex C; Col Little's, Annex D; Mr. Charleton's, Annex E; Capt Chatelier's, Annex F. The daily timetable is attached as Annex G.

#### ARMX 83 PLANNING SCHEDULE

12. Preliminary discussion began in Dec 81 regarding holding an Army Technology Training Device Exhibition, eventually titled ARMX 83. After some correspondence FMCHQ officially agreed to host the event on 1 Apr 82 with the understanding that NDHQ(DOGC) would be responsible for the detailed planning, preparation, funding including detaching the required staff to FMCHQ to actually conduct the exhibition. FMCHQ would provide the hangar, conference facilities, R&Q for DND

representatives where possible and normal administrative support. DOGC 3 (LCol) was OPI and with two others, DOGC 3-3 (Capt) and DOGC 3-4 (Sgt), worked full time on the project, developed the concept, prepared policies, conducted the staff work and the exhibition. Outline milestones in the preparation phase were as follows:

<u>Time</u>	<u>Activity</u>	<u>Remarks</u>
Apr 82	Group Principal endorsement sought by DCDS. Funding not to exceed \$95 K.	Fully endorsed and encouraged by all Group Principals. Despite several meetings with EA, DSS and IT&C reps other Depts decide not to participate, Aug 82.
Apr 82	Decision to postpone ARMX till late Apr early May 83 to coincide with Combat Development Committee meeting.	
Jul 82	Invitations sent to a list of potential exhibitors and Canadian Attachés in western nations.	
Aug 82	Correspondence to enlarge potential exhibitor list. Coord Conference with FMCHQ.	
Nov 82	Budget of \$84,800 submitted and approved.	
10 Nov 82	Detailed administrative discussions at FMCHQ.	
16 Nov 82	MND approves conduct of ARMX regarding TD expenditures, etc.	
Nov-Dec 82	Discussion with Customs and Excise, other support agencies, tasking messages, press arrangements, etc.	
Dec 82	Transportation arrangements for spectators, Attaché Corps Police Forces, etc.	

Arrangements for speakers,  
draft timetable prepared.  
Continuing flow of corres-  
pondence, telephone calls  
to exhibitors, participants,  
etc.

Meeting at FMCHQ, comple-  
tion of adm arrangements,  
correspondence to exhibitors,  
participants, etc., telephone  
calls.

17 Mar 83	Request for posters, brochures, passes, etc., to DDDS.	Received mid Apr 83
25 Mar 83	DOGC Capt and Sgt move to CFB St Hubert.	Returned 25 Apr 83
15 Apr 83	DOGC LCol move to CFB St. Hubert.	Returned 23 Apr 83
20-22 Apr	Conduct of ARMX.	

#### ADMINISTRATIVE ARRANGEMENTS

13. Overall administrative arrangements went extremely well with only minor problems being encountered. Exhibitors stated they had never experienced such a smooth operation and very much appreciated the support provided. While some minor staff level differences as to the amount of support that should be provided by FMC occurred, they were amicably resolved. In fact, the support given by the working level, particularly by the CE staff was truly outstanding.

#### BUDGET

14. Exhibitors were charged \$600 for a single booth (curtain and rail 10' by 10') with increments for additional space. This fee included attendance for two at the reception/dinner in the officers' mess. Participants were charged \$50 which included one ticket for the reception/dinner. Overall \$40,300 was collected. The total cost to DND to run ARMX was \$20,326. This was \$64,474 below budget. Details of expenditures are attached as Annex J.

#### BUFFET DINNER

15. This was a huge success and very much appreciated by exhibitors. Fortunately CDC generals were in attendance in sufficient numbers to have one sit at each table (28) along

with FMC and NDHQ colonels. This allowed civilian representatives the rare opportunity to discuss wide ranging training problems in a most congenial atmosphere with senior DND officials. The buffet dinner was superb and many laudatory comments were received. One sampling comment stated: "We had heard rumours that the chefs in the Officers' Mess rivalled the finest cooks; we can now testify to the truth of these rumours."

PR

16. The PR from ARMX was fairly good but was not exploited to the maximum. The international aspect was well covered by International Defence Review, Interavia, some US and European publications all of which were arranged through the OPI. In addition the Canadian Defence Quarterly will have a 16 page supplement of ARMX in the summer 83 issue. While a Public Information Program (PIP) was prepared, the majority of local effort seemed to be centered on the MND press conference and not in obtaining coverage of the event. For future shows of this nature, the OPI should make all the necessary PR arrangements to ensure full coverage.

#### HOTEL/OPENING RECEPTION

17. Arrangements were made with the Hotel Mont Royal, Peel St., Montreal, for a special rate of \$45 per room for ARMX exhibitors, visitors, staff, etc. A total of 140 rooms were booked. As the majority of participants stayed at the hotel this simplified transportation arrangements and created a "family" atmosphere. Due to the number of rooms booked at the hotel, a hospitality suite was provided free of charge. DOGC on behalf of DND hosted a reception in the suite on the eve of ARMX due to the international content of exhibitors. It set a friendly tone to commence the exhibition and was warmly appreciated by the participants.

#### TRANSPORTATION

18. Methods of spectator transportation varied, 1 x C130 aircraft load came from the West, another from the East and one from CFB Petawawa. Fourteen busloads came from NDHQ, (paid by ARMX funds), seven more from St. Jean, others from Kingston, Valcariter, etc.

19. A Militia Sgt was employed as despatcher for DND bus service from the hotel to St Hubert (and return), and, from Hangar No. 1 to the main lecture room on base. Buses were not dedicated to ARMX and were partially coordinated by

Base Transportation creating a minor control problem. In future, a dispatcher is required with dedicated transport.

#### SECURITY

20. Measures were taken early in the planning stages to keep CIS informed of ARMX plans and goals. No threats against ARMX developed and no protests took place during the actual event. Normal security plans were put into effect by CFB Montreal and all access to ARMX was controlled. Militia personnel supplemented the Base Military Police and no security violations occurred.

#### MILITIA SUPPORT

21. Personnel support from the Militia was absolutely essential to the success of ARMX. A total of 25 callouts were hired and employed in jobs ranging from transport coord. to security and general duties. This dedicated labour pool for general duties guaranteed a quick response to constantly changing conditions and provided a degree of support to the exhibitors they had never experienced at other exhibitions.

#### CUSTOMS/CUSTOM BROKER

22. ARMX applied to Revenue Canada Customs & Excise, for special status as an exhibition. This was granted and subsequently meant all material shipped into Canada for the exhibition would be admitted duty free. It was fortunate that Mr. J. Cardin of Revenue Canada, Customs and Excise, Exhibitions and Conventions was appointed to look after ARMX customs affairs. Due to his personal intervention and direction all ARMX exhibits came into and left Canada without problems. In addition to securing Revenue Canada approval, it was necessary to appoint an official Customs Broker for ARMX. International Customs Brokers Inc., a division of Livingston International Freight Inc., was appointed as official ARMX customs brokers (this did not preclude exhibitors from using their own customs broker). International Import set up an office on site and a remarkably smooth flow in and out of the exhibition resulted. It is recommended this firm be used for the next exhibition.

#### REASONS FOR SUCCESS

23. As this was the first time a CF exhibition of this type and scope was held in Canada, it is rather surprising that it was so successful. While it is difficult to depict all the reasons for success objectively, it seems that there was no one single factor that stands out, rather a number of factors all contributing to the over-all outcome. The key factors were:

- a. Theme/Concept: The international flavour provided by the eight nations added greatly to the exhibition. It also made Canadian firms aware of training developments in other countries. The aim of giving industry the opportunity to show their state of the art in training technology and concurrently providing the forum to determine the CF land training requirements proved to be mutually beneficial. The theme of displaying training technology versus arms hardware also seemed to appeal to exhibitors, although some expressed the desire to do both.
- b. Accessibility: The location of the exhibition site in terms of ease of access including good all-around transportation facilities and an international port of entry for both exhibitors and spectators proved to be important. Having both civilian and military airfields in the Montreal area plus being relatively central for the bulk of military spectators contributed to the excellent turnout.
- c. Audience: Having such a wide cross section of interested spectators was an important factor. The MND, DM, Comd FMC, DCDS, CDC plus the wide ranging spectrum of visitors greatly enhanced the ARMX image in the eyes of the exhibitors. The fact that they could sit down to dinner and discuss training matters informally with generals was a big plus. The overall interchange of ideas between exhibitors and spectators throughout was superb.
- d. Exhibitors/Booths: Displays were excellent. Many were designed at great expense, exclusively for ARMX 83 and were as good as will be found anywhere. Marketing personnel were professionals who did not try to oversell but rather presented their products in a knowledgeable manner, and, at the same time were attentive listeners about Canadian military training requirements.
- e. Speeches/Presentations/Pace of Events: Part of the theme was to provide an informal forum for the exchange of ideas, on a one to one basis keeping official presentations to the minimum. This was achieved, yet the R&D

presentations along with four more formal ones unquestionably added to the exhibition. Most other exhibitions particularly those in the US have a tendency to go heavy on formal presentations creating an entirely different atmosphere. Exhibition hours were based on normal working hours. To nurture the theme of an informal atmosphere the timetable was kept to a "gentlemanly" pace and designed so that principal presentations were given outside exhibition hours. Long exhibition hours are extremely tiring to exhibitors and should be avoided.

- f. Military Base/Administration: Having the security of a base, the space of a hangar and unprecedented support in the way of extra help, forklifts, immediate response to requests, a friendly cooperative staff, ease of access, excellent dinner, simplicity of entry, good transportation facilities, etc., were essential components.
- g. Costs: Exhibitors, always mindful of costs, stated ARMX was cost effective and most appreciated the single-all inclusive fee. At most conventions/exhibitions sites, normally held in hotels, etc., they feel the common practise is to overcharge even for minor services.
- h. Hotel/Reception: Having the vast majority of ARMX participants in one hotel plus the initial reception set a friendly, positive tone to the entire proceedings. A considerable amount of business was conducted outside of exhibition hours, and the single hotel concept was very convenient.
- j. Guard of Honour: The Guard of Honour provided by the Black Watch (RHC) for the MND and opening ceremony was a colourful enhancement which added to the overall prestige.
- k. Immediate Results: While sales at exhibitions are normally of a very long term nature, some immediate results were achieved. Canadian firms became far more aware of developments in

other countries and contracts were signed for Canadian representation (and perhaps manufacture of foreign products. In addition sales were made to the CF and police forces.

- m. Planning/Conduct: This type of exhibition requires positive control and a staff which is aware of all aspects at all times. Having developed the concept and plan, the small DOGC staff was given full responsibility to conduct ARMX and allowed to get on with making it all happen without interference. The plan was quite simple, a great deal of flexibility was exercised and an enormous amount of authority was delegated down to the lowest level.

#### CONCLUSIONS

23. ARMX 83, at a cost to DND of about 20K, proved to be a worthwhile venture and one that should be continued on a periodic basis. Once every two years would seem to be ideal.
24. The general format and theme of ARMX 83 should be used as the basis for future exhibitions, i.e., it should be held on a CF base, it should be readily accessible to exhibitors and participants, have a wide spectrum of spectators, be international in scope, costs to exhibitors should be reasonable, good service should be provided and there should be a dedicated staff to plan and conduct the event.
25. As many training devices have a universal application for the three services, future exhibitions should be tri-service and should retain the acronym ARMX because of its 1983 success and its familiarity to both DND and industry.

#### RECOMMENDATIONS

26. The following are recommended:
  - a. A tri-service training technology exhibition be held every two years and that it be called ARMX (with the appropriate year);
  - b. that ARMX 85 be held in CFB Ottawa, probably Uplands; and
  - c. that authority to conduct the exhibition be given in the near future so that the necessary preliminary staff planning can commence.

LIST OF ATTACHMENTS

Annex A - Statement of the MND

Annex B - Exhibitors for ARMX 83

    Appendix 1 - Invitees

    Appendix 2 - Participants to ARMX 83

Annex C - Army Requirements

Annex D - DND Contractual and Procurement Procedures

Annex E - An Industry Viewpoint of DND

Annex F - New Directions For Training And Training Technology

Annex G - ARMX 83 - Daily Timetable

Annex H - ARMX 83 - Statistics

Annex J - ARMX 83 - Expenditures

ANNEX A  
TO: 1250-29 (DOGC)  
DATED: MAY 1983

STATEMENT OF THE  
HON. J. GILLES LAMONTAGNE, P.C., M.P.  
MINISTER OF NATIONAL DEFENCE  
ARMY TECHNOLOGY TRAINING  
DEVICE EXHIBITION (ARMX 83)  
ST. HUBERT QUEBEC

May I say at the outset that I am very pleased indeed to be here in my home province of Quebec officiating at the opening of this innovative and important Exhibition. ARMX 83 --The Army Technology Training Devices Exhibition--represents many months of dedicated work by Members of the Canadian Forces and the staffs of the numerous manufacturers and exhibitors who are represented on the Exhibit floor. This is the first time that the Canadian Armed Forces has hosted an event of this magnitude and I am proud to report that we are very pleased with the results. Invitations were sent to selected firms in Canada, the United States, the United Kingdom and in the European Community. In addition to the 55 exhibitors and attendees from Canada and the U.S., I am honoured to welcome the more than 20 other exhibitors and attendees from France, Germany, Sweden, Switzerland, Belgium and the United Kingdom. Needless to say we are very pleased with the response.

In the course of the next three days presentations will be given on Army Training requirements and on the Department of National Defence's Contractual Arrangements and Procurement Procedures. As a result of these presentations and the consequent exchange of information and ideas, certainly manufacturers, suppliers and contractors will have a better understanding of the requirements of the Department of National Defence and will therefore be better able to serve them in the future.

There will also be one further presentation that I will be very interested to receive a report on; and that is the final presentation of the Exhibition by Mr. Charleton of Spar Aerospace Limited, concerning the Industry Viewpoint of Dealing with the Department of National Defence. We can always benefit from your experience and from your insight into this process. I hope that all will feel free to participate in the discussions.

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ANNEX A  
TO: 1250-29 (DOGC)  
DATED: MAY 1983

In many respects I think that we can both look upon this exhibition as more of a symposium; a forum for the sharing of information, experience and ideas; an opportunity for both the user and the manufacturer to examine their complementary requirements. While the exhibits on display at ARMX 83 will be predominantly army oriented, they will have a universal application in training. To that end, every effort has been made to invite a wide cross section of the Canadian Forces, both regulars and reserve force members, officers, senior NCO Instructors from all branches and members of the Combat Development Committee. These are the field-users of the technology on exhibit here today. Their practical experience and informed comments will certainly be of great interest to manufacturers.

As we look to the end of this century and beyond, the "technology windows" will be expanding rapidly and branching out in directions as yet unknown. On Sunday last in Toronto at the unveiling of DeHavilland's Dash 8, the Prime Minister indicated his personal support and the support of this Government for the pursuit of excellence in Canadian Hi-Tech development. Exhibitions such as ARMX 83 will help to foster that development.

It is my hope, during the ensuing exchange and sharing of information and ideas, that Canadian companies can pursue their own interests in concert with foreign firms represented here today and develop joint venture proposals that will benefit both companies and both nations. In looking around this exhibition hall I see much to encourage me in this hope.

The training system of the Canadian Forces is among the most sophisticated in the world but I am confident that this Exhibition, and future ones of a similar nature, will ensure that it continues to develop and grow.

Once again I thank everyone for their interest and support of this endeavour. It gives me great pleasure without further adieu to declare ARMX 83 officially open. I am looking forward with anticipation to a closer look at what you all have to offer us.

Thank you.

ANNEX B  
 TO 1250-29 (DOCC)  
 DATED MAY 1983

EXHIBITORS FOR ARMX 83

COUNTRY	FIRM	PRESENTING	CONTACT
CANADA	TARGETAIR LTD RR No. 4 MONCTON, N.B. EIC 8J8	TATS 1-50 and 102 TARGET AIRCRAFT	LEO PITRE PAUL MELANSON (506) 855-9610
	NORPAK LTD 10 HEARST WAY KARATA, ONT K2L 2P4	ELECTRONIC INFORMATION AND DISPLAYS FOR COMMAND AND CONTROL	WR DAWES (613) 592-4164
	PACERLABS LTD PO BOX 1014 DARTMOUTH, N.S. B2Y 4J3	US ARMY IFV COMPUTER AIDED TRAINING, INSTRUCTIONAL SYSTEMS DEVELOPMENT, MILITARY WEAPON SYSTEM SOFTWARE LIFE CYCLE MANAGEMENT	M. GARVEY (902) 469-0222
	ANACHEMIA LTD PO BOX 147 LACHINE QUE H8S 2A7	CHEMICAL WARFARE DETECTION DEVICES & KITS	I.K. KUERNAC GUY R. QUEENNEVILLE (514) 489-5711
	LAB-VOLT LTD 4555 METROPOLITAN EST, SUITE 102 MONTREAL QUE H1R 1Z4	ELECTRO/MECHANICAL SYSTEM PRACTICAL ELECTRONIC SYSTEM SYNCHRO/SERVO SYSTEM MICRO PROCESSORS & MINI COMPUTER TECHNOLOGY	JEAN-LOUIS LEBLANC GUY L'HEUREUX (514) 376-2120
	AVIATION ELECTRIC LTD, PO BOX 2140 ST LAURENT, QUE H4L 4H8	LAND NAVIGATION SYSTEM GUN ALIGNMENT & CONTROL SYSTEMS DIRECT FIRE WEAPONS EFFECT SIMULATORS (on behalf of Weston Simfire U.K.)	ROBERT EGERY 200 LAUTENTIEU BLVD ST LAURENT QUE H4M 2L5 (514) 744-2811
	FRIESEN, KAYE AND ASSOCIATES BOX 1105 OTTAWA ONT K2N 7T6	CURRENT DND TRAINING PROGRAMS, SELF-PACED INSTRUCTIONS, APPLICATION OF TRAINING MEDIA AND EXAMPLES OF SYSTEMS ANALYSIS	M. McHAREY S EWING (613) 829-2412

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ANNEX B  
 TO 1250-29 (DOCC)  
 DATED MAY 1983

EXHIBITORS FOR ARMX 83

COUNTRY	FIRM	PRESENTING	CONTACT
CANADA (Contd)	ATLANTIS FLIGHT RESEARCH INC 3924 CHESSWOOD DR DOWNSVIEW ONT M3J 2W6	COMPUTER ASSISTED TRAINING AIDS, COCKPIT PROCEDURES TRAINERS, LOANED SIMULATORS AND COMPUTER ASSISTED LEARNING SYSTEMS	DALE SIMMONS (416) 630-8611
	IVI VALCARTIER INDUSTRIES INC 1010 SHERBROOKE ST W, MONTREAL QUE	DEVELOPMENT OF 5.56MM RD C44 ANTI ARMOUR RD	J.P. DROLET (514) 282-1396
	HANDS FIREWORKS INC 221 NIPISSING RD MILTON ONT L9T 1R3	DUMMY SAMPLES OF PRODUCTS PHOTOS VIDEO PRESENTATIONS LITERATURE FIELD DEMO	R.W. BISSET (416) 878-2831 J.C. BOND (613) 363-0236
	ALLCOM DATA LTD 54 CEASAR AVE NEPEAN ONT K2G 0A9	DATA COMMUNICATION EQUIPMENT EMCRYPTION/DECRYPTION DEVICES FIBRE OPTICS	BRYN JONES RON MACKENZIE (613) 226-2340
	HONEYWELL LTD 99 BANK ST OTTAWA ONT K1P 6B9	COMPUTER ASSISTED LEARNING PROGRAMS	H. LIGHTBODY W.E. HAYES HONEYWELL LTD 155 GORDON BAKER RD WILLOWDALE, ONT M2H 2N7 (416) 499-6111 (416) 492-0770(4660)
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ANNEX B  
 TO 1250-29 (DOGC)  
 DATED MAY 1983

EXHIBITORS FOR ARMY 83

COUNTRY	FIRM	PRESENTING	CONTACT
	MARINE EQUIPMENT LTD 312-309 COOPER ST OTTAWA ONT (DYNAMIT NOBEL SCHERMULY-PAINS WESSEX EXPLOSIVE SEAGOLD LTD ALERT MANUFACTURING)	81MM MORTAR TRAINERS 105MM ARTILLERY TRAINERS 105MM ARMOUR TRAINERS MUNITIONS INCLUDING ANTI-ARMOUR WEAPONS AND MINE SYSTEMS PROTECTIVE CLOTHING PYROTECHNICS AND TRAINING GRENADES NBCW WATER PURIFYING EQUIPMENT EXPLOSION SUPPRESSION SYSTEMS	I.D. INRIG (613) 232-3701
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	SPORTMED TECHNOLOGY 2180 BELGRAVE AVE MONTREAL P.Q.	NEW TECHNOLOGY FOR TRAINING	N.G. LADEROUTE (514) 489-8251
	S.O.F.I. (Société de Formation et d'Information Interactive) 906 RUE CHARRIER MONTREAL QUE J2L 1H7	SEMINAR ON NEW TECHNOLOGIES FOR TRAINING VIDEO-DISC TECHNOLOGY AND TACTILE SCREEN (in combination with SONY OF CANADA)	B. MICHAUD (514) 526-4370 (514) 524-9444
	CYBERNEX LTD 1257 ALGOMA RD OTTAWA ONT K1B 3W7	VIDEO TERMINALS AND GRAPHICS	P.G. WALLBRIDGE (613) 741-1540
	UNITED TECHNOLOGIES NORDEN SYSTEMS, INC P.O. BOX 1515, STA B OTTAWA ONT K1P 5R5	TBA	F. FINLAY (613) 234-1120

ANNEX B  
 TO 1250-29 (DOGC)  
 DATED MAY 1983

EXHIBITORS FOR ANNEX 83

COUNTRY	FIRM	PRESENTING	CONTACT
	MARINE EQUIPMENT LTD 312-309 COOPER ST OTTAWA ONT (DYNAMIT NOBEL SCHERNULY-PAINS WESSEX EXPLOSAFE SEAGOLD LTD ALERT MANUFACTURING)	81MM MORTAR TRAINERS 105MM ARTILLERY TRAINERS 105MM ARMOUR TRAINERS MUNITIONS INCLUDING ANTI-ARMOUR WEAPONS AND MINE SYSTEMS PROTECTIVE CLOTHING PYROTECHNICS AND TRAINING GRENADES NBCW WATER PURIFYING EQUIPMENT EXPLOSION SUPPRESSION SYSTEMS	I.D. INRIG (613) 232-3701
	CANADIAN ARSENALS LTD 5, MONTEE DES ARSENAUX LE GARDEUR, QUEBEC J52 2P4	PRACTICE TRAINING AMMUNITION	C. TASSE (514) 581-3080
	SPORTMED TECHNOLOGY 2180 BELGRAVE AVE MONTREAL P.Q.	NEW TECHNOLOGY FOR TRAINING	N.G. LADEROUTE (514) 489-8251
	S.O.F.I. (Société de Formation et d'Information Interactive) 906 RUE CHERRIER MONTREAL QUE J2L 1H7	SEMINAR ON NEW TECHNOLOGIES FOR TRAINING VIDEO-DISC TECHNOLOGY AND TACTILE SCREEN (in combination with SONY OF CANADA)	B. MICHAUD (514) 526-4370 (514) 524-9444
	CYBERNEX LTD 1257 ALGOMA RD OTTAWA ONT K1B 3W7	VIDEO TERMINALS AND GRAPHICS	P.G. WALLBRIDGE (613) 741-1540
	UNITED TECHNOLOGIES TRS NORDEN SYSTEMS, INC P.O. BOX 1515, STA B OTTAWA ONT K1P 5R5		F. FINLAY (613) 234-1120

ANNEX B  
TO 1250-29 (DOCC)  
DATED MAY 1983

EXHIBITORS FOR ARMY 83

<u>COUNTRY</u>	<u>FIRM</u>	<u>PRESENTING</u>	<u>CONTACT</u>
	FSE LTD 1780 ALBION RD REXDALE, ONT M9V 1C1	TBA	SHARON ELLIOTT
	MERCEDES BENZ CANADA INC 849 EGLINGTON AVE E TORONTO ONT M4G 2L5	UNIMOG	D. SCHARFE H. FEIL (416) 425-3550
	COMPUTING DEVICES COMPANY P.O. BOX 8505 OTTAWA ONT K1G 3M9	IMBEDDED SIMULATION IN M-1 ABRAMS TANK	D. STOTHERS (613) 596-7052
	CANADIAN ASTRONAUTICS LABS 1025 MORRISON DR OTTAWA ONT K2H 8K7	EW THREAT SIMULATOR	F. DEFREITAS M. GAYLE (613) 820-8280
	CAE ELECTRONICS LTD BOX 1800 ST LAURENT QUEBEC H4L 4X4	COMPUTER MANAGEMENT TRAINING PHOTOS	R. HODGE (514) 341-6780
	WILSON MACHINE CO LTD 2299 LAPIERRE ST LASALLE QUE H8N 1B7	SIM TRAINING AMMUNITION	C. ARNOLD (514) 365-4101
	CARL ZEISS CANADA LTD P.O. BOX 116 ALYMER QUE J9H 5E4	OPTICAL PRODUCTS	C. TRAUBER (613) 232-4576
	CANADAIR LTD P.O. BOX 6087 STATION A MONTREAL QUE H3C 3G9	REMOTELY PILOTED VEHICLE	R. LEARNOND

ANNEX B  
 FO 1250-29 (DOGC)  
 DATED MAY 1983

EXHIBITORS FOR ARMA 83

COUNTRY	FIRM	PRESENTING	CONTACT
	SONY OF CANADA 1140 MORRISON DR OTTAWA ONT K2H 8S9	IN COMBINATION WITH S.O.F.I.	R. LEROUX (613) 820-6060
	CIHT INC 1751 RICHARDSON SUITE 100-34 MONTREAL QUE H3K 1G6	DESEM SYSTEMS RADAR TRAINER	S. ROTH (514) 932-3093
	GENERAL MOTORS CANADA LTD DIESEL DIVISION PO BOX 5160 LONDON ONT N6A 4N5	AVGP TRAINING SYSTEMS	G.H. SOUTTER (519) 452-5135
	BOMBARDIER INC DIVISION DU MATERIEL LOGISTIQUE VALCOURT QUE JOE 2L0	2 1/2 TON TRUCK TRIPS TRIP	G. BERTRAND (514) 532-2211
UNITED KINGDOM	KURT EICHWEBER PRAZISIONGERATEWERK U.K. OFFICE MOUNTBATTEN HOUSE VICTORIA STREET WINDSOR BERKS SL4 8E	TACTICAL TRAINING AND GUNNERY SIMULATOR FOR ARMOUR FIGHTING VEHICLES TACTICAL AND GUNNERY TRAINER FOR ANTI-TANK GUIDED WEAPONS TOW SIMULATOR ANTI ARMOUR HELICOPTER SYSTEM	G.D. EVAN-HARRI (07535) 57181
	ASTRA PYROTECHNICS LTD RICHBOROUGH SANDWICH KENT CT1 3NR	SAMPLES OF PYROTECHNIC STORES	A REED (0104) 617777
	MILTRA Z.M. IWASKO LTD 62A COLLEGE RD HARROW MIDDLESEX	1:100 SCALE MODELS BRITISH ARMY RECOGNITION SET MEDIUM GIRDER BRIDGE (1:12 SCALE) SYSTEM MODELS MODULAR TERRAINS OPTICAL PROBES AND VIEWING DEVICES	Z.M. IWASKO 01-863-6714

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EXHIBITORS FOR ARMY 53

COUNTRY	FIRM	PRESENTING	CONTACT
	REDIFLIGHT INC REDIFUSSION SIMULATION INC PO BOX 5446 ARLINGTON TEXAS 76011	FLIGHT SIMULATION SYSTEMS	DAVID M. LIKES (817) 469-8411
	GENERAL ELECTRIC CO PO BOX 2500 DAYTONA BEACH FLA 32015	CGI FOR SIMULATION AND TRAINING SLATED FOR CONDUCT OF FIRE TRAINERS FOR ARMOUR VEHICLES	R. J. WAHLIN (904) 258-2488
	DIXI USA CORPORATION 1455 VETERANS HWY HAUPPAUGE, N.Y. 11787	TANK/INFANTRY TARGET DEVICES AND HOSTILE FIRE SIMULATORS (IN COMBINATION WITH COMET GmbH)	A. KUNZ-AUBERT (516) 234-7322
	INSTRUMENT FLIGHT RESEARCH P.O. BOX 2073 COLUMBIA, SC 29202	INSTRUMENT METEOROLOGICAL CONDITION SIMULATOR INFLIGHT WEATHER TRAINING DEVICE	FRANK WITT BOB SLEICHER (803) 796-7400
	TECHNOVATE INC. 910 S.W. 12TH AVE. POMPANO BEACH FLORIDA 33060	DEGEM SYSTEMS (ISRAEL) (WITH CIHT INC)	MR. P. ZANTTI 305 946 4470 S. ROTH (514) 932-3093
	INTERNATIONAL LASER SYSTEMS INC 3404 N. ORANGE BLOSSOM TRAIL ORLANDO, FLORIDA 32804	PARA-MILITARY EQUIPMENT	D. DOWNES J. THOSEN (305) 295-4010
FRANCE	GIRAVIONS DORAND INDUSTRIES 5, RUE JEAN-MACE BP 30 92151 SURES ME CEDEX, FRANCE	ANTI-TANK MISSILE SIMULATOR TACTICAL COMBINED ARMS TRAINER	J.C. ALLARD 506-52-22
	THOMSON - CFS DIVISION SIMULATEURS 3, AVENUE ALBERT EINSTEIN BP 116 78192 TRAPPES CEDEX FRANCE	TANK DRIVING SIMULATOR TANK GUNNERY SIMULATOR	BERNARD JULIEN (3) 050-61-01 D.H. POWER (613) 236-3628

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 TO 1250-29 (DOGC)  
 DATED MAY 1983

EXHIBITORS FOR ARMX 83

COUNTRY	FIRM	PRESENTING	CONTACT
	SEENA BP 59 F-78141 VELIZY- VALLACOU'BLAY CEDEX FRANCE	AIR TO AIR AND GROUND TO AIR GUNNERY TRAINING SYSTEMS	H. SIGOURA (1) 630-23-85 MR. JARRAH (514) 648 4540
EUROPE	GLS KRAUSS MAFFEI AG KRAUSS MAFFEI STRASSE 2 8000 MUNCHEN 50 FEDERAL REPUBLIC GERMANY	MBT AND AAT TRAINING TESTING EQUIPMENT AND SIMULATORS FOR CREW AND MAINTENANCE PERSONNEL TRAINING	UDO BRANDES WERNER ZICKWOLFE 789 8899 2393
	STANDARD ELEKTRIK LORENZ AG POSTFACH 400749 D-7000 STUTTGART 40 FEDERAL REPUBLIC GERMANY	TARGET TRAINING SYSTEM ZDS-85	W HUG A WESTERHOLT 07141 124 241 RUDI WALTHER (205) 837-0611
	COMET GmbH POSTFACH 10 02 67 D-2850 BREMERHAVEN FEDERAL REPUBLIC GERMANY	PYROTECHNIC DEVICES (IN 1 COMBINATION WITH DIXI SWIT.)	HANS-GEORG MOROTINI (0471) 3 6051
	FRIED. KRUPP GmbH KRUPP ATLAS- ELECTRONIK SEBALDSBRUCKER HEERSTR 235 2800 BREMEN 44 FEDERAL REPUBLIC GERMANY	TANK FIRE CONTROL SYSTEMS TANK FIRING SIMULATOR	MR. SCHMIDT 0421 457 2507
	SAAB TRAINING SYSTEMS AB BOX 1017 S-551 11 JONKOPING SWEDEN	TBA	MR. L. SHEA SWEDISH TRADE COMMISSIONER'S OFFICE 1155 DORCESTER ST W SUITE 1020 MONTREAL QUE H3B 2J2 (514) 878-4461 KEWT KALL 46 36 13 2640

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 DATED MAY 1983

EXHIBITORS FOR ARMX 83

COUNTRY	FIRM	PRESENTING	CONTACT
	KHELMETALL INDUSTRIE- WERBUNG ULMENSTR 125 POSTFACH 6609 4000 DUSSELDORF 1 FEDERAL REPUBLIC GERMANY	105MM, 120MM TRAINING AMMUNITION	MR. FABRY
	NICO PYROTECHNIK HANKS-JORGEN DIEDERICHS GmbH BEI DER FEUERWERKHREI 4 PO BOX 12 27 D 2077 TRITTAU HAMBURG FEDERAL REPUBLIC GERMANY	PYROTECHNICS	J. PFAEHLER (04154) 2071
	NITRO NOBEL GROUP NORABEL A.B. BOX 803 P.O. BOX 71300 NOVA, SWEDEN	SWEDEN PYROTECHNICS SIMULATORS	MR SANDEN
DND	CFTS	CAL PROJECT AND NATAL CPR TRAINING SYSTEM	LCDR FREEMAN 3580/3516
	CRAD-DRES (DTD/DSD) DREV DCIEM	R&D ACTIVITIES BRIEFINGS AND HARDWARE DISPLAYS	DR G. SPINDLER 26983

APPENDIX 1 TO  
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DATED: MAY 1983

INVITEES

1. RCMP
2. National Police College
3. Canadian Coast Guard
4. Harbours Police
5. Correctional Service Canada
6. Association of Canadian Community Colleges
7. Department External Affairs (Defence Programs)
8. Department Industry, Trade & Commerce (Electronics & Aerospace Division)
9. Canadian Commercial Corporation (Export Supply Centre)
10. Supply & Services Canada (Supply Policy, Plans and Strategies)
11. Quebec Provincial Police
12. Quebec Police College (Nicolet)
13. Montreal Urban Community
14. EMO Quebec
15. Ontario Provincial Police
16. Ontario Police College
17. Toronto Metro Police
18. Peel Regional Police
19. Foreign Attaches (Excluding Warsaw Pact)
20. U.S. National Security Industrial Association (NSIA)
21. U.S. Naval Training Equipment Centre (NTEC)
22. Office of the Undersecretary of Defence (Research & Engineering)
23. Institute for Defence Analysis
24. Society for Applied Learning Technology (SALT)

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APPENDIX I TO  
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25. American Defence Preparedness Agency (ADPA)
26. Ontario Institute for Studies in Education
27. National Research Council
28. Conference of Defence Association

APPENDIX 2 TO  
ANNEX B  
TO 1250-29 (DOCC)  
DATED MAY 1983

PARTICIPANTS TO ARMY 83

COUNTRY	FIRM	PRESENTING	CONTACT
	H. C. TAYLOR & ASSOC CONSULTANTS THERESE LANE GLOUCESTER ONT K1C 2A5		H.C. TAYLOR LTD (613) 837-3528
	MESSERSHMITT-BOLKOW-BLOHM GmbH HELICOPTER CORP SUITE 2200 320 QUEEN ST OTTAWA ONT K1R 5A3		E.J. GRANT (613) 232-1557
	CUBIC CORPORATION 9333 BALBOA AVE P.O. BOX 80787 SAN DIEGO, CA 92138		KEARNEY D. BENNETT STEPHEN O. SHEWMAKER HARRY H. JONES (619) 277-6780
	FFV ORDNANDE FORENADE FABRIKSWERKEN S-691 87 EKILSTUNA SWEDEN		S. JOHANSSON P. WIGREN 46-16-110200
	FERRANTI COMPUTER SYSTEMS LTD BRACKNELL DIVISION WESTERN ROAD BRACKNELL, BERKS RG12 1RA		J.M. SHERWIN 0344 3232 J. MATTHEW
	TELETRAINING AEL MICROTEL LTD  100 STROMGER BLVD BROCKVILLE ONT 6KV 5W8		J. MCEWAN (613) 342-6621
	ONTARIO EDUCATIONAL SERVICES CORP 102 BLOOR ST WEST SUITE 300 TORONTO ONT M5S 1M8		L.J. RECHSTEINER
	PERRYTECH CORP LTD PO BOX 30 RICHMOND HILL ONT L4C 4X9		R.S. JONES

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APPENDIX 2 TO  
ANNEX B  
TO 1250-29 (DOGC)  
DATED MAY 1983

PARTICIPANTS TO ARMY 83

COUNTRY	FIRM	PRESENTING	CONTACT
	VERSITRON INC 6310 CHILLUM PLACE N.W. WASHINGTON, D.C. 20011		H.P. MEISINGER (202) 882-8464
	CAPA INC BOX 224 305 MAIN ST KINDERSLEY SASA SOL 150		D.N. BOYCHUK (613) 725-2877
	ISAT INC 116 SOUTH PITT ST ALEXANDRIA, VA 22314		W.H. KEECH (703) 836-5104
	FORD AEROSPACE AND COMMUNICATIONS CORP 20TH FLOOR 300 RENAISSANCE CENTRE PO BOX 43342 DETROIT MICHIGAN 48243		R.C. HOUSE K.C. ATTINGER
	LITTON SYSTEMS CANADA LTD 25 CITYVIEW DRIVE REXDALE ONT M9W 5A7		R.A. MULLER
	GEN TEC INC 2625 DALTON ST ST FOY QUE G1P 1S9		J.L. GIROUX
	DEPT SUPPLY & SERVICES OTTAWA ONT		S.J. RICHARD C.A. BRAYNE
	TURNOT INC 37 MARIE VICTORIN CAMBIC QUE J5R 1C3		B. GRAFFUNDER (514) 659-5487

ANNEX C  
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DATED MAY 1983

ARMY REQUIREMENTS

LTEN CH BELZILE, COMMANDER MOBILE COMMAND

FOR ARMX 83 0830 HRS 20 APR 83

Gentlemen, I want to welcome you to the Canadian Army's first Training Technology Exhibition, ARMX 83. I am very encouraged by your enthusiastic response to this initiative and I am confident that ARMX will prove mutually beneficial.

I believe that if Canada is involved in another war, the outcome will depend more on the quality of the Canadian soldier, his leaders and his training, than on equipment. No matter how technologically advanced, a weapons system is just so much metal and microchips, unless it has a well-trained soldier to operate it, and to fight it intelligently. That is the basic philosophy behind ARMX. We want to make sure that our soldiers and units are trained to use their weaponry to maximum effectiveness. As weapon systems become more capable, so too must our soldiers. Right now there is a strong suspicion that technological capabilities are beginning to outstrip our training capabilities. This is a suspicion held not only by Canada but also by our allies. Next month the NATO Defence Research Group will be studying this very problem - "The Human As Limiting Element in Weapons Systems".

Our Defence Research Establishments have been active in the training and simulation area. Recently, initiatives have been made to establish training and simulation as a new technical program in order to give it the attention and support it deserves. I support this initiative by our R&D community.

But that is not enough. If we are to make rapid progress we also need independent R&D innovative technology, based on a sound understanding of the army's goals. This is what you in industry can provide. This is why one of the army's aims is to establish better communication and closer cooperation with defence-related industry.

.../C-2

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DATED MAY 1983

Let me begin this communication by bringing you up-to-date. The Canadian Army has a limited budget and a stringently controlled program for the acquisition of capital equipment. This control ensures that our military dollar is not spent on attractive quick-fix solutions.

My staff both here in St Hubert and in Ottawa have been working hard to ensure that we have our homework done before starting a program to modernize and revitalize our training. We began with the basics and analyzed what tasks had to be accomplished, under what conditions and to what standard of proficiency. These we call Battle Tasks Standards and they have been written for all corps. This is roughly equivalent to what is called "Front-End Analysis" in training development circles. We are also reviewing our training concepts, starting to apply new innovative ideas where they are needed, and want very much to validate the whole system. Concurrently, as part of the combat development process, a training development program has been established. Recently, I've had the Army Training Board organized to direct and coordinate our training development efforts, in close cooperation with operational concepts, doctrine and tactics, and equipment. The end result should be a tightly controlled, well coordinated improvement of the army's ability to fight. All that to say that I have directed a systematic rational approach to training development and with it, the intelligent application of training technology based on army requirements, not on the availability of technological devices and simulators. I don't want to discourage ideas or your initiatives, but I do want you to understand that we need solutions to our identified problems not solutions to problems we don't have. I'd like to add one caveat to that. If you can show us a better, cheaper way of conducting any portion of our training my staff will listen. If it's a great idea, I'll listen.

I have described what we have done and are planning to do to improve our training. We are still very early on in this process and ARMX itself is part of the educational phase. Accordingly I have not come here today with a tight fully-prioritized list of our training problems areas. The identification of our training deficiencies now and in the future takes detailed analysis and that is never complete in a dynamic system. What I do want to outline for you are some broad areas in which we know we need improvement and ask that you help us find good, effective solutions which we can afford.

First, none of us are happy with the training effectiveness of our field training exercises. They are expensive in terms of time, money, equipment and manpower, yet they are indispensable in ensuring our combat readiness. We want to improve the realism and training value these exercises give us. To do this, we need a means of realistically assessing casualties and the effects of all types of fire in real time, without hampering our soldiers with cumbersome kit. We are

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currently investigating various tactical engagement simulation systems on the market and would like to conduct trials to determine the system which best meets our needs at minimum cost. One feature which would be highly desirable for such a system is the capability for use as a weapon marksmanship trainer, as well. Accordingly, we are most interested in so-called two-way systems with a very narrow laser beam. Closely related to this requirement is that of simulating area weapons effects, such as indirect fire, electronic warfare and mine warfare. Such an omnibus system when developed, will be in great demand internationally. If you have equipment you would like considered for trial, please contact my training development staff.

Another area in which improvement is needed is targetry. This is an old problem, but one which until very recently, cost prevented us from correcting. We need reliable, full-scale targets which can be programmed, controlled remotely, and which give indication of hostile fire and react when hit. We would also like to be able to use this system to gather data on the effectiveness of our direct fire gunnery training. Because of the high cost of commercial systems, we have commenced production of an interim solution for our major ranges. Perhaps you could help with our longer term solution.

Another training deficiency we want to solve is that of training our commanders and staffs to make fast logical decisions during fast moving battlefield conditions. These training devices have to be simple and cheap enough to allow decentralization down to at least brigade level if they are going to be used where they are most needed.

Recognition of enemy personnel, aircraft and equipment is also currently a weak area in our training. Perhaps interactive video disc technology or other innovations could be applied here.

Another area in need of significant improvement is training in small arms marksmanship. We have a new family of small arms coming into service soon and we want to ensure our soldiers learn to use them to best possible effect, and training technology may be able to help.

Lastly, although technician training is outside my strict control, I know help would be welcomed in this area, especially with the increased complexity of weapons systems repair.

There is one more point I'd like to make: The money spent on training devices and simulators is money which cannot be spent on operational equipment. One attractive approach is that of embedded simulation; that is building a training mode into the operational equipment during the initial design of the system or during an upgrading. Such an upgrade is due for

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our Leopard tanks commencing in 1984/85. Perhaps this is a strategy we should be investigating for all our computer based systems.

As I said Gentlemen, I did not intend to give you an exhaustive list today but merely to indicate areas in which we need improvement. I am confident that in the next three days here at ARMX, better communication and a closer cooperation will begin, not only between the army and industry but also within industry itself. As things progress in this rapidly expanding field, there may develop a need for a more regular communications forum. I'm sure I can count on your cooperation if and when that point is reached.

I look forward to meeting you socially tonight and hope you find your stay here with us helpful and profitable.

Thank you for your demonstration of support.

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ARMY TECHNOLOGY  
TRAINING DEVICE EXHIBITION  
(ARMX 83)

"DND CONTRACTUAL AND PROCUREMENT PROCEDURES"

COLONEL W.E. ROBERT LITTLE  
DIRECTOR  
PROCUREMENT AND SUPPLY LAND  
NATIONAL DEFENCE HEADQUARTERS

0830-0930 HRS  
21 APRIL 1983

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ANNEX D  
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DATED: MAY 1983

ARMX 83

AIM TO BRIEF, AS PART OF AN ARMX 83 SEMINAR ON DND  
CONTRACTUAL AND PROCUREMENT PROCEDURES.

OUTLINE

1. THE PURPOSE
2. THE PLAYERS
3. THE PROGRAMME
4. THE PROCESS
5. THE CONTRACTUAL PROCEDURES
6. THE PROCUREMENT PICTURE
7. QUESTIONS AND DISCUSSION

.../D-3

THE PURPOSE

1. THE OBJECTIVE OF THE CANADIAN ARMED FORCES IS TO ENSURE THE SECURITY OF CANADA AND TO CONTRIBUTE TO WORLD PEACE.
  
2. THE PRIMARY OBJECTIVE OF DND PROCUREMENT POLICY IS TO PROVIDE THE MATERIEL AND FACILITIES REQUIRED FOR THE MAINTENANCE OF FIGHTING CAPABILITY IN CANADA'S SEA, LAND AND AIR FORCES. AS A FIRST PRIORITY THE CANADIAN ARMED FORCES MUST BE SUITABLY AND ACCURATELY EQUIPPED AND TRAINED FOR COMBAT. EMPHASIS IS THEREFORE TO BE GIVEN TO THOSE WEAPONS AND EQUIPMENT REQUIRED TO UNDERTAKE ASSIGNED COMMITMENTS AND TASKS IN PERIODS OF TENSION OR WAR.

.../D-4

THE PLAYERS - GOVERNMENT OF CANADA

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DATED MAY 198

PARLIAMENT OF CANADA  
CABINET

PRIVY COUNCIL OFFICE ( CABINET COMMITTEE - PLAN AND PRIORITIES  
( CABINET COMMITTEE - FOREIGN POLICY AND DEFENCE  
TREASURY BOARD OF CANADA  
VARIOUS DM MIRROR COMMITTEES

PRIMARY

DEPARTMENT OF NATIONAL DEFENCE  
SUPPLY AND SERVICES - CANADA  
REGIONAL ECONOMIC EXPANSION/INDUSTRY TRADE AND COMMERCE  
EXTERNAL AFFAIRS CANADA

AS REQUIRED

FINANCE CANADA  
REVENUE CANADA CUSTOMS AND EXCISE  
CANADIAN COMMERCIAL CORPORATION  
CROWN ASSETS DISPOSAL CORPORATION  
MINISTRY OF STATE FOR ECONOMIC AND REGIONAL DEVELOPMENT  
EMPLOYMENT AND IMMIGRATION CANADA  
FOREIGN INVESTMENT REVIEW AGENCY  
NATIONAL RESEARCH COUNCIL CANADA  
MINISTRY OF STATE FOR SCIENCE AND TECHNOLOGY  
OTHERS

THE PLAYERS

SUPPLY AND SERVICES CANADA (SSC)

CONTRACTING SERVICES ARE PERFORMED FOR DND BY SSC. THIS INCLUDES  
PROCUREMENT PLANNING, TENDERING, CONTRACT AWARD AND CONTRACT ADMINISTRATION.

MINISTER - THE HON. J. M. JACQUE LAIS  
CMT - MR. RAY HESSLOM

OPERATIONS SECTOR

(ADM - MR. JERRY BERGER)

DIRECTORATES

- |   |                                     |
|---|-------------------------------------|
| - AEROSPACE & ARMAMENT                                  | SCIENCE AND PROFESSIONAL SERVICES - |
| - MARINE, ELECTRONICS INDUSTRIAL                        | COMMUNICATION SERVICES -            |
| - INDUSTRIAL & COMMERCIAL PRODUCT                       | REGIONAL OPERATIONS -               |
| - OFFICE AUTOMATION SERVICES AND<br>INFORMATION SYSTEMS | DISPOSAL OPERATIONS -               |

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DATED MAY 1983

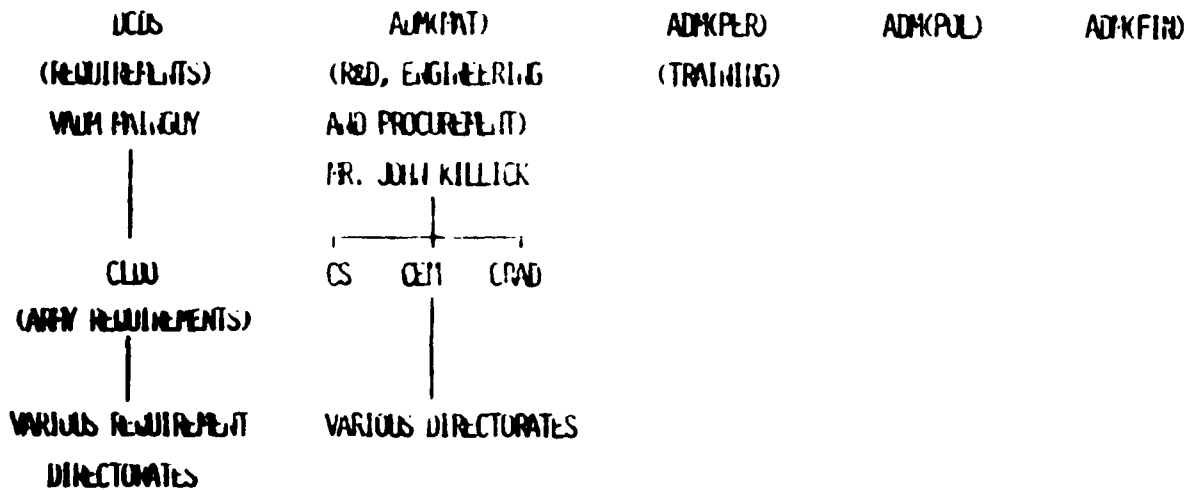
DEPARTMENT OF NATIONAL DEFENCE

MINISTER: THE HONOURABLE MR. GILLES LAPOINTE

DE: MR. GUY DENAR

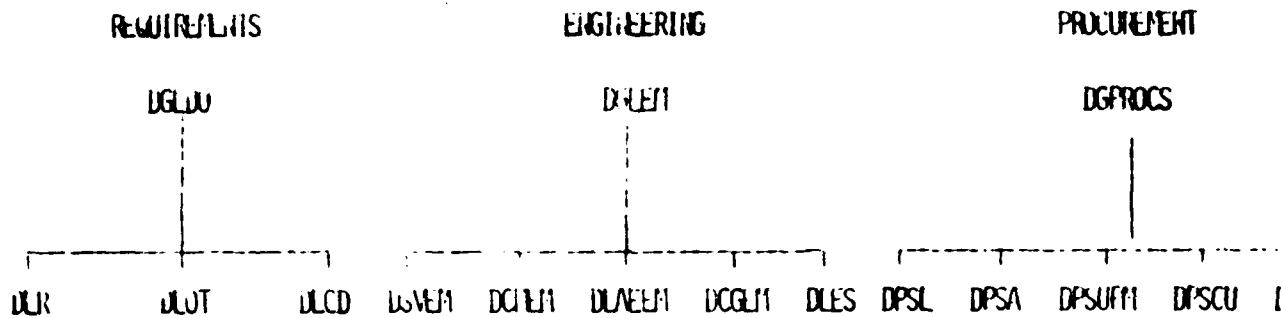
CDS: GENERAL RAYSA WITHERS

VCDS: LUCIEN THIÉBAULT



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DEPARTMENT OF NATIONAL DEFENCE (CONTINUED)



THE PROGRAM

DEFENCE SERVICES PROGRAM

- ENCOMPASSED ALL DND EXPENDITURES
- DIVIDED INTO 9 ACTIVITIES
- IN ITS BROADEST FORM IT IS A DETAILED PLAN OF CURRENT AND FUTURE DEFENCE EXPENDITURES
- PORTRAYED IN VARIOUS, SPECIFIC FORMS:
  - (1) FIRM ESTIMATES - 1 YEAR
  - (2) INCP - 5 YEARS
  - (3) INTERVAL - LONG TERM PLAN (15 YEARS)
- FOUR MAIN COMPONENTS:
  - (1) CAPITAL (VOTE 5)
  - (2) P, O&M (VOTE 1)
  - (3) GRANTS & CONTRIBUTIONS (VOTE 10)
  - (4) STATUTORY REQUIREMENTS
- CAPITAL
  - (1) EQUIPMENT
  - (2) R&D
  - (3) CONSTRUCTION
  - (4) MISCELLANEOUS
- EQUIPMENT
  - MAJOR CRUM PROJECTS (100%)
  - STAND ALONE PROJECTS
  - MR & MRR
  - AMMUNITION

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THE PROCESS (CONTINUED)

2. DEVELOPMENT OF EQUIPMENT REQUIREMENTS

A. PLANNING AND PROGRAMME FRAMEWORK

- PROJECT PLANNING
- PROJECT INITIATION
- PROJECT PLANNING AND DEVELOPMENT
- PROJECT DEFINITION
- PROJECT IMPLEMENTATION

B. TRANSITION FROM DEFENCE POLICY TO EQUIPMENT REQUIRED

CAPABILITY VS REQUIREMENT --- SHORTFALL

C. DEVELOPMENT OF PERFORMANCE REQUIRED

SERIES OF CONSTRAINT EXERCISES --- INCREMENTAL ANALYSIS:  
INCREASE IN BENEFIT VS INCREASE IN COST

D. CONVERSION OF PERFORMANCE REQUIREMENT TO TECHNICAL

SPECIFICATION

TIME/PERFORMANCE/COST/LIFECYCLE SUPPORT TRADE OFFS

3. TRANSLATION OF REQUIREMENT, SPECIFICATION, FUNDING INTO PROCUREMENT

AND CONTRACT DEMAND - TENDER/RFP - EVALUATION - APPROVAL - CONTRACT

.../D-11

ANNEX D  
TO 1250-29 (DOGC)  
DATED MAY 1983

THE CONTRACTUAL PROCEDURES

OVERALL DIVISION OF RESPONSIBILITIES  
BETWEEN DSS AND DID FOR THE ACQUISITION  
OF GOODS AND SERVICES

<u>ACTIVITY</u>	<u>OVERALL RESPONSIBILITY OF</u>
A. DEFINITION OF OPERATIONAL NEEDS	DND
B. DEVELOPMENT OF TOTAL PROGRAM PLAN	DND
C. DEFINITION OF TECHNICAL REQUIREMENTS	DND
D. DEVELOPMENT OF PROCUREMENT PLAN	DSS (PRC)
E. CONTRACTING PROCESS	DSS
F. ACCEPTANCE AND FINAL PAYMENT	DND
G. CONTRACT CLOSE-OUT AND CLEAN-UP	DSS

ANNEX D  
TO 1250-29 (DOGC)  
DATED MAY 1983

THE CONTRACTUAL PROCEDURES

SUMMARY OF OPTIONS FOR GOBS CONTRACTS

<u>METHOD OF PROCUREMENT</u>	<u>METHOD OF PRICING</u>	<u>CONTRACT PROVISIONS</u>
1. TRADITIONAL METHOD	1. FIXED LUMP SUMS	1. PENALTY CLAUSE
2. TOTAL PACKAGE	2. FIXED UNIT PRICES	2. OPTIONS
3. PHASED CONTRACTING	3. TARGET PRICE CEILING PRICE & INCENTIVE FEE FORMULA	3. PROGRESS PAYMENTS
4. DEVELOPER PROPOSAL	4. TARGET PRICE & INCENTIVE FEE W/O CEILING PRICE	4. ADVANCE PAYMENTS
5. FLEXIBLE PRICE	5. FIXED TIME RATES	5. HOLDRACKS
6. STANDING OFFER	6. COST PLUS FIXED FEE	
7. PER DIEM OR OTHER TIME RATE FEES	7. COST PLUS A PERCENTAGE OF COSTS	

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ANNEX D  
TO 1250-29 (DOGC)  
DATED MAY 1983

THE CONTRACTUAL PROCEDURES

DSS CONTRACTING PROCESS

- SOURCE LISTING
- BID SOLICITATION POLICY
- PROCUREMENT PLAN
- TENDER-REQUEST FOR PROPOSAL
- EVALUATION
- CONTRACTS
- CONTRACT REQUEST AND AUTHORIZATION

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FORWARDED BY  
TO 1250-29 (DOGC)  
DATED MAY 1983

THE CONTRACTUAL PROCEDURES

TYPES OF CONTRACTS

.../D-15

FIRM PRICE

FIRM FIXED PRICE (COMPETITIVE)

FIRM FIXED PRICE (NEGOTIATED)

FIXED PRICE INCENTIVE

COST REIMBURSABLE

COST PLUS INCENTIVE FEE

COST PLUS FIXED FEE

COST SHARING

FIRM HOURLY RATES

COST

ALTERNATIVE PRICING BASES

1. COST
2. COST PLUS
3. COST PLUS FIXED FEE
4. COST SHARING
5. PRICE TO BE NEGOTIATED (P.T.B.N.)
6. FIRM HOURLY RATE
7. VARIABLE HOURLY RATES
8. TARGET INCENTIVE
9. MULTI INCENTIVE
10. NEGOTIATED FIRM PRICE
11. INCREMENTAL PRICING
12. RANGE CONTRACTING
13. COST
14. CATALOGUE PRICING
15. COMPETITIVE FIRM PRICE
16. DESIGN TO COST

.../D-16

D-15

THE PROCUREMENT PROCESS

DND PROCUREMENT POLICIES

1. OBTAIN BEST VALUE FOR MONEY SPENT.
2. PROVIDE EQUAL OPPORTUNITY TO TENDER.
3. FURTHER THE ATTAINMENT OF NATIONAL SOCIO-ECONOMIC POLICIES AND OBJECTIVES.
4. ENHANCE THE TECHNOLOGICAL CAPABILITY OF CANADIAN INDUSTRY AND IN PARTICULAR ITS DEFENCE PRODUCTION CAPABILITY.
5. BE IN CONSONANCE WITH NATO POLICY FOR STANDARDIZATION AND INTEROPERABILITY.
6. SUPPORT CANADA'S COMMITMENTS UNDER GATT.
7. GIVE PREFERENCE (NORMALLY) TO THE PROCUREMENT OF PROVEN EQUIPMENT NOW IN PRODUCTION.
8. CONSIDER DESIGN AND DEVELOPMENT OF NEW EQUIPMENT ONLY WHEN SUCH IS DEMONSTRABLY IN EITHER THE INTEREST OF DEFENCE OR THE NATION.
9. DEVELOP CANADIAN OPTIONS THROUGH R&D TO MEET THE PROCUREMENT NEEDS OF DND AS ALTERNATIVES TO FOREIGN PRODUCED ITEMS.
10. WHEN NATIONAL SOURCES ARE AVAILABLE BUT ARE NOT INTENDED TO BE USED OR DEVELOPED, THE REASON MUST BE EXPLAINED.

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ADDITIONAL PROCUREMENT POLICIES

11. ADDITIONAL PROCUREMENT SHALL FAVOUR EQUIPMENT CAPABLE OF BEING USED IN A VARIETY OF ROLES.
12. WHERE APPLICABLE, PROCUREMENT SHALL PROVIDE THE RESERVE FORCE WITH CONTEMPORARY EQUIPMENT AS PART OF THE TOTAL FORCE CONCEPT.
13. QUANTITATIVE REQUIREMENTS FOR MAJOR PROCUREMENT ITEMS SHALL BE DECIDED BY A FUNDAMENTAL REVIEW OF THE TASKS TO BE PERFORMED AND NOT ON PREVIOUS DEPARTMENTAL SCALES OF ISSUE OR EQUIPMENT TABLES.
14. ALL PROCUREMENT SHALL TAKE INTO ACCOUNT THE NEED TO CONSERVE ENERGY AND REDUCE THE COST ASSOCIATED WITH ITS USE INCLUDING CONSIDERATION OF THE OPPORTUNITIES TO FOREGO THAT CONSUMPTION THROUGH SIMULATION.

THE PROCUREMENT PICTURE (CONTINUED)

1. TYPE OF FIRMS (SEE HANDOUT)
  - A. GROUP 1 CANADIAN BASED MANUFACTURERS
  - B. GROUP 2 CANADIAN BASED AGENTS WITH AFTER-SALES SERVICES
  - C. GROUP 3 OTHER CANADIAN BASED AGENTS
  - D. GROUP 4 FOREIGN FIRMS
  
2. ISSUES FOR FOREIGN AND DOMESTIC FIRMS
  - A. CANADIAN CONTENT
  - B. INDUSTRIAL BENEFITS/OFFSETS:
    - (1) SUB CONTRACT SUSTAINABILITY
    - (2) RATIONALIZED APPROACH
    - (3) JOI-FDI RELATED OFFSETS
    - (4) OFFSETTING OFFSETS
  - C. SOCIO-ECONOMIC BENEFITS
    - (1) JOB CREATION/RETENTION
    - (2) TECHNOLOGY TRANSFER
    - (3) LICENSING RIGHTS
  - D. REGIONAL DEVELOPMENT
  - E. CANADA/US DEFENCE PRODUCTION SHARING AGREEMENTS
  - F. GATT
  - G. GOVERNMENT FINANCIAL ASSISTANCE (JIPP, SDF, TERDP, EDF, S&L, ETC)

Presented to ARMX-83  
Mobile Command Headquarters  
St. Hubert, P.Q. - 22 April 1983

An Industry Viewpoint of DND

by

Peter Charlton

ANNEX E  
TO 1250-29 (DOGC)  
DATED MAY 1983

Good Morning,

I have been asked to speak to you this morning to provide "An Industry Viewpoint on Dealing with DND." As a first point, we might perhaps remark that its fine for the Army to get up at the crack of dawn; but those of us in Industry lead a more leisured existence; at least so the mythology goes.

Although my 2 1/2 years in Industry is brief when measured against the previous 31 1/2 years of my military career, I believe that this very brevity brings a sharp focus to the picture I would like to portray. I trust that I can give you a balanced Industry viewpoint of DND, and not a DND viewpoint of DND, clouded perhaps by the passage of time.

I must say, that my selection to speak this morning represents a truly masterful piece of staff work; which is most appropriate because the Army thrives on staff work. It is widely proclaimed, particularly in Army circles, that neither the Navy nor the Air Force have the first idea about how to do staff work. Indeed participation by representatives of these other services at the Staff College in Toronto is only for the purpose of providing syndicate members for the Army attendees to lead, and if possible to educate. Of course there is a countervailing view that while bread is the staff of life, the life of the staff is one long loaf.

During my service career I spent some 5 years directly in the training business besides being very aware that the major purpose of a peacetime force is, or ought to be, the training of people to prepare for war. So professionally, I might be considered as persona grata at this Training gathering. During my 3 years in Winnipeg at what was then Training Command Headquarters, I was entrusted with the control of the two recruit schools, the Warrant Officer's School as it then was, The Canadian Forces Officer Candidate School, and the content and setting up of the Junior Leader's Course. Thus I might be presumed to have developed at least a nodding acquaintanceship with matters close to the heart of an Army trainer in particular; although Heaven forbid that any of those schools I named be considered as Army schools. The fact is though, that much of their training is conducted out of doors. And this in turn tends to be more traditionally, the business of the Army than it does for the Navy, who sail in nice warm tin boxes to exotic ports, or the Air Force, who occupy snug warm hangars at Trenton.

But, since I spent all of the first half of my career in the Navy, and most of the last half with the Air Force, I am well aware that the Navy's warm tin boxes can be both cold and leaky as well as unbearably mucle; and that the warm hangar at Trenton is

.../E-2

Peter Charlton is Director, Electronic Systems Divisions, Spar Aerospace Limited

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only a short time removed from the air field at Eureka or Cape Over, hard, warm and snug when you've deployed in January with a Buffalo or a Chinook. Thus if I should happen to say something that's contrary to Army doctrine I can be dismissed as an airman or a sailor. And should I happen to be critical of DND, then of course everyone knows that in Canada, retired Generals have zero credibility except for comic relief in the media.

Rather a long winded introduction. But with a purpose, and that is to put before you the idea that training in the Canadian military is not just the prerogative of a chosen few who occupy instructional positions, but something that is quite well understood by almost all military personnel. It is of course trite to say that everyone's an expert in training. But in fact that's not far from the truth. At any one time about 7,000 uniformed members of the forces are directly involved in training personnel. That's about 9% of the forces as a whole. So on the basis of an average tour length of 2 years for a 20 year career, almost everyone has some direct experience as a trainer. To this can be added the fact that at any one time some 13,000 people, or 16% of the forces, are actually being trained. On the average, the entire forces has some direct training experience every four years.

Thus, as you come about your business in dealing with DND the phrase "everyone's an expert" takes on a real meaning. Indeed, everyone is an expert, even though some are naturally more expert than others. And it's these latter you need to identify and cherish. But don't ever forget that the military people with whom you deal know their business as well as you know yours; maybe even better. The fact that the system has its defects shouldn't obscure the ability of the inmates to keep it operating better than the owners have any right to expect.

Now then, we the industry are selling our wares, or at least we're trying to do that. The first thing to do is to identify the customer. And that of course is DND, right? Wrong! The customer is DSS, the Department of Supply and Services, otherwise known as SSC Supply and Services Canada, or even Approvisionnement et Services Canada. In any event, the major occupants of Place du Portage in Hull. (But don't forget the regional offices from coast to coast, each with their own authority to purchase.)

Dealing with DSS is a fascinating subject on its own, and I do not wish to tilt at too many windmills today. However, there are a few points I should make. In any game, it is of considerable benefit to know the rules. The DSS rules are contained in the Supply Policy Manual, yours in 4 volumes for a mere \$675 or \$310 outside Canada not including amendments (\$150/\$180 per year). This manual fulfills a similar function in Canada to that of the Defence Acquisition Regulations in the US, although it is not restricted to Defence acquisition matters alone.

In section 0202 of the manual you will find a tabular breakdown of the division of responsibility between DND and DSS in the acquisition of materiel and services for DND. There are a few surprises in this table so let us look at the five major activities and some of the sub activities involved.

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DATED MAY 1983

Mention of MIL specs leads me to note the benefits of DND 1015 certification in Quality Assurance, the assistance to be gained from a resident Technical Services Detachment, and the value of working familiarly with MIL specs.

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SUPPLY POLICY MANUAL ART. 0202

<u>MAJOR ACTIVITY</u>	<u>RESPONSIBILITY</u>	
	<u>MIL SPEC ITEMS</u>	<u>NON MIL SPEC ITEMS</u>
A. DEFINITION OF OPERATIONAL NEEDS		DND
5. Trade-off analysis of performance, cost, and schedule of the various alternatives.	DND	DSS
3. DEVELOPMENT OF TOTAL PROGRAM PLAN		DND
1. Determination of need for special program management.	DND	DSS
4. Determination of Inter-Departmental and Inter-Governmental considerations on procurement.	DSS	DSS
7. Method of meeting maintenance and support requirements.	DND	DSS
C. DEFINITION OF TECHNICAL REQUIREMENTS		DND
2. Define support materiel and services requirements.	DND	DND
3. Define:	DND	DSS
a) quality standards and qualification approvals;		
b) acceptance trials and tests (including pre-production samples);		
c) warranty requirements; and		
d) technical reports from supplier		

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SUPPLY POLICY MANUAL ART. 0202

<u>MAJOR ACTIVITY</u>	<u>RESPONSIBILITY</u>	
	<u>MIL SPEC ITEMS</u>	<u>NON MIL SPEC ITI</u>
A. DEFINITION OF OPERATIONAL NEEDS		DND
5. Trade-off analysis of performance, cost, and schedule of the various alternatives.	DND	DSS
3. DEVELOPMENT OF TOTAL PROGRAM PLAN		DND
1. Determination of need for special program management.	DND	DSS
4. Determination of Inter-Departmental and Inter-Governmental considerations on procurement.	DSS	DSS
7. Method of meeting maintenance and support requirements.	DND	DSS
C. DEFINITION OF TECHNICAL REQUIREMENTS		DND
2. Define support materiel and services requirements.	DND	DND
3. Define:	DND	DSS
a) quality standards and qualification approvals;		
b) acceptance trials and tests (including pre-production samples);		
c) warranty requirements; and		
d) technical reports from supplier		

.../E-5

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DATED MAY 1983

SUPPLY POLICY MANUAL ART. 0202

<u>MAJOR ACTIVITY</u>	<u>RESPONSIBILITY</u>	
	<u>MIL SPEC ITEMS</u>	<u>NON MIL SPEC ITEMS</u>
D. DEVELOPMENT OF PROCUREMENT PLAN		DSS
5. Development of procurement plan including:		
f) designation of contract authorities -		
(1) design authority	DND	DSS
(2) contract authority, and	DSS	DSS
(3) acceptance authority	DND	DSS
E. CONTRACTING PROCESS		DSS
5. Bid evaluation and supplier selection:		
a) technical evaluation as required;	DND	DSS
b) time, cost and other contractual evaluation; and	DSS	DSS
c) consolidated evaluation and selection of supplier	DSS	DSS
F. ACCEPTANCE AND FINAL PAYMENT		DND
G. CONTRACT CLOSE-OUT AND CLEAN-UP		DSS

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ANNEX E  
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DATED MAY 1983

... is that DND in general and the Army, or Mobile Command in particular, wants to hone its military capability to the keenest edge possible when everything from rifles to guns is getting more and more costly. There is thus a strong incentive to do more with less: to improve the quality of the training and at the same time to achieve that improved quality at less cost. The trick is of course to know how, and this exhibition is part of getting to know how.

As Lord Maxwell said: "The most important thing is what the French call *le sens du praticable*" and what we call common sense, knowledge of what is and what is not possible. It must be based on a really sound knowledge of the 'mechanism of war', i.e. topography, movement, and supply. These are the real foundations of military knowledge, not tactics and strategy as most people think".

So we as the makers and sellers of systems and equipment need to do our best to ensure that DND is aware of what is possible, and what our particular system or equipment can do.

Yesterday, you heard a presentation about DND Procurement Procedures, and received a very clear picture of the Capital Acquisition Process. It is a very dynamic process and is subject to continual refinement and adjustment. Whilst on the one hand it is a vital and valuable management tool for DND, on the other hand it can be a smoke screen and a barrier to those of us who are trying to assess the market for, and evaluate the risk of, a particular venture. Let me elaborate in terms of Scent, Sense, Cents, and Semantics, a subtitle to my talk.

The purist view, and our pious hope, is that someone in DND has a need (for our product!). This need should develop from a reasoned comparison of existing capabilities with policies, strategies or doctrine. Commonly, it evolves from a gut feel, based on experience and knowledge. Here is where the scent begins. To those of us selling to DND, the scent of a declared need is indeed that of manna from heaven; an awareness of the existence of the Holy Grail.

Having traced the scent to its source we then have to consider whether the need makes any sense. It may be sense to another company's product line but not to ours, or it may hopefully make sense to us and our own products or services. If so, we are on the right track to profit and prosperity.

Now we get to the crucial matter, the cents. Or rather, the dollars and cents. Now, when we've found a need, found a potential customer, and satisfied ourselves, if not yet the potential customer, that our particular product is the only thing in the world that meets that need, comes the crunch question; is there any money to buy our product? And at this point we get right into the semantics.

I said that the scent began with finding a declared need. Now the correct term for a need is a Requirement. The word Requirement means many things to many people, and it has implications for us in industry that go far beyond Webster or the Shorter Oxford Dictionary.

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I would like you to think about your current marketing or sales activity. I presume that each of you perceive, somewhere within the spectrum of Land Force operations a shortfall in capability, and a need for your product. You have found a White Knight in a green uniform, who has enunciated that need in terms that sound like a requirement. In the interests of not revealing proprietary information I won't ask for a show of hands. But I'm sure the majority of the industry here could raise their hands if I were to ask who had identified a DND requirement that could be met by one or other of their company's products.

If I were to probe a bit deeper and ask you what sort of a requirement you'd identified I might see few blank faces. Was it an SOR, a Statement of Operational Requirement, or an SOR (P), a Statement of Operational Requirement (Preliminary), there's quite a difference. Between the SOR (P) and the SOR, can stand the Program Guidance Document, the Program Planning Proposal, the Program Development Proposal, Project Development Studies, entry into the DND Long Term Plan, entry in to the 'C' Capital Budget; and from one to ten years.

More optimistically, if an approved SOR exists you are but a few steps, Project Definition Studies, Program Change Proposal, DND approval and Treasury Board approval, and up to a year or two, away from the issue of a Request for Proposal.

Whilst of course this saga applies to major programs and the smaller ones are much simpler, it remains a fact that you must understand the precise meaning of the terms being used if you are to make a realistic assessment of the probability and time scale of getting a contract.

Some of you will have been told that there is a requirement. Some of you may even have seen it in writing. Some of you, probably very few, may have actually seen a requirement document. If so, you are indeed among the chosen few. Not long ago I was talking to an executive of a European company who told me he had recently been on a visit to the capital of another European country and returned to his company with a copy of a classified Statement of Operational Requirement document. When I expressed my amazement he seemed surprised in turn. Why should we not know, he asked. Their Navy want us to bid and after all we're all in NATO together. Contrast this with the Canadian scene where it is often very difficult to find out whether there even is a requirement, and almost unheard of for anyone in industry to actually see a Statement of Requirement. After all, we are usually told, it is classified, as if that explains everything.

And therein lies a real difficulty in dealing with not only DND, but Government as a whole. I refer to the matter of secrecy. Not only secrecy in the Confidential, Secret, security classification sense, but secrecy in the "I can't tell you what we're planning in case it doesn't happen and you turn around and blame me cos it didn't," sense. Two different aspects of the same problem. Let me address them separately.

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Examples of effort on the security side. There are all over Canada, you and range from needing to know the fate of marriage of your grandmother, the defendant who, after being acquitted in order to get a personal security clearance from DSS through to the inability to obtain a classified publication in the absence of a contract granting you the need to know, and the impossibility of winning a contract in ignorance of the content of the classified publication. Each of these we learn to deal with and the invaluable assistance of the DSS security branch deserves recognition.

In the wider sense however, those of you familiar with the US scene, and that includes most of you, will recognize just how wide is the gulf in this country between DND and industry. In the US the lines of communication are many and clear with Department of Defense sponsorship from the highest levels. These lines extend for example through organizations such as NSIA, the National Security Industrial Association, ADPA, the American Defence Preparedness Association, AFCEA, the Armed Forces Communications Electronics Association, ACC, the Association of Old Growns and others. In Canada there are no equivalents to NSIA or ADPA, and the Canadian chapters of AFCEA and the ACC have so far been unable to run classified meetings because of a lack of sponsorship, though a light is beginning to shine at the end of this particular tunnel, and I will return to this point in a minute.

And whereas in the US classified meetings abound and a number of information exchanges take place at classified levels in Canada this is not the norm, especially where DND's plans and requirements are concerned. It is gratifying to see signs that this situation is changing. In the first place, last week following the joint meeting in Ottawa of the Air Industries Association of Canada and the Air Industries Association of America an excellent series of briefings was held by the staff of the Chief of Research and Development of DND and by the staff of the Defence Research Establishment Ottawa at Christie Bay. Now if the DCDS staffs could just be authorized to do the same sort of thing. There is a definite need for wider discussion between the DND Operational staffs and industry in concert with the DND CRAD staff, to give industry a better view of where DND would like to see R & D.

It is ironic to note that several classified meetings between DND and industry have been held recently to discuss the current status of a number of NATO programs now in their formative stages. It would appear that DND feels able to brief Canadian industry on NATO programs, but is unwilling or unable to similarly brief on its own programs.

This rather arms length relationship between industry and the operations side of the military establishment, when coupled with a DND departmental mandate that allows only limited expenditure of funds to help Canadian industry develop products or services for the Armed Forces, and the small size of the Canadian domestic market provides a Canadian equipment developer with three obstacles not generally encountered in other NATO countries. These three obstacles have in turn generated a fourth, namely, a tradition within DND of heavy reliance upon a few suppliers of defence equipment.

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... don't mean this as a bit of a complaint, although I am certainly frustrated with this situation. Rather, offer the situation as a factor to be considered in dealing with DND. Put rather simply, if you've a better chance of getting non-Canadian than if you're Canadian.

... let me explain this a little further. The limited mandate to support the Canadian defence industry has been interpreted with varying degrees of rigidity. It has led naturally to a reluctance by DND to pay any premium for Canadian equipment (or for the Canadian content of that equipment) and it has led to a reluctance by industry to develop products in the absence of assurance that DND will acquire the product.

... This last reluctance has a tendency to be self-fulfilling because the development cycle is frequently longer than the budget cycle and because the intent to procure (as opposed to the operational requirements) is quite typically dependant on the results of trials that often take place late in the development cycle.

... The Department of Regional Industrial Expansion has a mandate under the Defence Industry Productivity Program to assist industry in the development of products for export. Exporting products that are neither used nor backed up by the Armed Forces of the country is not an easy, difficult, especially in the face of the strong military support to marketing provided by other NATO nations.

... I can't appreciate the need for a purely military view of military equipment. Why indeed should DND concern itself with anything other than purely military considerations. And yet, there are indeed other considerations. In my own case, as a younger officer, I might believe that the military requirement was paramount, that the survival of Canada's survival might depend upon the Canadian Forces. As I grew older, and I hope a little wiser, and needed a perspective, by the perspective of a year at the National Defence College, I came around to the recognition that the converse was more correct and that the survival of the Canadian Forces might depend upon Canada. In other words, it behoves the military to pay heed to the situation in industry because if there's not an adequate industrial base, there won't be an adequate tax base. And if there isn't an adequate tax base, there won't be enough money to pay for the Canadian Forces no matter how much they might be needed.

... I'm sorry to say that very few military officers, and far too few public servants, have any idea of what it takes for a company to stay in business, or to retain a team of skilled people. They just do not appreciate the cost to a company of being in getting to contract. This cost is not only that of meeting payroll and other expenses without income. It also involves the challenge of holding a technical team together while waiting for remunerative work to begin. In fields where both technology and people move quickly this is a major challenge. Especially for a small company with limited ability to utilize people in other areas. There is furthermore, a tendency for people in DND to expect industry to do work at no charge based on potential return in the future. The risk involved is not a waste when it is the same risk by DND and industry.

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I believe that the arms length gap between the military and the industry must be and can be reduced. In order for DND to grow to trust industry more, it is essential that we in industry understand exactly and precisely what is meant when we listen to DND speak about future plans and requirements. We will then hopefully not, like Stephen Leacock's Sir Ronald, jump upon our horses and ride madly off in all directions only to blame DND if we get lost. Rather we will be able to make better business decisions based on a clearer understanding of the future.

This brings me to a rather fundamental point which I believe you must understand if you are not to get all hot under the collar when things don't pan out as you expect, or indeed as you may with the utmost confidence have been led to expect. This point is that of the uncertainty that the money will actually be there when needed, and that a particular program will unfold as planned.

DND has, as have most of us, a finite budget. Its tasks and activities are, if not infinite, at best not finite. Things happen to cause plans to be changed at short notice, and thus to necessitate sudden re-allocation of funds. Such funding reallocations most commonly affect the Operations and Maintenance Budget but can also impact upon the Capital Budget. When the boilers in the Navy's destroyers crack when the engine mounts in Sea King Helicopters fail or if for example the M113 Armoured Personnel Carrier hulls were to crack, then there may have to be a reallocation of funds to fix the problem. These funds have to come from somewhere. And that somewhere may be our program which promptly goes down the tube or gets deferred. When this happens DND is almost as unhappy as we are about it. Getting angry doesn't help. Neither does being rude and trying to get someone in trouble for misleading us. We just have to react as positively as possible and at the very least, try to understand what has happened and why. I'm afraid it is all part of the matter of doing business with DND, albeit one of the less rewarding parts.

I have come a long way from my starting point. But I hope that I have given you something about which to think. A viewpoint that is I hope neither biased too much to the DND party line, nor yet too critical of those whose life is dedicated to their country's service. I am grateful for the opportunity to contribute to what I am pleased to see as a gradually improving dialogue between DND and Industry.

If I may recap on my subtitle Scent, Sense, Cents and Semantics. Make sure you've picked up the proper scent. There is quite a difference between a scent and a bad smell. Be sure there is sense in what you are trying to make happen and what you seem to see unfolding as a pattern of events. Notwithstanding all of the nice words and pious sentiments, are the cents and the bucks in place to your satisfaction? Any have you got the semantics right? If you are confident in these, then the way ahead is clear for your own integrity and the quality of your product and the sharpness of your pencil to win the contract.

ANNEX E  
TO 1250-29  
DATED            NJ

Finally, as an ex-member of the Canadian Forces I cannot resist leaving you a final quote, dating back almost 2,500 years, from the Art of War by Sun Tsu. It applies to business as much as it does to war and therefore is worthy of our note. "War is a great affair of state, the realm of life and death, the road to safety or ruin, a thing to be studied with extreme diligence."

ANNEX F  
TO 1250-29 (DOOC)  
DATED MAY 1983



**NEW DIRECTIONS  
FOR  
TRAINING AND TRAINING  
TECHNOLOGY**

**CAPTAIN PAUL R. CHATELIER, USN  
OFFICE, UNDERSECRETARY OF DEFENSE  
RESEARCH & ENGINEERING**

DDI 1  
FORM 1



# OUTLINE

.../P-3

- **IMPORTANCE OF TRAINING**
- **NEW TECHNOLOGY**
- **MAJOR IMPACT ON TRAINING**
- **DEFENSE SCIENCE BOARD STUDY**
- **RECOMMENDATION**
- **IMPLEMENTATION**

END

ANNEX F  
TO 1450-29 (DOGC)  
DATED MAY 1983



## WHY EMPHASIZE TRAINING & TRAINING TECHNOLOGY?

- **COSTS**
  - PEOPLE \$13 B PER YEAR
  - EQUIPMENT \$2-4 B PER YEAR
- **EFFECTIVENESS**
  - REDUCE ERRORS....  
FAULTY MAINTENANCE DIAGNOSIS  
... 10% TO 20% OF TIME
  - INCREASE TIME ON THE JOB ...  
LESS TIME IN SCHOOL
  - IMPROVED JOB PERFORMANCE

207 2  
6700

IV 1450-49 (DUKCI)  
DATED MAY 1983



# AVAILABLE TRAINING TECHNOLOGIES

.../E-5

## TECHNOLOGY

- PORTABLE AIDS AND DEVICES
- WEAPON FIRE SIMULATIONS
- LOW COST VISUAL SYSTEMS
- IMPROVED VISUAL DISPLAY CAPABILITIES (CIG)
- LOW COST COMPUTER BASED INSTRUCTION
- VOICE RECOGNITION & SYNTHESIS

## APPLICATION

- OPERATIONS/MAINTENANCE & OJT
- FIELD EXERCISES & INDIV. TRAINING
- PART TASK & WEAPON SYSTEM TRAINING
- REAL WORLD DISPLAYS
- INITIAL & REFRESHER TRAINING
- INCREASED AUTOMATION/REDUCE INSTRUCTOR LOAD

3487 3  
07088

ANNEX F  
TO 1250-29 (DOGC)  
DATED MAY 1983



## **WHAT AFFECTS TRAINING & TRAINING TECHNOLOGIES?**

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- **MANPOWER AND PERSONNEL TRENDS**
- **RISING COSTS**
- **TECHNOLOGY DEVELOPMENTS**
- **THE CHALLENGE TO BETTER MATCH  
PEOPLE AND SYSTEMS**

1250-29  
07000

TO 1250-29 (DOGC)  
DATED MAY 1983

## **TRAINING & TRAINING TECHNOLOGY DEFENSE SCIENCE BOARD R&D RECOMMENDATIONS**



.../P-7

- **USDRE REQUEST MILITARY DEPARTMENTS TO INCREASE TRAINING R&D BY 15%. FUNDS ARE TO COME FROM OTHER THAN PERSONNEL AND TRAINING R&D PROGRAMS**
- **SUPPORT THE FUNDING OF RESEARCH, DEVELOPMENT AND APPLICATION OF TECHNOLOGIES FOR UNIT TRAINING**
- **SUPPORT THE FUNDING OF RESEARCH, DEVELOPMENT AND USE OF WAR GAMES THAT PROVIDE INTELLIGENT ADVERSARIES AND REALISTIC CONDITIONS**
- **ESTABLISH A R&D PROGRAM ON PERFORMANCE MEASURES FOR USE AT ALL LEVELS OF TRAINING**
- **INCREASE SUPPORT/FUNDING FOR RESEARCH, DEVELOPMENT AND USE OF THE FOLLOWING TECHNOLOGIES: VOICE RECOGNITION, INTERACTIVE DISPLAY, PERSONAL AIDS AND VHSIC**

ANNEX F  
TO 1250-29 (DMPC)  
DATED MAY 1983

## **TRAINING & TRAINING TECHNOLOGY DEFENSE SCIENCE BOARD TECHNOLOGY RECOMMENDATIONS**



- **ESTABLISH (a) A RESEARCH AND DEVELOPMENT PROGRAM ON PERFORMANCE MEASUREMENT FOR USE AT ALL LEVELS OF TRAINING AND (b) DEMONSTRATION PROJECTS FOR NEW TRAINING TECHNOLOG**
- **INCREASE EXPLORATION AND USE OF CURRENT/ADVANCED TECHNOLOGY DEVICES (e.g., ARCADE-LIKE GAMES)**
- **INCREASE SUPPORT/FUNDING FOR RESEARCH, DEVELOPMENT AND USE OF THE FOLLOWING TECHNOLOGIES; VOICE RECOGNITION, INTERACTIVE DISPLAY, PERSONAL TRAINING AIDS AND VHSIC**
- **DEVELOP AND INCORPORATE EMBEDDED TRAINING AND PERFORMANCE MEASUREMENT/RECORDING CAPABILITIES FOR NEW WEAPON AND SUPPORT SYSTEMS**
- **DIRECT FUTURE ACQUISITION OF TRAINING EQUIPMENT TO USE TRANSPORTABLE SOFTWARE AND TO BE "USER FRIENDLY" IN MEETING INSTRUCTIONAL NEEDS**

**TRAINING & TRAINING TECHNOLOGY  
DEFENSE SCIENCE BOARD  
APPLICATION RECOMMENDATIONS**



.../3/10

- **PROVIDE RESERVE COMPONENTS WITH UP-TO-DATE TRAINING TECHNOLOGY AND EQUIPMENT**
- **SUPPORT THE FUNDING OF RESEARCH, DEVELOPMENT AND APPLICATIONS OF TECHNOLOGIES FOR UNIT TRAINING**
- **SUPPORT RESEARCH, DEVELOPMENT AND USE OF WAR GAMES THAT PROVIDE INTELLIGENT ADVERSARIES AND REALISTIC CONDITIONS**
- **UPGRADE RANGES BASED ON REQUIREMENTS FOR OPERATIONAL TRAINING**
- **ACCELERATE USE OF COMPUTER-BASED INSTRUCTIONAL METHODS IN THE SCHOOLHOUSE AND ON THE JOB VIA PORTABLE AIDS AND/OR EMBEDDED TRAINING SYSTEMS**
- **USE TRANSPORTABLE DEVICES IN THE FIELD TO BROADEN UNDERSTANDING AND GENERAL SKILL KNOWLEDGE FOR CAREER GROWTH AND LEADERSHIP**

E-9



THE SECRETARY OF DEFENSE

WASHINGTON, THE DISTRICT OF COLUMBIA

ANNEX F  
TO 1250-29 (DO  
DATED MAY 1'

25 FEB 83

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS

**SUBJECT: Defense Science Board (DSB) Summer Study on Training and Training Technology**

I have approved the recommendations made by the Defense Science Board to improve training by application of technology. The report and approved implementation plan are attached. I have asked the Under Secretary of Defense for Research and Engineering (USDRE) to take the lead in initiating the actions called for in the plan. I have also asked the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics (ASD/MRA&L) to assist in this effort. I am confident that the implementation of the DSB recommendations will improve our readiness significantly.

There are four areas that, in my view, demand special consideration and the following specific guidance.

1. The DoD must increase its funding and management emphasis on the development of training technology and the use of this technology to address training problems. We must take advantage of current technology and press the research of emerging technologies to develop ways to make training more efficient and effective. To support this effort, it will be necessary to develop performance measures and criteria for use in determining performance levels and cost effectiveness of alternative training methodologies.

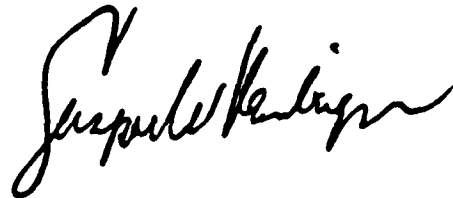
2. Each Service should accelerate efforts to apply technology to meet the training needs of the Reserve Components. This investment has the potential for very high payoff and merits a high priority. I ask that MRA&L coordinate this effort.

3. There is an urgent requirement to upgrade our land, sea and air ranges to make them as compatible as possible with the needs of the systems being tested and fielded. Since there are clear limits to real estate and air space, the capabilities of existing ranges must be expanded and made more versatile. Each Service should review range requirements and budget funds to upgrade range capabilities to include realistic threat simulation and instrumentation for total operator/system performance evaluation.

.../F-11

4. A major continuing weakness of the overall training system is the absence of high-level perspective and proponentcy for training technology. This is true, with some exceptions, in both OSD and the Services. I expect that each of you will create an advocate for training and training technology within your own secretariat. General Vessey has offered to take the lead in establishing an OSD Steering Committee for training and training technology. I endorse this initiative and direct the Committee to consolidate advocacy consideration within OSD on matters related to the effective exploitation of training technology.

I trust that you are as impressed as I am with the quality of the DSB study and will support all of its recommendations. I am requesting the OSD Steering Committee include in its charter a process to review the implementation status of these recommendations as well as other actions taken to strengthen training.



Attachment

ANNEX G  
TO 1250-29 (DOGC)  
DATED MAY 1983

ARMX 83 - DAILY TIMETABLE

<u>DATE/TIME</u>	<u>EVENT</u>	<u>PLACE</u>	<u>SPEAKER</u>
WED 20 Apr 83			
0830	WELCOME/OPENING REMARKS	BASE THEATRE	LGEN BELZILE (COMD FMC)
0915	COFFEE	ARMX HANGAR	
1000	EXHIBITION OPENS INTRO TO DND R&D ACTIVITIES	ARMX HANGAR CLASSROOM 1 (UPPER)	DR G. SPINDLER CRAD/DST (OV)
1010	INTRO TO TARGET PROGRAM AT DRES	ARMX HANGAR CLASSROOM 1	DR F. CHRISTIE D/DTD, DRES
1020	AN AIR-TO-AIR GUNNERY TARGET SYSTEM	ARMX HANGAR CLASSROOM 1	MR C.G. COPPEY DRES
1045	ROBOT-9: A ROCKET-BOOSTED SEA-LAUNCHED TARGET SYSTEM	ARMX HANGAR CLASSROOM 1	MR C.G. COPPEY DRES
1110	ROBOT-X A LOW-ALTITUDE AERIAL TARGET SYSTEM	ARMX HANGAR CLASSROOM 1	DR A.B. MARKOV DRES
1135	BLOWPIPE MISSILE TRAINING RANGE FACILITIES	ARMX HANGAR CLASSROOM 1	MR W. JONES DRES
1130	LUNCH	OFFICERS' MESS (PROPER ATTIRE REQUIRED)	
1330	OFFICIAL OPENING GUARD OF HONOUR	ARMX HANGAR	MINISTER OF NATIONAL DEFENCE HON G LAMONTAGNE
1600	DAILY CLOSING		
1830-2130	RECEPTION/BUFFET DINNER	OFFICERS' MESS (INVITATION ONLY)	

.../G-2

ANNEX G  
 TO 1250-29 (DOGC)  
 DATED MAY 1983

<u>DATE/TIME</u>	<u>EVENT</u>	<u>PLACE</u>	<u>SPEAKER</u>
THUR 21 Apr 83			
0830	DND PROCUREMENT PROCEDURES	BASE THEATRE	COL LITTLE (NDDO DIRECTOR PROCUREMENT SUPPLY LAND)
0930	COFFEE	ARMX HANGAR	
1000	DAILY OPENING OVERVIEW OF TRAINING RELATED WORK AT DCIEM	ARMX HANGAR CLASSROOM 1	DR D. PEARCE DCIEM
1030	TANK GUNNERY TRAINING	ARMX HANGAR CLASSROOM 2 (LOWER)	DR L. MAGEE DCIEM
1100	ARMY TRAINING AMMUNITION R&D	ARMX HANGAR CLASSROOM 1	MR N. FORTIER DREV
1130	IMPACT OF NEW TECHNOLOGY ON SIMULATION AND TRAINING	ARMX HANGAR CLASSROOM 2	DR G. AMEY CRAD/DST (SE)
1200	LUNCH	OFFICERS' MESS (PROPER ATTIRE REQUIRED)	
1330	NEW DIRECTIONS IN TRAINING AND TRAINING TECHNOLOGY IN US	BASE THEATRE	CAPT P. CHATELIER USN, OFFICE OF UNDER-SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING
1430	APPLICATIONS OF THE HELMET-MOUNTED DISPLAY	BASE THEATRE	DR M. MCKINNON CAE ELECTRONICS
1600	DAILY CLOSING		
1800 to 2000	WINE AND CHEESE RECEPTION	HOTEL MOUNT ROYAL	DEFENCE QUARTERLY REVIEW
FRI 22 Apr 83			
0830	INDUSTRY VIEW-POINT ON DEALING WITH DND	BASE THEATRE	MR PETER CHARLTON SPAR AEROSPACE
0930	COFFEE	ARMX HANGAR	

.../G-3

ANNEX G  
TO 1250-29 (DOGC  
DATED: MAY 198

<u>DATE/TIME</u>	<u>EVENT</u>	<u>PLACE</u>	<u>SPEAKER</u>
1000	DAILY OPENING DEVELOPMENTS IN AEROSPACE SIMULATION AND TRAINING	ARMX HANGAR CLASSROOM 1	MR N. JEFFREY
1030	TACTICAL SIGNAL SIMULATOR FOR EW TRG	ARMX HANGAR CLASSROOM 2	MR M. GALE CANADIAN ASTRONAUTICS LTD
1200	LUNCH	OFFICERS' MESS (PROPER ATTIRE REQUIRED)	
1400	EXHIBITION CLOSES	ARMX HANGAR	

ANNEX H  
TO 1250-29 (DOGC)  
DATED MAY 1983

ARMX 83  
STATISTICS

COUNTRY	NUMBER OF: ANNOUNCEMENTS SENT	ANNOUNCEMENTS RETURNED	EXHIBITING POSITIVE	NEGATIVE	ATTEND ONLY	CANCEL/ NO-SHOW
CANADA (including Israel)	65	57	31	7	10	9
UNITED KINGDOM	21	12	8		1	3
UNITED STATES	42	23	9	5	4	5
GERMANY	9	9	5	4		
SWEDEN	7	5	2	2	1	
FRANCE	12	5	3	2		
ITALY	2					
SWITZERLAND	4	3	1	2		
NETHERLANDS	2	2		1		1
BELGIUM	1	1				1
DENMARK	3	1		1		
TOTALS	168	118	59	24	16	19

70% Return rate on announcements sent

50% Positive rate on number returned

ANNEX J  
 TO: 1250-29 (DOGC)  
 DATED: May 83

ARMX 83 EXPENDITURES

	<u>APPROVED</u>	<u>EXPENDED</u>	
<u>ENTERTAINMENT</u>			
Buffet Dinner	\$ 6,000	\$ 6,510	(Actual)
Reception	2,500	637	(Actual)
Luncheon	4,500		
<u>WAGES</u>			
Militia Callouts	7,000	5,000	Note 1 (Estimate)
Civilian Labour	3,500	2,000	(Estimate)
<u>SITE PREPARATION</u>			
Electrical/CE	3,800	4,057	(Actual)
Drape & Rail	20,000	18,665	(Actual)
DND Exhibits	10,000		
<u>TRANSPORTATION</u>			
	1,500	5,500	Note 2 (Estimate)
<u>PRINTING</u>			
	6,000	2,257	(Estimate)
<u>SHIPPING</u>			
	10,000	-----	
<u>CONTINGENCY</u>			
	10,000	6,000	Note 3 (Estimate)
<u>TD</u>			
	-----	10,000	Note 4 (Estimate)
<u>TOTAL</u>	<u>\$84,800</u>	<u>\$60,626</u>	

**FEEs COLLECTED: \$40,300**

**ESTIMATED ACTUAL COST TO DND: \$20,326**

.../J-2

ANNEX J  
TO: 1250-29 (DOGC)  
DATED: May 1983

NOTE 1:

Estimates within \$200.00. Actual cost expected  
by July 1983.

NOTE 2:

Cost of 14 Buses from NDHQ to ARMX

NOTE 3:

Cost of ceremony for MND (incl Guard of Honour,  
Band, Gun Salute, etc.)

NOTE 4:

TD Costs included:

- a. Permanent Staff (1 month in Montreal)
- b. TD for CPTS Group (CAL & CPR)
- c. TD for SFC Valcartier: support (TOW,  
Blowpipe equipment and pers)
- d. TD for tank crew from C Sqn RCD Gaquetown

# END DATE FILMED

**20 8 83**

<b>L1.0</b>	<b>EEEE</b>	<b>E22</b>	<b>E25</b>
<b>L1.1</b>	<b>EEEE</b>	<b>E22</b>	<b>E20</b>
<b>L1.25</b>	<b>L1.4</b>	<b>L1.6</b>	

D  
B4