SESSION I

Session Chair
Mr. Paul Braithwaite, Thiokol Propulsion Group

Introductory Comments - MG Frank P. Ragano, USA (Ret.), President, CMS, Inc. and Chairman, Insensitive Munitions & Energetic Materials Division, NDIA; Mr. Paul C. Braithwaite, Thiokol Propulsion Group, NDIA Insensitive Munition and Energetic Materials Division Meeting Chairman

Keynote Address - RADM William W. Cobb, Jr., Commander, Naval Surface Warfare Center & Naval Ordnance Command

Synthesis Scale-up and Experimental Testing of LLM-105 (2,6-diamino-3,5-dinitropyrazine-1-oxide) - Dr. Philip F. Pagoria*, Dr. Alexander R. Mitchell and Dr. Robert D. Schmidt; Lawrence Livermore National Laboratory (LLNL)

The DoD IM IPT: Progress to date - Mr. Anthony Melita, Deputy Director, Strategic and Tactical Systems (Munitions), OSD

How Insensitive is Insensitive Enough? - Mr. Jean Goliger* and Mr. Laurent van Damme, Club MURAT, France

Charge Warheads Performance Using New, More Powerful Explosive Formulations - Dr. Ernest L. Baker*, A. Daniels, B. Fuchs, Steven Nicolich, J. Orosz, J. Pham, B. Travers and T. Vuong, US Army TACOM-ARDEC

11:00 AM - The Future of IM Testing - NIMIC Workshops on IM - Mr. Patrick Touze; Mr. Jason de W. Fitzgerald-Smith; Mr. Rodrigue Boulay and Mr. Michael Sharp, NIMIC

Session II A

Session Chairs
Mr. Jason de W. Fitzgerald-Smith, NIMIC
Dr. Richard Bowen, Naval Sea Systems Command

UK MOD IM Overview - Group Captain S. R. Sims* and Squadron Leader D. J. Turner, MOD Ordnance Board, UK
An IM Policy/Philosophy for South Africa - Mr. Roy L Derbyshire, Armscor Corporation of South Africa Ltd.

IM/MURAT Development, Assessment and Qualification - Mr. Patrick Lamy*, Mr. Jean-Paul Hufschmitt and Mr. Patrick Kernen, DGA, France

Netherlands IM Overview MOD - Netherlands

Australian IM Overview AOC - Australia

Can Insensitive Munitions and Hazard Classification Testing be Harmonized - Mr. Rodrigue Boulay* and Mr. Patrick Touze, NIMIC

A New Proposal Helping Us to Quantify Reaction Types - Mr. Claude Rolland, MOD, France

Session II B

Session Chairs
Ms. Susan Peters, NSWCIHD
Mr. Peter Honey, DERA

New High Energetic Gun Propellant with CL-20 - Dr. Dietmar Mueller, Fraunhofer Institut für Chemische Technologie ICT, Germany

Thermoplastic Elastomer (TPE) Gun Propellant - Mr. Lee E. Harris*, Ms Thelma Manning and Mr. Kenneth Klingaman, TACOM-ARDEC; Dr. Robert B. Wardle and Mr. Paul C. Braithwaite, Thiokol Corporation; Dr. Thomas Stephens, NAWCWTD; Dr. Suzanne Prickett, NSWCIHD

Processing and Evaluation of Gun Propellant Formulations Containing Energetic Thermoplastic Elastomers (ETPEs) - Ms France Beaupre and Dr. Guy Ampleman, Defence Research Establishment Valcartier, Canada

Investigation of Propellants for a Low Vulnerability 76mm Ammunition - Mr. Walter Langlotz, Diehl Stiftung & Co, Germany

Totally Integrated Manufacturing Program - Mr. Mark Mezger*, Mr. Steven Nicolich and Mr. Donald Geiss, Jr., TACOM-ARDEC
Development and Evaluation on MNX-630, a TNAZ/HMX High-Energy Melt-Cast Explosive - Lt. Richard F. Reich*, Mr. Stephen A. Aubert and Mr. Charles T. Sprague, AFRL

Development of a High-Energy HMX/TMETN Cast/Cure PBX Explosive - Mr. Stephen Aubert*, Lt. Richard Reich, Mr. John F. Leahy and Mr. Charles T. Sprague, AFRL

Recyclable Explosives - Dr. May Chan*, Mr. Greg Carpenter (now at NSWC/CIHD), Mr. Alan Turner, Mr. Gary Meyers and Mr. William Carey, NAWC/WTD

Session III A

Session Chairs
Mr. Patrick Lamy, DGA, France
Ms. Virginia Hogan, US Army TACOM-ARDEC

Insensitive Munitions Applications for Ship Survivability; Success and Shortfalls - Mr. David Wilson, NSWC/CD

Impact of Inensitive Munitions on Navy Logistics - Dr. Richard Bowen, NAVSEA

Naval Aviation Inensitive Munitions Technology Transition Program Overview - Mr. Allen P. Gehris Jr., NAVAIR

Environmental Considerations for InSensitive Munitions - Mr. Rodrigue Boulay, NIMIC

How Munition Threat Analysis for IM Assessment Could Undermine IM Interoperability - Mr. Patrick Kernen*, Mr. Jean-Paul Hufschmitt and Mr. Patrick Lamy, DGA, France

Mitigation Methods for Munitions - Mr. Rodrigue Boulay, NIMIC

The First Actual MURAT (IM) Payoffs For the French Forces - Mr. Patrick Kernen*, Mr. Jean-Paul Hufschmitt, Mr. Jean-Pierre Chevalier, Mr. Patrick Lamy and Mr. Henri Miermont, Club MURAT, France

THAMES 3.0 - The Introduction of the Window to Threat and Hazard Assessment - Mr. Jason de W. Fitzgerald-Smith* and Mr. Gerrit Mannessen, NIMIC
Session IIIB

Session Co-Chairs
Dr. Robert Wardle, Thiokol Corp.
Ms. Dyan Clements, Sandia National Laboratories

Reduction of the Bullet Impact Sensitivity of a Powder-Filled Cord - Dr. Peter J. Koenig *, KingTech Consultancy and Mr. P.W. Barnard, Somchem, South Africa

Round Robin CL-20 Sensitivity Testing - Mr. Steven M. Nicolich*, Mr. Donald A. Geiss, Jr., Ms Eileen Heider and Mr. Mark J. Mezger, TACOM-ARDEC

CL-20 Formulation Response to Lathe Machining - Mr. Donald A. Geiss, Jr.*, Mr. Steven M. Nicolich, TACOM-ARDEC; Mr. Raymond Beus and Dr. Robert L. Hatch, Thiokol Corp.

Performance and Hazard Characterization of CL-20 Formulations - Mr. Steven M. Nicolich*, Mr. Donald A. Geiss, Jr, TACOM-ARDEC; Dr. Robert L. Hatch and Dr. Kenneth E. Lee, Thiokol Corporation

Flyer Impact Characterization of Booster Explosives for IM Applications - Mr. Richard Bouma*, Mr. T. Jordan, Mr. Anthony Cardell, Canadian Explosives Research Laboratory, Canada, Mr. Wim C. Prinse, Dr. Albert C. van der Steen, TNO Prins Maurits Laboratory, The Netherlands

Thermal Characterization of the Primer, KDNBF - Dr. David E.G. Jones*, Dr. Hongtu Feng, and Mr. Robert C. Fouchard; Canadian Explosives Research Laboratory, Canada

BIS (2,2-DINTROPROPYL) ACETAL/FORMAL (BDNPA/F) STUDY - Dr. Tung Ho Chen*, Mr. L. Piparo and Mr. C. Campbell, TACOM-ARDEC

A Screening Approach to Propellant Ageing Assessment - Mr. James S. Dodds*, Dr. Anthony V. Cunliffe and Dr. David A. Tod, DERA, UK

Picatinny Arsenal Explosive Aging Study - Mr. Donald A. Geiss, Jr.*, Mr. Mark Mezger and Mr. Steven Nicolich, TACOM-ARDEC
Session IVA

Session Chairs
Mr. Steve Lightsey, National Technical Systems
Mr. Jim Martin, Atlantic Research Corporation

Cook-off Research at the TNO Prins Maurits Laboratory - Mr. J. H. Gurt Scholtes *, and Mr. Niels J. van der Meer, TNO Prins Maurits Laboratory, The Netherlands

Comparative Study on Different Types of 0.5 Bullets - Mr. Claude Rolland, Ministry of Defense, France

Insensitive Munitions Testing of a Rocket Motor Suitable for Surface-to-Air Applications - Mr. A. Simon*, Somchem, and Dr. Peter J. Koenig, KingTech Consultancy, South Africa

Comparison of HMX-Based IM Explosive Formulations - Mr. Mark Mezger*, Mr. Steven Nicolich and Mr. Donald Geiss Jr., TACOM-ARDEC

Mechanism and Quantitative Estimation of Bullet Impact Response of Gun Propellant - Dr. Haruyuki Ansawa* and Dr. Jun-ichi Kimura, Japanese Defense Agency, Japan

Transition Study Using the Double Card Gap Test - Mr. Yves Guengant* and Mr. Michel Quidot, SNPE, France

Compression Testing of Baseline and Conditioned XM231 and XM232 Propelling Changes - Ms Thelma Manning*, Mr. Christopher Goll and Mr. Victor Vergara, TACOM-ARDEC

A Review of Spigot Penetration Testing - Dr. Peter Barnes* and Mr. Neil Watson, UK Ministry of Defence; Dr. Peter Head, DERA, UK

IM Evaluation of the Evolved Sea Sparrow Missile (ESSM) Propulsion Section - Dr. Kenneth O. Hartman*, Dr. Theodore F. Comfort, Alliant Techsystems, Inc., and Mr. Kai Fossumstuen, Raufoss Technology, Norway
Session IV B

Session Chairs
Mr. Kenneth Graham, Atlantic Research Corporation
Mr. Tom Swierk, NSWCDD

A Suite of Spreadsheet Codes for Predicting Munitions Sensitivity and Hazard Behavior - Mr. Andrew Victor, Victor Technology

Advances in Royal Navy Cost Benefit Analysis forInsensitive Munitions - Dr. Peter Barnes* and Mr. Neil Watson, UK Ministry of Defense

An Explicitly Porous Model of Heterogeneous Explosive Initiation - Mr. Daniel A. Matuska* and Mr. Michael Gunger, Orlando Technology, Inc.

Analytical Method for Predicting Sympathetic Detonation - Mr. C. Annereau* and Mr. S. Lecume, SNPE, France

Determining Detonation Threshold for Multiple Fragment Impacts - Ms Lucia Kuhns* and Mr. Leonard T. Wilson, NSWCDD

Sympathetic Detonation Assessment of Missile Warheads in A Vertical Launching System - Ms Karen L. Clotfelter* and Ms Kathleen M. Sterba, NSWCDD

Sympathetic Detonation Assessment of A Warhead Concept for JASSM - Mr. Scott K. Lodell, NSWCDD

Propellant Bed Response to Shaped Charge Jet Attack: Numerical Modeling - Mr. Frederic Peugeot* and Mr. Michel Quidot, DGA, France

Analytical Modeling of the Initiation of Explosives by Shaped-Charge Jets - Dr. J.P Curtis,* DERA, Dr. Peter R. Lee, Peter Lee Consulting Co., Ltd, Dr. M. Moyses and Dr. G. Nixon, EDS Defence Ltd, UK
Session VA

Session Chairs
Ms. Vicky Brady, NAWCWT
Ms. Jamie Fisher

A Device for Rapid Extinguishment of Propellant Fires - Mr. Anthony E. Finnerty, ARL

Missile Fire Survivability in Concentric Canister Launchers - Mr. Jon J. Yagla, NSWCDD

Active Mitigation and Passive Protection of Munitions from Fragment and Bullet Attack - Mr. Ian H. Maxey*, DERA; Squadron Leader David A. Turner, MOD; and Dr. P.R. Lee, Peter Lee Consulting Co., Ltd., UK

Specifications for the French Insensitive Munitions Multi-Effect Bomb Bodies - Major Daniel V. Tencic, DGA, France

A High Performance Penetrator for the French Navy - HD 1.6 Assignment Candidate Mr. Nathaniel Saidenberg*, Mr. Yvon Laudrin and Mr. Henri Miermont, MATRA BAe Dynamics and Mr. Bruno Nouguez, SNPE, France

Applying Historical Data to the Design of Compliant Weapons Systems - Ms. Cynthia L. Lundstrom*, Booz-Allen & Hamilton and Mr. Robert L. Maline, NAVSEA

Use of an Outgassing Liner to Reduce the Intensity of Warhead Reactions During Cookoff Tests - Mr. Neal M. Lundwall* and Mr. Jack M. Pakulak, Jr., NAWCWT

Improved Slow Cookoff Response to HTPB Propellants - Mr. Kenneth J. Graham*, Atlantic Research Corporation; Ms Susan Demay and Mr. Albert Smith, NAWCWT

Session VB

Session Chairs
Mr. Oyvind Johansen, Dyno Industrier A.S., Norway
Mr. Mats Lundberg, Bofors Explosives, Sweden

NIMIC - Coordinated Characterization Program - Mr. Michael Sharp, NIMIC
UK Energetic Materials Studies in Support of IM Dr. Adam S. Cumming, DERA, UK

Overview of PRC Activities with CL-20 - Dr. R. H. Woodward Waesche, Science Applications International Corp.

FOX-12, A New Energetic Material with Low Sensitivity for Propellants and Explosives Applications - Dr. Henric Östmark*, Dr. Helena Bergman, Dr. U. Bemm and Mr. A. Langlet, FOA Defence Research Establishment, Sweden

Process Development Studies of a New Production Method for TATB - Dr. Robert D. Schmidt*, Dr. Alexander R. Mitchell, Dr. Philip F. Pagoria and Mr. Gregory S. Lee, LLNL; Dr. Michael D. Coburn, Consultant; Mr. Ray Thorpe, Mr. W. Timothy Quinian and Mr. Monty Cates, Mason and Hanger Corp.

Improvements in the Physical Properties of Energetic Thermoplastic Elastomers - Dr. Andrew J. Sanderson*, Mr. W. Wayne Edwards and Mr. J. Scott Midyett, Thiokol Corp

Synthesis of Energetic Copolyurethane Thermoplastic Elastomers for Recyclable GAP-Based HELOVA Gun Propellants - Dr. Guy Ampleman*, Mr. Andre Marois, Dr. Sylvain Desilets and Ms France Beaupre, Defence Research Establishment, Valcartier, Canada