



2006 Insensitive Munitions & Energetic Materials Technology Symposium



“ENHANCED SAFETY: EM → IM = THE FUTURE”

**Maintaining Performance and Enhanced
Survivability Throughout the Lifecycle**

24-28 April, 2006

Thistle Hotel,

Bristol,

United Kingdom



Monday, April 24, 2006

4:00-6:00PM Registration

6:00PM Welcome Reception Sponsored by MBDA (UK)



Tuesday, April 25, 2006

8:00AM Registration & Tea/Coffee & Pastries Sponsored by Roxel UK



Session 1: Plenary Session

8:30 AM Welcome Address by Ron Scott and introduction of Paul Wanninger as Symposium Chairman

8:45 AM **Keynote Address**
David Gould
Deputy CE DPA

9:00 AM **US IM Position**
Anthony J Melita
Deputy Director, Land Warfare & Munitions
Office of the Under Secretary of Defense (Acquisition, Technology and Logistics)

UK IM Position
Jim J McLay
Director DOSG

Overview on R & T in Energetics
Chris J Leach
Group Director Technology RAO MoD

French IM Position
Yves de Longueville
DGA/IPE

German IM Position
Franz Jueptner
BWB

IMEMG - A European Manufacturers Grouping
Paul Wanninger
IMEMG

10:30 AM **MSIAC Awards**
Presented by Patrick Touzé
MSIAC

10:45 AM Break Sponsored by AWE



Tuesday, April 25, 2006 Continued

Session 2A - System

Chair: Tom Swierk

- 11:15 AM **Development of PAX-3 Explosive for the Bunker Defeat Munition**
Arthur Daniels, US Army, ARDEC
- 11:35 AM **IM Testing Evaluation of New Melt Pour Explosive PAX-195 in Mortars**
Philip Samuels, US Army ARDEC
- 11:55 AM **IM-Enhancement of the 120mm M934A1E1 HE Mortar**
Larry Sotsky, US Army
- 12:15 PM **Melt-Cast IM Explosive Evaluation in 120mm Mortar Ammunition**
Simon Haye, MECAR SA

Session 2B - Modelling & Testing

Chair: Peter Haskins

- Development and Characterization of Promising New Pressed Explosives**
Robert Hatch, ATK Thiokol
- Aspects of Material Insensitivity**
Helen Czerski, Cavendish Laboratory
- Qualification Testing for PBXN-113 Containing Reclaimed HMX**
Tiffany McGregor, NSW Indian Head Division
- GUDN - A New Ingredient in Insensitive War Heads and Boosters**
Per Sjöberg, EURENCO Bofors AB

12:35 PM

Questions

12:45 PM

Lunch sponsored by 

Session 3A - Policy

Chair: Patrick Lamy

- 1:45 PM **Insensitive Munitions Maturity — A Systems Perspective**
Thomas E Swierk, NSW Dahlgren Division
- 2:05 PM **An update on STANAG 4439 and AOP-39 Issue 2**
Michael Sharp, DOSG
- 2:25 PM **Concern About Trends in Insensitive Munitions Testing**
Stuart Blashill, Naval Air Warfare Center Weapons Division
- 2:45 PM **Insensitive Munitions: Understanding the Risks, Reaping the Benefits**
Alastair MacKichan, Charcombe Associates Ltd
- 3:05 PM **Progress, Challenges and Way Ahead for the Navy Insensitive Munitions Program**
Donald Porada, Naval Ordnance Safety and Security Activity

Session 3B - Formulations

Chair: Andrew Sanderson

- Australian Melt-Cast Explosives Research & Development**
Arthur Provatas, DSTO
- Improved IM Melt-Cast Explosives**
Andrew Wilson, BAE Systems
- Development of a Cast Plastic Bonded Explosive with High CL20 Content**
Brigitte Le Roux, SNPE Matériaux Energétiques
- Development of New Insensitive TNT based Explosives with Excellent IM Characteristics**
Nikki Rasmussen, ATK Thiokol
- Energetic Plasticizer Evaluation in Cast-Cured PBXs**
Alan Garvey, Ensign Bickford Aerospace & Defense Company

3:35 PM

Questions

3:45PM

Break Sponsored by



Tuesday, April 25, 2006 Continued

Session 4A - Mitigation

Chair: Ian Barnes

Session 4B - Process

Chair: Chris Leach

- | | | |
|----------------|---|---|
| <i>4:15 PM</i> | Explosive Effects Mitigation for 4.5" Medium Range Naval Fire Support Munitions
Julian G Taylor, UK MoD, Defence Procurement Agency, Sea Technology | High-Performance Melt-Cast Plastic-Bonded Explosives
Patrick Brousseau, DRDC Valcartier |
| <i>4:35 PM</i> | Development of Ceramic Ball Armor for IM Applications
Raymond Gamache, NSWC Dahlgren Division | Process Optimization for the Manufacture of Premix Intermediates for Melt Cast and Cast Cure IM Explosives
Crane Robinson, RDECOM-ARDEC |
| <i>4:55 PM</i> | Mitigation of Thermal Threats Using Devices Based on Shape Memory Alloys
John Cook, QinetiQ | Start-up of a New Efficient and Green TNT Manufacturing Process
Andrew Sanderson, ATK AAE |
| <i>5:15 PM</i> | Progression of a Safe Active Mitigation System for Fragment Threat Protection
Ian Maxey, QinetiQ | Process Development For High Blast PAX Explosives At Holston Army Ammunition Plant
Wendy Balas, TACOM-ARDEC |

5:35 PM

Questions

5:45 PM

Sessions Adjourn

8:00 PM

Gala Dinner Sponsored by

BAE SYSTEMS

Land Systems

Wednesday, April 26, 2006

7:30 AM

Tea/Coffee & Pastries on Arrival sponsored by 

Session 5A - System Chair: Graham Viner

Session 5B - Process Chair: Wendy Balas

8:00 AM **New Insensitive Rifled 120-mm Mortar Ammunition with Enhanced Lethal Performance**
Christophe Bar, TDA Armements SAS

Twin Screw Extrusion of Aluminized Thermobaric Explosives
Michael Fair, US ARMY

8:20 AM **IM Response of PAX-44 (I-TNT) in 155mm HE Rounds**
Andrew Sanderson, ATK Ammunition & Energetics

The Design, Installation and Commissioning of High Volume PBX Facilities at BAE Systems, Land Systems (Munitions)
Phil Djali, BAE Systems, Land Systems

8:40 AM **Advanced Precision Kill Weapons System (APKWS) Insensitive Munitions (IM) Weapons System**
Robert Hutcheson Jr., NSW/IHD

Manufacturing process for thermobaric explosive PBXIH-18 (PBXN-12) at Holston Army Ammunition Plant
Brian Alexander, BAE Systems

9:00 AM **New Multi-purpose Warhead Designs with Novel and Insensitive Explosives**
William Ng, U.S. Army ARDEC

How to Fill Artillery Shells at the Lowest Cost With The Highest IMness Using Cast PBX
Yves Guengant, SME Environment


9:20 AM **Insensitive Artillery Munition**
Paul Wanninger, Rheinmetall Waffe Munition GmbH

Methodology to Predict Sympathetic Detonation between Munitions Stored on a Pallet
Philippe Chabin, SNPE Matériaux Energétiques

9:40 AM

Questions

10:00 AM

Break Sponsored by 

Session 6A - Life Cycle Chair: Ian Wallace

Session 6B - Modelling & Testing Chair: Brian Fuchs

10:30 AM **Munitions Vulnerability Assessment along their Life Cycle - Methods & Results**
Yves Guengant, SME Environment

Challenges in the Predictive Capabilities of Fragment Impact of Rocket Motors
James Uschock, NSWC Dahlgren Division

10:50 AM **Effect of Plasticiser Diffusion on the Mechanical Properties of Double Base Propellants**
Simon Torry, QinetiQ

The Use of Hydrocode Modelling in Optimisation of Physical Mitigation Design Solutions for Multiple Weapon Types
Ian MacDonald Watson, System Design Evaluation

11:10 AM **Updates on HTPe Propellant Service Life**
George Fletcher, ATK

Modelling of Properties of Energetic Materials: Influence of Surrounding Temperature and Container Properties on the Time to Self-ignition
Bertrand Roduit, AKTS AG

11:30 AM **Ageing of Reduced Sensitivity RDX and Compositions based on Reduced Sensitivity RDX, An Update**
Christian Spyckerelle, EURENCO France

Predictive Technology for Insensitive Munitions
Rohan Banton, U.S. Army Research Laboratory

11:50 AM **Ageing Evaluation of Certain Reduced Sensitivity RDXs in a Formulation based on a Wax Binder System**
Sanjeev K Singh, US Army ARDEC

Warhead Venting Technology Development for Cook-off Mitigation
Ernest L. Baker, US Army ARDEC

Wednesday, April 26, 2006 Continued

12:10 PM

Questions

12:30 PM

Lunch

1:30 PM

Technical Visits

Technical Visits are Subject to Availability

Numbers of places on each visit are restricted and places will be allotted on a first come, first served basis.

- FLEET AIR ARM MUSEUM
- COTEC (Cranfield Ordnance Test and Evaluation Centre)
 - Ammunition testing
- ARMY AVIATION MUSEUM
- BAE SYSTEMS - LAND SYSTEMS, GLASCOED
- EQUIPMENT DEMONSTRATION AT RSA (Royal School of Artillery)
 - Due to range constraints there will be no live firings as part of the RSA visit
- REG AT BOSCOMBE DOWN - No longer possible for operational reasons

Thursday, April 27, 2006

7:30 AM

Tea/Coffee & Pastries sponsored by



Session 7A - System

Chair: Vicki Brady

Session 7B - Formulation

Chair: Andrew Wilson

8:00AM **SLIM : A 180 mm IM compliant Min Smoke Rocket Motor**
Jim N Fleming, Roxel (UK Rocket Motors) Ltd.

Reduced Sensitivity RDX, Round Robin Program
Ruth Doherty, IHDIV/NSWC

8:20 AM **Improved IM Response for Future 2.75" Rockets Utilizing Composite Case Technology**
Tom Farabaugh, Alliant Techsystems

Pressable PBX Formulations Based on FOX-7
Peter Flower, QinetiQ

8:40 AM **Application of IM Technology to the Aerojet/ Roxel Rocket Motor for JCM**
Konrad Nofer, Roxel UK

High Explosive Formulation for and Full-scale Characterisation of an IM Missile Fragmentation Warhead
Christo Du Toit, Denel Land Systems Western Cape (Pty) Ltd

9:00 AM **Mine Clearance System: A Makeover We Can Live With**
Michael Marchand, Marine Corps Systems Command

Insensitive Boosters for Initiation of IHE
Paul Wanninger, Rheinmetall Waffe Munition GmbH

9:20 AM **Insensitive Munitions (IM) Testing of the M816 81mm Infrared Mortar Cartridge**
Nicholas McGregor, NSW Indian Head Division

Improving the Efficiency of Metallised Explosives
Peter Flower, QinetiQ

9:40 AM

Questions

10:00 AM

Break Sponsored by



Session 8A - Policy

Chair: Matthew Beyard

Session 8B - Modelling & Testing

Chair: Bruno Nouguez

10:30 AM **European Industry involved in Logistic Gains Assessments**
Jérôme Somaini, IMEMG

Validation by the Tests of MURAT Structural Installations on Rocket Motor
David Cordier & Hervé Bernard, DGA/DE/CAEPE

10:50 AM **A Scoping Methodology for Munition Environment Assessments and Range Environmental Sustainability Procedure**
Peter Barnes, DOSG

Application of Integrated Trials Techniques for Blast Analysis of PBX materials
Dennis Flynn, BAE Systems, Land Systems

11:10 AM **Formation of the US Navy's Munitions Reaction Evaluation Board (MREB)**
Michael A. Till & Kevin Kosal, Naval Surface Warfare Center, Dahlgren Division

The Effect of Munition Casings on Reducing Blast Overpressures
Anna Crowley, RMCS, Cranfield University

11:30 AM **IMEMG Aims for Harmonisation In Insensitive Munitions Assessment**
Michel Vivès, IMEMG

Explosive Booster Selection Criteria For Insensitive Munition Applications
Ron E Hollands, BAE Systems, Land Systems

11:50 AM **Study on the Interest and Cost of the Muratisation of Ammunitions of the French Army**
Baptiste Longuet, DGA/ETBS

TEMPER: a Toolbox for Engineering Models to Predict Explosive Reactions
Frédéric Peugeot, NATO/MSIAC

12:10 PM

Questions

12:30 PM

Lunch

Thursday, April 27, 2006 Continued

1:30 PM - 3:30 PM

Poster Session

Formulation

Recent Research on Insensitive Explosive Formulations at ADD, Korea

Hyoun-Soo Kim, Korean Agency for Defense Development

USN Qualification of PBXW-14

Heather A Gokee, NSWC Indian Head Division

Shoulder-Launched Multi-purpose Assault Weapon (SMAW) Improved Insensitive Munitions (IM) Propellant Replacement Feasibility Study

Nicholas McGregor, NSWC Indian Head Division

New Low-Sensitivity Modular Charge Propellant Based on GUDN

Johan Dahlberg, Eurenco Bofors AB

The application of bi-propellant systems to IM-compliant tactical missiles

Charles Dennis, QinetiQ

MEMs Implementation in the M213 Hand Grenade Fuze

Neha Mehta, US ARMY

Modelling & Testing

Response of PBXs and Inert Substitutes in Launch and Impact Scenarios

William Huntington-Thresher, QinetiQ

High-Speed Laser Imaging, Emission and Temperature Measurements of Explosions

Thuvan Piehler, U.S. Army Research Laboratory

Reaction Mechanisms in Slow Cook-off Tests of GAP/AP Propellants

Iwao Komai, NOF Corporation

Blast Algorithm Development Definition of a Modified Blast Algorithm for PBX based explosives

Jim Dunnet, Fluid Gravity Engineering

High Velocity gun launched fragment impact studies

John Stubberfield, QinetiQ

The Vulnerability of Explosives to Low Velocity Impact

Ian Wallace, RMCS, Cranfield University

Predictive Capability for Hot Spot Ignition of Double-Base Propellants

Stephan Bilyk, U.S. Army Research Laboratory

The MSIAC Bullet Impact Results Database (BIRD)

Frédéric Peugeot, NATO/MSIAC

Policy

US Navy Final (Type) Qualification Process - Overview and Future Initiatives Lessons Learned

Sharon M Craven, Naval Ordnance Safety and Security Activity

NATO's New Storage Sub-Division (SSD) 1.2.3 Criteria

Eric Deschambault, NATO/MSIAC

Mitigation

Mitigation of Bullet and Fragment Threats Using Armours and other Protective Systems

Alastair Fray, QinetiQ

TOW 2B Sympathetic Detonation Container

Michael A Glick, BAE Systems, Land Systems

Active Venting of Steel Case Tactical Rocket Motors for Reduced Missile Vulnerability to External Thermal Stimuli

Benjamin T Smit, Denel Land Systems Western Cape (Pty) Ltd

Process

PBXN-7 processing and qualification using TATB manufactured at Holston Army Ammunition Plant

Curtis Teague, BAE Systems, Land Systems

Thursday, April 27, 2006 Continued

System

Tactical rocket motors IM demonstrators. Validation of concepts to improve IM responses to thermal and bullet impact stimuli.

Raymond Coleno, ROXEL

How JUNGHANS Feinwerktechnik has addressed the needs of IM requirements in its design of fuzing systems

Markus Kopf, JUNGHANS Feinwerktechnik

XM982 Excalibur Sympathetic Detonation Modeling and Experimentation

Stanley DeFisher, ARDEC

Safety Assessment Software (SAS): a new MSIAC product

Angela Hall, NATO/MSIAC

Mine Clearance Systems (MCS) Insensitive Munitions (IM) Weapons System

Robert Hutcheson Jr, NSWC Indian Head Division

Field artillery ammunition 155mm HE LU211-M with significant IM/Murat performance

Raymond Mesnil, Giat Industries

Miniaturization of Insensitive Initiation Chains

Karl Rudolf, Diehl BGT Defence

Characterization

Characterisation and thermal decomposition studies of a hydroxy terminated polyether (HTPE) copolymer and binder for composite rocket propellants

Rodrigo Caro, Cranfield University

Image Analysis in Support of UK Energetic Research

Mark Withams, QinetiQ

Micro strain of RDX investigated by means of X-ray powder diffraction

Michael Herrmann, Fraunhofer ICT

Life Cycle

Surveillance Tests of a new LOVA Gun Propellant

Elie Shachar, IMI

Development of Theoretical Framework for Understanding Effect of Aging on the Mechanical Response of PBX based Systems

Phil Church, QinetiQ Fort Halstead

High performance IM compliant artillery projectiles with enhanced throughlife survivability

Virgil Fung, BAE Systems, Land Systems

Pyrotechnics

Moisture Resistant Black Powder Substitute Manufacturing Safety Improvement and Sensitivity Characteristics

Gary Chen, US Army ARDEC

Thursday, April 27, 2006 Continued

3:30 PM

Break Sponsored by



Session 9A - System

Chair: Tim McKelvey

Session 9B - Ingredients & Process

Chair: Ron Hollands

4:00 PM

A Successful System Approach to Insensitive Munitions Requirements Compliance
John Niles, US Army

Insensitive Oktogen
Peter Gerber, Fraunhofer ICT

4:20 PM

Results of Investigations to Improve the Insensitive Munitions Properties of the 40mm Mk281 Target Practice Cartridge
Roy Kelly, Trans Atlantic Consultancy LLC

Enhanced Energetic Polyphosphazenes
Peter Golding, AWE

4:40 PM

Selection and Final (Type) Qualification of PBXW-128 for the EFSS HE round
Heather Gokee, NSW Indian Head Division

AN/PolyCLYN propellant formulations - Approaches to Less Sensitive Rocket Propellants
Klaus Menke, Fraunhofer ICT

5:00 PM

Slow Cook-off Test of M931 Cartridges for 120 mm Mortar Ammunition with Ignition Cartridges Using Moisture Resistant Black Powder Substitute Pellets
Bill Ingold, US Army ARDEC

Synthesis of R8002 Energetic Plasticizer
David Price, BAE Systems

5:20 PM

US M67 Fragmenting Hand Grenade - Building Blocks to an IM Compliant Item
Glenn Wiederman Jr., Picatinny Arsenal

Pilot Plant Synthesis of Triaminotrinitrobenzene (TATB)
Steve Velarde, ATK Thiokol Inc

5:40 PM

Questions

6:00 PM

Sessions Adjourn

7.30 PM

Evening Reception at Thistle Hotel Sponsored by

BAE SYSTEMS

Holston Army Ammunition Plant

Friday, April 28, 2006

7:30 AM

Tea/Coffee & Pastries

Session 10A - System
Chair: Ken Tomasello

Session 10B - Synthesis
Chair: Rao Surapaneni

8:00 AM

PGB Warhead IM Development
Graham Viner, Raytheon Systems, LTD

**Novel synthetic approaches to Nitroimidazoles:
New class of Insensitive Explosives**
Reddy Damavarapu, U.S. Army

8:20 AM

**Joint General Purpose Bomb Insensitive Munitions
Program**
Manfred Becker, US Navy

**Maintaining Performance and Enhanced Survivability
Throughout the Lifecycle**
Charles Dennis, QinetiQ

8:40 AM

**Achieving IM compliance in the procurement of
the UK "Storm Shadow" missile**
Iain McLeod, MOD (UK)

**Approaches to the Synthesis of Energetic
Heterocyclic Compounds Suitable for Use in
Insensitive Explosive and Propellant Compositions**
Ross Millar, QinetiQ

9:00 AM

**Storm Shadow, Achievement of an IM Compliant
Lethal Package**
Steven Thomas, BAE Systems, Land Systems

**Synthesis and scale up of Sym-Triaminotrinitrobenzene
(TATB) at Holston Army Ammunition Plant**
Bradley Sleadd, BAE Systems

9:20 AM

**Sympathetic Detonation (SD) Testing for Tactical
Tomahawk Warhead with Pumice Shielding Material**
Vicki Brady, NAWC - WD

**TriazoloAminoTriazinylTetrazine (TATTz) Salts:
Insensitive Propellant Ingredients**
William Koppes, Naval Surface Warfare Center

9:40 AM

Questions

10:00 AM

Break Sponsored by



Session 11A - Modeling & Testing
Chair: Paul Wanninger

Session 11B - Gun Propellant Formulation
Chair: Ian Martin

10:30 AM

**Super Large-Scale Gap Tests on Energetic
Formulations**
Kenneth Graham, AEROJET

**Development and Performance of High Energy High
Performance Co-Layered ETPE Gun Propellant for Large
Caliber System**
Thelma Manning, US Army RDECOM-ARDEC

10:50 AM

**Assessment of Projectile Impact Initiation Hazards
- A Review of Recent Experiments and Modelling**
Peter John Haskins, QinetiQ

**Performance of Co-Layered Energetic Thermoplastic
Elastomer-Based Propellant in Medium Caliber Ammunition**
Paul Braithwaite, ATK Thiokol

11:10 AM

**What influences the Shock Sensitivity of High
Explosives?**
Werner Arnold, EADS - TDW Gesellschaft für
verteidigungstechnisch

**Nitrochemie's serial and future sensitivity reduced
Nitrocellulose-based Propelling Solutions**
Hanspeter Andres, Nitrochemie Wimmis AG

11:30 AM

**Quantification of Thermal and Mechanical Damage
in PBX's**
Gert Scholtes, TNO, Defence Security & Safety

**Insensitivity aspects of NC bonded and DNDA
Plasticizer Containing Gun Propellants**
Manfred Bohn, Fraunhofer-Institut für Chemische
Technologie (ICT)

11:50 AM

Shaped Charge Jet Initiations Thresholds
Manfred Held, TDW/EADS

**Caseless Ammunition and High Ignition Temperature
Propellant**
Ben Ashcroft, ATK Thiokol

12:10 PM

Questions

12:30 PM

Closing Address by Steve Rowbotham, MD BAE Systems - Land Systems Munitions

12:45 PM

Best Poster Award and Conference Close

In addition to the specific sponsorship shown in the above programme general sponsorship of the Symposium has been provided by the following Companies at the time of publication:-

TDA



Rheinmetall



MBDA (France)
MBDA
MISSILE SYSTEMS

General Information

REGISTRATION:

Payment should be made at time of application. All payments should be made in GBP Sterling to Carlson Wagonlit Travel.

For Hotel Registration and Symposium Registration visit:

<http://www.e-cwt.net/register/uk/imemg>

REGISTRATION FEES:

	Early (Before 10 March 2006)	Regular (11 March - 7 April 2006)	Late/On-Site (8 April - 25 April 2006)
NDIA AND IMEMG MEMBERS	£522.00	£580.00	£638.00
NON - MEMBERS	£603.00	£670.00	£737.00
GOVERNMENT	£468.00	£520.00	£572.00
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ACCOMPANYING PERSONS	£63.00	£70.00	£77.00

Corporate tickets are available (different delegate each day) at the published tariff plus 25%. All delegates to be pre-advised.

Individual guests for Gala Dinner charge at £45, names to be pre-advised.

REGISTRATION FEES INCLUDE:

Admission to all Symposium sessions and exhibits
One set of symposium proceedings (CD Rom)
Welcome reception on Monday 24 April
Gala Dinner on Tuesday 25 April
Evening Reception on Thursday 27 April
Three lunches during the symposium
Coffee, tea and pastries before start of each daily session
Coffee, tea and soft drink refreshments during the breaks
Name badges and handouts
Technical visits on Wednesday 26 April

ACCOMPANYING PERSONS FEES INCLUDE:

Welcome reception on Monday 24 April
Gala Dinner on Tuesday 25 April
Evening Reception on Thursday 27 April

Children are not permitted to attend the conference events, including evenings.

CANCELLATION AND REFUNDS:

No Refunds for Cancellation after 1 March 2006. Substitutions welcome.

ACCOMMODATION:

Block bookings have been made at the Thistle Hotel, Jurys Hotel, Marriott City Centre and Marriott Royal Hotel. Rooms are being held until 24 March 2006 and should be booked via Cwt at the above Web Site.

Accommodation will be booked at time of Registration. A credit card number will be required to guarantee the booking.

DRESS CODE:

Business casual except for the Gala Dinner where lounge suits and cocktail dresses are appropriate.

IDENTIFICATION BADGES:

At the time of registration check-in, each participant will be issued an identification badge. Please be prepared to show a government issued I.D. Badges must be worn at all conference functions.

PROCEEDINGS:

A CD-ROM of Symposium papers and presentations will be given to participants upon check-in at the Symposium Registration Desk.

ENQUIRIES:

For further conference information please email: imemg@imemg.org.

Papers, presentations and electronic copies of posters are due 6 March 2006. Email them to: papers-iments06@imemg.org.

CONFERENCE SPONSORSHIP OPPORTUNITIES:

Opportunities are available to maximize your organisation's participation in this symposium by sponsoring an event such as a Reception or Break. For more information please contact Mike Till at Mike.Till@awe.co.uk.

PARTICIPANTS LIST:

A list of participants will be distributed at the conference. Your registration form and payment must be received by 17 March 2006, to be included in the list. An updated list will NOT be printed after the conference.

CONTACT NUMBERS DURING THE CONFERENCE:

Should anybody need to leave messages for you, please ask them to leave a message at the Thistle Bristol on +44 (0) 870 333 9130. All messages left with the reception at the Thistle, will then be forwarded on to Sarah Parker - Carlson Wagonlit.

Names of those with messages will then be posted on the message board located at the registration desk. Please regularly check the message board.

In case of emergencies only, please contact Sarah Parker of CWT on her mobile +44 (0) 7764 471 966. She will be located at the registration desk for the duration of the conference (24 - 28 April).

The full address of the hotel is :

Thistle Bristol
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