

Lettre du



MSIAC

Munitions Safety Information Analysis Center

Newsletter



INSIDE THIS ISSUE

PARARI 2011	1-2
Energetics Materials Qualification (EMQ) Workshop	3
Procurements	4
Acquisitions	5
Latest Patents of Interest	6
Accidents Reporting	7-14
MSIAC News	15



The Parari explosive ordnance symposium is a biennial event, co-convened by Thales Australia and the Australian DoD Directorate of Ordnance Safety (DOS). The 10th Parari took place from 8-10 November 2011 in sunny Brisbane, Queensland. The theme of this year's symposium was "Munitions Safety and Emerging Systems".

The event attracted a record attendance with over 420 delegates registered. Over 20% were from overseas, emphasising the continued high degree of international interest in Parari. Keynote speeches were given by Fred Edwards from the UK MoD and Anthony Klenthis from the Australian DoD. The technical programme



MSIAC Booth and the team

(Continued on page 2)

(Continued from page 1)

covered a wide range of explosive ordnance topics in nine sessions of three streams - a total of 108 papers were presented representing a significant increase over previous years. The event provided ample opportunity for networking and developing new and existing contacts within the ordnance sector. On a lighter note, the singing waiters were well received providing excellent entertainment at the Parari dinner. The dinner also provided the opportunity to honour Dr Jerry Ward from the DDESB who was due to retire at the end of 2011 after 42+ years and Alan Hutchinson from the DOS for his lifetime contributions to the EO community and the co-creator (with the late Darryl Page) of the Parari symposium 20 years ago.



The feedback received from the delegates was overwhelmingly positive, once again demonstrating the event's global status as one of the premier symposiums covering explosive ordnance.

Preparations are already underway for the 12th Parari which will be held in Canberra to tie in with the centenary celebrations marking 100 years since its naming as the National Capital of Australia.

Article provided by Ian Powell
Thales Australia



MSIAC RAFFLE

MSIAC added an early holiday cheer to the face of Mr. Greg Wood of Thales. Mr. Wood won the MSIAC Basket of Belgian delights which consisted of a variety of Belgian Beers, Chocolates and Waffles.

Greg's business card was among hundreds of business cards and handwritten notes with contact information that was collected during the 3-day event.



Greg is a Technical Officer of the Cast Composite Section in Mulwala for the Land and Joint Systems Division.

The basket of goodies weighed in excess of 25 kilograms, therefore it presented a challenge for anyone travelling by air to get the basket and/or the contents home in one piece. As we understand it, Greg chose to celebrate the evening with friends to help him lighten the load – cheers Greg!



Winner - Mr Greg Wood

ENERGETIC MATERIALS QUALIFICATION (EMQ) WORKSHOP

11 November 2011
Sofitel, Brisbane, Australia

The first workshop on Energetic Materials Qualification (EMQ) was held on 11 November 2011 in Brisbane, Australia. It was attended by more than 50 participants from Australia, Canada, Finland, the Netherlands, Israel, Singapore, UK and USA.



Presentations were given by Dr John Reid, DOS, Duncan Watt, QinetiQ, Dr Michael Sharp, MSIAC and Dr Bill Wilson, DSTO.

John Reid's lecture focused on technical limits of specific tests, reasonable interpretation of their results, as well as their accuracy. He gave examples for inadequate testing methods and drew comparisons with non-defence related areas such as the pharmaceutical sector. He came to the conclusion that STANAG review is a protracted process because of technical content and diverse perspectives of reviewers. Attempts should be made to future-proof STANAGs by allowing new methods to be validated to reference methods. STANAGs should refer to internationally recognised testing and quality documents - ISO, Eurochem, ASTM as well as developing narrative within the STANAG framework.

Duncan Watt's presentation dealt with the diverse quality and utility of foreign testing data and what could be done about it specifically from an Australian perspective. He stressed the necessity to educate the EO community (internally and internationally) in order to clarify the reason to perform EMQ. He asked for EMQ information to be actively shared using a common standard in a common format. In addition, he pointed out the necessity to encourage large nations to continue international standardization efforts.

Michael Sharp discussed Energetic Material Qualification and Transferability of Qualification Data. He discussed the elusive goal of "Qualify Once" and questioned if the current Energetic Qualification process actually captures the data required. He also raised the question if enough data to support munition level qualification is developed. He concluded that agreeing to accept other nations' qualification data requires development in confidence of other nations' processes. Therefore, he stated that the community need to establish tools to cross correlate data. He identified deficiencies in the current qualification process at the munition level qualification such as in the areas of IM assessment and gun launch safety assessment.



Bill Wilson in his presentation emphasized on the drivers and outcome of qualification of energetic materials in general and in particular based on the Australian perspective. He stressed the various causes that impede read-across of qualification data and recounted recent national qualification problems with selected stores. He proposed authenticated identification of energetic materials formulations through access to original qualification data and knowledge of foreign qualification processes.

The workshop closed with a discussion on which topics were to be addressed in a future workshop.

To obtain the CD of the above-mentioned presentations and a separate summary please contact MSIAC at info@msiac.nato.int.

PROCUREMENT ISSUES PRESS REVIEW

If you have information you consider of relevance to this section please do not hesitate to contact MSIAC at info@msiac.nato.int

RAYTHEON RECEIVES TWO ESSM CONTRACTS

www.naval-technology.com – 13/01/2012

Raytheon has been awarded two contracts worth \$212.8m to design and develop the Evolved Seasparrow Missile (ESSM) for the US Navy and for Japan's Ministry of Defence (MoD).

The first contract, awarded by the US Navy NATO Seasparrow Project Office (NSPO), is for Raytheon to continue production of the missile through 2014 and also includes a \$33m option for further production. The contract also includes the supply of miscellaneous spare parts, containers and test equipment for the NSPO consortium-member navies.

Under the second two-year direct commercial sale contract, Raytheon will supply missile components and assemblies to Mitsubishi Electric Corporation (MELCO) for the development and delivery of the missile weapon to Japan's MoD.

The ESSM is a developed version of the RIM-7 Seasparrow Missile and is used to defend against high-speed, highly manoeuvrable anti-ship cruise missiles, surface threats and low-velocity air threats. It also aims at bridging the capability gap between close-in air defence and local-area defence systems. In addition, the missile can be used against smaller, sea-skimming targets.



ESSM after launching

Work on the second contract will be carried out at MELCO's facility in Japan. Funding will be provided by the Nato Seasparrow consortium, which includes the US, Australia, Canada, Denmark, Germany, Greece, the Netherlands, Norway, Spain and Turkey.

The ESSM warhead is reported to be IM compliant except for shaped charge threat. its rocket motor passed bullet impact and nearly passed fragment impact (in launch canister) but exhibited a type III to cook-off aggressions.

IM Signature					
	FCO	SCO	BI	FI	SR
KS-33 warhead	V	V	V*	V	>II
Rocket motor ¹	III	III	V*	IV	

*In launch canister. ¹ Baseline motor, steel case

ACQUISITIONS

If you have information you consider of relevance to this section please do not hesitate to contact MSIAC at info@msiac.nato.int

MBDA INCORPORATED PURCHASES NORTHROP GRUMMAN'S VIPER STRIKE MUNITIONS BUSINESS IN HUNTSVILLE, ALABAMA

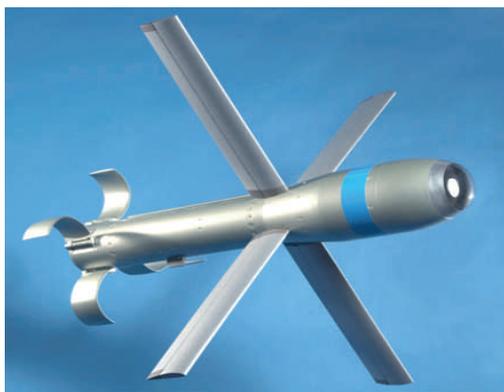
(www.mbda-systems.com – 12/12/2011)

MBDA Inc. has purchased Northrop Grumman Corporation's (NYSE: NOC) Viper Strike munitions business, located in Huntsville, AL. The terms of the agreement are not being disclosed.

The Viper Strike purchase is MBDA Inc.'s first acquisition in the US. The Viper Strike Business Unit facilities, located in the City of Huntsville and on the US Army's Redstone Arsenal, will allow MBDA to design, build, and assemble complete precision-guided weapons in one location, as well as bring in new business to the MBDA Huntsville facilities.

MBDA Inc. now owns two design, development, and manufacturing locations: the Huntsville, AL Viper Strike operating unit, and its original Westlake Village, CA operating unit.

Viper Strike is a low-collateral damage, precision guided weapon designed for both manned and unmanned aircraft. This 44-pound, covert glide weapon allows US Army, US Air Force, Special Forces, and US Marine Corps aircraft to precisely engage targets in urban and complex terrain environments. It combines a GPS Inertial Navigation System and a Semi-Active Laser seeker to provide maximum operational flexibility.



Viper Strike Missile

NEW BOOK ON METAL-FLUOROCARBON BASED ENERGETIC MATERIALS



Metal-Fluorocarbon Based Energetic Materials play an important role as payloads in Igniters, Infrared Decoy Flares, Reactive Fragments, Multispectral Obscurants, Blast Enhanced Explosives and Gas Generators for Air Breathing Propulsion. A book describing the history, chemistry, use, safety and sensitivity of these special materials has been written by current TSO-Energetic Materials, Dr. Ernst-Christian Koch. The book is available from Wiley-VCH.

Koch, Ernst-Christian

Metal-Fluorocarbon Based Energetic Materials

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For further details please follow the link:

<http://www.wiley-vch.de/publish/en/books/newTitles201201/3-527-32920-X/?sID=1nj54cdovs6f8bgct94hlekp3>

LATEST PATENTS OF INTEREST

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- (74) Agent: **HUMPHREYS, Elizabeth, J.**; QinetiQ Limited, Intellectual Property, Malvern Technology Centre, St Andrews Road, Malvern, Worcestershire WR14 3PS (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DC, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

(54) Title: CONTROLLABLE OUTPUT WARHEAD

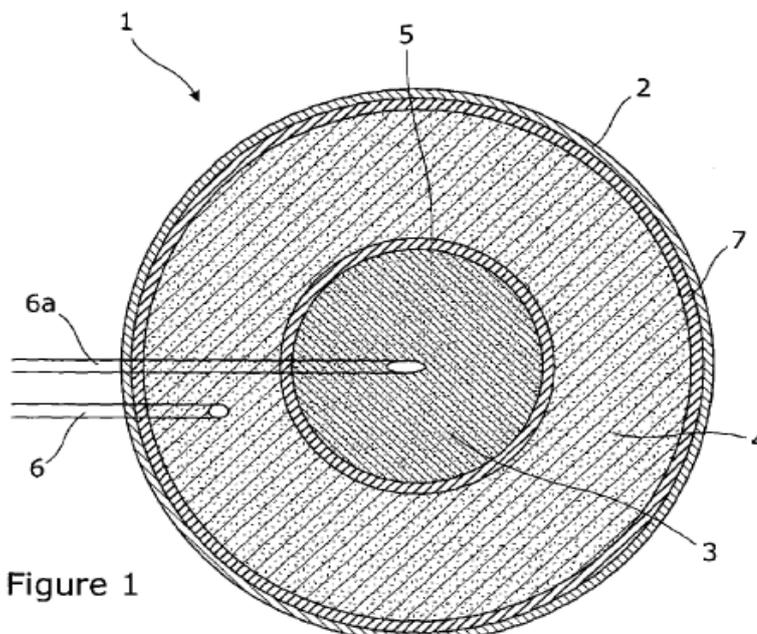


Figure 1

(57) Abstract: This invention relates to a novel munition (1) comprising a controllable output warhead and also munitions comprising one or more of said warheads. There are further provided methods of preparing the warheads of the invention, methods of controllably detonating the warheads and a kit suitable for preparing such a warhead. The warhead comprises an inner and outer portion of high explosive (3, 4) co-axially located and separated by a non-detonative material (5), such that in use at least two output modes are possible, by either simultaneous detonation of both the inner and outer portion high explosives (3, 4) or selective detonation of the inner high explosive portion (3).

WO 2011/135279 A1

ACCIDENTS REPORTING

9 September - 15 November 2011

(Re-printed with the permission of ility engineering (www.saunalahti.fi/ility) from their Hazards Intelligence (Hint) Journal)

9 September - Georgia

110909-03 Tkibuli, western Georgia. Georgian Industrial Group, Saknakshiri. A miner died after a blasting operation apparently went wrong in a coal mine in Tkibuli, western Georgia. A senior executive from the coal mine operator company, Saknakshiri, in charge of safety, said the incident was caused by violation of procedures and that the details would be known after the full investigation.

Tamaz Dolaberidze, president of the metallurgical, mining, chemical industry workers trade union, said that according to preliminary information the miner apparently died in an improperly carried out underground blast operation. He said the miner was not in a safe place when the blast occurred. This was the fourth fatal incident in the Tkibuli mine over past eighteen months.

12 September - Turkey

110912-03-A Kocaeli. Polar Chemical Industry Inc. One worker was injured when a fire broke out around 11:00 in the storage area for "judicial nitrocellulose" at a chemical factory in the north-western province of Kocaeli, about 90 km east of Istanbul. The fire spread rapidly as chemical storage tanks exploded in succession. Fire-fighting teams from Kocaeli and neighbouring towns were sent to the site, but they were forced to tackle the fire from a distance because of the continued explosions. Kocaeli Governor Ercan Topaca said it was dangerous because of the great number of chemical storage tanks in the vicinity, adding that he had requested Istanbul to send helicopters to help fire fighting. Train services near the factory were suspended.

15 September - China

110915-10 Nanyan village, Fenyang city, Shanxi province. Three people died after an explosion in a rural home in Shanxi province. The accident happened at around 18:30. According to an investigation by the provincial public security department, trade in illegal civilian explosives was to blame for the accident. It did not provide further details. Three houses were also ripped apart in the blast. The three dead include the person suspected of being responsible for the explosion, said a demolition expert from the public security department.

24 September - Libya

110924-02 Tripoli. A navy armoury in an eastern suburb of Tripoli exploded. Loud explosions occurred, and heavy smoke was seen rising from the blast-hit area. According to local residents, the site is an arms depot near a naval base. Roads leading to the area were closed to the public by armed members of the ruling National Transitional Council (NTC), who insisted that it was a burning accident on a ship near a port, about 2 km from downtown Tripoli.

Later, Abdel Basset Hussein, a fighter for Libya's National Transitional Council told AFP: "This was just an accident. The weapons store exploded by itself. This was not caused by anyone". Workers from the yard said they believed it had been caused by an electrical fire and said fuel, paint and munitions had been engulfed by the blaze.

26 September - Sri Lanka



110926-06-A Weerawila, in southern Sri Lanka. An explosion at an ammunition dump in the Weerawila Army Camp ignited a major fire, which was still burning with intermittent explosions of ammunition the next day. Military spokesman Brigadier Nihal Hapuarachchi said that the camp, situated at the former Sanasuma tourist hotel, once owned by the late Lankan film legend Gamini Fonseka, was occupied by the 14th Gajaba Regiment. He said that a small arms ammunition dump caught fire. Two other ammunition dumps situated in the same camp, however, had been spared as they were situated some distance apart. The reason for the low number of casualties among men in the camp was that they were billeted away from the armouries, Brig. Hapuarachchi said.



(Continued on page 8)

(Continued from page 7)

Senior Superintendent of Police Tangalle Division C.E. Vidisinghe, who was at the scene, said the camp was evacuated along with civilians living in the vicinity. He said, according to available information, the explosion had occurred while the officer/soldier in charge of the particularly dump had gone into it with two others. However, the other two had come out just before the blast, but they had suffered some injuries and were receiving treatment at the Debarawewa Hospital. The fate of the man in charge, who went in, was not yet known.

On September 28, it was reported that the Army had found a charred body of a soldier at the explosion site. Brig. Hapuarachchi said the soldier had gone to the ammunition dump to collect several rounds of ammunition for a firing exercise due to be held in the camp on the evening when the explosion had taken place.

Army Chief Jagath Jayasuriya appointed a five-member committee headed by a Brigadier to investigate the explosion, adding: "We still do not know what happened and how he was killed". He said that the victim was identified as Private Anthony of the Gemunu Regiment. He was a resident of Payagala.

30 September - Bosnia

110930-05 Konjic, Herzegovina. Igman Co. At least one person was killed and several workers were injured in a series of explosions at an ammunition factory in Bosnia's southern town of Konjic. Regional police spokesman Srecko Bosnjak said police were not able to get to the site because it was filled with smoke and gases. Bosnjak said the first explosion at the Igman factory, which produces and exports small arms ammunition, occurred at 06.30 and more explosions could follow.

Bosnian media reported that the first explosion occurred about half an hour from the arrival of the first shift of workers, and was followed by six further explosions. Civil Protection officials said that the first ignition occurred in large quantities of gunpowder, and the series of explosions probably was not caused by human error.

Igman was part of the military industry of former Yugoslavia. It was built in 1950, and for years was one of the largest manufacturers of 5.56 to 12.7 mm ammunition in Europe. The now privately-run plant generated about \$2 billion per year before the 1991-99 Balkan wars.

6 October - Germany

111006-09-A Karlsruhe, Baden-Württemberg. Three workers were injured in a Second World War fragmentation bomb explosion at a recycling company in Karlsruhe. The explosive device went off as the men delivered rubble into a crushing machine. The worker who operated the plant, was burned on his face and hands. Two more suffered a blast injury and were taken to hospital.

The recycling plant was severely damaged by the explosion, but the amount of damage has not yet been quantified. The unexploded bomb was expected to be of American origin. Officials of the weapons disposal service began searching the remaining rubble, looking for more explosive devices.

Although referred to in the media as "cluster bombs", these were not cluster bombs in the modern sense. These were small – 20 pound – anti-personnel fragmentation bombs that were dropped in a cluster which broke up in the air. They were designed to explode on impact.

On October 8, it was reported that the explosive ordnance disposal service thought it was rather unlikely that the bomb came from a construction site at the Ettlinger Tor, and removed work restrictions from the site. Furthermore, the injured worker was not so badly burned as first thought. According to initial estimates, losses caused were between €500,000 and one million.

23 October - Latvia

111023-05 Adazi, near Riga. One member of the Latvian Home Guard was killed and eight injured in an explosion at the Adazi training grounds outside Riga. 17th Anti-aircraft Defence Battalion soldier Ilmars Mitenbergs died of his wounds in hospital. Two more men remained in a critical, but stable condition.

National Armed Forces Commander Raimonds Graube ordered an immediate investigation into the explosion, which occurred while soldiers were running drills with anti-aircraft missiles. Army spokesman Normunds Stafeckis said that the explosion took place at the end of a training exercise as the soldiers gathered for a debriefing before going home, adding: "What exploded, why it exploded, will be explained".

23 October - USA

111023-06 New Philadelphia, PA. A fire destroyed a home and critically injured its owner. The man was flown to Lehigh Valley Hospital-Cedar Crest to be treated for burns that covered approximately 90 percent of his body, 55 percent being third-degree burns.

(Continued on page 9)

(Continued from page 8)

As the investigation into the fire continued, a large supply of firearms was recovered from the rubble. Good Intent Assistant Fire Chief Ed Slane said 134 firearms with ammunition and large amounts of cash were recovered from the site.

Slane said the fire could have started anywhere because there was so much stuff in the house: "This was not a normal fire. We had to pull stuff out of the windows so that we could get into the house. There was so much stuff in the house". Slane said the fire department received the call at 23:15, and arrived at the scene to see flames coming from the windows and two neighbours giving the occupant CPR in front of the property.

26 October - Pakistan



111026-04 Mamozai area, Upper Orakzai Agency. Four people were killed and two others were injured in an explosion at an arms dealer shop in Upper Orakzai Agency. According to security sources, the explosion took place in the Mamozai area and the market was cordoned off after the explosion. The local administration official confirmed that four people were killed in the incident. He also confirmed that two people injured in the explosion were being provided with medical treatment.

27 October - USA

111027-07 Palm Bay, FL. A crash between a motorcycle and a van carrying ammunition caused a fire. The motorcyclist was seriously injured in the accident, reported just before 22:00. The crash ruptured a fuel tank and ignited a fire. When fire-fighters from Palm Bay Fire-Rescue arrived, the van was 25 percent engulfed with flames. Witnesses heard popping sounds and at least one explosion. Police officers quickly moved people away from the crash site, but the ammunition did not pose a significant threat.

Gasoline from the motorcycle caught fire and ignited the van's engine compartment. The van's driver, who had just purchased a few boxes of ammunition, was not hurt. No one was burned.

28 October - Taiwan

111028-07-B Yuanshan Township, Yilan County. Ministry of National Defence. An explosion occurred as personnel were destroying flash grenades at a military arsenal in Yilan County, leaving seven people with life-threatening burns. The patients were first rushed to three local hospitals for treatment before being transferred to Tri-Service General Hospital's intensive care unit in Neihu, Taipei, and put on artificial respirators.



Dai Niantzzy, a physician at the Tri-Service General Hospital, said that six of the victims suffered burns covering 70 to 99 percent of their bodies. The seventh, a military officer, sustained complications from burns covering up to 50 percent of his body and an open fracture of his lower limbs. All seven suffered inhalation burns, causing serious damage to their lungs. An eighth individual injured less severely in the explosion was being treated by the hospital's regular burns unit.

The explosion occurred at 09:15 as personnel at the arsenal were destroying a batch of flash grenades, but the cause of the accident is still unknown, according to a Ministry of National Defence statement. In the wake of the explosion, Minister of National Defence Kao Hua-chu immediately instructed the arsenal to suspend all operations pending an investigation. The military has also set up a task force to investigate the incident.

On October 29, the Ministry of National Defence (MND) ordered a further investigation into the explosion, after a preliminary report failed to identify the cause. A preliminary investigation by the MND concluded that the explosion occurred as military personnel tried to remove the top of a grenade. Friction between chemicals is said to have ignited the flash agent, causing the explosion.

On October 29, one of the eight people injured died at home after her family had her discharged from the hospital against medical advice. The deceased suffered multiple organ failures and burns covering 90 percent of her body, according to the Tri-Service General Hospital in Neihu, Taipei, where the explosion victims were being treated.

October 31, military prosecutors began an investigation into the cause of the explosion that left two people dead –

(Continued on page 10)

(Continued from page 9)

suggesting a second death – and six injured. The MND said in a news release that military prosecutors invited experts from the Criminal Investigation Bureau, the National Fire Agency, the Central Police University and the Society of Explosives and Propellants to the scene of the explosion to collect evidence and make a forensic study of the site.

Meanwhile, Liu Fu-long, director of the Armaments Bureau, apologized on behalf of the ministry to the relatives of the victims and the public for the blast. He extended the apology at a news conference convened by ruling Kuomintang legislators who questioned whether the destruction of a batch of flash grenades had been conducted according to standard procedure. “The operation conformed with the standard procedure, which was written 10 years ago and has been revised and adjusted every year,” he said.

1 November - China

111101-04-B Fuquan city, Guizhou province. Eight people were confirmed dead and 218 injured – nine critically – in an explosion near a fuel station in southwest China. The accident happened at about 11:30, when two trucks loaded with about 70 tonnes of explosives exploded in front of a motor vehicle testing station in the city of Fuquan. Windows shattered in nearby houses, and cars parked near the site were severely damaged. A nearby grain warehouse was also seriously damaged.



A witness told state media that the testing station was destroyed and a neighbouring five-storey residential building was severely damaged. A spokesman with the local rescue headquarters said about 200 people were rushed to hospital, 20 of them in critical condition. More than 50 students and seven teachers were among the over 200 people injured.

More than 6,000 students from six schools had their classes suspended because the schools were damaged by the nearby explosion. Four primary schools and two middle schools were closed as the buildings may have been compromised by the explosion. The city government has earmarked 5 million yuan (\$787,065) for the relocation of those whose houses were damaged, medical treatment and other blast-related expenses.

On November 3, it was reported that an initial investigation revealed that the two trucks loaded with explosives were illegally parked, and failed to transport their cargo in the proper fashion. The two vehicles belonged to a local transportation company in Fuquan. The Ministry of Public Security sent experts from Henan and Hunan provinces to participate in an investigation of the accident.



On November 5, it was reported that another injured person had died, bringing the death toll to nine. Four of the 219 injured people remained in critical condition, while 81 had been discharged.

2 November - Pakistan

111102-06 Skardu, Baltistan. Up to 25 people were injured when explosive material stored in a house blew up after catching fire. Superintendent of Police (SP) Sultan Azam said: “The explosives belonged to a contractor who used them for construction purposes and he has been taken into custody”. He explained that the police were investigating the cause of the fire and the quantity of explosives could not be ascertained. According to the police, a liquefied petroleum gas cylinder also exploded in the incident. Sources at the Skardu District Hospital said that most of the injured suffered from minor injuries and were discharged after treatment. According to eye-witnesses, the people injured in the incident were attending a wedding at an adjacent house. They rushed to the spot to extinguish the fire, and were injured in the process.



4 November - Venezuela

111104-04 Puerto Ayacucho, Amazonas state. Twenty-eight government troops were injured when a grenade exploded during a drill. The accident took place at a navy unit in the south-eastern district of Puerto Ayacucho in the state of Amazonas, and was believed to have been caused by the mishandling of explosive devices by a group of young soldiers who were recently recruited. The accident occurred in the Séptima Brigada de Infantería de Marina Fluvial G/B Franz Rísquez around midday.

(Continued on page 11)

(Continued from page 10)

The majority of the injured soldiers were taken to Jose Gregorio Hernandez Hospital in Puerto Ayacucho, while four seriously injured soldiers were airlifted to Caracas for special treatment.

6 November - Germany

111106-07 Trittau, Schleswig-Holstein. Rheinmetall Waffe Munition GmbH. Fire broke out at two widely separated places at the Rheinmetall factory. At 05:30, a security guard noticed a glow, visible through dense fog, in a powder mixing plant. He alerted the emergency services and informed the plant manager. An employee of the company arrived almost simultaneously with the first forces of volunteer fire-fighters from Trittau.

First, Trittaus community fire chief Tismer Clemens with two employees reconnoitred the premises to get an estimate of the extent of the fire and its location. Tismer explained: "We have a plan of the premises on which can be seen the objects in which explosive materials are stored or where they are processed. And we have an agreement with management for years that in an emergency we do it without consulting with the company". The team leader of the first group, while wearing breathing apparatus, cautiously moved forward and found two fires about ten metres apart. In one place, flames burst from the roof, in the other the flames were at the front of the building.

The Lütjensee fire-fighters set up a water curtain to protect other buildings with explosives in front of the flames. Since, according to the department manager was no danger of explosion, they could now begin extinguishing the fire. According to initial findings of the police at the time of the fire out-break, only packaging materials were affected. Whether the state criminal office in Kiel will consider the investigation itself is still open.

11 November - USA

111111-07 Buttonwillow, CA. Tiger Oil Field Service. Kern County fire-fighters and hazmat teams were sent out after an oilfield exploration truck that was carrying explosives caught fire, shutting down part of Interstate 5. Fire-fighters said that when they arrived, they heard an explosion and immediately secured the area. The driver of the truck told emergency responders that there were detonators and explosives inside the vehicle. The fire was quickly extinguished and the roads were reopened about 15:20. There were no reported injuries.



12 November - Iran

111112-01-A Village of Bid Ganeh, about 40 km (25 miles) west of Tehran. Amiralmomenin Garrison. At least 17 persons were killed in an explosion around 13:00 in a military base belonging to the Islamic Revolution Guards Corps (IRGC). Brig. Gen. Ramezan Sharif, a spokesman for the force, told state television that twenty-seven Guards personnel were killed in the explosion, adding that some of those injured were in critical condition. Sharif initially said 27 people had been killed, but later revised that figure down to 17.



According to various media reports, the explosion occurred shortly after 13:00 in an ammunition depot at the base in Bid Ganeh. Sharif said: "Initial investigations show the blast occurred as ammunition was being moved". Sharif denied what he said was speculation in the Western media that the military base was linked to Iran's nuclear programme, saying: "This blast is not related to any nuclear tests that some foreign media have reported".

The deputy head of the national security commission, Esmaeel Kosari, said parliament would open an investigation into the explosion, but Hossein Garousi, a lawmaker from the area, ruled out the blast being the result of "an act of sabotage or in any way political". There were no reports linking the blast to any air strike or other attack.

Some media reported that there had been two explosions, and the head of Iran's Red Crescent organisation said there was a risk of further explosions. Hossein Derakhshan from the Iranian Red-Crescent said three aid groups with sniffer dogs had been sent to the location.

The quasi-official Fars news agency reported that among the dead was Revolutionary Guards commander Hassan Tehrani Moqadam, a rocket expert and specialist in long-range missile research. Moqadam taught at the Imam Hussein University, which is affiliated with the elite Guards Corps. Sharif denied what he said were Western media reports that the accident had involved a nuclear warhead, saying the incident had nothing whatsoever to do with a

(Continued on page 12)

(Continued from page 11)

nuclear test.

12 November - Bulgaria

111112-05-A Sevlievo. The press office of Sevlievo Municipality announced that around 09:00 two strong explosions were heard in the area between the town of Sevlievo and the village of Lovnidol. The depots were isolated by security forces, and workers and animals at a nearby equestrian centre were evacuated. There was no information about injured people. There were no radioactive or chemical substances in the warehouses, and no risk of gas pollution. After-blasts were still being heard in the former military warehouses.



According to initial information, the storehouses no longer belong to the Bulgarian military, but rather to a private company, tasked with destroying Soviet-era incendiary munitions. According to Chief Secretary of the Interior, Kalin Geogiev, the former military store where the explosions occurred had about 3,000 152mm shells.

On November 13, occasional explosions were still occurring in the former military munitions depots. Denislav Donkov, director of Gabrovo District Police Directorate, said the latest one was registered at 16:00. He said it was planned that a robot will enter the depots on November 14. Measurements of air quality showed that all indexes were within the norm and there was no threat of elevated levels of harmful substances.

According to initial reports, the six warehouses belong to a private, Sofia-based company. They were purchased in 2008 and later renovated. Only one contained munitions. The facilities comply with all norms for safe storage of explosives and munitions, police said, pointing out there are no radioactive substances inside.



12 November - Azerbaijan

111112-09 Bolsulu village, Beylagan region. The Defence Ministry of Azerbaijan reported that a fire broke and munitions exploded in Bolsulu, a village of Beylagan region. According to the report, the explosion happened due to a fire in one of the vehicles carrying munitions. There were no injuries. Groups of Military Prosecutors, MES, and other state bodies were operating on site.

15 November - USA

111115-02 Jamestown, PA. Combined Tactical Systems. A spark from a machine in a building where tear gas and grenades are produced set off a fire at a munitions plant. Jamestown fire officials said the building, known as a "gas house", had a sprinkler system in place, but the system did not put out the fire. However, Don Smith, chief executive of Combine Systems, said: "Our emergency procedures worked flawlessly, and everyone was accounted for quickly. I'm very grateful to emergency services for responding quickly".



Fire-fighters from seven departments were sent to the facility shortly before 07:30. Seven employees in the building and about 160 others working else-where in the complex were evacuated without injury. The fire was fully involved when fire-fighters arrived on the scene. It took them about an hour to put the fire out. Fire-fighters contained the flames to the 50-square-foot gas house. Extra caution was taken in extinguishing the fire because of two 50-gallon barrels of acetone within 15 feet of the building. Jamestown Fire Chief Mike Cadman said the tear gas produced in the building was contained to ovens



that were not affected by the fire, and the chemicals released during the fire proved only a mild irritant to fire-fighters. The Pennsylvania Department of Environmental Protection is still investigating potential consequences of the chemical release, but fire officials said it should have no effect on the surrounding communities.



(Continued on page 13)

(Continued from page 12)

Combined Systems Inc. produces chemical munitions, impact munitions and flash-bang devices, according to information on the company's website.

FOLLOW-UP

USA, 7 January 2010 - Explosion at Texas Tech University.

A-100107-16 Lubbock, TX. Texas Tech University (TTU). On October 19, the CSB released its final report into the January 7, 2010, chemistry laboratory explosion at Texas Tech University, recommending that the American Chemical Society develop new hazard evaluation guidelines for laboratories and calling on OSHA to issue a Safety Bulletin on the importance of controlling the physical hazards of chemicals in academic laboratories.

The accident occurred during the handling of explosive compounds and resulted in serious injuries to a graduate student. The case study identifies systemic [sic] deficiencies in safety accountability and oversight by the principal investigators [Whose, the CSB's or OSHA's?], the chemistry department, and the university administration at Texas Tech. Furthermore, according to investigators there were also important gaps beyond the university itself, gaps which are addressed in the CSB's safety recommendations.

In January 2010, two graduate students at Texas Tech University were conducting research funded by the US Department of Homeland Security on energetic or explosive compounds; at the time of the accident a senior graduate student had been working on the project for about a year and was helping train a first-year graduate student. The students were tasked with synthesizing and performing tests on a new compound, a derivative of nickel hydrazine perchlorate (NHP). The two principal investigators for the research believed they had verbally [sic] established a 100 milligram limit on the production of energetic materials, but the CSB investigation found there was no formal system for communicating this limit or verifying compliance. Few of the graduate students interviewed during the investigation believed that a strict 100 mg limit existed.

The CSB found that, initially, the compound was made in small batches of less than 300 milligrams, but the two students were concerned about potential variability among different small batches of the compound which could affect later test results. They decided to scale up the synthesis to make a single batch of approximately 10 grams, enough for all of their testing. The graduate students believed that keeping the compound wet with a solvent would prevent it from exploding. After producing the larger batch, the more senior graduate student observed that it contained clumps that he believed needed to be broken up using a mortar and pestle prior to testing. As the pestle pressed against the compound, it detonated. The graduate student was seriously injured: his left hand severely damaged by the force of the explosion, causing the loss of three fingers, perforation of his eye, and cuts and burns to other parts of his body.

The CSB's investigation determined there had been two previous near-misses within the laboratories of the same principal investigators since 2007. While no one was injured, CSB investigators concluded there were similarities in the causes of these previous incidents to the January 2010 explosion. But these key lessons [What were they?] were missed at the time of the earlier incidents. As a result of the investigation, the CSB recommended that Texas Tech revise and expand its Chemical Hygiene Plan to ensure the physical hazards of chemicals are identified and controlled. In addition, the CSB recommended that Texas Tech develop and implement an incident and near miss reporting system which should document and communicate lessons learned from all laboratory near misses and incidents.

The CSB is concerned with laboratory safety because, when compared to industry, it is an area that is unregulated and lacks good practice guidance, said Investigator Cheryl MacKenzie: "There is an OSHA laboratory standard requiring universities to create Chemical Hygiene Plans, but its focus is on exposure hazards and health hazards of the research work being conducted. We found that there is no comprehensive guidance for conducting hazard evaluations within the dynamic environment of academic research laboratories". The CSB investigation identified six key lessons for universities and others, including calling on universities to:

- Ensure that research-specific hazards are evaluated and then controlled by developing specific written protocols and training.
- Expand existing laboratory safety plans to address the physical hazards of chemicals
- Ensure that safety personnel report directly to a university official who has the authority to oversee research laboratories and implement safety improvements
- Document and communicate all laboratory near-misses and incidents to educate individuals and track safety at the university.

(Continued on page 14)

(Continued from page 13)

Cyprus, 11 July 2011 - Fatal explosion of seized munitions

A-110711-02 Evangelos Florakis naval base, Zygi. On October 3, opposition political parties called for the resignation of the president Demetris Christofias, after an independent report said he carried "the main responsibility" for the fatal explosion. Thirteen fire-fighters and naval personnel died when boxes of confiscated Iranian munitions stored at the base exploded following a bushfire. The blast also demolished the island's biggest power plant, knocking out half its electricity supply and causing more than €2 billion damage.

Polyvios Polyviou, a lawyer appointed by the government to investigate the accident, assigned most responsibility to the president since he held "overall control" of the munitions, which had been at the base for more than two years. According to the 640-page report, the president "took de facto crucial decisions on the issue ... thereafter he failed to take all necessary measures to protect Cypriot citizens, especially armed forces personnel and fire-fighters".

Mr Christofias, who is leader of the Communist party Akel, said he did not know that the 98 containers of munitions were liable to explode. On October 3 night he rejected the report's findings, telling Communist supporters at a rally in Limassol that there was "no proof" of his responsibility.

According to foreign ministry documents quoted in the report, Mr Christofias personally assured Bashar al-Assad, Syria's president, during a meeting in 2009, that Cyprus would keep the containers until they could be delivered to Syria, their original destination. Cyprus said it seized a Russian cargo ship carrying the munitions in 2009 in response to a US request that the ship was violating international sanctions against Iran. However, Mr Christofias' government later discouraged UN experts from visiting the base to examine the condition of the seized cargo. On three occasions, the Cyprus foreign ministry instructed its UN mission to delay their arrival, according to the report.

NEWSFLASH

Source: 2 January 2012 / TODAY'S ZAMAN, İSTANBUL



A blast took place at a military ammunition depot in the Central Anatolia province of Kirikkale on Monday. The explosion occurred in the town of Yahsihan at around 12:43 a.m., and the ensuing fire was extinguished by fire crews.

The district governor of Yahsihan, Ahmet Ferhat Özen, told the Anatolia news agency that four workers were reported missing following the blast. Later, Kirikkale Governor Hakan Yusuf Güner told reporters that four workers had been missing after the explosion but

later their bodies were found at the site. The dead were identified as Salih Erkeç (43), Adnan Dagdeviren (46), Cezayir Çaliskan (30) and Samet Aygar (19).

A written statement published by the General Staff on its website, says the blast took place at 00:58 am on Monday. It also mentioned that the cause is unknown, and experts are investigating the incident. The General Staff offered condolences to the victims' families and added that this incident will be examined and investigated thoroughly.

These families stayed at the scene of the incident to collect the bodies of their loved ones. A Turkish Mechanical and Chemical Industry Corporation (MKEK) team arrived at the scene of the incident in the early morning, and they stayed at the depot for many hours to prevent any possible further explosion. Experts state that the depot is severely damaged and in an unusable state.

Demil Factory in Turkey: http://www.dtic.mil/ndia/2007global_demil/GeneralSessionTuesday/T1420CourtneyGreen.pdf

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MSIAC NEWS



Royal day out. GpCapt Evans at Buckingham Palace with his wife and daughter Isabelle

CONGRATULATIONS TO GPCAPT WADE EVANS OBE

Wade Evans of the Royal Australian Air Force spent three years at Abbey Wood as the Australian exchange officer leading a section in the Defence Ordnance Safety Group (DOSG). During that time he also represented Australia on the MSIAC Steering Committee.

His section ensured safety of small-caliber land weapons and a range of munitions and explosives. His team increased volume and tempo of tasking to support Urgent Operational Requirements including capabilities for the Counter-Improvised Explosive Device camp tasking and quality campaign. He also improved tasking and quality control within the DOSG.

This work has seen him collect an OBE (Order of the British Empire) just days before he returned to his native Australia. He received his OBE from the Queen at Buckingham Palace on 12 October at an investiture brought forward specially before his return on 3 November 2011.

He will be taking over as Director of the Ordnance Safety for the Australian Defence Forces and will succeed Jerry Ward as Chairman of the MSIAC Steering Committee.

Extract of article and photo provided by the courtesy of the Deputy Editor of the Desider Magazine, the magazine for defence equipment and support published by the UK MOD

FAREWELL TO JERRY WARD

Jerry's continued general support to NATO standardization, as it pertains to Munitions Safety, Storage, and Transportation, has been unique over the past twenty years. Always striving to contribute with endless energy and a sense of humour that helped bridge complicated issues; he developed many friends and colleagues in international circles.

In the early days of the NATO Insensitive Munitions Information Center (NIMIC), Jerry provided crucial support for starting this NATO Project Office. Later, when NIMIC transitioned to become the Munitions Safety Information Analysis Center (MSIAC), he worked with the NIMIC Steering Committee to help expand the scope of the NIMIC Memorandum of Understanding to cover the broader areas associated with Munitions Safety.



Jerry Ward and Wade Evans



Wade Evans presenting MSIAC's commemorative plaque to Jerry Ward

Jerry served as the Chairman of the MSIAC Steering Committee from 2008 through 2011. It is appropriate that we recognise that the time Dr. Ward invested in providing his Munitions Safety background and leadership skills to MSIAC was over and above his challenging job at DDESB.

We wish all the very best to Jerry Ward who retired at the end of 2011.

FAREWELL TO RON DERR



Jerry Ward and Ron Derr

Ron Derr, PhD received well deserved recognition at the 14th MSIAC Steering Committee (SC) meeting in Brisbane, Australia on 11 November 2011. The 14th SC meeting was Ron's last MSIAC meeting. He was retiring as the Chairman of the MSIAC Strategic Planning Group (MSPG) at the end of 2011. Ron was THE DRIVING FORCE in the establishment of MSIAC. Starting in 1982, when he became the US Key Delegate to NATO AC/310 (Group on Safety and Suitability for Service of Munitions and Explosives), his leadership in several AC/310 working groups and his strong support in the development of the international Memorandum of Understanding resulted in the formation of the Pilot NATO Insensitive Munitions Information Center (PNIMIC) in 1986. Ron was instrumental in the 1991 transition of PNIMIC, located in Columbia, Maryland, US, to NIMIC, located at NATO Headquarters, Brussels, Belgium. Ron served as the first NIMIC SC Chairman and has been the only Chairman of the MSPG. His 30 years of

leadership, technical support, and "corporate memory" will be greatly missed. We at MSIAC wish him a very rewarding and enjoyable retirement.

FAREWELL TO KARI KYKYLÄ



Wade Evans and Kari Kykylä

The 14th MSIAC Steering Committee was also Kari Kykylä's last MSIAC meeting as he was retiring.

Kari replaced Ari Tuomainen as the MSIAC Steering Committee representative in April 2009.

He is to be replaced by Kari Makinen from the Finnish Ministry of Defence.

We wish him all the very best for his well earned retirement.

ONNEA KARI!

REMINDER

NOMINATIONS FOR THE 2012 IM AWARDS

In order to acknowledge and encourage progress and achievements in Insensitive Munitions technology, MSIAC has been presenting Awards for IM Excellence at all NDIA IM/EM Technology Symposia since 1997.

The next MSIAC IM Awards will be presented at the 2012 NDIA IM/EM Technology Symposium (14-17 May 2012 in Las Vegas, USA).

Please submit nominations via your National Focal Point Officers, your MSIAC Steering Committee representative or directly to MSIAC at info@msiac.nato.int or www.msiac.nato.int.

Deadline for applications is 30 March 2012.

LATEST PUBLICATIONS

*(Available on the MSIAC secure website <https://www.msiac.nato.int/weblink/>
or on request at info@msiac.nato.int)*

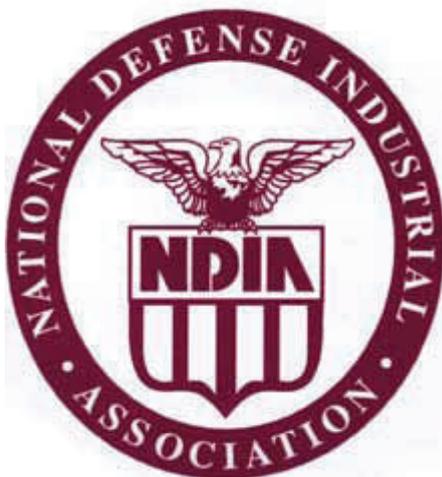
LIMITED PUBLICATIONS

- L152 Edition 2 - 155mm HE Artillery Shells - IM State of the Art by Dr Pierre-François Péron, January 2012 MSIAC RESTRICTED (CD on request)
- L175 Insensitive Explosive Materials: VII - Guanylurea Dinitramide (GUDN) by Dr Ernst-Christian Koch, November 2011

OPEN PUBLICATIONS

- O139 NATO Munitions Safety Information Analysis Center (MSIAC) Contributions to Munitions Safety, Environmental Response, & Design for Safety, Disposal, and Demilitarization by Roger L. Swanson, November 2011
- O140 Munitions Health Monitoring - How to manage the transition by Emmanuel Schultz, November 2011
- O141 MSIAC Overview by Roger L. Swanson, November 2011
- O142 Insensitive Munitions Databases by Dr Pierre-François Péron, November 2011
- O143 Implementing NATO Guidance for Multi-National Operations by Thomas N. Taylor, November 2011

2012 Insensitive Munitions and Energetic Materials Technology Symposium

**Theme**

“Insensitive Munitions and Energetic Materials Advancements and their Benefits to the Warfighter.”

Event Number

2550

Event Date

5/14/2012 to 5/17/2012

Event Location

Planet Hollywood Resort & Casino

Event Contact

Julie Veldkamp at jveldkamp@ndia.org or (703)247-2577

<http://www.ndia.org/meetings/2550/Pages/default.aspx>
