



STRENGTHENING GLOBAL CHEMICAL SECURITY: THE PIVOTAL ROLE OF THE FBI'S CHEMICAL AND BIOLOGICAL COUNTERMEASURES UNIT IN SUPPORTING RESOLUTION 1540

Participants at a meeting of the ATLAS project in Morocco; Credit: MFA of Morocco

ABSTRACT

This article explores the multifaceted role of the Chemical and Biological Countermeasures Unit (CBCU) within the Weapons of Mass Destruction Directorate (WMDD) at the Federal Bureau of Investigation in supporting and advancing the goals of United Nations Security Council resolution 1540 (2004). The contribution will analyse various CBCU initiatives, including the Livewire Tabletop Exercise programme, the Global Congress on Chemical Security and Emerging Threats, and collaborations with the United Nations Interregional Crime and Justice Research Institute (UNICRI). This article highlights the impact of CBCU's efforts on strengthening chemical security and building the capabilities of security personnel worldwide to prevent chemical weapons attacks.



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INTRODUCTION

Resolution 1540, adopted by the United Nations Security Council 20 years ago, is a crucial framework for preventing the proliferation of chemical, biological, and nuclear weapons. The Chemical and Biological Countermeasures Unit (CBCU) of the Federal Bureau of Investigation (FBI) has played a key role in supporting its implementation through various initiatives, highlighting the importance of internation-

al collaboration in enhancing chemical security. This includes training workshops, table-top exercises, and knowledge-sharing activities to strengthen the capabilities of international authorities in managing and responding to chemical security threats.

CBCU'S CONTRIBUTION TO RESOLUTION 1540

Resolution 1540 aims to prevent the proliferation of weapons of mass destruc-

tion (WMDs), their means of delivery, and related materials to non-State actors. The following are the ways CBCU plays a crucial role in supporting the implementation of resolution 1540 through various initiatives and collaborations.

LIVEWIRE TABLETOP EXERCISE PROGRAMME

The Livewire Tabletop Exercise (Livewire TTX) programme is the cornerstone of CBCU's

efforts to help high-risk chemical facilities assess the preparedness of the personnel they employ. It plays a crucial role in assessing preparedness by simulating realistic scenarios and evaluating the response of personnel and the local first responder community.

The Livewire TTX provides a safe and controlled environment to identify potential gaps or weaknesses in response plans and communication protocols. During the Livewire TTX, participants are presented with hypothetical scenarios related to chemical security incidents. These scenarios may involve the release or threat of chemical agents, sabotage attempts, or other potential risks. Participants then work together to analyse the situation, discuss response strategies, and make decisions according to their roles and responsibilities.

Through this interactive exercise, the Livewire TTX helps to identify areas of improvement and seeks to enhance the overall preparedness and effectiveness of the participants in responding to chemical security incidents. By working together during the exercises, participants can

enhance their understanding of each other's roles and responsibilities, improve communication, and develop effective coordination mechanisms. By sharing lessons learned and successful strategies, participants can adopt approaches to enhance their response capabilities.

GLOBAL CONGRESS ON CHEMICAL SECURITY AND EMERGING THREATS

CBCU contributes to implementing resolution 1540 through its involvement in the Global Congress. CBCU and its co-implementing partners, INTERPOL, the Cybersecurity and Infrastructure Security Agency (CISA), and the Defense Threat Reduction Agency (DTRA), organize panel discussions and presentations on chemical security. These discussions facilitate knowledge sharing and strengthen international cooperation in addressing emerging threats in chemical security. The Global Congress brings together government agencies, industry representatives, experts, and international organizations to foster dialogue, exchange emerging threat information, and promote cooperation in chemical security.

The Global Congress acts as a forum for participants to share their experiences, success stories, and lessons learned in chemical security. By exchanging knowledge, attendees can gain insight into effective strategies, innovative technologies, and approaches to enhance chemical security. Global Congress members can establish connections, build partnerships, and explore avenues for joint initiatives to address common challenges. It plays an important role in identifying emerging threats, including new technologies and evolving terrorist tactics. By discussing and analysing emerging threats, members can stay updated on the latest trends and developments, enabling them to adapt and respond effectively.

COLLABORATION WITH UNICRI

CBCU collaborates with the United Nations Interregional Crime and Justice Research Institute (UNICRI) to conduct trainings focused on intelligence-led operations and investigations to disrupt potential chemical weapons attacks, building the capabilities of security personnel in Morocco and Tunisia. A train-the-trainers course was held, covering



A meeting of the ATLAS project in Morocco; Credit: MFA of Morocco

topics such as financial intelligence, acquisition of chemical warfare agents, and strategies employed by non-State actors in selecting targets. Following the course, the Moroccan team successfully conducted a comprehensive national training event, organized and delivered by the trained Moroccan experts. The event included modules and exercises on national and international legal frameworks, the chemical terrorist threat, cybersecurity, border control, and response to a chemical event. The collaboration emphasized inter-agency cooperation and a unified

response to terrorist threats. Enhanced inter-agency collaboration was observed, with participants gaining awareness and engagement with the National Authority for Financial Intelligence.

CHALLENGES AND FUTURE DIRECTIONS

Implementing initiatives to support resolution 1540 faces various challenges. Some of the challenges include limited resources, lack of technical expertise, and coordination among different stakeholders. Many countries, particu-

larly developing nations, need more support in implementing comprehensive chemical security measures. Lack of resources can hinder the establishment of effective regulatory frameworks, training programmes, and the acquisition of necessary equipment. CBCU collaborates with domestic and international partners to leverage their expertise, resources, and funding. By forging partnerships, CBCU can leverage resources and knowledge to support countries with limited capabilities.

A presentation during a meeting of the ATLAS project in Morocco;
Credit: MFA of Morocco



To address the rapidly evolving threat landscape, CBCU actively monitors and analyses emerging trends, technologies, and threats in the chemical security domain. By staying informed, CBCU can provide timely guidance and assistance to domestic and international partners to address emerging challenges.

Collaboration between governments and industry stakehold-

ers is essential in strengthening chemical security. Public-private partnerships facilitate the sharing of industry expertise and resources to enhance chemical security measures. Knowledge-sharing and training programmes are vital for building and maintaining chemical security capacities. CBCU has expanded its training programmes to reach more countries, particularly those with limited resources,

to enhance their chemical security management and response capabilities. Equally, embracing emerging technologies, such as artificial intelligence, machine learning, and data analytics, can significantly enhance chemical security measures. CBCU has explored partnerships with research institutions through its Academic Advisory Group (AAG) to develop advanced tools for risk assessment, detection, and response.

THE IMPACT OF CBCU ON CHEMICAL SECURITY

Ensuring chemical security and preventing the misuse of chemicals for nefarious purposes is a critical global concern. One of the tangible impacts of CBCU's work includes its collaboration with chemical retailers. This collaboration has resulted in positive outcomes, particularly in outreach programmes to retail stores that sell precursor chemicals that can be used to make improvised explosives. As a result of CBCU's outreach initiative, businesses proactively reach out to the FBI whenever they encounter suspicious purchases. This proactive approach plays a crucial role in preventing illicit trafficking, mitigating the risk

of terrorist attacks involving chemical weapons, and safeguarding the global chemical supply chain.

The Chemical & Equipment Outreach (CEO) programme is an exhilarating multi-agency initiative that brings together chemical equipment manufacturers, distributors, retailers, and online resellers. Its mission is to uncover and gather intelligence on the sale of materials that could potentially be used to create chemical weapons and toxic industrial chemicals. CEO acts as a dynamic platform for collaboration between the FBI and the private sector, fostering the exchange of knowledge and expertise to tackle the ever-present chemical weapons threat. This ground-breaking programme also serves as a pioneering model for international law enforcement partnerships, paving the way for similar engagements worldwide.

The FBI's explosive precursor chemical (EPC) programmes include the Chemical Industry Outreach Workshop (CIOW), which aims to educate industry, academia, and local law enforcement about the potential misuse of locally sourced products for explosive purposes. The one-day

workshop provides in-depth training on identifying and addressing threats associated with EPCs. The CIOW engages upper-level management within the chemical industry, promoting a top-down approach to addressing the risks posed by EPCs. Participants gain insights into the FBI's role in prevention and the importance of cooperation between industry and law enforcement. The workshop also features live demonstrations with locally sourced EPCs, highlighting the dangers and encouraging industry participants to report any suspicious activity to the FBI.

The FBI's EPC Online Retail Tripwire programme focuses on mitigating the threat posed by the online sale of precursor chemicals used in the production of explosives. Recent trends have indicated an increase in individuals purchasing EPCs through online marketplaces and retailer websites. To confront this escalating threat, the FBI collaborates with EPC retailers to develop proactive tripwires for reporting suspicious purchases of EPCs on their platforms. By using advanced data analysis and algorithms, the programme identifies groups of chemicals that can

be weaponized. This information enables the FBI to generate critical leads and launch investigations into potential threats. The programme has already yielded significant results, with suspicious purchases identified and reported, thereby significantly reducing the risk associated with bomb-making materials.

CONCLUSION

The vital role of CBCU in supporting resolution 1540 and the broader global efforts to strengthen chemical security cannot be understated. Continued commitment to combat chemical threats and international cooperation will be crucial in achieving these goals. CBCU's initiatives enhance chemical security and prevent proliferation by strengthening preparedness, improving coordination among stakeholders, and addressing chemical industry and law enforcement vulnerabilities. By organizing global conferences and collaborating with international partners, CBCU plays a vital role in supporting the implementation of measures outlined in resolution 1540 and ensuring a safer and more secure world.