

Conrad Whyne, Director of the US Army Chemical Materials Agency (CMA), tells Gwyn Winfield about meeting Chemical Warfare Convention (CWC) deadlines

# Welcome to the DMZ

**GW: The 50 per cent destruction of US chemical munition stocks milestone was recently reached; has critical mass now been achieved, or will the other 50 per cent take a similar time?**

CW: The remaining 50 per cent is expected to take a shorter time to process. Every effort is being made to save time and money with the safety for the public and the environment always foremost in our operations. Successfully reaching the 50 per cent milestone not only demonstrates the Army's commitment to safely meeting America's international obligations by eliminating the storage risks posed by the chemical stockpile sites, but a lessons-learned programme co-ordinates efforts between sites and Plant Technical Reviews and allows the various sites an open forum to discuss challenges and the solutions that allow them to be overcome. There is a combined dynamic dialogue between all of the demil plants and the demil contractors and managers that continues today. Problem areas are addressed with a sense of urgency that results in significant improvements to daily operations and schedules.

Stockpile destruction operations can be traced back to Johnston Atoll in 1990. I believe it is safe to say it should not take another 17 years to eliminate the

remaining 50 per cent of the stockpile, but the issue is complicated by the fact that two storage sites will see their stockpiles destroyed by a separate DoD organisation. The CMA cannot speak for the destruction of those weapons even though they remain a key component of the stockpile's overall numbers.

The CMA has five plants currently operating; one of those, Tooele, is incinerating bulk mustard, while another, Newport, is neutralising VX nerve agent. With those, we destroyed greater than ten per cent of the original overall stockpile in fiscal year 2007. CMA should begin to close another site by fall 2008, but the fact remains that two sites containing ten per cent of the stockpile are only in the design/build phase.

**GW: What would be your expectation of the "shorter time"? Can you see yourselves meeting 2012, or even before?**

CW: I have to preface my answer; as Director of the CMA I only control the destruction of 90 per cent of the stockpile. There is the break with the other DoD project. I have control of 40 per cent of the stockpile to destroy, and I can't speak for the other programme – I have the storage mission but the Program Manager

for the Assembled Chemical Weapons Alternatives (ACWA). Kevin Flamm, has the destruction mission. Ten per cent of the stockpile was done in fiscal year 2007, and as we finish the munitions part, a large part of the remaining stockpile is in bulk mustard at Umatilla and Pine Bluff. So, at the rate that we incinerated mustard at Tooele, we are pretty confident we are going to be able to do, if not 10 per cent every year, then close to that. Again, we have five operating plants, and that is a big difference to the early operating days of the programme.

**GW: How feasible is it then that you might beat deadline, and your 90 per cent will be finished in 2011 or even 2010?**

CW: We have a Congressionally-authorised incentive that we have placed on the contractors to go for 2012, without sacrificing safety, the environment and those things. So right now I couldn't project that all incineration sites will be finished before 2012, but they should all be done by 2012 or shortly thereafter.

**GW: The trouble with trying to beat the target would seem to be that speeding up usually equates to cutting corners – which you can't do with the safety and environmental concerns you have. So how do you get the savings?**

CW: The best answer to that is based on the project's history. We have had one nerve agent exposure, back in 2000, and five minor environmental releases. Those things – and I am not trivialising the minor agent exposure – did more to damage our schedule than trying to get our environmental permits. The contractors – and they are the same ones at each of the sites – start the programme and take it from construction through to closure, and they realise that if they cut corners on safety or the environment that does more harm to the schedule than anything else. This is where it is almost counter-intuitive; when you do it safely and in a complaint fashion you actually accelerate your schedule. One incident shuts you down for so long that you have to pay more attention to it.

**GW: If we look at the other end, 2017 seem to be a target but how long can the CWC deadline be extended? How do you**



The CMA is on course to meet the CWC's 2012 deadline ©CMA

**Book Now! CBRNe Convergence, 22-24 September, JW Marriott, Bucharest - More Information on [www.cbneworld.com](http://www.cbneworld.com)**

# WORLDWIDE LEADER

# IN NBC DECONTAMINATION



Large scale  
Multi-Purpose-  
Decon system:  
**MPD 100**  
(NSN 4230-12-355-7997)

Medium scale  
multipurpose decon  
systems:  
**DEDAS**  
(NSN4230-12-366-1563)

Others:

**AMDS**  
**DecoClean**  
**DecoRack**  
**LDU-30**

Handheld decon systems:  
**Decofog**  
(NSN 4230-01-499-5612)

**Turbofog**  
(NSN 4230-01-499-5615)

**Cobra**  
(NSN 4230-01-499-5608)

Fielded within NATO  
and non-NATO forces

NBC Military Defence by



Welcome @ [owr.de](https://www.owr.de)

DEDAS



# Welcome to the DMZ

manage the "sense of the senate" that the 2012 deadline should be met? Is there a chance that the process could be sped up if the Blue Grass facility wasn't finished and the agent was moved to another facility?

CW: The 2017 date and the CWC treaty are in no way affiliated with each other. The international treaty contains no provision for any extension past 2012. Any failure to reach that date and/or subsequent reactions will be a matter decided upon by the Organisation for the Prohibition of Chemical Weapons (OPCW). While CMA recognises the "sense of the senate" provision, that provision does not change the facts of the treaty. The CWC treaty gave its signatory nations ten years from its entry into force (EIF) to achieve 100 per cent destruction with a one-time, five-year extension possibility. The EIF date was April 29, 1997 meaning April 29, 2007 was the original 100 per cent destruction date with a granted extension to April 29, 2012. Our own approved acquisition programme baseline and Secretary Rumsfeld's letter to Congress, when the US asked for the five year extension, clearly indicated the US would not meet 2012. Our baseline for the five operating sites goes to 2017. So far, we are ahead of the baseline schedule and have a congressionally approved incentive on our contracts to make 2012 or come as close as possible without sacrificing safety. Recent schedule projections at the two DoD sites - Colorado and Kentucky - however, are beyond the 2012 deadline. Discussions on those sites must come from Kevin Flamm, the Program Manager for the Assembled Chemical Weapons Alternatives (ACWA).

As for the shipment of chemical weapons from any site to another, there are public laws in place that prohibit the shipment of these weapons. We will continue the chemical demilitarisation process in a safe and efficient manner and in line with Federal laws.

GW: There has been a great debate between incineration and neutralisation. When you consider that 90 per cent of all stocks will have been incinerated, is this a confirmation of incineration as a technique, or just that neutralisation is further behind the curve?

CW: First, 90 per cent will not have been the total incinerated. Rather, neutralisation will be used for the remaining ten per cent at Colorado and

Kentucky, and neutralisation was used for the original four per cent at Indiana and another five per cent at Maryland. So, in total, the percentage of the original stockpile incinerated will actually be lower than your quoted figure (81 per cent). For comparison's sake, the neutralisation of 1,817 bulk containers at Maryland took three years whereas last year alone Utah incinerated more than 2,100 ton containers.

Both incineration and neutralisation are proven demilitarisation technologies. Neutralisation was investigated in response to public input for an alternative to incineration technology. The stockpiles at Aberdeen, Md., and Newport, In., were unique to the programme because they consisted solely of large containers of chemical agent, having no explosives or weapon components. After much study and community involvement, the National Research Council recommended and the Army then selected neutralisation as the disposal method for these two stockpiles.

Neutralisation is not "behind the curve". Neutralisation for agent is proven; challenges remain with the neutralisation of explosives, munitions wash-out processes, and the integration of these processes into a cohesive facility. To discuss these areas, questions should be directed to DoD's ACWA Program Manager.

GW: Can you explain why there are still two agencies? Surely one way to reduce cost would be to rationalise the departments dealing with it, which would also speed up the mechanism?

CW: We also believe that; however, it was politics. There were Senators from those two states who, along with their grass-root activist supporters, for whatever reason did not trust the people who did the incineration. They wanted the neutralisation technology and they did not think that the Army agency that was doing the rest of the destruction could be objective, so they passed a Federal law that requires the DoD and Army to operate this way - so it is not a DoD or Army decision; it was put into law by Congress.

GW: I can understand their concerns at the beginning. Now, however, you have such a good record that if there is a "sense of the senate" then surely that could be used to change the law and save time and cost?

CW: Again, that is American politics. The DoD in 2005 and 2006 suggested legislative language to address this issue, and in those years they requested language in the law to the extent that the two new neutralisation plants and the existing two neutralisation sites be combined for efficiency. Congress would not act or accept that or put it in the bill. We operate today at the direction of congress.

GW: There has not been an environmental or dangerous release since the inception of the CMA in 1985, and this is in a project that has had a great deal of industrial co-operation (often a recipe for disaster), what has been the guiding light in ensuring this has been achieved and will be continued?

CW: We have had five environmental releases over the course of the programme. All have been extremely minor and certainly not dangerous in the larger, environmental sense. Our last release was May 2000 at Tooele, Utah. That said, these were captured in our lessons learned programme and shared across all sites in order to avoid such instances in the future. Safety of the workforce, community and the environment are paramount for the CMA program. The CMA and systems contractor workforce is comprised of extensively trained and experienced individuals who are experts in safely storing, handling and destroying chemical weapons. Regularly scheduled exercises are conducted to review emergency response procedures and to ensure that personnel can respond appropriately. Our stockpiles are housed in secure storage areas. Both Army and DoD safety and security regulations are executed to ensure that the stockpile is maintained securely during storage. Chemical agent monitors in and around the facilities are highly sensitive and tested daily to ensure optimum performance. Working together with systems contractors, and in accordance with state and federal laws and regulations, CMA strictly adheres to proven processes, reducing the likelihood of an agent release.

What makes this programme stand out is that the safety culture we have embedded down to the individual level. Our workforce takes individual ownership for safety and pride of ownership is reflected in the overall programme's safety record.

GW: The Government Accountability Office (GAO) suggested that CMA did not have the refinements needed for successful risk management. Did you find the GAO report useful? Has the Army been overly conservative in its time scales? Is the CMA forever caught between the rock of safety and the hard place of conservative time plans?

CW: The CMA has always welcomed independent oversight from various stakeholders. CMA has used co-operative agreements and independent oversight from the National Research Council, Centers for Disease Control and Prevention, the General Accounting Office and others to serve as a barometer for actions undertaken in the programme and to be used where prudent. As stated, safety was, and is and will always remain the cornerstone of this programme and an ideal we will never compromise.

GAO has, over the years, provided many useful critiques of the programme. The report on management practises was important to assist the Army in looking at its current management practises and improving them. While CMA is ahead of its current baseline schedule, large risks remain. Any agent release or exposure remain a real possibility, and therefore drives risk, until all the agent is gone.

GW: When the cost and time overruns for the project are considered, what would be the things that would be done differently with hindsight?

CW: Comparing current costs with past projections is unfair and can skew one's understanding of the programme. Original estimates were made with numerous assumptions. Many of those assumptions did not hold true. As we have gained more and more operational experience, our understanding of the stockpile has grown considerably and our experience has produced greater results. Our most recent cost and schedule estimates were done with the most comprehensive and practical experience available to date.

Over the course of the programme, additional responsibilities, such as adding the Chemical Stockpile Emergency Preparedness Program (CSEPP) and Non-Stockpile Chemical Material Program have added to the cost of the programme. As I reflect on the programme, I cannot think of any significant changes done in hindsight.

GW: Surely one of the things that you would want to change is the community/activist involvement. That has been a sheet anchor on hitting targets, so if you could go back and deal with them differently and change the outcome, surely that would have had a major positive outcome on the programme? CW: It is a tough question. Neutralisation for bulk agent, without the complicating factors of explosively figures munitions, needs to be looked at. Bulk agent incinerators could do it faster, in terms of speed of destruction, but neutralisation would probably have taken less personnel and less money but a longer time period. I really didn't do the maths to see that the cost may have balanced out; that while it was faster to destroy agent you have a larger workforce at the incinerator. Going back to the public involvement, the grass-roots activists were so adamantly against incineration and for the prototype facilities – and I am not saying that incineration is better – that I don't believe that the grass-roots activists would ever have done anything differently. We are at where we are at. Even 20:20 hindsight says that with all the success with incineration I couldn't convince them; their feelings on incineration are so strong that I couldn't have changed them.

GW: One of the early driving forces for demil was the state of the M55 stock, yet some of these are likely to be the last to be destroyed. Will the continuing deterioration of these pose the biggest problem for health and safety, etc?

CW: M55 rockets were considered the most problematic weapons in the stockpile because they were a complete weapons system consisting of a warhead, chemical payload, fuse, burster, propellant and motor. In the event of a catastrophic event, it was theorised they could deliver their payload beyond Army controls and into the surrounding community. The stockpile has been extensively studied and we believe that it can be safely stored until it is destroyed. While there was some early thought given to leaking munitions possibly contributing to auto-ignition, this theory was later dispelled through scientific studies conducted under the former CMA Stockpile Surveillance Program. Subsequent safe storage measures, such as the installation of Faraday cages (lightening protection),

reduction in storage stack heights (to prevent falls caused by earthquakes), elimination of combustible materials and pallet banding have contributed to reducing storage risks.

Storage risk will be significantly reduced once all M55 rockets are gone, but the ultimate and final elimination of all risk to the public is the total elimination of the stockpile. (Since this interview the remaining M55 rockets at Pine Bluff have been destroyed; all remaining M55s will be destroyed by ACWA.)

GW: Are the CWC targets just the tip of the iceberg, and does the real challenge lie with the destruction of secondary waste and closure of the chemical weapons destruction facilities? Not so much with the technical challenges, but with the political ones that come from a lack of strategic interest and priority? How do you keep the momentum in the "end game"?

CW: Our lessons learned programme has shown that you cannot start planning for closure early enough or that it is never too early to start closing certain items. For example, we have closed our former PCB-permitted igloos at both Alabama and Utah. We are already working similar issues in both Oregon and Arkansas. We are incentivising our system contractors to do secondary waste operations and elimination in parallel to agent operations. We have incentivised contracts to complete operations quickly while maintaining safety standards. The technical aspects of closing these plants are not as challenging as their operation, although the permitting and closure monitoring of these facilities can be complex. Ongoing closure planning and scheduling factor in foreseeable technical and political challenges, and becomes more reliable as lessons learned from site closures, such as JACADS and Aberdeen, are incorporated.

The political landscape is hard to predict. We hope we will receive continued support from elected officials until all chemical weapons are destroyed, secondary waste has been processed and full closure is attained at each chemical demilitarisation site. To maintain "momentum", we will employ necessary measures to assure safe, timely and ultimate closure of all the sites, such as implementing an active worker retention programme and continuing to keep our key messages visible to our stakeholders.