

Kent Clark  
Craig Williams  
Co-Chairs  
105 Fifth Street  
Suite 206  
Richmond, KY 40475  
Phone: 859 624-4700/986-7565



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Recommendations of the KY CDCAB to ACWA/CMA on  
Design Consideration # 43 B:  
M-55 Rocket Separation  
**Recommendation**

If, based on a preponderance of evidence provided by explosives experts in their analysis of M-55 rockets stored at BGAD, the conclusion is reached that it is necessary to separate the rockets, the CDCAB will work with the Army to facilitate accomplishment of that objective.

**General Issues of Concern**

Handling and separation of M-55 rockets is an intrinsically dangerous process. All precautions must be taken to protect workers, depot employees, the civilian population and the environment during the process.

... **Explosive Containment:** All viable measures to prevent injury and agent release associated with possible explosions must be taken during transportation of munitions to the separation facility and in the design and preparation of any separation facility.

... **Agent Containment:** All viable measures to prevent agent release must be taken during transportation of munitions to the separation facility and in the design and preparation of any separation facility.

... **Agent Monitoring:** All viable measures to adequately monitor for agent releases must be taken during transportation and separation, including the deployment of the most advanced monitoring technologies available.

**Specific Issues of Concern**

... **Transport Containers:** It is the CDCAB's understanding that current plans are to use a SPORT (Single Pallet Only Rocket Transporter) to transport the rockets to the separation facility.

A SPORT is defined as a stainless steel box (approximately 8 feet long, 3 feet wide, and 3 feet high) with vacuum pump exhausted through a carbon canister. It provides containment by means of a gasket sealed lid and also has ports for agent monitoring before being opened.

There appears to be little if any explosion mitigation capability associated with a SPORT. The CDCAB is interested in exploring options for transport containers.

... **Separation Facility:** It is the CDCAB's understanding that current plans are to use an existing wooden framed structure (the Toxic Chemical Maintenance Building) inside the Chemical Limited Area for rocket separation, once it has been modified with negative pressure and agent filtration capabilities.

There appears to be little if any explosion mitigation capability associated with this facility. The CDCAB is interested in exploring options for explosion containment.

... **Agent Associated with Separation Operations:** It is the CDCAB's understanding that the current separation approach assumes agent-free operations based on the separation occurring at the void between the agent section and propellant section of the rocket.

However, the CDCAB would point out that historically, concerns have been raised about possible agent migration through the void into the propellant section and possibly resulting in propellant degradation.

The CDCAB is not aware of definitive evidence negating the possibility of such migration, or other factors leading to unanticipated agent presence. Thus there cannot be high confidence that rocket separation would be an agent-free operation.

Therefore, the CDCAB recommends if the Army proceeds with separation, it must be assumed the process could be accompanied by agent presence during operations.

... **Risk Assessment:** While appreciating the inherent flaws in all risk assessments/analysis, this tool has been applied to every aspect of the chemical demilitarization effort. Development of worst-case scenarios as part of such an assessment would provide significant information regarding measures to be considered in association with Rocket Separation.

... **Funding Issues:** The CDCAB believes the rocket separation activities are directly associated with the storage mission and not the demilitarization mission.

Therefore, the CDCAB recommends that any funds needed for rocket separation be acquired from Defense/Army accounts associated with storage, not de-mil. Such funding mechanisms would thereby not impact ongoing efforts to dispose of the chemical weapons stored at BGAD.

... **Continued Community Involvement:** The CDCAB recognizes and appreciates the continued efforts associated with involvement and input afforded the community by BGAD, ACWA, CMA and Bechtel/Parsons.

The CDCAB urges all parties to continue such practices regarding rocket separation and other storage /de-mil matters as a model for problem solving and project execution in the best interests of the government and the community.