



**Date:** October 21, 2008  
**From:** J. C. Yarbrough *J. C. Yarbrough* **Location:** 12-69A  
**To:** J. D. Woolery **Location:** 12-69B  
**Subject:** Memorandum of Agreement for High Explosive Programmatic Responsibilities

Executive Summary

This Memorandum of Agreement clarifies and establishes the point of hand-off of responsibilities from the Design Agency (DA) – Lawrence Livermore National Laboratory (LLNL), Los Alamos National Laboratory (LANL), or Sandia National Laboratory (SNL) as appropriate – to B&W Pantex (PX) with respect to assessing high explosives (HE) response to hazards. Upon review of technical details and of Department of Energy orders and standards, the delineation of responsibilities from the DA to PX for high explosives issues is established when the pit and high explosives are no longer collocated. Per DOE O 452.1C, the pit and main charge high explosive are collocated when a fissile material dispersion is possible due to a high explosive detonation or deflagration. As applied to production activities, the pit and high explosive are no longer collocated when separated by design features that mitigate a potential dispersal.

This Memorandum of Agreement reflects the consensus of duly appointed representatives from LLNL, LANL, SNL and PX.

Background

A 2008 Strategic Initiative was established to clarify high explosives hazards analyses authority for operations at PX. This initiative addresses a growing demand on scarce resources for science-based input for scenarios involving the potential responses of high explosives to various insults. Over the past couple of years, this growth in demand was reflected in an increase in the number of requests for high explosives hazards analyses in nuclear explosive areas. It was also recognized that nuclear weapon operations high explosive responses were being incorporated into non-nuclear explosive operations potentially resulting in overly conservative operational constraints. With significant high explosives expertise located at PX, LLNL, LANL, and SNL, the opportunity presented itself to optimize and leverage this expertise to ensure an effective use of resources in conducting the hazards analyses for high explosives nuclear and non-nuclear operations so as to ensure safe operations and appropriate controls.

Discussion

Representatives of the three design laboratories and PX met to discuss and delineate the responsibilities for high explosives hazards analysis in nuclear explosive areas. The team reviewed the applicable Department of Energy orders (452.1C, 452.2C) and standards (STD-3016, TBP-908, D&P Manual) that pertained to the weapon response process or that addressed nuclear explosive safety. Upon review, the group identified that the criterion that defined the DA responsibilities is based on their responsibilities to provide weapon response for hazards leading to fissile material dispersal. Based

on this requirement, it was deemed that the DA has responsibility when the pit and the high explosive main charge or other HE parts are collocated such that an inadvertent high explosive event might result in fissile material dispersion. Both the DAs and PX felt that this definition was clear, unambiguous and is an acceptable transfer of responsibility.

Summary

Given the statutory requirements for weapon response assessments, the DA shall be responsible for HE responses for all cases when the pit and the HE are co-located. PX shall have primary responsibility when the pit and high explosives are separated by design features such that the pit and high explosive do not present a fissile material dispersion hazard (*i.e.*, no longer collocated) given a HE detonation or deflagration. The team recognizes that the current cooperation between the design and production agencies' subject matter experts represents an example of effective nuclear weapon complex integration expected by the customer; providing an efficient use of vested resources and ensuring a solid safety basis for high explosive operations and should be continued to be encouraged.

This Memorandum of Agreement for High Explosive Programmatic Responsibilities is agreed to by the following agencies and their representatives:



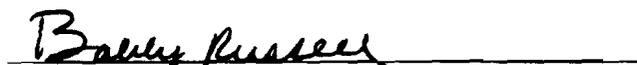
Ronald D. Streit  
Lawrence Livermore National Laboratory

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David M. Montoya  
Los Alamos National Laboratory

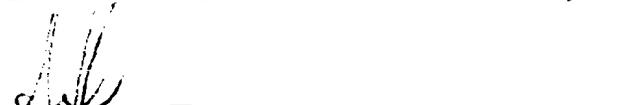
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Sandia National Laboratories



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Bobby G. Russell  
Babcock & Wilcox Technical Services Pantex, LLC



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J. D. Woolery  
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