

John T. Conway, Chairman  
A.J. Eggenberger, Vice Chairman  
John E. Mansfield

## **DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004-2901  
(202) 694-7000



August 1, 2002

The Honorable Linton Brooks  
Acting Administrator  
of the National Nuclear Security Administration  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585-0701

Dear Ambassador Brooks:

In an effort to enhance the safety of nuclear explosive operations at the Pantex Plant, the Defense Nuclear Facilities Safety Board (Board) for several years has been encouraging improvement in the quality and timeliness of the support provided by the National Laboratories, the design agencies for nuclear explosives. In response to the Board, each design agency was to designate a single integrated point of contact for each weapon system with sufficient authority to accomplish this objective.

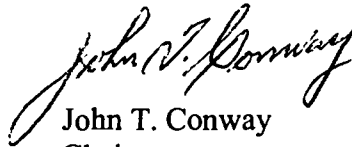
A recent incident that occurred in July pertaining to the W80 clearly reflects that this management concept is not being properly implemented at the Sandia National Laboratories. As a result, this design agency has delayed the implementation of safety improvements at the Pantex Plant. Enclosed is a copy of a communication dated July 17, 2002, from the Sandia National Laboratories' W80 Systems Engineering Manager to BWXT Pantex, regarding the implementation of an Enhanced Transportation Cart (ETC) for the W80 program at Pantex. The ETC, which BWXT Pantex is implementing for most weapon programs at Pantex, minimizes the potential for mechanical, electrical, thermal and other insults during transportation, and significantly enhances the safety of transportation operations. In his letter, the Systems Engineering Manager states that he is unable to "make an informed decision on the approval of the ETC" without the appropriate information. However, the information he requests is nearly two years old and has been available through Sandia National Laboratories personnel who participated in the development of the ETC.

The Board recognizes that the National Nuclear Security Administration (NNSA) has established a Standing Management Team to ensure that each organization, including the design agencies, has a representative to coordinate stockpile stewardship issues involving Pantex (i.e., an organizational point of contact). However, the Board believes that the design agencies should also have a senior, technically competent individual formally designated as the single point of contact responsible for each nuclear weapon system. NNSA and the Standing Management Team should rely on this cadre of weapon system experts to provide, or coordinate, all weapon system-specific technical support and information, preventing the types of mis-communication that are evident in the enclosed correspondence.

The Board repeatedly has pointed out the benefits of such formal assignments. Each person would be responsible for and capable of integrating and coordinating weapon response information and laboratory support for issues regarding that weapon system at the Pantex Plant. Each person assigned this responsibility would be knowledgeable of the weapon systems and would have the ability to draw on appropriate laboratory resources to provide the support needed for nuclear explosive operations at the Pantex Plant. Each design agency would also benefit from establishing an internal process that allows for mentoring and training of such personnel, to ensure that there is no lapse in these key responsibilities.

Timely design agency support is vital to the successful implementation of safety initiatives at the Pantex Plant. Therefore, pursuant to 42 U.S.C. 2286b(d), the Board would like to be briefed by NNSA in the next 30 days on the actions being taken to ensure such support exists. If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "John T. Conway". The signature is written in a cursive style with a large, sweeping initial "J".

John T. Conway  
Chairman

c: The Honorable Everet H. Beckner  
Dr. C. Paul Robinson  
Dr. John C. Browne  
Dr. Michael R. Anastasio  
Mr. David E. Beck  
Mr. Daniel E. Glenn  
Mr. Mark B. Whitaker, Jr.

Enclosure



**Sandia National Laboratories**

Operated for the U.S. Department of Energy by  
Sandia Corporation

Livermore, CA 94551-0600

**date:** July 17, 2002

**to:** Annie Carroll, BWXT Program Manager W80

**from:** Doug Gehmlich, Manager, MS 9014 (8241)  
W80 System Engineering Department

**subject:** Response to REN20020118PX-C, Rev.1

The W80 System Engineering Department (8241) at SNL/CA has determined that we are currently unable to approve the use of the Enhanced Transportation Cart (ETC) as stipulated in the referenced REN. Before we can make an informed decision on the approval of the ETC, we require additional information associated with the ETC.

The W80 incorporates an IHE system and is a Faraday Cage in its final configuration. The W80, when transported in the Transportation Cart 080-2-078, using the protective cover also is a Faraday cage. The Transportation Cart has been reviewed/approved for the lightning environment and being an IHE weapon the W80 is not sensitive to transportation induced mechanical insults. Please provide us with the documentation which will allow us to understand the "identified weaknesses in the design of the Transportation Cart (080-2-78). Once we understand the "requirements" for the use of the ETC, we will be able to collectively (SNL/CA and LANL) agree/disagree on its use.

As referenced in the "Pantex Plant Enhanced Transportation Cart Implementation Project Plan, Revision H of July 27, 2001" as the justification for the ETC use for the W80 system D&I, we require a copy of the "Pantex Plant Transportation BIO Hazards Analysis For Weapons in Ultimate User (UU) Configurations, RPT-SAR-292268, August, 2000". We require a copy of the BIO, as well as copies of the Conceptual Design Report, the Preliminary Design Report, and the Final Design Report for the ETC (also referenced in the Project Plan), so that we may determine the suitability of the tooling and its use within NEOP 80-9102 and 80-9102PAL only.

It is noted that the Project Plan references external reviews, weapons response, and engineering releases that were performed by DA personnel. The W80 Systems Department was not provided with this documentation during previous DA/PA reviews and requires that this documentation also be provided.

SNL/CA has additional concerns, which include the possibility that usage of the ETC1 Transporter (000-2-1232) and its Assembly Cart (000-2-1230) to transport the W80 may

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Annie Carroll, BWXT Program Manager W80

- 2 -

result in thermal, shock, and vibration environments that are outside of those found acceptable within the STS. The usage of the lifting and rotating fixture P/N 080-2-287 may subject the weapon to structural loads, which have neither been studied nor approved for the W80 W/H (contrary to Section 8.0, Risk Management, "assumption #5). We are also concerned with the additional handling that may result from use of this cart during the D&I process.

Thank you for your assistance in providing us with the requested information.

DLG/8241/lrc

Copy to:

Cull, Ed	8240	MS 9005	Chavez, Sandra	SNL-NM
Baldwin, Jon	8241	MS 9014	Newmeyer, J	LANL
Gehmlich, Doug	8241	MS 9014	Spatz, T	LANL
Mitchell, Danny	8241	MS 9014	Skidmore, C	LANL
Pearson, Roy	8241	MS 9014		
Fuentes, Martin	SNL-NM			