Department of Energy
Washington, DC 20585

March 30, 2005

Mr. John T. Conway, Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW
Suite 700
Washington, D.C. 20004-2901

Dear Mr. Chairman:

The purpose of this letter is to provide you with an update of our plans to reevaluate fire safety performance measures and reporting methodology. This is consistent with previous commitments delineated in my letter to you on October 18, 2004, and in a meeting with your fire protection staff on November 10, 2004.

Since our meeting with your staff, the subcommittee (of the Department of Energy Fire Safety Committee) that was tasked with addressing this issue has completed an evaluation of all fire reporting criteria currently stipulated in Department of Energy (DOE) Manual 231.1-1A, National Fire Protection Association Standard 901, and the National Fire Incident Reporting System (NFIRS), as well as criteria used by several DOE sites. Pending is an effort to segregate the criteria into lists for various repositories and eliminate duplication.

In conjunction with these actions, a pilot project was initiated to enable DOE fire departments to begin entering emergency response data on a voluntary basis into the NFIRS system. While a significant number of sites have expressed interest in the pilot, only one fire department has begun to participate. Others await the resolution of issues associated with computer software compatibility, release of sensitive information, and obtaining appropriate approvals before data entry can begin. The subcommittee believes that it will require at least one year to evaluate the success of the pilot, conditional upon the participation of a representative number of departments.

On January 31, 2005, the subcommittee sent an interim progress report to the DOE Fire Safety Committee and points-of-contact for the mandated annual fire protection program summary. At that same time a request was made from all sites for additional data fields and performance elements for consideration. No additional input has been received as of this date.

In a related issue, it has been noted through Fire Safety Committee discussions and program office oversight activities that accurate reporting of fire and related events in the Occurrence Reporting and Processing System and the Computerized Accident/Incident Reporting System is being obscured by imprecise definitions. Some sites use terms such as; "thermal excursions," "exothermic reactions," "rapid deflagrations," and

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other names in lieu "fire." The subcommittee has developed an all-encompassing definition of "fire" to be used in all DOE reporting systems. An effort is currently underway to revise the DOE directives that govern these systems to include this new definition. This is being done with the expectation that the accuracy of future fire reporting will be enhanced.

The subcommittee has completed most of the work to identify and evaluate fire reporting criteria. It plans to issue a preliminary report during the 2005 DOE Fire Safety Workshop which is tentatively scheduled for the week of June 15th at Brookhaven National Laboratory and a final report shortly thereafter. A strawman draft of this report is enclosed for your information. Following the completion of the pilot project, revisions to current DOE fire protection program performance measures and incident reporting systems, will be coordinated with the DOE Fire Safety Committee and the Defense Nuclear Facilities Safety Board (DNFSB) staff.

Consistent with current practice, the DNFSB staff will be kept informed of progress during the periodically scheduled teleconferences of the subcommittee. (Mr. Chuck March of your staff has been a regular participant.)

If you have any questions, please contact me at (202) 586-6151 or members of your staff may contact Mr. Frank Russo at (301) 903-8008.

Sincerely,

John Spitaleri Shaw
Assistant Secretary for
Environment, Safety and Health

Enclosure

cc w/enclosure:
Linton F. Brooks, NA-1
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Enclosure

DRAFT #1

INITIAL DRAFT REPORT OF THE FIRE SAFETY COMMITTEE TEAM ON FIRE SAFETY REPORTING CRITERIA.

INTRODUCTION: At a meeting of the Department of Energy (DOE) Fire Safety Committee in June 2004, a team was appointed to re-evaluate and recommend improvements to the DOE fire safety reporting criteria. This was in response to a commitment to the Defense Nuclear Facilities Safety Board following completion of the report by the Fire Safety Commission. The team consisted of:

Jim Bisker, EH
Bill Boyce, EM (Lead)
Bruce Campbell, RFETS
Craig Christenson, RL
Chief Scott Hackler, Y-12
Jim Hutton, Y-12
Chief John Searing, BNL
Chief Gurney Wiggins, SRS

SUMMARY: The team evaluated the data currently required by DOE Manual 231.1-1A and found that many data elements were not necessary and could be eliminated. In all, about 800 potential data fields were considered. However, the remaining data fields do not capture performance so a few additional fields are being recommended. A large portion of the fire department data is covered by National Fire Protection Association Standard (NFPA) 901 which is required by DOE directives and by National Fire Incident Reporting System (NFIRS) which is required by many states. Since quite a few sites already report to NFIRS, the team set up a pilot to determine if DOE can retrieve this data and eliminate the corresponding fields from the data submitted for the Annual Summary. Sites representing approximately 2/3 of DOE expressed an interest in joining the pilot. The pilot will continue for up to one year after this report is issued. At this point, we expect a large reduction in reporting if the pilot succeeds and a smaller reduction in reporting if the pilot fails.

The team found one significant flaw in the reporting. DOE M 231.1-1A requires reporting all fire events. Some sites are screening the reports and sending only those that are significant. Unlike the Occurrence Reporting and Processing System, and formerly the Computerized Accident/Incident Reporting System, there is no threshold for reporting fires for the Annual Summary.

RECOMMENDED CRITERIA FOR DATA SENT TO DOE HEADQUARTERS (HQ): The team recommends that fire reporting to DOE HQ be reduced as much as possible by using data from other sources. If the pilot is successful, the team recommends revising DOE M 231.1-1A to contain two lists of data elements Attachment A (when proposed lists are finalized). List 1 consists of all data that must be submitted to

DOE HQ by sites that participate in NFIRS. Since NFIRS is limited to fire incident reporting data, List 1 consists primarily of data that is not related to fire department responses. List 2 consists of additional data elements (delta) for sites that do not report to NFIRS. Since some small sites do not have firefighting forces, this option without NFIRS should be retained. If the pilot fails, these two lists should be combined.

RECOMMENDED CRITERIA FOR DATA RETAINED AT DOE SITES: DOE Order 420.1A mandates use of NFPA Standard 901, Standard Classifications for Incident Reporting and Fire Protection Data. All data required by NFPA 901 should be retrievable by the sites. It does not have to be in an electronic database and does not have to be centralized under fire protection program control. If a site uses NFIRS, this data is already available. If a site does not use NFIRS, the Fire Protection Program Plan or similar documentation should identify the location where this data can be retrieved. NFPA 901 and NFIRS cover fire response data but not engineering, Inspection, Testing and Maintenance (IT&M) and other data. List 3 identifies additional data, other than fire response data, that should be retrievable locally. Many of these elements were previously required to be submitted to DOE HQ by DOE M 231.1-1A. In particular, IT&M data are no longer required by sites that use IT&M schedules in NFPA standards. (This is not to be interpreted as relief from the requirement to track and trend deficiencies.)

NFIRS Pilot: Sites representing approximately 2/3 of the DOE complex expressed an interest in participating in the NFIRS pilot. So far, only one site is submitting data. The team believes it will take about a year to get a sufficient number of participants on board and to evaluate the practicality of using NFIRS in lieu of DOE unique data collection systems. In addition, the cost differential of using the DOD system rather than establishing a DOE collection system needs to be determined. Due to the necessity to meet schedules of EH and the DNFSB, the team is being disbanded before completion of the NFIRS pilot. The team recommends that EH include program, site and contractor members in any NFIRS evaluation team.

ANNUAL SUMMARY: The annual summaries from the sites provide a wealth of valuable information but these reports were not previously retrievable. EH has already taken steps to make all annual summary submittals available to all sites. EH combines the data from the site summaries and publishes a DOE Annual Fire Summary Report. While some of the data, such as loss ratios, is very useful in illustrating the overall performance of the DOE fire protection program, the team believes additional data is needed that is site specific and more predictive of near term performance. The data elements which have been included in lists 1 and 2 and NFIRS can be combined and normalized to form a number of relevant measures. Attachment B (when finalized) provides specific recommendations for performance reporting in the Annual Summary.

TIMELINESS OF DATA: The team found that ORPS is very timely and captures all top level fire incidents that require immediate action. The Annual Summary is used primarily for historic purposes and for tracking/trending over a longer term. The team found that the Annual Summary is adequate for this purpose. The time lag of approximately 8-9 months after the end of the year is consistent with other DOE safety

databases. In addition, the Program offices receive daily reports from their sites that can be used to detect short term trends. If implemented, NFIRS will also improve timeliness of data. (This needs to be verified.)

COMPLETENESS OF ANNUAL SUMMARY: The team found that some sites were screening fire reports of fires and sending only those that they deemed to be of interest. Some were not reporting certain types of fires such as overheated electrical equipment that resulted in smoke but no flames. In a few cases, incidents that the fire protection community considers to be fires were reported as thermal excursions, exothermic reactions, rapid deflagrations and other similar names. DOE M 231.1-1 requires reporting of all fires. The team developed a definition of fire and submitted it for inclusion in the ORPS manual. It is recommended that this same definition be included in DOE M 231.1-1A and that the wording for the Annual Summary be revised to put more emphasis on reporting all fires. If adopted, NFIRS will include all responses.

HQ DATABASE: EH has not adequately supported the collection and access to data for the Annual Fire Summary. The Annual Summary has traditionally been handled by the DAS for Safety & Health rather than the DAS for Performance Assessment and Analysis. The program lacks funding. Consequently, one fire protection program employee has had to develop software and manage the database on his own. The team is concerned that if this employee is lost to DOE, the data may also be lost or irretrievable. Unlike other databases as CAIRS, ORPS, and REMS, fire data is not available or retrievable on line. While the current site personnel know Jim Bisker and can submit data to him by e-mail, the large influx of new contractors will make such an informal system difficult to manage. Therefore, the team recommends that a system for submitting data on-line be established. In order to accomplish the above recommendations, the team recommends that EH seek funding similar to that now available for other safety databases.

Attachment A (Thist attachment is being developed and is forthcoming)

List 1 - Report to HQ from all sites
List 2 - Additional report to HQ for sites not in NFIRS
List 3 - Retain in field in addition to NFPA 901 data

(NOTE: Lists need to be scrubbed to remove duplication, and then separated.)

Attachment B (The attachment is being developed and is forthcoming)

Proposed performance measures to be included in Annual Fire Summary