

John T. Conway, Chairman
A.J. Eggenberger, Vice Chairman
John W. Crawford, Jr.
Joseph J. DiNunno
Herbert John Cecil Kouts

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700, Washington, D.C. 20004
(202) 208-6400



October 11, 1995

The Honorable Hazel R. O'Leary
Secretary of Energy
Washington, DC 20585

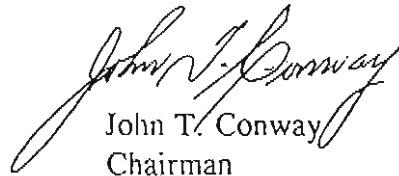
Dear Secretary O'Leary:

On October 11, 1995, the Defense Nuclear Facilities Safety Board, in accordance with 42 U.S.C. § 2286a(a)(5), unanimously approved Recommendation 95-2 which is enclosed for your consideration. Recommendation 95-2 deals with Safety Management.

42 U.S.C. § 2286d(a) requires the Board, after receipt by you, to promptly make this recommendation available to the public in the Department of Energy's regional public reading rooms. The Board believes the recommendation contains no information which is classified or otherwise restricted. To the extent this recommendation does not include information restricted by DOE under the Atomic Energy Act of 1954, 42 U.S.C. §§ 2161-68, as amended, please arrange to have this recommendation promptly placed on file in your regional public reading rooms.

The Board will publish this recommendation in the Federal Register.

Sincerely,


John T. Conway
Chairman

Enclosure

c: Mark Whitaker, EH-9

DEFENSE NUCLEAR FACILITIES SAFETY BOARD
RECOMMENDATION 95-2 TO THE SECRETARY OF ENERGY
pursuant to 42 U.S.C. § 2286a(a)(5)
Atomic Energy Act of 1954, as amended.

Dated: October 11, 1995

The Defense Nuclear Facilities Safety Board (Board) has issued and the Secretary of Energy has accepted three sets of recommendations (90-2, 92-5, and 94-5) concerning the use of standards by contractors at the Department of Energy's (DOE) defense nuclear facilities, and the level of conduct of operations to be maintained at these facilities. These recommendations intersect in many of their implications. The Board now wishes to combine and modify these recommendations into a form that (1) reflects what it has learned from DOE's response to the recommendations, (2) more sharply focuses continued activity on the objectives DOE and the Board seek to achieve, and (3) is more clearly consonant with the actions which DOE has under way to modify DOE's system of Orders.

On March 8, 1990, the Board forwarded to the Secretary of Energy Recommendation 90-2. Briefly paraphrased, it recommended that (1) DOE identify the particular standards that it considered should apply to certain designated defense nuclear facilities of DOE, (2) DOE provide its views of the adequacy of these standards, and (3) DOE establish the extent to which the standards were being applied to the facilities. The Secretary accepted this Recommendation on June 11, 1990, and provided the Board with an acceptable Implementation Plan on November 9, 1994.

The principal product of implementation was to be a set of facility-specific documents that set forth the applicable standards and requirements for a selected set of DOE's defense nuclear facilities. These were termed Standards/Requirements Implementation Documents (S/RIDs). The S/RID was to contain those requirements considered necessary and sufficient for ensuring safety in the particular application. These were to be principally extracted from DOE Orders, appropriate standards, NRC guides, and similar sources. The S/RID was envisioned as the basis upon which work controls would be developed and implemented.

This concept has been maturing in the course of its application to several DOE defense nuclear facilities. Subsequently, in connection with its internal plans to restructure its system of Orders, DOE has developed the concept of the "necessary and sufficient" set of requirements at a site or a facility or for an activity. As applied to safety requirements, we recognize the "necessary and sufficient" and S/RID concepts to be identical. In the following, the identity of the two will be implicitly understood, although we shall continue to use S/RID as the preferred term for the documented set of applicable standards and requirements in agreements between DOE and its defense contractors. This is the nomenclature found in implementation plans submitted by DOE to the Board. To avoid confusion, we suggest that DOE continue uniform use of the term S/RID in this connection.

DOE is to determine the extent to which standards are implemented through a process of Order Compliance Self-Assessment. This has generally been accomplished through review of detailed compliance with the DOE safety Orders of interest to the Board. The practice is to be followed until S/RIDs are in place, after which time, the issue becomes compliance with requirements in S/RIDS.

The Board has viewed the Order Compliance Self-Assessment Program of DOE as an initial activity in the formulation of the S/RIDs. As part of this compliance self-assessment, DOE required the contractors to justify in documented form the rationale for judging requirements to be non-applicable. This procedural requirement has been reported to have caused the expenditure of more effort than merited to achieve the end result the Board sought, which was the establishment of the particular subset of requirements upon which the safety management programs at a site would be structured. In the recommendations below, the Board seeks to streamline the process of arriving at an Authorization Basis and Authorization Agreements with respect to DOE's safety management of its sites, facilities, and activities. The review and acceptance by DOE of (1) the hazards assessment of the work contracted, (2) the standards/requirements identified as appropriate, and (3) safety management controls committed by the contractor for conduct of the work would in effect constitute, in the view of the Board, a DOE determination of adequacy relative to sufficiency of the requirements base.

In another action, on August 17, 1992, the Board forwarded its Recommendation 92-5, which called for establishing certain safety policies at defense nuclear facilities faced with missions that were changing in response to the shifting world situation. The principal features of Recommendation 92-5 can be paraphrased as follows: (1) that facilities to be used in the longer term in nuclear defense missions or in cleanup from previous nuclear defense activities should be operated according to a superior level of conduct of operations, (2) that certain safety practices be followed at nuclear defense facilities being restarted after a long period of idleness, and (3) that defense nuclear facilities designated for various other kinds of use (such as standby) should be subject to a graded approach of safety criteria and requirements to be developed. The Board requested that it be informed on a timely basis of changes in the intended use of DOE's defense nuclear facilities.

Implicit in the Recommendation was a broader view of conduct of operations than adherence to written procedures and related activities directly in support of operations. It encompassed the entire set of practices used to ensure safety in a facility, and in the operations conducted therein, extending to coverage implied by the term "safety culture."

On December 16, 1992, the Secretary of Energy accepted Recommendation 92-5, and forwarded to the Board an Implementation Plan which the Board accepted on January 8, 1993.

Circumstances affecting DOE's defense programs have continued to evolve since then, and the view of the future of the defense nuclear establishment is now different from that in late 1992. Many facilities then scheduled for restart or standby are now slated for deactivation and decommissioning. Though the future form of the establishment continues to be uncertain, the Board believes that the extent of the changes and other intervening events makes it necessary to bring major features of its Recommendation 92-5 up to date and in line with the updating of Recommendation 90-2.

Another important development has been the elaboration of the S/RID concept into a system view of a standards-based safety management system.¹ This has shed further light on such important matters as permissible variability of safety management at facilities of different kinds and different levels of risk; and the formal means whereby an Authorization Agreement related to environment, safety and health objectives is incorporated into contractual terms.

Principles that should guide the structure and use of safety management, the framework for conduct of operations appropriate to different cases, the basis for grading of safety management and conduct of operations, and the application to the important defense nuclear laboratories of the Department of Energy, are outlined in another document in the DNFSB/TECH sequence.² The points laid out in DNFSB/TECH-6 are consistent with those in DNFSB/TECH-5. Although the concepts and processes discussed in these documents are couched in terms of radiological hazards, they are more general, and apply as well to hazards of other kinds. In addition, they offer an appropriate match to requirements established elsewhere for safety in decommissioning of facilities, and would serve as a bridge to such operations.

The Board agrees with the view adopted by DOE in certain pilot tests presently under way, that the contractor for a site, facility, or activity should originate the drafting of the Safety Management Plan and the S/RID with assistance and input as appropriate by DOE. DOE has the responsibility for determining that the proposed S/RID will ensure an adequate level of safety, and finally approving it when it is found to be satisfactory. In the Board's view, an S/RID should be the central component of the Authorization Agreement which should have contractual status as part of the agreement with the contractor relevant to performance of the work authorized for the site, facility, or activity.

In accordance with its statutory directive to review DOE's safety standards and their implementation, the Board plans to track selected S/RIDs and the associated Safety Management Programs as they are developed. The Board will formally review them after their completion and will provide its comments to DOE in letters to the Secretary or in the statutory form of recommendations. The Board would normally expect DOE to have performed its own review with documentation of the results before being formally provided with the Board's comments.

We recognize that the various DOE organizational units which may be delegated review and approval authority for S/RIDs and associated Safety Management Programs may not have enough individuals with qualifications in the technical specialties required to carry out effectively the streamlined process being recommended. This means that technical assistance may need to be retained from elsewhere to compensate for such personnel deficiencies where they exist. It also means that DOE may need

¹*Fundamentals for Understanding Standards-Based Safety Management*, Joseph J. DiNunno, DNFSB/TECH-5.

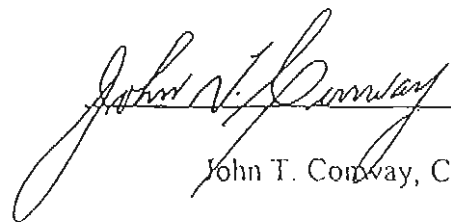
²*Safety Management and Conduct of Operations at the Department of Energy's Defense Nuclear Facilities*, DNFSB/TECH-6.

to augment its own technical expertise so as not to be obliged to continue indefinitely to rely on technical assistance from outside DOE.

The Board renews its request that it be informed on a timely basis of changes in planned use of defense nuclear facilities. In addition, the Board now wishes to replace Recommendations 90-2 and 92-5. The schedule agreed to by DOE and the Board for S/RID development and implementation pursuant to Recommendation 90-2 will be revised and carried forward as a part of Recommendation 94-5, which is not being otherwise modified at this time.

Therefore, the Board recommends, that DOE:

1. Institutionalize the process of incorporating into the planning and execution of every major defense nuclear activity involving hazardous materials those controls necessary to ensure that environment, safety and health objectives are achieved.
2. Require the conduct of all operations and activities within the defense nuclear complex or the former defense nuclear complex that involve radioactive and other substantially hazardous materials to be subject to Safety Management Plans that are graded according to the risk associated with the activity. The Safety Management Plans and the operations should be structured on the lines discussed in the referenced documents DNFSB/TECH-5 and DNFSB/TECH-6.
3. Establish a new list of facilities and activities prioritized on lines of hazard and importance to defense and cleanup programs, to focus the transition from implementation programs related to 90-2 and 92-5 to this revised development of S/RIDs and associated Safety Management Plans, following the process of Section I of DNFSB/TECH-6.
4. Promulgate requirements and associated instructions (Orders/standards) which provide direction and guidance for this process including responsibilities for carrying it out. The manner of establishing responsibilities and authorities as currently set forth in DOE Order 5480.31 (425.1) for Operational Readiness Reviews should serve as a model for preparing, reviewing, and approving the Safety Management Programs. The requirement for conformance should be made a contract term.
5. Take such measures as are required to ensure that DOE itself has or acquires the technical expertise to effectively implement the streamlined process recommended.



John T. Conway, Chairman

**DEFENSE NUCLEAR FACILITIES
SAFETY BOARD**

[Recommendation 95-2]

Safety Management

AGENCY: Defense Nuclear Facilities
Safety Board.

ACTION: Notice; recommendation.

SUMMARY: The Defense Nuclear
Facilities Safety Board (Board) has made
a recommendation to the Secretary of
Energy pursuant to 42 U.S.C. 2286a(a)(5)
concerning Safety Management. The
Board requests public comments on this
recommendation.

DATES: Comments, data, views or
arguments concerning this
recommendation are due on or before
November 20, 1995.

ADDRESSES: Send comments, data, views
or arguments concerning this
recommendation to: Defense Nuclear
Facilities Safety Board, 625 Indiana
Avenue NW., Suite 700, Washington,
DC 20004.

FOR FURTHER INFORMATION CONTACT:

Kenneth M. Pusateri or Carole J. Morgan, at the address above or telephone (202) 208-6400.

Dated: October 16, 1995.

John T. Conway,
Chairman.

[Recommendation 95-2]**Safety Management**

Dated: October 11, 1995.

The Defense Nuclear Facilities Safety Board (Board) has issued and the Secretary of Energy has accepted three sets of recommendations (90-2, 92-5, and 94-5) concerning the use of standards by contractors at the Department of Energy's (DOE) defense nuclear facilities, and the level of conduct of operations to be maintained at these facilities. These recommendations intersect in many of their implications. The Board now wishes to combine and modify these recommendations into a form that (1) reflects what it has learned from DOE's response to the recommendations, (2) more sharply focuses continued activity on the objectives DOE and the Board seek to achieve, and (3) is more clearly consonant with the actions which DOE has under way to modify DOE's system of Orders.

On March 8, 1990, the Board forwarded to the Secretary of Energy Recommendation 90-2. Briefly paraphrased, it recommended that (1) DOE identify the particular standards that it considered should apply to certain designated defense nuclear facilities of DOE, (2) DOE provide its views of the adequacy of these standards, and (3) DOE establish the extent to which the standards were being applied to the facilities. The Secretary accepted this Recommendation on June 11, 1990, and provided the Board with an acceptable Implementation Plan on November 9, 1994.

The principal product of implementation was to be a set of facility-specific documents that set forth the applicable standards and requirements for a selected set of DOE's defense nuclear facilities. These were termed Standards/Requirements Implementation Documents (S/RIDs). The S/RID was to contain those requirements considered necessary and sufficient for ensuring safety in the particular application. These were to be principally extracted from DOE Orders, appropriate standards, NRC guides, and similar sources. The S/RID was envisioned as the basis upon which work controls would be developed and implemented.

This concept has been maturing in the course of its application to several DOE defense nuclear facilities. Subsequently, in connection with its internal plans to restructure its system of Orders, DOE has developed the concept of the "necessary and sufficient" set of requirements at a site or a facility or for an activity. As applied to safety requirements, we recognize the "necessary and sufficient" and S/RID concepts to be identical. In the following, the identity of the two will be implicitly understood, although we shall continue to use S/RID as the preferred term for the documented set of applicable standards and requirements in agreements between DOE and its defense contracts. This is the nomenclature found in implementation plans submitted by DOE to the Board. To avoid confusion, we suggest that DOE continue uniform use of the term S/RID in this connection.

DOE is to determine the extent to which standards are implemented through a process of Order Compliance Self-Assessment. This has generally been accomplished through review of detailed compliance with the DOE safety Orders of interest to the Board. The practice is to be followed until S/RIDs are in place, after which time, the issue becomes compliance with requirements in S/RIDs.

The Board has viewed the Order Compliance Self-Assessment Program of DOE as an initial activity in the formulation of the S/RIDs. As part of this compliance self-assessment, DOE required the contractors to justify in documented form the rationale for judging requirements to be non-applicable. This procedural requirement has been reported to have caused the expenditure of more effort than merited to achieve the end result the Board sought, which was the establishment of the particular subset of requirements upon which the safety management programs at a site would be structured. In the recommendations below, the Board seeks to streamline the process of arriving at an Authorization Basis and Authorization Agreements with respect to DOE's safety management of its sites, facilities, and activities. The review and acceptance by DOE of (1) the hazards assessment of the work contracted, (2) the standards/requirements identified as appropriate, and (3) safety management controls committed by the contractor for the work would in effect constitute, in the view of the Board, a DOE determination of adequacy relative to sufficiency of the requirements base.

In another action, on August 17, 1992, the Board forwarded its Recommendation 92-5, which called for

establishing certain safety policies at defense nuclear facilities faced with missions that were changing in response to the shifting world situation. The principal features of Recommendation 92-5 can be paraphrased as follows: (1) that facilities to be used in the longer term in nuclear defense missions or in cleanup from previous nuclear defense activities should be operated according to a superior level of conduct of operations, (2) that certain safety practices be followed at nuclear defense facilities being restarted after a long period of idleness, and (3) that defense nuclear facilities designated for various other kinds of use (such as standby) should be subject to a graded approach of safety criteria and requirements to be developed. The Board requested that it be informed on a timely basis of changes in the intended use of DOE's defense nuclear facilities.

Implicit in the Recommendation was a broader view of conduct of operations than adherence to written procedures and related activities directly in support of operations. It encompassed the entire set of practices used to ensure safety in a facility, and in the operations conducted therein, extending to coverage implied by the term "safety culture."

On December 16, 1992, the Secretary of Energy accepted Recommendation 92-5, and forwarded to the Board an Implementation Plan which the Board accepted on January 8, 1993.

Circumstances affecting DOE's defense programs have continued to evolve since then, and the view of the future of the defense nuclear establishment is now different from that in late 1992. Many facilities then scheduled for restart or standby are now slated for deactivation and decommissioning. Though the future form of the establishment continues to be uncertain, the Board believes that the extent of the changes and other intervening events makes it necessary to bring major features of its Recommendation 92-5 up to date and in line with the updating of Recommendation 90-2.

Another important development has been the elaboration of the S/RID concept into a system view of a standards-based safety management system.¹ This has shed further light on such important matters as permissible variability of safety management at facilities of different kinds and different levels of risk, and the formal means whereby an Authorization Agreement

¹ Fundamentals for Understanding Standards-Based Safety Management, Joseph J. DiNunno, DNFSB/TECH-5.

related to environment, safety and health objectives is incorporated into contractual terms.

Principles that should guide the structure and use of safety management, the framework for conduct of operations appropriate to different cases, the basis for grading of safety management and conduct of operations, and the application to the important defense nuclear laboratories of the Department of Energy, are outlined in another document in the DNFSB/TECH sequence.² The points laid out in DNFSB/TECH-6 are consistent with those in DNFSB/TECH-5. Although the concepts and processes discussed in these documents are couched in terms of radiological hazards, they are more general, and apply as well to hazards of other kinds. In addition, they offer an appropriate match to requirements established elsewhere for safety in decommissioning of facilities, and would serve as a bridge to such operations.

The Board agrees with the view adopted by DOE in certain pilot tests presently under way, that the contractor for a site, facility, or activity should originate the drafting of the Safety Management Plan and the S/RID with assistance and input as appropriate by DOE. DOE has the responsibility for determining that the proposed S/RID will ensure an adequate level of safety, and finally approving it when it is found to be satisfactory. In the Board's view, an S/RID should be the central component of the Authorization Agreement which should have contractual status as part of the agreement with the contractor relevant to performance of the work authorized for the site, facility, or activity.

In accordance with its statutory directive to review DOE's safety standards and their implementation, the Board plans to track selected S/RIDs and the associated Safety Management Programs as they are developed. The Board will formally review them after their completion and will provide its comments to DOE in letters to the Secretary or in the statutory form of recommendations. The Board would normally expect DOE to have performed its own review with documentation of the results before being formally provided with the Board's comments.

We recognize that the various DOE organizational units which may be delegated review and approval authority for S/RIDs and associated Safety Management Programs may not have

enough individuals with qualifications in the technical specialties required to carry out effectively the streamlined process being recommended. This means that technical assistance may need to be retained from elsewhere to compensate for such personnel deficiencies where they exist. It also means that DOE may need to augment its own technical expertise so as not to be obliged to continue indefinitely to rely on technical assistance from outside DOE.

The Board renews its request that it be informed on a timely basis of changes in planned use of defense nuclear facilities. In addition, the Board now wishes to replace Recommendations 90-2 and 92-5. The schedule agreed to by DOE and the Board for S/RID development and implementation pursuant to Recommendation 90-2 will be revised and carried forward as a part of Recommendation 94-5, which is not being otherwise modified at this time.

Therefore, the Board recommends, that DOE:

1. Institutionalize the process of incorporating into the planning and execution of every major defense nuclear activity involving hazardous materials those controls necessary to ensure that environment, safety and health objectives are achieved.
2. Require the conduct of all operations and activities within the defense nuclear complex or the former defense nuclear complex that involve radioactive and other substantially hazardous materials to be subject to Safety Management Plans that are graded according to the risk associated with the activity. The Safety Management Plans and the operations should be structured on the lines discussed in the referenced documents DNFSB/TECH-5 and DNFSB/TECH-6.
3. Establish a new list of facilities and activities prioritized on lines of hazard and importance to defense and cleanup programs, to focus the transition from implementation programs related to 90-2 and 92-5 to this revised development of S/RIDs and associated Safety Management Plans, following the process of Section I of DNFSB/TECH-6.
4. Promulgate requirements and associated instructions (Orders/standards) which provide direction and guidance for this process including responsibilities for carrying it out. The manner of establishing responsibilities and authorities as currently set forth in DOE Order 5480.31 (425.1) for Operational Readiness Reviews should serve as a model for preparing, reviewing, and approving the Safety Management Programs. The requirement

for conformance should be made a contract term.

5. Take such measures as are required to ensure that DOE itself has or acquires the technical expertise to effectively implement the streamlined process recommended.

John T. Conway,
Chairman.

October 11, 1995

The Honorable Hazel R. O'Leary,
Secretary of Energy, Washington, DC 20585

Dear Secretary O'Leary: On October 11, 1995, the Defense Nuclear Facilities Safety Board, in accordance with 42 U.S.C. § 2286a(a)(5), unanimously approved Recommendation 95-2 which is enclosed for your consideration. Recommendation 95-2 deals with Safety Management.

42 U.S.C. § 2286d(a) requires the Board, after receipt by you, to promptly make this recommendation available to the public in the Department of Energy's regional public reading rooms. The Board believes the recommendation contains no information which is classified or otherwise restricted. To the extent this recommendation does not include information restricted by DOE under the Atomic Energy Act of 1954, 42 U.S.C. §§ 2161-68, as amended, please arrange to have this recommendation promptly placed on file in your regional public reading rooms.

The Board will publish this recommendation in the Federal Register.

Sincerely,
John T. Conway,
Chairman.

Enclosure
c: Mark Whitaker, EH-9

[FR Doc. 95-25946 Filed 10-18-95; 8:45 am]
BILLING CODE 3670-01-M

² Safety Management and Conduct of Operations at the Department of Energy's Defense Nuclear Facilities, DNFSB/TECH-6.