DEFENSE NUCLEAR FACILITIES SAFETY BOARD

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

June 16, 1993

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

Dear Secretary O'Leary:

On June 16, 1993, the Defense Nuclear Facilities Safety Board, in accordance with 42 U.S.C. § 2286a(5), unanimously approved Recommendation 93-4 which is enclosed for your consideration. Recommendation 93-4 deals with health and safety factors associated with DOE's management and direction of Environmental Restoration Management Contracts.

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

Copy to: Mark B. Whitaker, DR-1

RECOMMENDATION 93-4 TO THE SECRETARY OF ENERGY
pursuant to 42 U.S.C. § 2286a(5)
Atomic Energy Act of 1954, as amended.

Dated: June 16, 1993

The Board and its staff have been monitoring the efforts of the Department of Energy (DOE) in technically managing the Uranyl Nitrate Hexahydrate (UNH) stabilization project at the Fernald Environmental Management Project since DOE began preparations for operational testing in early 1992. The stabilization project was initiated after the UNH solution was declared waste in 1991. The purpose of the project is to process the UNH into a filter cake for interim nuclear waste storage onsite pending final disposition.

In addition to maintaining a focus on the technical aspects affecting safety at Fernald, the Board has a high interest in DOE's use of its new Environmental Restoration Management Contractor (ERMC) approach to defense nuclear waste storage, treatment, disposal, and site decommissioning/restoration at this site. Experience acquired at Fernald can prove valuable to the Department and its future ERMCs for defense nuclear sites. Of particular interest to the Board is how, under this approach, DOE and the ERMC will ensure adequate protection of the health and safety of the public and the onsite workers involved in storage and processing of nuclear waste at Fernald.

The Board's staff has visited Fernald to review the UNH stabilization project on five separate occasions since March 1992. Topics for review have included technical management arrangements, operator training, start-up test plans, radiation protection, nitrogen dioxide releases, and the testing of system operability. The Board forwarded observations from the March 1992 Fernald visit to the Assistant Secretary for Environmental Restoration and Waste Management (EM-1) in a letter dated July 8, 1992. Observations from a staff trip in April of this year were forwarded to EM-1 in a letter dated May 11, 1993. These reviews at Fernald have shown weaknesses in DOE's technical direction of contractor performance, the contractor's conduct of operations, and the level of knowledge of personnel. With respect to the first weakness, a lack of technical vigilance on the part of DOE-Fernald (DOE-FN) allowed the ERMC contractor to start operations at the UNH project in April 1993 without (1) conducting a DOE-FN-required readiness review and without (2) informing and obtaining the approval of either the DOE-FN manager or the DOE headquarters project office to start the operation.

Most recently, incidents involving the improper transfer of UNH solution into a treatment system sump, and the resultant release of approximately 30 gallons of UNH solution to the environment, have again shown how inadequate procedures, inadequate knowledge of systems and procedures on the part of operators, and absence of an appropriate level of discipline in the conduct of operations can contribute to unsafe operations. These incidents were logged in DOE's occurrence reporting system in reports ORO--WMCO-FMPC-1993-0027 and ORO--WMCO-FMPC-1993-0028, respectively. Furthermore, the Board has noted recent events at other facilities under the cognizance of EM, including the Defense Waste

Processing Facility at SRS and the Uranium Oxide Plant at Hanford, that appear to indicate fundamental safety problems resulting from defective discipline of operations.

The incidents at Fernald and at other sites, taken together, also suggest that DOE's technical management and oversight structure for ERMC contracts are in need of upgrading. As the defense nuclear complex moves more rapidly toward long-term storage, environmental restoration, and cleanup, new contractors at other sites will be engaged using the ERMC approach, as is being used at Fernald. Based upon observations of the Fernald project, the Board has concern stemming from health and safety considerations that: (1) DOE may not have sufficient numbers of competent, trained headquarters and field personnel to technically manage such contracts, and (2) contracts may be negotiated and signed before DOE has developed internal plans on how to carry out its technical management and oversight responsibilities.

The Board is aware that you have recently announced initiatives to reform DOE contract management. These initiatives are directed largely at more effective financial management and program implementation. The Board would encourage, in the interests of public and worker health and safety, that the planned review of contracting mechanisms and practices also encompass the DOE technical direction and oversight structure. The Board believes that competence and effectiveness in technical aspects of management are essential to assure that contract services are provided in a manner which meets health and safety objectives.

The Board believes that DOE should formalize and strengthen its technical management of ERMC contracts. A straightforward step toward achieving this objective is for DOE to develop, in parallel with the drafting and negotiation of a new contract, a separate document which will provide detailed project and technical management plans and allocate qualified technical personnel to manage that contract at both HQ and the field location. Such a plan would in effect be a functions and responsibilities document. It would lay out management expectations for those assigned the technical monitoring, direction, and oversight of the contracted services, and identify the interfaces with other DOE resources managing the non-technical aspects of the contract. The contractor would normally not be allowed to commence operations involving radioactive materials until DOE's plan for technical management of site activities has been put into effect. This means, among other things, that the relevant DOE site and headquarters offices have been adequately staffed with qualified persons to provide competent technical direction, guidance, and oversight of the contractor's operations. In addition, the principles contained in applicable DOE Orders and in previous Board recommendations on such topics as DOE facility representatives (92-2), operational readiness reviews (92-6), and training (92-7) should be incorporated, where appropriate, into DOE's plan.

Such advance planning for technical management of ERMC contracts would have the following beneficial impacts: (1) timely identification and commitment of adequate technical resources to manage new contracts and projects; (2) up front identification for

DOE technical managers of expectations deriving from DOE responsibilities for protection of health and safety of workers and the public; and (3) assurance that DOE's technical line management and safety oversight organizations are involved early in the contracting process.

In summary, the Board believes that improvement of DOE's capability to provide technical management and oversight of ERMCs across a broad front is necessary to ensure adequate protection of the public health and safety. Therefore, the Board recommends that:

1. DOE develop and implement a technical management plan for Fernald and all future ERMC contracts. For Fernald, the technical management plan should be developed and implemented expeditiously. For future ERMC contracts, such a plan should be readied prior to contractor selection, and should be implemented at the initiation of contracted services.

2. Each plan for technical management of contracted services include as a minimum:

    a) a clear statement of functions and responsibilities of those in DOE assigned the task of technical direction, monitoring, or oversight of the contracted efforts, both at headquarters and the relevant operations offices;

    b) definition of the technical and managerial qualifications required of DOE's technical management staff at each level of responsible DOE line and oversight units;

    c) identification of the principal interfaces with the non-technical DOE personnel involved in the contract management;

    d) identification, by name, of the key technical personnel selected to perform the requisite technical direction, monitoring, and oversight functions;

    e) identification of policies, practices, orders, and other key instructions that represent a basic framework to be used in DOE technical management of the contractor in ensuring public and worker safety and adequate environmental protection; and

    f) a detailed program to ensure compliance with applicable statutes and DOE Orders, standards, rules, directives, and other requirements related to public and worker safety and environmental protection.

3. DOE consider the insights gained from addressing recommendations 1 and 2 above for ERMC contracts in pursuing the broader initiatives for reforming contract management you recently announced.

To assist DOE in resolving the broader-based safety issues addressed in the previous recommendations, the Board recommends that the following additional actions be taken at Fernald:

4. DOE headquarters complete an independent review of the recent incidents at Fernald, identifying the root causes for those incidents and the corrective actions required to remedy the underlying problems, and translate the Fernald findings into lessons learned applicable to other facilities.

5. DOE establish a clear process with an appropriate set of requirements and clear definitions of the line of authority for approval to start the UNH stabilization project. The set of requirements should identify the type and scope of readiness reviews DOE will require for the start of the UNH stabilization runs. For the type and scope of the reviews, consideration should be given to the standards set forth in previous Board recommendations on this subject (i.e. 90-4, 91-3, 91-4, 92-1, 92-3, and 92-6) and account for the known safety considerations for this operation. This process should also include identification of the appropriate DOE official(s) responsible for ensuring that public and worker health and safety are adequately protected and for giving final start-up approval.

6. DOE immediately establish a group of technically qualified Facility Representatives at Fernald to monitor the ongoing activities of daily operations at the site. DOE's "Guidelines for Establishing and Maintaining a Facility Representative Program at DOE Nuclear Facilities," issued in March, 1993, may be a useful basis for quickly establishing such a program at Fernald.

John T. Conway, Chairman

FOR FURTHER INFORMATION CONTACT: Kenneth M. Pusateri or Carole J. Council, at the address above or telephone (202) 208–6400.

Dated: June 21, 1993.

John T. Conway,

Chairman.

DOE's Management and Direction of Environmental Restoration Management Contracts

Dated: June 16, 1993.

The Board and its staff have been monitoring the efforts of the Department of Energy (DOE) in technically managing the Uranyl Nitrate Hexahydrate (UNH) stabilization project at the Fernald Environmental Management Project since DOE began preparations for operational testing in early 1992. The stabilization project was initiated after the UNH solution was declared waste in 1991. The purpose of the project is to process the UNH into a filter cake for interim nuclear waste storage onsite pending final disposition.

In addition to maintaining a focus on the technical aspects affecting safety at Fernald, the Board has a high interest in DOE's use of its new Environmental Restoration Management Contractor (ERMC) approach to defense nuclear waste storage, treatment, disposal, and site decommissioning/restoration at this site. Experience acquired at Fernald can prove valuable to the Department and its future ERMCs for defense nuclear sites. Of particular interest to the Board is how, under this approach, DOE and the ERMC will ensure adequate protection of the health and safety of the public and the onsite workers involved in storage and processing of nuclear waste at Fernald.

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The incidents at Fernald and at other sites, taken together, also suggest that DOE's technical management and oversight structure for ERMC contracts are in need of upgrading. As the defense nuclear complex moves more rapidly toward long-term storage, environmental restoration, and cleanup, new contractors at other sites will be engaged using the ERMC approach, as is being used at Fernald. Based upon observations of the Fernald project, the Board has concern stemming from health and safety considerations that: (1) DOE may not have sufficient numbers of competent, trained headquarters and field personnel to technically manage such contracts, and (2) contracts may be negotiated and signed before DOE has developed internal plans on how to carry out its technical management and oversight responsibilities.

The Board is aware that you have recently announced initiatives to reform DOE contract management. These initiatives are directed largely at more effective financial management and program implementation. The Board would encourage, in the interests of public and worker health and safety, that the planned review of contracting mechanisms and practices also encompass the DOE technical direction and oversight structure. The Board believes that competence and effectiveness in technical aspects of management are essential to assure that

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

[Recommendation 93–4]

DOE's Management and Direction of Environmental Restoration Management Contracts

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 concerning health and safety factors associated with DOE's management and direction of Environmental Restoration Management Contracts. The Board requests public comments on this recommendation.

DATES: Comments, data, views, or arguments concerning this recommendation are due on or before July 26, 1993.

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.

contract services are provided in a manager which meets health and safety objectives.

The Board believes that DOE should formalize and strengthen its technical management of ERMC contracts. A straightforward step toward achieving this objective is for DOE to develop, in parallel with the drafting and negotiation of a new contract, a separate document which will provide detailed project and technical management plans and allocate qualified technical personnel to manage that contract at both HQ and the field location. Such a plan would in effect be a functions and responsibilities document. It would lay out management expectations for those assigned the technical monitoring, direction, and oversight of the contracted services, and identify the interfaces with other DOE resources managing the non-technical aspects of the contract. The contractor would normally not be allowed to commence operations involving radioactive materials until DOE's plan for technical management of site activities has been put into effect. This means, among other things, that the relevant DOE site and headquarters offices have been adequately staffed with qualified persons to provide competent technical direction, guidance, and oversight of the contractor's operations. In addition, the principles contained in applicable DOE Orders and in previous Board recommendations on such topics as DOE facility representatives (92–2), operational readiness reviews (92–6), and training (92–7) should be incorporated, where appropriate, into DOE's plan.

Such advance planning for technical management of ERMC contracts would have the following beneficial impacts: (1) Timely identification and commitment of adequate technical resources to manage new contracts and projects; (2) up front identification for DOE technical managers of expectations deriving from DOE responsibilities for protection of health and safety of workers and the public; and (3) assurance that DOE's technical line management and safety oversight organizations are involved early in the contracting process.

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(c) Identification of the principal interfaces with the non-technical DOE personnel involved in the contract management;

(d) Identification, by name, of the key technical personnel selected to perform the requisite technical direction, monitoring, and oversight functions;

(e) Identification of policies, practices, orders, and other key instructions that represent a basic framework to be used in DOE technical management of the contractor in ensuring public and work safety and adequate environmental protection; and

(f) A detailed program to ensure compliance with applicable statutes and DOE Orders, standards, rules, directives, and other requirements related to public and worker safety and environmental protection.

3. DOE consider the insights gained from addressing recommendations 1 and 2 above for ERMC contracts in pursuing the broader initiatives for reforming contract management you recently announced.

To assist DOE in resolving the broader-based safety issues addressed in the previous recommendations, the Board recommends that the following additional actions be taken at Fernald:

4. DOE headquarters complete an independent review of the recent incidents at Fernald, identifying the root causes for those incidents and the corrective actions required to remedy the underlying problems, and translate the Fernald findings into lessons learned applicable to other facilities.

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John T. Conway,

Chairman.

Appendix—Transmittal Letter to Secretary of Energy

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, DC 20004 (202) 208–6400

June 16, 1993.

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

Dear Secretary O'Leary: On June 16, 1993, the Defense Nuclear Facilities Safety Board, in accordance with 42 U.S.C. 2286a(5), unanimously approved Recommendation 93–4 which is enclosed for your consideration. Recommendation 93–4 deals with health and safety factors associated with DOE's management and direction of Environmental Restoration Management Contracts.

42 U.S.C. 228d(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.

[FR Doc. 93–14894 Filed 6–23–93; 8:45 am]
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