[DNFSB LETTERHEAD]

May 18, 1990

Honorable James D. Watkins
Secretary of Energy
Washington, DC 20585

Dear Mr. Secretary:

On May 17, 1990, the Defense Nuclear Facilities Safety Board, in accordance with Section 312(5) of Public Law 100-456, approved a recommendation which is enclosed for your consideration.

Section 315(A) of Public Law 100-456 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. Please arrange to have this recommendation placed on file in your regional public reading rooms as soon as possible

The Board will publish this recommendation in the Federal Register.

Sincerely,

John T. Conway
Chairman

Enclosure

RECOMMENDATION TO THE SECRETARY OF ENERGY
pursuant to Section 312(5) of the
Atomic Energy Act of 1954, as amended.

Dated: May 17, 1990

The Board has been reviewing a number of safety issues related to plutonium processing operations at the Rocky Flats Plant. The reviews have been directed toward ensuring adequate protection of public health and safety, and involve consideration of actions that should be taken in the short term (that is, before resumption of operations), and actions to be taken in the long term, or after resumption of operations.

With regard to long term safety improvements, the Board believes that a specific program and process should be developed at the Rocky Flats Plant to assure proper evaluation and coordination of the facility changes under consideration. Experience with programs which involve similar matters, such as the U.S. Nuclear Regulatory Commission's Systematic Evaluation Program (SEP) for evaluating older facilities against current standards, has demonstrated the importance of assuring that there is a mechanism for systematically reviewing, prioritizing and integrating various potential facility changes. For example, at the Rocky Flats Plant it is important that there be a balanced approach taken concerning the criteria for improving the seismic resistance of safety equipment, and the criteria for improving seismic resistance of the building housing such equipment. The effects of other external events, such as a severe wind loading or potential flooding problems, and related design improvements also should be considered in an integrated manner to ensure that a balanced and integrated level of safety is achieved. Also, it would be useful to consider in the same integrated fashion, the safety issues regarding a comparison of existing facility design features with those required by commercial criteria and standards, such as fire protection, as well as the impact of expected new criteria and standards, such as life extension. Use of an integrated program also would permit appropriate emphasis to be placed on improving defense in depth as a means for enhancing safety at the plant. To the extent reasonable, consideration of probabilistic results may be useful in assisting in the integration process.

The process for conducting such a systematic and integrated review needs to be flexible to accommodate the levels of protection to public health and safety appropriate to the differing operations carried out in the various buildings at Rocky Flats. We suggest that the Department of Energy take full account of the methodology and the experience developed by the commercial power reactor industry under the Nuclear Regulatory Commission's SEP for dealing with similar issues.

Most of the structures and equipment at Rocky Flats that would be considered for possible modification under this type of program were designed and placed in operation long before current technical standards and criteria, design bases, and analytical procedures applicable to such structures and equipment were developed. This does not mean that the structures and equipment are now inadequate or unsafe because of these developments; rather, it means that it may be appropriate over the long run to improve these structures and equipment on a systematic basis,

taking into account the cost of the improvements, the length of time the Rocky Flats Facility will continue to be operated, and other relevant factors. In this connection, it appears that a backfit policy applicable to the Rocky Flats Plant will need to be established in order to provide a framework for making decisions on which of the facility changes identified under this new program will or will not be implemented.

Considering the current status of the Rocky Flats Plant and the benefits associated with a systematic evaluation program in ensuring that public health and safety continue to be adequately protected, the Board recommends that a Systematic Evaluation Program be developed and implemented at Rocky Flats Facility commencing as soon as practicable and completed over about the next four years. The program should permit appropriate emphasis to be placed on improving defense in depth at the facility. We recommend that this Rocky Flats SEP address all outstanding current safety issues and include, but not be limited to, consideration of the following items:

- Effects of severe external events, with particular emphasis on seismic events and high winds;

- Effects of severe internal events, with particular emphasis on fire;

- Ventilation system performance under severe external and internal events, including redundancy considerations;

- Interaction of equipment and structures due to severe internal and external events; and

- The basis and procedures for making backfit decisions on which of the facility changes identified under the new program will or will not be implemented and, where appropriate, the schedule for completion of these improvements.

The Board wishes to be informed on a timely basis of the progress in developing the program and process for conducting the Rocky Flats SEP.

John T. Conway, Chairman