



## Department of Energy

Washington, DC 20585

February 2, 1998

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W., Suite 700  
Washington, D.C. 20004

Dear Mr. Chairman:

Enclosed are the following deliverables/milestones from the Department's Implementation Plan (IP) for addressing the Defense Nuclear Facilities Safety Board's Recommendation 97-2, *Criticality Safety*:

- Enclosure 1 - Nuclear Criticality Safety Program Management Team Charter  
(IP Commitment 6.9 Deliverable 1)
- Enclosure 2 - Criticality Safety Support Group Charter  
(IP Commitment 6.8)
- Enclosure 3 - Report of Completion of Milestones from the Criticality Safety Information Resource Center Pilot Program  
(IP Commitment 6.2.1 Milestones 1, 2, and 3)

We have completed the actions identified under IP Commitment 6.8 and propose closure of this commitment. Implementation Plan Commitments 6.9 and 6.2.1 will stay open until remaining deliverables/milestones are complete. If you have any questions, please contact me, or have your staff contact Mike Thompson of my staff at (301) 903-5648.

Sincerely,

Robin Staffin  
Deputy Assistant Secretary  
for Research, Development, and Testing  
Defense Programs

Enclosures

cc: (w/encl)  
M. Whitaker, S-3.1



## CHARTER

### DEPARTMENT OF ENERGY NUCLEAR CRITICALITY SAFETY PROGRAM MANAGEMENT TEAM JANUARY 1998

#### I. PURPOSE AND AUTHORITY

This charter governs the Department of Energy's Nuclear Criticality Safety Program Management Team (NCSPMT). The NCSPMT was established by the Department of Energy in response to the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 97-2. In responding to the Recommendation, the Secretary of Energy assigned responsibility for leading the Department's cross-cutting criticality safety activities to the Assistant Secretary for Defense Programs (DP-1). In turn, DP-1, assigned responsibility for oversight of implementation of the Recommendation to the Deputy Assistant Secretary for Research and Development, Office of Defense Programs (DP-10). The purpose of the NCSPMT is to execute the Department's integrated Criticality Safety Program as directed by DP-10. This program has been established to maintain criticality safety infrastructure from which all Departmental criticality safety programs benefit. Activities undertaken as a part of this program will also focus on use of this infrastructure to implement the Department's cross-cutting Criticality Safety Program.

All ongoing activities established in response to DNFSB Recommendation 93-2, as well as commitments made in response to Recommendation 97-2, will be managed by the organization described above. The NCSPMT will manage all allocated funds for activities established in response to both Recommendations. The NCSPMT will also advise DP-10 on programmatic and technical issues concerning the Department's criticality safety infrastructure program.

DP-10 is the approval authority for this Charter.

## **II. MEMBERSHIP**

The following organizations will be represented on the committee:

### **A. Co-Chairmen:**

1. Defense Programs, Office of Research, Development and Testing Facilities (DP-13)
2. Environmental Management, Office of Nuclear Materials Stabilization (EM-66)

### **B. Permanent Voting Members (one representative per organization):**

1. Office of Environment, Safety and Health
2. Office of Energy Research
3. Office of Nuclear Energy, Science and Technology
4. Office of Fissile Materials Disposition
5. Office of Civilian Radioactive Waste Management

## **III. FUNCTIONS**

As directed by DP-10, the NCSPMT will manage all allocated funds for activities established in response to DNFSB Recommendation 97-2 which includes activities initiated in response to Recommendation 93-2. In addition, the NCSPMT will advise DP-10 on programmatic and technical issues pertaining to the Department's cross-cutting Criticality Safety Program. DP-13 staff will perform the day-to-day administrative functions associated with managing the Nuclear Criticality Safety Program and provide feedback to the NCSPMT on program status.

The NCSPMT will review Criticality Safety Program needs annually, determine specific tasks required to meet identified needs, prioritize these tasks, allocate funds accordingly, and manage all supported tasks as a coordinated, coherent program. The Department's integrated Criticality Safety Program will be maintained and executed: (1) by promoting training, communications and tasks among centers of criticality

expertise, and Department, field, operations, and applications personnel; (2) by providing necessary guidance and reference documents to appropriate personnel; (3) by supporting development of adequate instrumentation, computational capabilities, methods and nuclear data, and; (4) by supporting related physics and experiments.

The NCSPMT will receive technical support from a Criticality Safety Support Group. This group of criticality safety experts is composed of persons from the Department's staff and contractors having collective knowledge in a broad spectrum of criticality safety areas to advise the NCSPMT on programmatic issues and to help resolve present and future technical criticality safety issues.

Specific duties of the NCSPMT include:

- A. Assure that all deliverables/milestones contained in the Recommendation 97-2 Implementation Plan are completed on schedule. Provide timely notification of DP-10 if schedule or scope adjustments are required.
- B. Assure that all ongoing Nuclear Criticality Predictability Program infrastructural activities initiated in response to DNFSB Recommendation 93-2 are fully integrated with activities initiated in response to Recommendation 97-2 to form a coherent Nuclear Criticality Safety Program.
- C. Conduct an annual review of the Nuclear Criticality Safety Program as part of the budget development process and update and publish the five-year program plan.
- D. Approve the Charter and determine membership of the Criticality Safety Support Group. The NCSPMT will appoint the Chairman of the Criticality Safety Support Group to one-year renewable terms.
- E. Call meetings of the Criticality Safety Support Group and task the Group as necessary to address NCSPMT requirements.
- F. Review recommendations regarding Departmental needs and tasks required to meet identified needs. Prioritize tasks, weighing programmatic needs against available and planned budget. In conjunction with the Departmental Chief Financial Officer, ensure funding mechanisms are established as described in the Recommendation 97-2 Implementation Plan.

- G. Approve authorization of field work proposals which include scope of work, milestones, and appropriate funding to organizations performing the work.
- H. Provide an Implementation Plan status report quarterly to DP-10 for approval and submission to the DNFSB. Quarterly reports are due to the DNFSB no later than the last day of the month following the quarter.
- I. Maintain liaison with key elements of the national and international nuclear criticality safety community.

#### **IV. MEETINGS AND RULES**

- A. The NCSPMT will meet at least quarterly, with additional meetings scheduled as the need arises. Regular meetings of the NCSPMT will be announced at least one week in advance by the Co-Chairmen. Special meetings (less than one week advanced notice) may be called by either of the Co-Chairmen upon approval by both Co-Chairmen and two of the permanent voting members. Meeting attendance shall be limited to NCSPMT members and guests invited by either of the Co-Chairmen.
- B. The Co-Chairmen will arrange for publication of the minutes of each meeting, and copies will be provided to all members of the NCSPMT and the Criticality Safety Support Group. Every attempt will be made to provide the minutes to the NCSPMT at least one week in advance of regularly scheduled NCSPMT meetings.
- C. Voting rules are as follows. Each of the Co-Chairmen shall have one vote. Each of the permanent voting NCSPMT members shall have one vote. The majority is 51 percent or more of the votes from Co-Chairmen and the permanent voting members present. In the event of a tie, the issue being voted upon will be forwarded to DP-10 for decision. In the event of a serious disagreement with the majority on any vote, NCSPMT members, either individually or with other members, may submit a minority opinion to DP-10 for consideration.
- D. A quorum for voting shall consist of both Co-Chairmen and two of the permanent voting members. Issues may be voted on only at regular or special meetings of the NCSPMT.

E. **This Charter will be reviewed by members biennially, and changes will be made if appropriate. The charter can be changed prior to the two-year cycle as required by the NCSPMT. DP-10 is the approval authority for all changes to this Charter.**

**CHARTER OF THE  
DEPARTMENT OF ENERGY  
CRITICALITY SAFETY SUPPORT GROUP  
JANUARY 1998**

**I. BACKGROUND**

On July 14, 1997, the Department of Energy (DOE) accepted Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 97-2, *Criticality Safety*. Subrecommendation 8 within Recommendation 97-2 states:

Identify a core group of criticality experts experienced in the theoretical and experimental aspects of neutron chain reaction to advise on the above steps and assist in resolving future technical issues.

The Criticality Safety Support Group (CSSG) was formed in response to Subrecommendation 8 and is composed of persons from DOE staff and contractors having collective knowledge in a broad spectrum of criticality safety areas.

**II. MISSION**

The CSSG functions as the technical support group to the Nuclear Criticality Safety Program Management Team (NCSPMT) which was also formed in response to DNFSB Recommendation 97-2. The CSSG provides operational and technical expertise pertinent to the criticality safety needs of DOE missions. These include materials stabilization, transportation, storage, facilities decommissioning, and waste disposal. This expertise is relevant to experiments, nuclear data, methods, training, organizational structures, and criticality safety evaluations.

In its support role, the CSSG responds to requests from the NCSPMT for information, reviews, and evaluations. The CSSG also makes recommendations for the implementation and execution of the coherent, efficient criticality safety program established by the DOE in response to Recommendation 97-2.

### III. OPERATION OF THE CSSG

#### A. Membership

The charter members of the CSSG were selected by the NCSPMT, the management team formed in response to DNFSB Recommendation 97-2. These members and their affiliations are listed in the Appendix to this Charter.

Members of the CSSG are selected by the NCSPMT and are appointed to three-year renewable terms. To ensure continuity in the operation of the CSSG, terms should overlap with no more than half of the CSSG replaced at any one time.

Because of the interdisciplinary aspects of nuclear criticality safety at DOE facilities with widely varying missions, the membership shall consist of highly-qualified staff that have extensive experience in the broad spectrum of disciplines necessary to evaluate technical and operational aspects of nuclear criticality safety.

In addition, to supplement the expertise of the CSSG members, the CSSG, with the approval of the NCSPMT, may request other qualified individuals to provide the CSSG with specific technical expertise for specific tasks.

#### B. Organization

The Chair of the CSSG is appointed from the membership by the NCSPMT for a renewable one-year term. The Chair is responsible for coordinating the activities of the CSSG with the NCSPMT and for reporting the activities of the CSSG to the NCSPMT.

The CSSG Chair may appoint subcommittees from the CSSG membership to review, report, or act on any matter of concern that comes before the CSSG.

#### C. Meetings

CSSG meetings shall be called by the Chair as needed, but the CSSG shall be convened at least semi-annually. The presence of the Chair is mandatory unless special arrangements, as approved previously by the Chair with the concurrence of the NCSPMT, have been made.



The schedule of items to be addressed at the meeting is based on directions from the NCSPMT or requests made directly to members of the CSSG. An agenda for each CSSG meeting should be prepared in advance of a scheduled meeting and distributed to the members of the CSSG and the NCSPMT together with any materials needed for review of the agenda items.

The Chair of the CSSG shall ensure that the minutes of each meeting are formally recorded. Verbatim minutes of the meetings are not required, but the main points of the issues discussed must at least be summarized. The minutes shall also include the bases and the rationale for any decisions reached by the CSSG and for any recommendations made to the NCSPMT.

After review and concurrence by the members of the CSSG, the minutes shall be forwarded to the NCSPMT.

#### D. Activities

The CSSG provides support to the NCSPMT for the performance of activities specified in the implementation plan for DNFSB Recommendation 97-2. Because Recommendation 97-2 subsumes Recommendation 93-2, ongoing activities of the NCPP are also major activities of the CSSG. They are the experiments, training nuclear data, methods, and benchmarking.

The CSSG will, in general, review and evaluate activities or conditions that have, or could have, a significant effect on nuclear criticality safety at DOE facilities. The activities of the CSSG will generally be in response to directions from the NCSPMT, but may arise from unsolicited requests for assistance from personnel with the DOE complex. In order for the CSSG to act upon these unsolicited requests, concurrence of the NCSPMT is required.

The results of any evaluation, review, or similar activity by the CSSG shall be transmitted to the NCSPMT in a formal report. These reports shall represent the consensus position of the CSSG members. In the event of serious disagreement with the content of any such report, CSSG members, either individually or with other members, may submit a minority report to the NCSPMT. The NCSPMT will take action as needed to resolve the issues raised by any minority report and inform the authors of that report of the resolution.

## APPENDIX

### Charter members of the Criticality Safety Support Group

	<b>Name</b>	<b>Affiliation</b>
Chair	Adolf S. Garcia	DOE-ID
Members	Richard E. Anderson	LANL
	Dennis E. Cabrilla	DOE-EM
	Calvin M. Hopper	ORNL
	Jerry McKamy	DOE-EH
	Thomas P. McLaughlin	LANL
	James A. Morman	ANL
	Thomas A. Reilly	WSMS
	Robert M. Westfall	ORNL
	Robert E. Wilson	SSC

Enclosure 3

**Report of Completion of Milestones from the Criticality Safety Information  
Resource Center (CSIRC) Pilot Program  
(IP Commitment 6.2.1 Milestones 1, 2, and 3)**

Commitment 6.2.1: Perform CSIRC pilot program

**Milestone 1:** Identify an experiment to archive

Experiment name: Critical Experiments on Single-Unit Spherical Plutonium  
Geometries, Reflected and Moderated

Experiment description: Single unit plutonium metal spheres in oil

Date performed: 1968

Experimenter(s): Bob Rothe

Facility: Rocky Flats Critical Mass Laboratory

**Milestone 2:** Archive logbook(s) and calculation(s) for that experiment

Location of archived logbooks: Los Alamos National Laboratory

**Milestone 3:** Videotape original experimenter

Experimenter: Bob Rothe

Videotape date: Spring 1997