

GUIDANCE ON CONTENT OF IMPLEMENTATION PLANS
for
DOE 5480.25, SAFETY OF ACCELERATOR FACILITIES

INTRODUCTION

This guidance is provided for operating contractors of existing accelerator facilities to help them develop to DOE's satisfaction an Implementation Plan identifying those actions that are needed to meet fully the applicable DOE 5480.25 requirements. Accelerator facilities in the planning stage or in the early stages of construction should not need to develop an Implementation Plan because the requirements of DOE 5480.25 can be integrated into their planning and design, and reflected in their Safety Assessment Documents, training programs, procedures, readiness reviews, and other efforts routine to readying the facility to accomplish its program mission.

Although not required by DOE 5480.25, in order to identify all accelerator facilities covered by the Order, each contractor is expected to inventory all devices, units or facilities which could conceivably meet the definition of an accelerator given in DOE 5480.25. The inventory should include:

- the name,
- the manufacturer (if not built by the facility),
- the model number if available,
- the location (building and room number),
- the particles accelerated, the energies, and average currents,
- whether an applicable SAD exists, and
- whether the Order is applicable.

To evaluate whether the device is excluded from DOE 5480.25 coverage, consider whether the following conditions apply. It can be excluded by paragraph 4a, if: it is a commercial unit which uses only inherent shielding as supplied by the manufacturer and has not been substantially modified; or it is an x-ray generator which complies with ANSI N543; or it produces radiation incidental to its primary function (such as high voltage power supplies, most video display terminals, and electron beam units used for melting or welding.) It can be excluded under paragraph 4b if it cannot produce radiation fields resulting in an exposure >5 mrem in an hour at a distance of 30 cm from the exterior of the device under maximum operating conditions (where the exterior is understood to mean outside any materials inherent to the construction of the device, but inside any secondary structures large enough for a person to enter, such as a vault, cave, or other shielding enclosure). Where a device is determined to be not within the scope of the Order, the basis for that conclusion, and supporting documentation, should be referenced in the inventory.

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REQUIREMENT

Within 6 months after receipt of this guidance, each DOE Contractor having accelerator facilities shall submit to the operations office an Implementation Plan as called for in DOE 5480.25, page 15, paragraph 14. The plan should specify how the contractor plans to become compliant with DOE 5480.25 by identifying required activities, establishing a schedule, and assigning responsibilities.

GUIDANCE

1. Format. Organize the information in the Implementation Plan according to the structure provided here:

Cover Letter [Briefly summarize the content of the Plan; highlight specific actions/approvals sought from DOE]

Implementation Plan

DOE 5480.25 IMPLEMENTATION PLAN for { FACILITY NAME }

Background: [Identify the site on which the facility is located; provide a concise description of the physical and technical features of the facility and its programmatic mission; and include a chart and whatever explanation is needed of the contractor's organizational alignment as it pertains to the facility and the groups providing support services.]

Content of Plan: [See Item 2. below]

Attachments: [See Item 5. below]

2. Content

Requirement: [paragraph number and content of requirement]

Example: 9g. Restricting those permitted to execute Routine Operation.

Actions to be Taken: [describe the specific activities that are in place or needed to fully implement the requirement; if less than full implementation is being proposed, make this clear; where there are no actions planned, say "None" and justify fully in the Discussion paragraph following.]

Schedule and Responsibility: [provide key milestones and realistic due dates for the actions to be taken; indicate the management position assigned responsibility for ensuring that timely quality actions are taken. The proposed schedule should take into consideration the relative safety importance of the changes proposed and the resources available or projected to support the work required.]

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Discussion: [provide sufficient detail to enable DOE reviewers to understand why the actions proposed are both appropriate and sufficient, giving attention to the general requirement in paragraph 14b(4) of the Order to specifically address those measures believed to provide an equivalent level of safety to that imposed by the Order.]

3. Each requirement found in paragraphs 9, 12, and 13 should be explicitly addressed using the above format. Related requirements can be grouped and addressed together where the action to be taken is the same. If programs in place apply to all (most) accelerator facilities at a contractor's site, these should be answered once for the site and then referenced in the facility plans. Requirements in subparts e. and f. of paragraph 8 need to be explicitly addressed; the other subparts of paragraph 8 either are not appropriate items for an Implementation Plan or will be covered in addressing specific requirements in later sections of the Order. Provide a schedule which achieves full implementation of the required training within 18 months after receipt of this guidance, (14b(2)).

In considering the actions required to implement each requirement, the contractor needs to be sensitive to whether the resulting safety improvements can justify the resources that will be expended to bring the facility into compliance [one-time costs], and maintain it in compliance [annual costs]. Where the cost appears to be out of line with the risk reduction to be derived, the contractor can address this in the implementation plan. In this case, the assumptions that went into the analysis should be provided, and the extent to which the objectives of the requirement can be partially met by other cost-effective actions or administrative controls should be provided. The same approach applies where it can be demonstrated that there is an increase in the risk due to increased operational complexity.

It may also be possible to justify not implementing certain requirements based on facility-specific reasons, the most obvious one being that the requirement is not applicable. A proposal not to implement a requirement must be noted and carefully justified in the Implementation Plan, even when the reason may appear to be obvious. The contractor should address administrative controls in place or planned to ensure that physical or programmatic changes in the future do not negate the justification.

NOTE: Previous directions from the Contracting Officer to make changes, and written commitments by the contractor to make ES&H improvements, relating to the design or operation of an accelerator facility are not categorically superseded by addressing DOE 5480.25 requirements that might bear on the same issues. Relief from those directions or commitments can only be obtained by addressing them explicitly in the context of the relevant DOE 5480.25 requirements, and by obtaining DOE's explicit approval.

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4. DOE 5480.25, paragraph 14b(1), requires the contractor to include in the Implementation Plan an evaluation of the adequacy of documented safety analyses of systems posing significant potential hazards at the accelerator facility. To compare the matters addressed in the existing safety analyses with the topics addressed in the Guidance, Part I.C, "Contents of Safety Assessment Documents", the contractor should prepare a matrix correlating the Part I.C format with the existing format. If all the topics addressed in Part I.C are not covered in the existing safety analyses, the contractor should either identify why the missing topic does not represent a significant omission or prepare a schedule for completing the additional evaluations required. The completion dates should be within 24 months after receipt of this guidance.
5. While paragraph 8h of the Order requires proposed exemptions from any requirement to be justified in the Safety Assessment Document, for an operating facility the Implementation Plan should be used to request DOE approval in advance of the development/revision of the facility's Safety Assessment Document. For simplicity, submit the exemption request to DOE as an attachment to the Implementation Plan.
6. Attached to the Implementation Plan for each accelerator facility should be:
 - a. a copy of PSO approval of the facility hazard classification, or a hazard class recommendation for approval by the PSO, with sufficient information to support the recommendation. Part I.A. of the Guidance Document should be used in deriving the hazard class;
 - b. the SAD comparison matrix called for in paragraph 4. above;
 - c. a copy of the most current SAD readily available, if not previously submitted to DOE;
 - d. the schedule proposed and the responsibility for completing the additional evaluations (14a(1)), and
 - e. an assessment of adequacy of the facility to withstand natural phenomena hazards using the criteria of DOE 5480.28, "Natural Phenomena Hazards Mitigation," and a schedule for completing any necessary further evaluations (14b(3)), and
 - f. a request for any exemptions to the requirements of the Order that have been justified in the Implementation Plan.

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APPROVAL OF IMPLEMENTATION PLAN.

The Implementation Plan is to be submitted to the responsible DOE Contracting Officer (or a duly designated representative). The contractor can consider the Implementation Plan to be approved 90 calendar days after its formal submission to DOE if DOE has not formally approved, rejected, or requested modifications to the Plan within that time.

The Plan will be approved as specified in DOE 5480.25, paragraph 7b(9). The basis for the approval will be documented by the DOE approving official. If DOE finds the Implementation Plan unacceptable, it will either be returned to the contractor with written direction for modifying the Plan so that it can be approved by DOE, or DOE can modify and approve the modified Plan after discussion with the contractor, but without requiring further formal contractor involvement.

DOE has the option of approving a Plan in part, with the exceptions requiring modification by the contractor explicitly identified. Once approved, an Implementation Plan, or any part thereof, can be changed only by the same process required for approval of the original Plan. This should be understood to include any substantial departure from the implementing schedules included in the Plan.