



Department of Energy

Washington, DC 20585

September 24, 2009

MEMORANDUM FOR INGRID KOLB

DIRECTOR
OFFICE OF MANAGEMENT

THROUGH: KEVIN T. HAGERTY
DIRECTOR
OFFICE OF INFORMATION RESOURCES

FROM: GLENN S. PODONSKY
CHIEF HEALTH, SAFETY AND SECURITY OFFICER
OFFICE OF HEALTH, SAFETY AND SECURITY

SUBJECT: Revision to Department of Energy Order 5400.5, *Radiation Protection of the Public and the Environment*, and Conforming Changes to Department of Energy Manual 231.1-2, *Occurrence Reporting and Processing of Operations Information*, and Department of Energy Manual 231.1-1A, *Environment, Safety and Health Manual*

PURPOSE: This memorandum provides justification for a proposed revision to Department of Energy (DOE) Order (O) 5400.5, *Radiation Protection of the Public and the Environment*, to be submitted for DOE-wide review in RevCom with a 3-digit numbering format as DOE O 458.1. In accordance with DOE O 251.1C, *Departmental Directives Program*, minor conforming changes to two other directives, DOE Manual (M) 231.1-2, *Occurrence Reporting and Processing of Operations Information*, and DOE M 231.1-1A, *Environment, Safety and Health Manual* are also included for review along with the primary directive being revised.

JUSTIFICATION: Summary of Revised Order and Development Process. The proposed revision to the Order is essential to the Department's continued efforts to protect the public health and environment. The proposed revision to the Order refines and explicitly states DOE and contractor requirements to protect the public and the environment against undue risk of radiation associated with radiological activities conducted under the Department's control.

A Justification Memorandum for this revision was originally provided by the Office of Health, Safety and Security (HSS) on July 18, 2007, with concurrence by the Office of Management on August 14, 2007. The revision to the Order was developed in accordance with the Project Plan for Review of the Office of Health, Safety and Security's Safety Directives, approved in January 2008, to meet the principles governing Departmental Directives as defined by the Secretary's



September 10, 2007, memorandum, and subsequently incorporated into DOE O 251.1C, *Departmental Directives Program*, approved January 15, 2009:

- Improved clarity of the directive requirements, with an appropriate level of prescription, and an appropriate balance of “what” and “how” requirements;
- No duplication or inconsistencies with laws, regulations, national standards, or other directives;
- Implementability and reasonable cost impact of the directives requirements;
- Clear applicability of the directive requirements.

The revision to the Order (Attachment 1) was developed by a multi-organizational Directives Review Team of radiation protection representatives from the three Under Secretaries, including representative contractors. The Directives Review Team reviewed each existing requirement, determined whether to retain, modify, merge, or delete the requirement, and documented decisions and bases for requirements (Attachment 2). Attachment 3 provides an overview presentation on the proposed revision to the Order for use by the Directives Review Board. A multi-organizational Red Team reviewed the proposed revision to the Order and concluded that the Order revision was consistent with the principles governing Departmental Directives and is ready for DOE-wide review in RevCom.

Applicability. The proposed revision to the Order applies to all elements that are responsible for, or provide support for, the management and operation of DOE sites conducting radiological activities or management of DOE radioactive material or property that can result in exposures of the public to radiation or radioactive material. This applicability is consistent with the current Order.

Major Changes. Major changes made in this revision to the Order:

- Provide consistency with both 10 CFR Part 835, *Occupational Radiation Protection*, and DOE’s primary environmental protection directive, DOE O 450.1, *Environmental Protection Program*;
- Reflect, as appropriate, current advancements in national and international radiation protection concepts, technical standards and practices;
- Meet a 2006 Office of Management requirement to revise Orders in the 4-digit system to ensure compliance with the Departmental Directives Program, including the development of a separate, stand-alone Contractor Requirements Document and removal of technical background, guidance and policy statements;

- Streamline and clarify Order requirements, consistent with the Secretary's principles; and
- Update roles and responsibilities for the National Nuclear Security Administration and the Office of Health, Safety and Security consistent with current organizations.

Open Issues. There are no open issues concerning the proposed revision to the Order. The Directives Review Team members are in consensus that the proposed revision to the Order is ready for RevCom. Red Team and Defense Nuclear Facilities Safety Board staff review comments have been adequately resolved and there are no open issues.

Impacts on Other Directives. No conflicts with other directives or requirements are identified. Minor conforming changes to DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*, and DOE M 231.1-1A, *Environment, Safety and Health Manual* are necessary to consolidate reporting requirements associated with this Order. Proposed conforming changes to the Federal and Contractor Requirements Documents requirements of these two manuals are provided as Attachments 4 and 5 respectively. Conforming changes related to pre-operational monitoring requirements contained in the proposed revision to the Order may be necessary to DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*.

Recommended Review Schedule. A RevCom review and comment period of 45 days is requested since the proposed revision to the Order was developed by a team representing the three Under Secretaries and has been reviewed by a multi-organizational Red Team.

IMPACT:

DOE O 458.1 will apply to a broad range of DOE radiological operations complex-wide. In general, the requirements in DOE O 458.1 are derived from requirements currently contained in DOE 5400.5, and there should be no significant implementation costs associated with the proposed revision to the Order.

Consolidating documentation into an Environmental Radiological Protection Program plan will facilitate tailoring radiation protection activities to be commensurate with the risk. Improvements to the process for control and clearance of property potentially containing radioactive material, which were directed by a Secretarial Memorandum, have been incorporated. These changes could be used by the Secretary to support lifting the suspension and the moratorium on recycling certain metal products. Training on proposed revisions to the Order is planned by HSS. This training, and tools such as the RESRAD family of codes and survey guides, will help make processes more consistent and cost-effective to implement across the DOE complex.

Initially, there will be minor costs associated with implementation as DOE and contractor personnel become familiar with the format and structure of the Order. However, it is anticipated that the more concise format of the Order, the flexibility and more up-to-date approach to radiation protection that it provides, as well as the integration of radiation protection programs into an overall systems approach will promote more efficient and cost-effective implementation.

CONTACT: Edward Regnier, Chief, Radiation Protection Section, Office of Environmental Policy and Assistance, 202 586-5027.

DECISION:

Concur: _____

Non-concur: _____

Date: _____

| <u>Timeframe</u> | <u>Days</u> |
|----------------------------------|-------------|
| First Draft | _____ |
| <u>Review and Comment</u> | _____ |
| <u>Response and Second Draft</u> | _____ |
| <u>Concurrence</u> | _____ |

Attachments:

- Attachment 1: Complete Draft of Order
- Attachment 2: Requirements Database Report
- Attachment 3: Overview Presentation on the Proposed Revision to the Order
- Attachment 4: Conforming changes to DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*
- Attachment 5: Conforming changes to DOE M 231.1-1A, *Environment, Safety and Health Manual*

DIRECTIVE REVIEW PROJECT
STATUS UPDATE
September 14, 2009

Directive: DOE Order 5400.5, Radiation Protection of the Public and the Environment

Project Phase: 1A

Team Leads: Edward Regnier (HSS) 202-586-5027

Alexander Williams (EM) 301-903-8149

Recent Accomplishments

- Justification Memorandum package submitted for HS-1 concurrence and signature.
- The Review Team sub-group developing the updated clearance criteria table held teleconferences on September 3 and 14.
- Coordinated with HS-30 on proposed minor conforming changes to DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information* and DOE M 231.1-1A, *Environment, Safety and Health Reporting Manual*.
- Closed on comments from internal HSS review of draft Order.

Upcoming Activities

- Potential briefing to Directives Review Board (DRB) for approval to release to RevCom for formal DOE-wide review.
- Provide materials to the Office of Management 14 days prior to the scheduled DRB meeting.

Issues

- None

Next Major Milestones and Projected Dates

- Prepare for potential October 8, 2009, DRB meeting.