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**DEPARTMENT OF ENERGY**  
**Standards/Requirements**  
**Identification Document**  
**Development and Approval**  
**Instruction**



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## LIST OF ACRONYMS

DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
HQ	Department of Energy Headquarters
SAR	Safety Analysis Report
S/R	Standards/Requirements
S/RID	Standards/Requirements Identification Document

## 1.0 INTRODUCTION

The Department of Energy (DOE) has established the Standards/Requirements (S/R) Program to identify appropriate environmental, safety, and health protection standards and requirements for selected sites, facilities, and activities, and to assess the status of implementation of those standards/requirements. Additional information and background on this program can be found in the Implementation Plan in response to the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 90-2.

The environmental, safety, and health requirements for DOE sites, facilities, and activities will be documented in Standards/Requirements Identification Documents (S/RIDs), in accordance with the S/RID Development and Approval Instruction. The S/RIDs will identify the standards/requirements that are necessary and sufficient to provide an adequate level of protection of workers, the public, and the environment. The S/RIDs will be developed and proposed by the organizations responsible for implementation of the requirements, and will be reviewed and approved by DOE. Approval of the S/RID by DOE constitutes determination of adequacy. The status of compliance with each of the requirements included in S/RID will be determined by performing standards/requirements implementation assessments.

## 2.0 PURPOSE

This Standards/Requirements Identification Document Development and Approval Instruction (Instruction) describes the process to be used by DOE Headquarters (HQ), Operations Offices, Field Offices, and contractors to identify and document the requirements DOE considers necessary and sufficient to provide an adequate level of protection of worker and public health and safety, and the environment. Additionally, this Instruction provides the DOE expectations associated with the adequacy assessment of standards/requirements and directions for approval and maintenance of S/RIDs.

## 3.0 SCOPE

This Instruction applies to standards/requirements implementation assessments performed by DP/EM Headquarters (HQ) Offices, Operations Offices, Field Offices, Area Offices and contractor organizations, with regard to requirements in the S/RIDs for DOE sites, facilities, and activities.

The S/RIDs encompass the environmental, health and safety requirements related to the functional areas listed in Appendix I.

## 4.0 DEFINITIONS

These definitions are provided for specific application to the S/R Program and may not be identical to similar terms defined in other documents.

- 4.1 **ES&H Configuration:** ES&H Configuration is the breakdown of the ES&H universe into functional elements and sub-elements for which standards/requirements can be identified. The upper-level elements, or functional areas, are listed in Appendix II. A more detailed breakdown of this ES&H configuration is depicted in the ES&H Configuration Guide, Revision 0, dated July 30, 1993. This guide provides a typical structure for developing Standards/Requirements Identification Documents in a consistent manner.
- 4.2 **Index of DOE Requirements:** The Index of DOE Requirements is a list of the requirements in the DOE Rules and the DOE Orders of interest to the DNFSB. A listing of the Orders of interest to the DNFSB are in an attachment to the DOE 90-2 Implementation Plan. The Index is a tool available for use in developing S/RIDs.
- 4.3 **Subject Matter Experts:** Subject Matter Experts (SMEs) are technical experts, independent of the preparing organization, whose function is to perform adequacy assessments of one or more designated S/RIDs and to prepare a written finding on the adequacy of the S/RID. The written finding includes a recommendation for DOE approval or disapproval.
- 4.4 **Standards/Requirements Adequacy Assessment:** Standards/requirements adequacy assessment is the process of determining whether the standards/requirements contained in a standards/requirements identification document provide a sufficient basis for meeting DOE safety policies and objectives. Approval of an S/RID by DOE constitutes a determination of adequacy.
- 4.5 **Standards/Requirements Identification:** Standards/Requirements Identification is the process of identifying the set of specific standards/requirements that apply to conducting the day-to-day mission of defense nuclear facilities. Sources of appropriate standards/requirements include the following:
- o Applicable Federal, state, and local laws and regulations including DOE Rules;
  - o DOE Orders and other directives;
  - o Relevant industry (consensus) codes and standards;
  - o Other sources of relevant standards and guidance (e.g. international standards, established plant safety practices, etc).

These standards/requirements are to be necessary and sufficient to encompass the safety assumptions of sites, facilities, and activities to assure an adequate level of protection of the health and safety of workers and the public. In areas where the existing standards/requirements do not provide an adequate level of

protection at DOE facilities, DOE will develop new or modified standards/requirements.

- 4.6 **Standards/Requirements Identification Document:** Standards/Requirements Identification Document (S/RID) lists the ES&H requirements to be implemented by a site, facility, or activity appropriate to its life cycle phase to achieve an adequate level of protection of worker and public health and safety, and of the environment during the life cycle phases of design, construction, operation, decontamination and decommissioning, and environmental restoration. The S/RIDs are living documents, to be revised appropriately based on change in the site's or facility's mission or configuration, a change in the facility's life cycle phase, or a change to the applicable standards/requirements.
- 4.7 **S/RID Review Group:** An S/RID review group consists of SMEs authorized by DOE to perform a standards/requirements adequacy assessment of one or more designated S/RIDs and to provide a written finding on the adequacy of the S/RID to provide an adequate level of protection of workers, the public, and the environment.

## 5.0 RESPONSIBILITIES

This section of the Instruction describes specific DOE and contractor responsibilities related to the development and approval of S/RIDs. S/RID development should be performed by the organization responsible for implementing the requirements.

The responsibilities defined for Operations Office Managers shall apply also to the Field Office and Area Office Managers who report directly to DOE HQ.

- 5.1 **Secretarial Officer.** Secretarial Officer responsibilities related to the development and approval of S/RIDs include:
- a. approving S/RIDs for the DOE Headquarters Office and other S/RIDs as designated by the appropriate Cognizant Secretarial Officer (CSO);
  - b. preparing and maintaining S/RID for the Secretarial Officer's HQ office;
  - c. coordinating program activities with the Office of Environment, Safety and Health (EH), as appropriate, and informing it of any need for changes to DOE's non-nuclear and nuclear safety standards/requirements;
  - d. monitoring field implementation of this Instruction and providing technical direction, as required; and
  - e. providing a basis for approval of an S/RID.

The Secretarial Officer may delegate the responsibilities of subparagraphs b through d above to HQ staff.

- 5.2 **Operations Office Manager.** The Operations Office Manager responsibilities related to the development and approval of S/RIDs include:
- a. preparing and maintaining S/RIDs for the Operations Office;
  - b. requiring contractors to prepare S/RIDs, and monitoring the contractors' activities to validate the results;
  - c. approving contractor and Operations Office S/RIDs unless directed otherwise by the CSO;
  - d. forwarding those S/RIDs, for which approval authority has been designated to the CSO, to DOE Headquarters;
  - e. providing a basis for approval of an S/RID; and
  - f. determining a method for contractually applying an S/RID to a contractor.
- 5.3 **Contractor.** The contractor shall be responsible for the development and maintenance of S/RIDs for their sites, facilities, and activities.

## 6.0 S/RID DEVELOPMENT

The contractor(s) shall propose, subject to Operations Office agreement and approval, the designation of sites, facilities, and activities for which individual S/RIDs will be developed and the schedule for developing the S/RIDs. The identification of appropriate standards/requirements should build on existing information and systems wherever possible. To support this objective, the management of the S/R Program should be integrated with that of other related programs (e.g., DNFSB 91-1, Price-Anderson Amendments Act, Quality Assurance, self-assessments, and issues management).

### 6.1 S/RID Scope

S/RIDs produced for the Secretarial Officers' HQ organizations and for Operations Offices will contain only the requirements appropriate to those DOE organizations. The DOE S/RIDs must include functions and responsibilities of those assigned the task of technical direction, monitoring, and/or oversight of the contractor efforts.

Separate S/RIDs will be prepared for the contractor operated sites, facilities, and activities under the jurisdiction of those organizations. Contractors shall propose the way in which sites,

facilities, and activities should be grouped or subdivided to establish the entity for which S/RID will be developed. Operations Offices shall review and approve the contractors' proposals for acceptability prior to developing the S/RIDs.

A major consideration in deciding on the scope of an S/RID is the benefit of a single line manager having "ownership" of the S/RID and the responsibility for its implementation. For this reason, a site S/RID that incorporates the requirements that will be implemented by a site manager, rather than a facility manager, is appropriate but not required. If a majority of the standards/requirements are determined to be applicable to all facilities and activities or a majority of the site, it would be more practical and prudent to capture such standards/requirements in a site S/RID rather than repeating them in each facility S/RID. For requirements that are common to all or many facilities and activities at a site, the development of common implementing policies, programs, and procedures may be appropriate. Facility S/RIDs incorporating only requirements within the facility manager's responsibilities will, in general, require parallel consideration of a site S/RID that provides complementary implementation of site-wide requirements (e.g., a fire brigade or emergency operations center). The site S/RID would not be necessary if all requirements related to the facility or activity are incorporated into the facility or activity S/RIDs, without regard to the responsibility for implementation. When this option is chosen, it is essential that a clear distinction be made between those standards/requirements for which the Facility Manager has direct responsibility and those that are the responsibility of an organization outside the direct jurisdiction of the Facility Manager.

There may also be interfaces within a facility in which certain requirements are allocated in different fashions to different buildings. These interfaces can be physical, functional, administrative and organizational. These too must be recognized when allocating requirements in the S/RID.

The scope of managerial responsibility is only one of the factors that must be considered in defining the scope of an S/RID. A central objective of the S/R Program is to define the specific set of requirements that are to be implemented by a site, facility, or activity. This means that the requirements be selected or developed based on hazards, safety systems, and configuration of the facility or activity.

## 6.2 S/RID Development Process

S/RIDs shall be developed by the organization responsible for achieving compliance with the requirements. This will contribute to sense of ownership and commitment to effective compliance. The development of the S/RIDs should include the use of facility

experts and workers (i.e., individuals with significant engineering or operating experience with the facility) and functional area experts (i.e., individuals with significant experience in the functional area); but the role and responsibility of the facility manager is paramount.

It is a basic assumption of the contractor S/RID process that the facility manager must be thoroughly knowledgeable of the requirements which must be met at the facility and the facility manager must be committed to managing facility operations to ensure that those requirements are met. This is achieved when the facility manager participates in the preparation of the S/RID and subsequently signs-off on the S/RIDs as a demonstration of knowledge and commitment to manage operations to meet the standards and requirements in the S/RIDs.

The first step in the S/RID development is to identify the requirements from the universe of requirement sources such as Federal, state, local laws and regulations, DOE Rules and Orders, and other standards, that are applicable and appropriate to the site, facility, or activity. The general functional areas, such as radiological protection, occupational safety and health, fire protection, etc. are too broad for the assignment of requirements and conducting compliance assessments. Accordingly, each functional area needs to be subdivided into smaller descriptive elements to a level low enough to allow specification of discrete requirements and identification of the requirement. The DOE ES&H Configuration Guide provides a typical breakdown of the ES&H universe into elements and subelements.

Work that has already been done to identify appropriate DOE Order requirements (DP Order Compliance Self-Assessment process) should be applied in the development of the S/RID.

### 6.3 S/RID Content

Judgments related to inclusion of requirements in S/RID will be based on the hazards present at the site, facility, or activity. The S/RID must contain relevant information on the site, facility, or activity configuration, processes and hazards, or a reference to a DOE approved Safety Analysis Report that meets the requirements of DOE 5480.23, "Nuclear Safety Analysis Reports," or a Basis for Interim Operation or Preliminary Hazards Analysis incorporated in a DOE approved implementation plan that meets the requirements of DOE 5480.23. The content of the S/RID shall be the requirements necessary and sufficient to provide an adequate level of protection to the workers, the public, and the environment. The requirements must be sufficiently detailed and specific to the facility to allow implementation of the requirement with lower level implementing documents such as plans and procedures.

Requirements will be based on:

- o Applicable ES&H requirements from federal, state, and local laws and regulations including DOE Rules;
- o Appropriate ES&H requirements from DOE Orders and other directives; and
- o Additional ES&H requirements from other nationally recognized sources (government and non-government and international standards and industry practices), as appropriate.

If the set of requirements is not judged to be adequate, new requirements will be developed. (Upon S/RID approval, these new requirements should be codified through the DOE Standards and Directive process.)

- Applicable requirements from the DOE Rules and Orders that are not appropriate for inclusion in an S/RID are those that are technically relevant, but have little or no incremental effect on the level of protection provided by the standard/requirement listed in the S/RID. This may be the case if other standards/requirements fully meet the safety objective of the requirement. Records should be kept of the rationale for not including these requirements in the S/RID.

Requirements should not be drawn from documents such as specific plant procedures, Safety Analysis Reports, design specifications, and facility technical safety requirements. Such documents are generally implementing documents and may demonstrate compliance with a requirement. However, when it is necessary to develop new requirements as stated above, existing plant-specific documents may be used as the basis for their formulation.

The criteria below are intended to assist in the selection of requirements and describe an appropriate S/RID format.

TABLE I

- |   |             |   |
|---|-------------|---|
| o | Applicable  | All requirements should be pertinent to the site, facility, or activity.  |
| o | Appropriate | All requirements should have a meaningful impact on the level of ES&H protection provided.  |
| o | Sufficient  | The requirements should be adequate to control the hazards presented by the facility as identified by the appropriate safety documentation/analysis.      |
| o | Specific    | The requirements should be sufficiently specific such that functional area experts can agree on the criteria necessary to demonstrate compliance with the |

requirement. General statements of policy or intent that are found in source documents, including DOE Orders, should not be included in S/RID as requirements, unless they are accompanied by detailed requirements that exemplify or define the general statements. Where the detailed requirements fully define the general statements, it is preferable to include only the detailed requirements.

- o Requirement Format All statements should be in requirement format; i.e., all statements must be in "shall" (or equivalent) mode.
- o Text/Citation If a voluminous requirement is selected, without modification, from a recognized source, only specific citation should be given; the full text should not be given. If the requirement is a modification of a requirement from a recognized source (e.g., the conversion of the non-mandatory statement in DOE Order into a mandatory requirement in the S/RID), or if the requirement is developed from information from other sources or knowledge, such as from local experience, the full text of the requirement should be given.
- o Interfaces All interfaces between the facility requirements and the site or installation requirements or between functional areas should be clearly described.
- o Traceable All requirements documented in an S/RID must give clear reference to source(s).
- o Requirements Duplication If one action or activity is required by more than one requirements source, all of the requirements for that one action or activity should be consolidated into one requirement statement with the appropriate sources referenced.
- o Paraphrasing If a DOE Order, Standard or other reference is paraphrased to form a requirement, the paraphrasing should be accurate.
- o Conformance As far as practicable, the S/RID structure should conform to the structure outlined in the DOE ES&H Configuration Guide down to the sub-element level.
- o Usable The requirements should be detailed, specific, quantitative, clear, and readily implementable so there can be correlation between the requirements and the implementing documents.

## 7.0 S/RID ADEQUACY ASSESSMENT and APPROVAL

An S/RID is a living document. Accordingly, its adequacy assessment is a continuous process. Initially, the facility experts along with SMEs determine the adequacy of the S/RID. The appropriate levels of contractor management shall review and sign-off on the S/RID prior to submittal to DOE for approval. DOE subjects the S/RID to an adequacy review by an S/RID review group comprised of SMEs prior to approval. During the S/RID lifecycle, as the result of operating experience, oversight assessments, mission change, revised safety documentation, revisions to Orders, etc., the S/RID is revised in accordance with the site, facility, or activity change control process. As part of this change control process the revisions to the S/RID receive adequacy reviews by both the contractor and DOE.

### 7.1 Contractor S/RIDs

- Completed contractor S/RIDs should be reviewed and endorsed by Facility Experts and SMEs as to the adequacy of the S/RID. The S/RID must be approved by the appropriate levels of contractor management and submitted to the Operations Office. As previously stated, the Facility Manager must be knowledgeable of the requirements which must be met at the facility. The sign-off of an S/RID by the facility manager is an acceptance of responsibility and signifies the readiness of the facility manager to defend the requirements boundaries.

The Operations Office Manager shall transmit S/RIDs requiring Secretarial Officer approval to HQ, and retain others at the Operations Office.

The approving authority (Secretarial Officer or Operations Office Manager) shall ensure an adequacy review of the contractor S/RID is conducted.

The S/RID adequacy review will determine whether the contractor S/RID represents a set of requirements that is necessary and sufficient to provide an adequate level of protection of the workers, the public, and the environment. The comments resulting from the adequacy review will be resolved by the S/RID initiating organization. Comments that cannot be resolved between the review group and the S/RID initiating organization shall be documented and forwarded to the approving authority. The documentation will include rationale and justification for not accepting the recommendation. The S/RID review group shall forward the S/RID to the approving authority with one of the following:

- a. recommendation for approval on the basis that the S/RID contains a set of requirements that are necessary and sufficient to provide an adequate level of protection of workers, the public, and the environment; or

- b. recommendation for approval subject to changes that have been agreed to by the S/RID initiating organization (e.g., when a majority of the functional areas are adequate while the balance requires only minimal changes or resource limitations prevents timely revision) -- recommendation for "conditional approval"; or
- c. documentation of unresolved recommendations and associated justification from the S/RID initiating organization.

Upon receipt of the S/RID review group's recommendation(s), the approving authority shall either:

- a. implement the review group's recommendations for approval; or
- b. implement the review group's recommendation for "conditional approval" provided that the actions required to remove the conditional requirements are fully documented and scheduled; or
- c. return the S/RID to the contractor (through the Operations Office) requiring incorporation of the review group's recommendations; or
- d. approve the S/RID when the rationale and justification for not accepting the review group's recommendation is considered appropriate.

## 7.2 DOE S/RIDs

S/RIDs that have been developed for DOE HQ Office or Operations Office will be submitted to the appropriate approval authority.

The approving authority may approve the S/RID without further technical review, or authorize review by an S/RID review group prior to approval.

## 8.0 MAINTENANCE OF S/RIDs

The S/RID is a living document that will need to be revised and updated, in accordance with the site, facility, or activity change control process, during the life cycle of the site, facility, or activity in response to:

- a. evaluation of new or revised source documents;
- b. operating experience, related experience from other DOE and commercial nuclear facilities, relevant research, and lessons learned; and
- c. changes in mission, activities, or configuration.

At any time during the life cycle of a site, facility, or activity, an organization may submit a new S/RID if warranted by major events such as change in mission, or proposed revision of the S/RID. All proposed changes to S/RIDs or proposed new S/RIDs shall be reviewed and approved in accordance with the approval process applicable to the initial S/RID.

The S/RID shall be reviewed and certified to be current and appropriate by the managers responsible for implementation of its requirements on an established schedule.

#### 9.0 QUALITY ASSURANCE

Implementation of the S/R Program by DOE and contractor personnel will comply with the applicable DOE Quality Assurance requirements, particularly training and qualification of involved personnel. This will ensure that properly qualified and trained personnel are used in the development of S/RIDs and in the adequacy determination of the S/RIDs.

APPENDIX I

ES&H CONFIGURATION FUNCTIONAL AREAS

Configuration Management  
Construction  
Decontamination and Decommissioning  
Emergency Management  
Engineering  
Environmental Protection  
Environmental Restoration  
Fire Protection  
Maintenance  
Management Systems  
Nuclear Safety  
Packaging and Transportation  
Occupational Safety and Health  
Operations  
Quality Assurance  
Radiological Protection  
Research and Development and Experimental Activities  
Safeguards and Security  
Training and Qualification  
Waste Management