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DOCUMENTATION FOR WORK SMART STANDARDS APPLICATIONS:

CHARACTERISTICS AND CONSIDERATIONS



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DOCUMENTATION FOR WORK SMART STANDARDS APPLICATIONS: CHARACTERISTICS AND CONSIDERATIONS

I. INTRODUCTION

Documentation of the set of Work Smart Standards (WSS) and the Closure Process is critical to successful development of a standards-based system for doing work. DOE M 450.3-1, THE DEPARTMENT OF ENERGY CLOSURE PROCESS FOR NECESSARY AND SUFFICIENT SETS OF STANDARDS, describes the necessary elements for documentation. Documentation responsibilities for an application of the Closure Process are divided among the Convened Group, the Process Leader, and the Identification Team. The Convened Group establishes the specific documentation requirements; the Process Leader organizes information on the work and its associated hazards; and the Identification Team prepares the following four areas of documentation:

- the standards set itself (which has been renamed the WSS set);
- justification for the set (including team member names, responsibilities, and qualifications; discussion of differing opinions and their resolutions; and results of the confirmation process);
- implementation assumptions and interfaces; and
- justification to support exemptions from requirements.

Depending on the application, areas not identified above may need to be documented to ensure an adequate record of how the Closure Process was implemented and of the linkage between the work, the associated hazards, and the WSS set. This report includes two such areas of documentation: (1) protocols developed for the process (see section IIF) and (2) how Stakeholder involvement was handled (see section IIG).

Closure Process documentation should clearly link the expectations of the Agreement Parties to the selection of the WSS set. Documentation may also aid in the implementation of the WSS set and performance of the work. The documentation should strike a balance between a document that is so streamlined that it may not serve the needs of WSS implementation and a document that provides extensive details but is so time-consuming to prepare that it may not be cost effective.

The format and content needed for clear, coherent, and adequate documentation will vary according to the application and the complexity of the work, the hazards associated with the work environment, and the corporate cultures of the participating organizations. The guidelines in this document were prepared to assist process participants in the task of documentation, not to prescribe a required methodology or format. Those applying the Closure Process, that is, the process

participants, should define the documentation required for a particular application. However, upon completion of the Closure Process, fidelity to the Process can be judged only on the basis of the documentation. Therefore, the chosen level of documentation should demonstrate that all required aspects of the Closure Process were conducted in an acceptable manner.

Standards Process Action Team (SPAT) 11 reviewed the documentation prepared for nine pilots and four completed initial applications. We also used a questionnaire to solicit information and opinions on the success of the documentation from the Process Leaders for the various applications. Our report is divided into three sections: (1) this introduction, (2) a discussion of specific areas of documentation, and (3) a discussions of certain issues that cut across two or more specific documentation areas. Appendixes include the charter of the SPAT, a list of SPAT members, a list of the process applications reviewed for this report, and the results of the questionnaire.

II. DOCUMENTATION FOR WSS APPLICATIONS

This section lists seven specific areas for which documentation is either required by DOE M 450.3-1 or which have been addressed in many of the process applications. Each area is divided into two subsections: (1) a listing of the documentation and its purposes and (2) a discussion of considerations and examples that relate to the particular documentation area. Examples of both successful and unsuccessful approaches are provided and discussed in the latter subsection. The successful examples should be considered as illustrative and not as minimum requirements.

A. DEFINITION OF THE WORK, HAZARDS, AND PERFORMANCE EXPECTATIONS AND OBJECTIVES

1. Characteristics of Successful Documentation

Documentation	<ul style="list-style-type: none"> • Documents conditions within which the work will be conducted • Defines performance expectations and objectives for the work, including goals for safety, quality, etc. • Defines the work and the hazards, including the uncertainties about the work • Defines the scope of the standards set
Purpose	<ul style="list-style-type: none"> • Identifies the linkage between the work and the associated hazards • Matches the level of detail to the specific application • Supports documentation of the safety program • Establishes buy-in for performance metrics • Establishes the basis for composition of teams

2. Documentation Considerations

Defining the work and hazards is important because it focuses the Identification Team on the mission of the facility, activity, or site, rather than compliance with regulations. Obviously, if existing documents adequately describe and define the work and hazards, these should be used. However, many of the existing safety documents do not address all hazards.

Definition of performance expectations and objectives by the Convened Group in establishing process protocols may include development of schedules for completion of the WSS set, determination of costs, or establishment of performance measures that will help to judge the success of the application of the process.

Examples
<ul style="list-style-type: none">• The LANL Radiation Protection Pilot initially documented “the work” as “the work is radiation protection.” As they attempted to define the hazards, they realized that “the work is plutonium metallurgy, uranium process chemistry, etc., with hazards of radiation exposure due to contamination, activation, etc.” While redefining the work, the Identification Team identified areas outside the scope of the radiation protection rule, 10 CFR 835, which required special standards.• In planning for an eventual sitewide WSS set, ORNL determined that the work and hazards fell into four major categories: (1) work of a variety of types involving standard industrial hazards, (2) accelerator facilities, (3) radiochemical laboratories, and (4) nuclear facilities. Once the work was divided into these categories, hazards for the standard industrial hazard group were developed first; the other groups subsequently used an additive approach to identify hazards not already considered.• The definition of the work and its hazards was an iterative process at LLNL. The scope of the application was at the program level requiring adjustment of the scope (i.e., the work definition) as the Convened Group and the Identification Team discussed work that is done at both the program and the institutional level.• LBNL developed an explicit description of the work and the related hazards of the National Tritium Labeling Facility, which clearly defined the scope of the activities for which its standards were developed. Future work may be compared with this description to determine whether a new Closure Process should be instituted or whether the new work is covered by the adopted standards.• FNAL and Thomas Jefferson National Accelerator Facility (TJNAF, formerly the Continuous Electron Beam Accelerator Facility) documented a summary definition of the work and detailed roll-up listings of the associated hazards.• Johnson Controls provided a summary description of the work and references to existing safety documentation, supported by a detailed task analysis and hazards associated with each step of the work process.• SLAC included a charge to its Identification Team that the WSS set for Environment, Safety, and Health (ES&H) must keep SLAC performance equivalent to that of the top 25 percent of U.S. companies conducting similar operations. This provided the Identification Team a means to gauge the sufficiency of its set.• Johnson Controls’ Convened Group provided the Identification Team with milestones for work completion and established as a benchmark for adequacy that the set should provide protection comparable to a well-run commercial water treatment plant.

B. THE WSS SET**1. Characteristics of Successful Documentation**

Documentation	<ul style="list-style-type: none"> • Compiles those standards appropriate for the safe conduct of work • Includes all applicable laws and regulations
Purpose	<ul style="list-style-type: none"> • Defines the basis for oversight and enforcement

2. Documentation Considerations**a. How standards are expressed in the WSS set**

Several methods for documenting the WSS set were used in the pilots and initial applications. These include: (1) citing the overall regulation or other standard; (2) citing the specific applicable subsection of a regulation or standard; and (3) including the text of the requirement. The first two methods differ principally in the level of detail to which the selected standards are cited. Considerations for making this decision are discussed more fully in section IIIA and in the examples below. The third method may be useful when internal standards are used or when only minor portions of the source document are relevant or other reasons make it convenient or efficient.

b. How the WSS set is organized

Ease of use is the primary criterion for organizing the documentation of the WSS set. All users must be considered in arriving at a decision on the organization. Alternative ways of organizing the set may be possible using the sorting capabilities of computer databases.

c. Tools used for documenting the set

The size of the set and the way it will be used are key considerations in determining whether to use a data base format or a word processing listing/tabular format.

Examples
<ul style="list-style-type: none"> • SLAC cited most of its standards at a very specific level and reported that they expect this method to help their ES&H technical staff in developing local procedures for implementing the WSS set. They felt that this high degree of specificity eliminated guesswork by their staff and allowed a finer sorting of requirements into functional areas. • ORNL's listing of the WSS standards is grouped by type of standard: laws first, listed alphabetically; then Federal regulations listed numerically; then State regulations listed numerically; then Executive Orders, DOE Orders, and consensus standards. Each standard is cross-referenced to one or more of five broad functional areas, such as Environmental Protection or Safety and Health.

Examples (continued)	
	<ul style="list-style-type: none"> Johnson Controls, which operates the Oak Ridge Water Treatment Plant, decided to use only external standards unless there were no existing appropriate standards. They believed tying up their internal procedures and documents as contractual obligations would be too limiting. This was not a problem since many good external standards exist that specifically address water treatment plants and processes. Johnson Controls used a word processing program to tabulate their work components, the associated hazards, and the appropriate standards. Using this approach resulted in multiple listings for certain source standards, although the portions referenced sometimes differed. The size of the data set was relatively small (about 30 pages), which made this approach feasible. However, finding information within the set is a challenge, so Johnson Controls intends to convert to a data base format for ease in sorting and searching.
	<ul style="list-style-type: none"> FNAL and TJNAF made extensive use of internal standards in their WSS sets. FNAL's contract establishes a sliding scale for approval of changes to the included contractor standards, with simple ones not needing DOE approval. TJNAF's safety and health manual was under development and was finalized to reflect Closure Process considerations.
	<ul style="list-style-type: none"> FNAL used a data base to document their standards identification process. The data base included lists of approximately 170 hazards or issues identified and the appropriate standards, or subsections of standards, to control each hazard. The data base was created only to document the links between hazards/safety issues and standards and was not intended for use as a standards implementation or standards management tool. The WSS set included in the contract, however, was a simple listing of standard citations with few breakdowns by subsection. They reported that this method of citation eliminated the tedious effort of trying to cite (and perhaps overlooking) every applicable sub-sub-section of applicable regulations, yet still provided sufficient specificity for the development of local procedures and practices, which reflect the more general requirements. FNAL felt that their management and technical staff were capable of recognizing which portions of the general standard were "applicable or enforceable" and incorporating these into local procedures without the need to specify those portions in the WSS set.
	<ul style="list-style-type: none"> At LLNL the standards were listed in several types of spreadsheet formats that suffered from some of the same problems as did those of Johnson Controls. The files can be searched but cannot be easily queried as a relational data base file.
	<ul style="list-style-type: none"> Although no application to date has used this system, it is under consideration at several sites. The STRIDe data base can also be used as a self-assessment tool and for tracing linkages from standards to procedures and other implementation standards.

C. JUSTIFICATION OF THE ADEQUACY OF THE WSS SET

1. Characteristics of Successful Documentation

Documentation	<ul style="list-style-type: none"> States the relationship between the work, any hazards, and the WSS set Identifies areas where internal standards were used because existing regulatory or consensus standards were not available or were not appropriate Includes team member names, responsibilities, and qualifications Summarizes the results of the confirmation process
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Purpose	<ul style="list-style-type: none"> • Provides evidence that the Closure Process was faithfully implemented • Clearly defines applicability of identified standards • May provide agreed-upon interpretations of identified standards • Demonstrates process fidelity • Links the selected standards set to the associated work and hazards • Provides evidence that the standards set, if properly implemented, is adequate to control hazards present in the work • Demonstrates that a qualified group of individuals considered the work and hazards, and selected an appropriate standards set • Demonstrates that a group of experts confirmed the chosen WSS set as adequate and feasible
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2. Documentation Considerations

The Closure Process relies on logical and measured conclusions by qualified groups of people that the set of standards, taken as a whole and if properly implemented, will provide adequate protection from all hazards associated with the work. Therefore, successful documentation clearly shows that the process has been faithfully performed by qualified people and documents the linkage between the work, the hazards/safety issues, and the WSS set. Key factors to document are (1) a qualified group of individuals considered the work and hazards, logically selected appropriate standards, justified the selections, and resolved any differences of opinion and (2) a second group of qualified individuals confirmed the chosen set as adequate and feasible. Documentation of these activities, to whatever level of detail the Convened Group deems appropriate, includes the following components:

- team member names, responsibilities, and qualifications;
- discussion of differing opinions and their resolutions;
- results of confirmation; and
- documentation of linkage between the WSS set, the work, and the hazards.

a. Team member names, responsibilities, and qualifications

Participants in a number of pilot and initial applications chose to write project plans, processes, or team charters that outlined team membership and responsibilities. Team member qualifications can be readily appended to or included in such documents. The format for documenting qualifications should clearly demonstrate expertise in areas related to the work, associated hazards, and standards and provide evidence that required training in the process has been completed and the qualifications established by the Convened Group have been met.

Example
Many sites included simple resumes of principal team members as an appendix to the standards documentation. Such documentation provides the basic information needed to demonstrate team members' qualifications but requires some effort to sort out areas of expertise and how team members' qualifications relate to the work and associated hazards. Johnson Controls, in addition to providing resumes, also summarized and totaled team experience and education, which clearly demonstrated expertise related to the work and demonstrated a high probability that no significant details would be overlooked in standards selection.

b. Discussion of differing opinions and their resolutions

Participants in a number of pilot and initial applications were encouraged to establish protocols to resolve differing opinions among team members; though some did, inclusion of differing opinions and their resolutions in final documentation was relatively rare (see section IIF for a discussion of protocols).

Example
One of the Identification Team members in the LBNL pilot submitted what amounted to a "minority opinion" by way of a letter to the Approval Authorities.

c. Results of the confirmation

During confirmation, the Confirmation Team must review the documentation and determine whether the selected standards are "adequate and feasible." Many Confirmation Teams were also asked to confirm that the process was conducted in accordance with DOE M 450.3-1. The Pilot Teams approached the confirmation process in a variety of ways.

Examples
<ul style="list-style-type: none">Johnson Controls prepared protocols that defined the process and criteria for confirmation and specified the content of a required Confirmation Team report, which outlined the process used by the team, the training received, and the team's conclusions. The confirmation process called for the team to review and confirm the process fidelity, as well as the adequacy and feasibility of the set, and to include a positive statement of adequacy in the confirmation report. The confirmation process also called for the team to go on a benchmarking trip to a commercial plant doing similar work, and required a list of written comments from the Confirmation Team and a documented response from the Identification Team to each comment. These became part of the final documentation for this high-hazard application.FNAL and LBNL Confirmation Teams signed formal statements that the WSS set, if appropriately implemented, is feasible and adequate to achieve safe and environmentally sound operations.

Examples (continued)
<ul style="list-style-type: none"> • One application documented that a confirmation process occurred and included comments from the Confirmation Team in the final documentation package. However, there was no information on how several of the team's comments were resolved. • The Confirmation Team for the LLNL pilot also signed a statement that the WSS set and the Closure Process were adequate. The Confirmation Team decided this after reviewing documents about the WSS set, showing the relationship of the work and its hazards to the standards, and reviewing qualifications of the team members and other relevant process information. The Confirmation Team initially did not feel that LLNL had properly linked the work, associated hazards, and standards and requested that the documentation be redrafted to better reflect the linkage.

d. Documentation of linkage between the WSS set, the work, and the hazards

Successful documentation clearly shows the linkage between the WSS set, the work, and the associated hazards. As might be expected, the applications reviewed used a variety of methods to accomplish this. The ease or difficulty encountered during the confirmation and approval stages of the various applications was closely related to the success in demonstrating the linkages. Several different approaches are discussed in the following examples.

Examples
<ul style="list-style-type: none"> • LLNL expressed the linkage in several ways and with different levels of detail to meet the needs of the Confirmation Team, the workers, and the public. They identified the standards in a matrix of the work versus its hazards; they identified the standards that apply to particular work at the intersection of the work and the hazard. They also presented the standards in a narrative form. LLNL discussed standards that apply to all work separately from those activities. Those chapters describe the work, the associated hazards, and how the standards were applied. Where appropriate, they discussed the increased protection derived from the synergy of the combined standards. For those not familiar with the standards, LLNL listed each standard and a description of its purpose and applicability. • FNAL and Argonne surveyed work supervisors, collected lists of hazards and issues, then used numerous existing safety documents to cross-check conclusions and identify additional hazards. In each case, appropriate standards to control each hazard were formally documented during the development of the WSS sets using Identification Team documentation forms for each hazard or issue to be addressed. This formal linkage was not reflected in the summary documentation or the rolled up WSS sets; these applications relied on a discussion of the process used to provide the linkage in those particular documents. • Johnson Controls adopted a structure for the set that identified specific standards or portions of standards applicable to a particular work process and hazard. The structure of the listing clearly shows the relationship between the work, hazards, and the standards selected, but is only feasible for facilities where the work activities are fairly limited and homogeneous. • Hanford's pilot built upon an existing computerized safety documentation culture. A hierarchy of work, hazards, standards, and implementation was used, and allowed easy identification of relationships within the hierarchy. This example demonstrated a rigorous linkage between work, hazards, and standards, but was also the example with the most limited scope and the smallest standards set.

D. IMPLEMENTATION ASSUMPTIONS AND INTERFACES

1. Characteristics of Successful Documentation

Documentation	<ul style="list-style-type: none">• Guides line management in implementing the WSS set• If replacing requirements with alternative standards, exemption documentation clearly shows which requirements or standards are proposed to replace the requirements for which the exemption is sought• States interfaces between programs under the Closure Process and those that are not under the Closure Process• States interfaces between work scopes covered in the WSS set and any other work at the site that may affect covered work• Assumptions, appropriate in number and detail for the work and hazards, clarify the WSS set and how it will be implemented
Purpose	<ul style="list-style-type: none">• Interfaces are clearly defined and explained to the level of detail needed for appropriate implementation• Interfaces are explained in sufficient detail to support the conclusion that standards are adequate to ensure safety• Clarifies applicability, interpretations, tailoring decisions, or feasibility of the standards selected• Provides additional clarification of the work scope to be covered by the standards set by linking management expectations to the standards implementing assumptions.

2. Documentation Considerations

Assumptions are statements that provide additional information helpful to understanding the WSS set. For example, they may provide limits on applicability, interpretation of scope, clarifications, feasibility, or acceptable degrees of implementation. Depending on the application, assumptions may be important for determining the adequacy and feasibility of the WSS set and may be particularly important during implementation.

Interfaces clarify where information is located, the boundaries of the work scope, and how the WSS set relates to sitewide safety standards not included in the WSS set. Interfaces of several kinds may be important in different applications; for example interfaces between:

- program areas covered under the Closure Process (i.e., within the scope of the WSS set) and those not covered under the Closure Process; or
- the scope of work covered in the standards set and any remaining work at the site that may affect the work covered under the Closure Process (e.g., at a facility that is part of a multi-facility site, it may be important to address how the WSS set for an

application will interface with safety programs outside the facility, such as a sitewide fire department or a sitewide radiation protection program).

When documenting assumptions and interfaces, consider the level of detail that should be documented (see section IIIA, Level of Detail) and where the information should be documented. If assumptions apply to a specific standard or requirement therefrom, it may be easier to document the assumption in the WSS set with the standard to which it applies. On the other hand, if the assumption applies globally, it may make more sense to include it in the adequacy documentation or in the process description documentation. Likewise, interfaces may be best documented in the description of the scope of work or in the WSS set if the set is broken down into different hazard areas.

Example
LLNL developed implementing assumptions related to the management system that would implement the standards and defined the managerial interfaces and context for selecting standards.

E. JUSTIFICATION TO SUPPORT EXEMPTIONS

1. Characteristics of Successful Documentation

Documentation	<ul style="list-style-type: none"> Documents exemption requests identified as appropriate through the Closure Process Incorporates guidance from DOE-STD-1083-95, Requesting and Granting Exemptions to Nuclear Safety Rules
Purpose	<ul style="list-style-type: none"> Documentation demonstrates process fidelity; the process ensures adequate safety of alternate standards set if exemption is granted Exemption documentation clearly shows what requirements or standards, if any, are proposed to replace the requirements for which the exemption is sought. Communicates with Stakeholders involved in the exemption process Supports the decision that alternative standards to DOE nuclear safety rules maintain adequate safety Reduces paperwork needed to request exemption and streamline approval reviews Clarifies the basis for enforcement of the Price-Anderson Amendments Act

2. Documentation Considerations

a. The relationship between the Closure Process and exemptions

DOE M 450.3-1 explains the relationship between the Closure Process and the DOE nuclear safety rule exemption process as follows:

Approval [of the WSS set] does not constitute approval of exemptions from standards in applicable laws and regulations that have been judged not to add value to the achievement of adequate protection. Exemption from those standards must be sought and granted in accordance with the applicable provisions for such exemptions. For DOE nuclear safety regulations, an exemption request, and the justification contained therein, will be processed in accordance with 10 CFR 820.

The Department Standards Committee has asked for review of DOE nuclear safety regulations to ensure that the exemption process does not impede use of the Closure Process. Such a review is ongoing and is outside the scope of this report.

b. Exemption considerations

The following information discusses relationships between Closure Process documentation and exemptions from DOE nuclear safety rules. Closure Process documentation may also provide a basis for requesting exemptions from other regulatory requirements (e.g., Environmental Protection Agency, Department of Transportation). In such cases, exemption requests would be governed by different regulations but many of the same considerations would apply. The discussion below explores how the Closure Process and the exemption process for DOE nuclear safety rules can fit together under the current regulatory language, including how the Closure Process could be used to streamline the process for obtaining an exemption from these rules.

- Documentation to justify the granting of an exemption may be developed through the Closure Process and packaged either as part of the Process documentation or separately for review and approval. Documentation should comply with requirements for exemptions contained in applicable agency regulations (e.g., 10 CFR 820 for exemptions from DOE nuclear safety rules).
- Regulatory exemptions should not be lightly sought nor will they be lightly granted. Therefore, documentation for a regulatory exemption should be fairly rigorous. It must specifically identify the regulation from which an exemption is sought and meet the criteria established for demonstrating that an exemption is justified. Although the faithful application of the closure process is accepted as presenting no undue risk to the worker, the public and the environment, exemption documentation should clearly demonstrate this.

- DOE has sanctioned the Closure Process for identifying appropriate safety standards. For this reason, there is no need to justify the acceptability of the Closure Process for identifying alternative standards to DOE nuclear safety rules. Documentation that demonstrates process fidelity and the linkage between work, hazards, and standards should be presumed to demonstrate that the alternative standards are consistent with safe operation of the facility and that the exemption will present no undue risk to public health and safety.

NOTE: Additional conditions for granting exemptions (e.g., being authorized by law, meeting special circumstances) that are included in 10 CFR 820 require additional documentation. Also, since rule exemptions can be temporary and may include special “terms and conditions,” such issues should be considered in documenting the exemption request.

- If an Identification Team decides that one or more exemption requests is appropriate, such requests will likely be reviewed by people who have not participated in the Closure Process. Documentation expected to support exemption requests should meet the needs of the request reviewers and may need to include more background information and basic facts than would be needed for a WSS set that does not include an exemption request. The Identification Team may wish to involve attorneys with regulatory experience and additional operations office, program office, and EH personnel in preparing the documentation for an exemption. Such communication will also help to ensure that an exemption is truly needed. In many cases, an exemption request may not be needed when the issue involves interpretation of a particular requirement. A request for such an interpretation or clarification can be handled either through a formal request as outlined in the rule or through a proposed implementation approach outlined in a rule implementation or program plan.

Examples
<ul style="list-style-type: none"> • LBNL is the only application to date that has sought an exemption as part of the Closure Process. Berkeley selected the Nuclear Regulatory Commission’s 10 CFR Part 20 as better suited to the type of work it performs and the nature of the facility and requested an exemption from DOE’s 10 CFR 835, “Occupational Radiation Protection.” <p>Initially, Berkeley did not write a stand-alone exemption request, but chose to use the Closure Process documentation as the basis for its exemption request. After lengthy discussions between Berkeley and EH, ER, and GC, individual exemption requests were prepared, redrafted several times, and are still under consideration.</p> <p><u>Lesson Learned from the Berkeley Experience:</u> The relationship between the Closure Process and the exemption process was not sufficiently clear to enable the exemption process to be streamlined through use of the Closure Process.</p>

NOTE: Examples of successful exemption requests and supporting documentation, technical clarification, and legal interpretations will be placed at a Web site on the Department Standards Committee Home Page and the EH Home Page.

F. PROTOCOLS

1. Characteristics of Successful Documentation

Documentation	<ul style="list-style-type: none">• Define expectations for membership and qualifications• State mechanisms for communication between the Convened Group and the various teams• State roles and responsibilities for different teams• State budget and time constraints for each team• State minimum information about the process and the specific application required by team members to efficiently execute their duties
Purpose	<ul style="list-style-type: none">• Provides a basis for evaluating team member qualifications against the defined expectations• Assists in establishing a uniform method of conducting business• Promotes understanding of responsibilities by team membership• Provides uniform understanding of operational constraints• Provides uniform understanding of expectations for member participation• Provides basis for recording of consensus decision making, resolution of differing opinions, and the progress of team efforts

2. Documentation Considerations

The Convened Group establishes performance expectations and instructions for the Identification and Confirmation Teams in the form of protocols. These expectations and protocols may be documented to ensure a common recollection of expectations during the working life of the Convened Group and the Identification Team. The Identification Team may also establish protocols for its activities. These protocols should be documented to firmly establish a common basis for implementation of the process. Although documentation of protocols is not specifically required by DOE M 450.3-1, the information contained in this documentation may be critical to effective and rigorous application of the process. It is also a record that will be helpful in documenting process fidelity.

Protocols may be documented in project plans (schedule and budget), group or team charters, meeting notes, briefing outlines or handouts, and training outlines or handbooks. Process teams should consider the value of documenting these protocols, their utility in the specific application, the level of detail and formality needed, and the effort and resources required to generate and manage the documentation produced.

Examples	
<ul style="list-style-type: none"> Johnson Controls' project plan contained a number of protocols, including conflict resolution, Stakeholder involvement, the process to be used for standards identification and confirmation, and performance milestones and schedules. This material was extremely useful for the teams to keep on track and will provide a guide for future process applications. One application provided all meeting notes as part of their documentation for a final report. Although this is useful background information, its inclusion added substantial "weight" to the documentation in comparison with its value added. Summaries of such information might be more usable. FNAL and TJNAF used charters to document team protocols and expectations at a high level. LLNL developed a simple protocol defining the decorum of the group, that decisions would be reached through the consensus process, and how conflicts arising in any of the teams would be resolved. This document was included as part of the final report on the pilot. 	

G. STAKEHOLDER INVOLVEMENT

1. Characteristics of Successful Documentation

Documentation	<ul style="list-style-type: none"> To state ground rules for Stakeholder involvement in the process
Purpose	<ul style="list-style-type: none"> Provides a basis for meaningful Stakeholder involvement without decision-making authority

2. Documentation Considerations

Documentation of Stakeholder involvement typically concerns two categories of Stakeholders: (a) those who are informed of the process and offered the opportunity to request further involvement and (b) those whose involvement is actively sought. Documentation of the first category may include a summary of the organizations contacted, public or other meetings held, feedback from those meetings; the desire for further participation by attendees; and disposition of comments. The amount of documentation needed depends on local considerations. Stakeholders may provide opinions and comments but may not participate directly in the deliberative process. It is important that the documentation not give the appearance that FACA limitations were breached.

Examples	
<ul style="list-style-type: none"> Johnson Controls hosted a Stakeholder meeting and invited participation from State and local regulators. A section of their final documentation summarized attendance at the meeting, information presented, and feedback received. Johnson Controls also invited direct involvement in the standards confirmation process from customers, regulators, and outside industry representatives. Participants who were not contractor or subcontractor employees were documented as "advisors"; their comments were considered and responded to separately from the formal members of the Confirmation Team, so that FACA requirements were met. 	

Examples (continued)
<ul style="list-style-type: none">• LLNL held three meetings with Stakeholders. At the first, an introductory meeting, all agencies that regulate any aspect of the hazardous waste management program, local municipalities, and the public were invited. Most regulatory agencies did not request active participation. Only the public and a representative of one State radiation regulatory agency attended the second meeting, at which the work and hazards definition and the standards identification process were explained. Four private citizens attended the third meeting, at which the WSS set and the plan to implement it were shared. At all three meetings Stakeholder concerns were recorded and reviewed by the Convened Group for possible action.• ORNL involved workers who were members of a local union as operational experts (i.e., team members) and as representatives of the union (i.e., Stakeholders).

III. CROSS-CUTTING ISSUES

A. LEVEL OF DETAIL

This issue affects all areas of documentation. The following sections include discussions of considerations that may play a major role in the Convened Group's determinations.

1. Size and complexity of the organization and its structure; problems with internal communications; and issues related to existing management systems

Typically, the larger and more complex the organization, the greater the need for structured management systems to facilitate adequate communications and appropriate application of selected standards. Therefore, the organizational setting may be an important factor in deciding how much detail is appropriate for documenting a particular application.

2. Size of the work scope and breadth of set coverage

Work scopes can include a single activity at a site or all activities at the site. Similarly, the WSS set can address a single hazard, all hazards, safety management systems, or areas beyond Environment, Safety, and Health (ES&H), such as training and qualifications. In any application, the documentation should clearly define the scope of the application and the scope of the WSS set. For some applications, clear documentation of the interfaces becomes important to implementation and in demonstrating why the set is adequate.

3. Stability of organization

High personnel turnover may increase the need for detailed documentation to offset corporate memory loss.

4. Trust issues

The relationship between the contractor, field office, Headquarters program office, regulators, and the public may affect the level of detail required to document a particular application adequately. Interestingly, there is no direct correlation between the amount of trust and the degree of documentation. A Convened Group in which trust is a major component of the relationship may decide to provide detailed documentation as a road map for future applications or implementation and does not worry that this documentation will be seen as “audit bait.” Another Convened Group in which trust issues exist may decide to provide detailed documentation in an attempt to identify as many of the unknowns as possible.

B. TARGET AUDIENCES

When developing documentation, it is important to consider the content, organization, and level of detail that will be needed by those who will review or use the documentation. It is not possible to identify all target audiences in advance or anticipate their needs with certainty; however, identifying the major audiences and their likely interests and concerns with respect to Closure Process documentation greatly assists in directing documentation efforts toward those areas most likely to be of long-term value. Possible target audiences that could be considered include the following:

- site/facility ES&H and other technical staff who may be tasked to incorporate the WSS set into specific planning and work controls;
- management, contracting, and legal personnel (both DOE and contractor) who may need to establish and monitor compliance with contract requirements;
- subsequent generations of DOE and contractor personnel who may need to know how we got to where we are or why we are doing things the way we are;
- inspection, enforcement, and legal personnel from the site, the cognizant DOE operations office, or DOE Headquarters who may need to review compliance with the WSS set and faithfulness to the process.

The existence and importance of these potential target audiences will vary for each application of the Closure Process. In general, the following guidelines and considerations are suggested.

- Most items of documentation will need to serve more than one audience, perhaps with very different interests and backgrounds (e.g., members of the public or Stakeholder groups, ES&H technical staff, and attorneys).
- The structure and organization of the documentation may be as important as its content in determining its ability to communicate to different audiences.

- Simply “documenting everything” will not necessarily ensure that the needs of all (or even most) users will be met. Documentation that reflects some synthesis or summary is generally more useful than a mass of raw data (e.g., a summary of issues raised by the Confirmation Team and their resolution versus detailed minutes of every meeting and phone conversation).
- Documentation and retention of certain types of “raw data” obtained during the Closure Process may be important to preserve corporate memory of the process and to corroborate summaries.

**ATTACHMENT A
DEPARTMENT STANDARDS COMMITTEE
SUMMARY PLAN FOR
STANDARDS PROCESS ACTION TEAM TASK 11**

I. TASK STATEMENT

Provide information and tools to assist in preparing Necessary and Sufficient (N&S) process documents that fulfill customer needs, achieve the purposes for which the documents were intended, and meet the requirements of DOE M 450.3-1, THE DOE CLOSURE PROCESS FOR NECESSARY AND SUFFICIENT SETS OF STANDARDS. In this way, the Department can avoid developing “one-size-fits-all” guidance.

II. CURRENT SITUATION

A. Need for Task

On April 19 1996, the Department Standards Committee (DSC) decided that the customers of the N&S process needed more information on lessons learned concerning the documentation requirements associated with this process. Customers of the N&S process include those involved in the process, those who will plan standards-based work to implement the results of the process, and those who will question the process and its results.

B. How Task 11 Relates to the Department Standards Program

The N&S process (DOE M 450.3-1) is an important part of the Department Standards Program. The process was developed to satisfy one of the 10 fundamental criteria of this program: documentation. DOE M 450.3-1 [section 4c(1)(b)] outlines documentation requirements associated with the N&S process.

DOE N 450.3 gives the DSC responsibility to “maintain and interpret the Necessary and Sufficient Process description, which is contained in DOE M 450.3-1.” In chartering Task 11 to further consider these documentation requirements in response to identified customer needs, the DSC is fulfilling this responsibility.

C. Justification for Task 11

By providing users with more information about documenting the N&S process, Task 11 will improve DOE’s ability to effectively implement this process, which is central to the establishment of a sound, standards-based, Integrated Safety Management Program.

III. OBJECTIVES AND EXPECTED OUTCOMES OF TASK 11

A. Task Objective

Task 11 will produce a communications vehicle that will convey DOE's experience with documentation of the N&S process. The vehicle will make information on this experience widely available and will include discussions of attributes of successfully documented applications of the N&S process and lessons learned. The communications vehicle will be updated periodically to reflect new information.

B. Expected Outcomes

The Task 11 communications vehicle will be published in a form that makes it widely available throughout DOE. It will specifically address each of the five documentation requirements outlined in DOE M 450.3-1 [section 4c(1)(b)] as well as other issues identified by the members of SPAT 11.

The Nuclear Regulatory Commission information Notice will be used as a model for the communications vehicle (though, in this case, positive experience will be discussed in addition to identified problems). To the maximum extent possible, this communication will take the form of reference to information to be made available on the World Wide Web. Information on the Web will be maintained current.

IV. RESOURCES

A. Organization and Coordination of Action Team Participants

The membership of SPAT 11 consists of both DOE Federal and contractor personnel. Every effort has been made to include representatives from each location where DOE has had significant experience with N&S. The ongoing membership of SPAT 11 is listed in attachment B. Additional individuals will be called on to participate as needed.

B. Funding Needs

Funding for SPAT 11 participation and effort is to be provided by participating organizations.

V. APPROACH, MAJOR MILESTONES, AND SCHEDULE

05/21/96	Kick off conference call
5/21-6/7/96	All SPAT members review N&S Pilot documents
5/29/96	Interact with implementation SPAT

05/30/96	SPAT leaders present schedule to DSC and seek DSC input, identify and begin ongoing interactions with DSC focus group
06/12-13/96	Brainstorming workshop (at Livermore, CA)
6/17-7/19/96	Work on tasks identified at workshop and have weekly conference calls
8/7-9/96	Writing workshop (at Oak Ridge, TN)
8/15/96	Present SPAT results to DSC
9/1/96	With DSC concurrence, finalize and issue communications vehicle
ongoing	Maintain information associated with the communications vehicle current on the World Wide Web.

ATTACHMENT B
SPAT 11 TEAM MEMBERS

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ATTACHMENT C

PROCESS APPLICATIONS REVIEWED FOR THIS REPORT

PILOTS

ANL	Argonne National Laboratory: CP-5 Reactor Facility Decontamination and Decommissioning Project
FNAL	Fermi National Accelerator Laboratory: sitewide
Hanford	Hanford Reduction Oxidation (REDOX) Facility: Surveillance Program
LANL	Los Alamos National Laboratory: Radiation Protection Program
LBNL	Lawrence Berkeley National Laboratory: Tritium Labeling Facility
LLNL	Lawrence Livermore National Laboratory: Radioactive Waste Management activity
NTS	Nevada Test Site: DOE-NV Necessary and Sufficient Initiative
RF	Rocky Flats Environmental Technology Site
SRS	Savannah River Site: F/H Area Groundwater Remediation Project

INITIAL APPLICATIONS

Johnson Controls	Oak Ridge Water Treatment Plant, operated by Johnson Controls, Inc.: facility wide
ORNL	Oak Ridge National Laboratory: all non-nuclear facilities
SLAC	Stanford Linear Accelerator: sitewide
TJNAF	Thomas Jefferson National Accelerator Facility: sitewide

ATTACHMENT D QUESTIONNAIRE SUMMARY

A. General

1. Briefly describe your application of the Work Smart Standards process:

Your Name: Steve Greene, Susan Turaene Date: 7/31/96
Name of site: Los Alamos Laboratory
Level and scope of application: sitewide; specified sub-area of ES&H (Radiation protection of the worker)
Hazard level: All
Nuclear or non-nuclear? Both
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Regulated under 10 CFR 835- dealt with rule as well as other sources of Rad. Prot. info.

Your Name: Phil Williams Date: 7/24/96
Name of site: LBNL
Level and scope of application: Facility
Hazard level: Category 3 NRNF
Nuclear or non-nuclear? Nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Public concerns about tritium

Your Name: Tim Miller Date: 7/30/96
Name of site: Fermilab
Level and scope of application: sitewide; ES&H areas plus some non-ES&H areas
Hazard level: Low
Nuclear or non-nuclear? Non-nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):

Your Name: Mary Wozny Date: 7/26/96
Name of site/facility/activity: Argonne National Lab CP-5 D & D Project
Level and scope of application: project/activity; all ES&H areas
Hazard level: All
Nuclear or non-nuclear? Nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Boundary Issues

Your Name: Tom McWilliams Date: 7/30/96
Name of site/facility/activity: Johnson Controls : Water Treatment Plant
Level and scope of application: facility; ES&H areas plus some non-ES&H areas Safety Mgmt Systems, Training, Emergency Preparadness, Construction & Engineering
Hazard level: High Hazard (Chemical)
Nuclear or non-nuclear? Non-nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Provides drinking water to city of Oak Ridge. Chlorine gas is used in the process and is the chief hazard.

Your Name: William C. Borden Date: 8/3/96
Name of site/facility/activity: Surveillance of the Reduction-Oxidation (REDOX)
Facility at the Hanford Site
Level and scope of application: all ES&H areas for the activity
Hazard level: Industrial
Nuclear or non-nuclear? Non-nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Inventories in facility are largely unknown. Reclassification of facility, based on radionuclide
inventory determinations, may result in re-examination of the set (i.e., the current set of
standards may no longer be adequate)

Your Name: Jack Sims Date: 8/2/96
Name of site/facility/activity: Lawrence Livermore National Lab
Level and scope of application: sitewide, ES&H areas plus some non-ES&H areas; facility, all
ES&H areas; project/activity, specified sub-area of ES&H
Hazard level:
Nuclear or non-nuclear?
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):

Your Name: Mary Ross (via phone interview) Date: 8/5/96
Name of site/facility/activity: Stanford Linear Accelerator Center
Level and scope of application: facility; all ES&H areas
Hazard level: Low
Nuclear or non-nuclear? Non-nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Seismic hazards which are more pronounced than for most other DOE sites.

Your Name: Doug Smith (via phone interview) Date: 8/5/96
Name of site/facility/activity: Rocky Flats - draining plutonium-bearing liquids from tanks and
lines in Bldg. 371
Level and scope of application: project/activity; all ES&H areas
Hazard level: Bldg: Category 2; Activity itself would probably be only Cat. 3
Nuclear or non-nuclear? Nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.):
Most hazards were typical industrial hazards; principal radiological concern was possible leaks
or spills of Pu liquid.

Your Name: Michelle Bullington (via phone interview) Date: 8/8/96
Name of site/facility/activity: Savannah River Site - F/H-Area groundwater remediation
Level and scope of application: project/activity; specified sub-area of ES&H
Hazard level: Low
Nuclear or non-nuclear? Non-nuclear
Other considerations (e.g., particular ES&H problems, uncertainties, public concerns, etc.): Cost
savings on the project was a major objective in conducting the N&S process

Please answer Questions 2 and 3 using the attached form.

- 2. What groups/organizations/individuals do you expect will use or review your Work Smart Standards documentation? For what reason(s) or purpose(s)?**
- 3. On a scale of 1 (poor) to 5 (excellent), rate how well your Work Smart Standards documentation will serve each purpose identified above.**
 - a. Describe specific strengths of your system of Work Smart Standards documentation.**
 - b. Describe specific weaknesses of your system of Work Smart Standards documentation.**
- 4. If you were conducting the Work Smart Standards process all over again, what would you do differently regarding documentation of the process and the standards set?**

Los Alamos: Figure out better way to keep track of changes during development of standards set.

LBNL: Require final WWW format with all relevant doc's before final sign-off.

FNAL: Emphasize relationship among work, hazards, and standards.

ANL: None.

JCI: Nothing. However, in the future we may need to do updates as mission changes - but we really like the documentation.

REDOX: We would provide additional rationale for implementing assumptions which lead to the conclusion that the work activity itself was non-nuclear.

LLNL: Emphasize hazard analysis more, with little effort on hazard assessment.
Develop a clear and comprehensive charter.

SRS: Would attempt to mesh N&S documentation more closely with existing site documentation requirements and formats.

Please explain why.

Los Alamos: So we could be sure we were all working to the latest revision.

LBNL: Otherwise it might not get finished.

FNAL: This would make review simpler for external parties.

ANL: All documentation of process is in the report and appendices.

JCI --

REDOX: Very significant assumptions were made regarding the bounds of the safety envelope which were not clearly understood by all reviewers.

LLNL: Hazard assessment is not always necessary. Charter provides a best picture of the process and how it was applied.

SLAC: No real changes. Process was rushed, but don't think that documentation suffered as a result.

RF: No changes. Documentation met RF's needs, although some changes had to be made in response to Confirmation Team comments.

SRS: Reduce after-the-fact effort needed to translate documents into different formats.

5. What types of information would have been most helpful to you in deciding how to document your Work Smart Standards process and the standards set? Rank the following in order of their usefulness (1=least useful): [Note: respondents interviewed by phone were asked only to indicate "yes" or "no" as to whether the following items would have been helpful. "N/A" indicates no opinion.]

Site	More specific and detailed requirements from DOE	Non-mandatory DOE guidance	Clearly stated expectations from Approval Authorities	Copies of other sites' WSS documentation	Evaluations/ lessons learned from other sites' documentation	Other (please specify)
LANL	1	1	3	3-4	5	
LBNL	1	2	5	3	4	
FNAL		4	1	2	3	
ANL	2	1	3	5	4	
JCI	5	1	2	5	3	how-tos
REDOX		X		X		X
LLNL						
SLAC	No	No	N/A	Yes, extensively	Yes, extensively	<i>a</i>
SRS	No	Yes	No	Yes	Yes	
RF	No	Yes	N/A	Yes	Yes	<i>b</i>

REDOX - Minimum required documentation, as in that for exemption requests

a = Flexibility in determining documentation requirements was a big plus.

b = Clearer expectations from DSC about what should be documented and why; leave to sites to determine how to document.

B. Definition of Work, Hazards, Performance Expectations, and Objectives

1. How did you document the definition of work and hazards in your application? (e.g., in narrative fashion, as part of a project plan, as part of the set of standards itself)

Los Alamos: Narrative fashion; a table of the "work" with corresponding hazards.

LBNL: Narrative; chapter of standards document; second.

FNAL: Work is narrative; hazards in list.

ANL: Stand-alone chart.

JCI: Higher level in the project plan with references to safety document. More detail in set: specific work process associated hazards, standards.

REDOX: Detailed work elements were contained in working-level field instructions. Summaries of these instructions were used in the final report.

LLNL: Used matrix of work versus hazard with standard at intersection. Also, used narrative format.

SLAC: General list of possible hazards sent to work centers, which reviewed them and checked off those that applied.

SRS: Already documented in hazards assessment document, which was part of project baseline documentation.

2. Did you identify particular performance expectations and objectives?

Los Alamos --

LBNL: Yes.

FNAL: Yes.

ANL: Yes.

JCI: Some.

REDOX: Yes.

LLNL: Yes.

SLAC: Yes; continue to achieve same level of ES&H protection.

SRS: Yes; provide cost savings on groundwater remediation project.

How and where did you document them?

Los Alamos: Didn't do this.

LBNL: Narrative; chapter of standards document; second.

FNAL: Stated as a sentence.

ANL: Body of report.

JCI: In project plan and in justification.

REDOX: They were summarized in the REDOX final report.

LLNL: Found in the goal scope of the application, chapter 3.

SLAC: In convened group charter.

SRS: Part of proposal to DOE for performing N&S pilot.

C. The Necessary and Sufficient Set of Standards

1. Describe the form in which the set was recorded.

Los Alamos: 20 standards statements "developed" with performance criteria; detailed appendices needed.

LBNL: Tabular, attached to standards document.

FNAL: Primary as list of standards. Also, various other forms available.

ANL: Filemaker Pro and WordPerfect.

JCI: Tables identifying work progress, associated hazards, and appropriate standards.

REDOX: The set was recorded in two forms: An electronic data base and in hard copy format in the REDOX final report.

LLNL: List, annotated list, narrative and matrix to work and hazards.

SLAC: Two tables: one listed hazards/issues and associated standards, the other was a rolled-up listing of the standards set.

RF: Table which linked standards to tasks.

SRS: Table which identified work scope, associated standards and implementing guidance, and a description of the content/scope of the standard.

Did you use an electronic data base?

Los Alamos: Yes; draft standards; on Web-site.

LBNL: No; Maybe.

FNAL: Yes.

ANL: Yes.

JCI: No; WordPerfect tables.

REDOX: Yes.

LLNL: No; Excel spreadsheets.

SLAC: Yes.

SRS: No.

Was this form useful?

Los Alamos: For me, as a worker, yes.

LBNL: Yes.

FNAL: Absolutely.

ANL: Yes.

JCI: Satisfactory for this small application, but doesn't permit searches.

REDOX: Yes.

LLNL: Yes.

SLAC: Very much.

If you were doing it again, what would you do differently regarding the form of the set?

Los Alamos: Would not provide "N&S" justification for each standard. Also would use global performance matrices instead of for each standard. PMs do not belong within the standards, as such.

LBNL: Nothing.

FNAL: Emphasize relationship among work - hazards- standards.

ANL: None.

JCI: Are putting this into a data base instead of WordPerfect tables - to enhance use.

REDOX: Nothing.

LLNL: Nothing.

SLAC: Nothing.

SRS: No changes.

2. Did your set cite entire standards or did it identify the applicable portions? If a mixture of the two, what criteria were used to make this decision.?

Los Alamos: Identified applicable portions; left out portions did not add value.

LBNL: Whole standards (usually) some subparts of CFRs. Some specific State laws, DOE Orders, etc. Mostly entire standards. Only cited portions where only portions applicable.

FNAL: Applicable portions.

ANL/JCI: Mix; if an entire standard was appropriate-applicable, the whole thing was cited. If only a portion was appropriate -applicable to a particular hazard, only that portion was cited for that hazard.

REDOX: We cited only the applicable portions of the standard. As an example, 29 CFR 1910 was cited, but only those sections which mitigated specific identified hazards.

LLNL: We cited the applicable portion of the standard when the entire standard did not apply.

SLAC: Very specific sections of standards were cited. This was very helpful in the implementation phase, when standards had to be translated into procedures and manuals.

SRS: Cited standards at a more general level; feel that project engineers and designers were better qualified to decide which specific portions of a standard were applicable. This is consistent with general practices on the site.

3. Did your documentation specifically link identified hazards to the standards in the set? If so, how was this documented?

Los Alamos: Yes; in a table.

LBNL: Yes; text form.

FNAL: Secondary documentation clearly linked hazards with standards (ICKY forms).

ANL: Standards were identified for hazards.

JCI: Yes; in table form - work process, hazard, and standards.

REDOX: Yes; a computer application was used to link specific work elements to hazards to standards. This "linkage" was then illustrated in the report in tabular format.

LLNL: Yes; in a matrix of the work versus the hazards calling out the standard at the intersection. Also, in a narrative form trying to explain the applicability.

SLAC: Yes; tables show hazards and associated standards.

RF: Yes; tables show standards applicable for each task. (Structured more by task than by hazard).

SRS: No; standards were linked more to different parts of the work scope rather than to specific hazards.

D. Justification of the Set's Adequacy

1. What did you do to document a justification for the adequacy of the standards set?

Los Alamos: Justified adequacy of each standard, then did one-by-one comparison with the rule.

LBNL: Tabulated qualifications of SMEs and Confirmation Team, and all other team members. Documented Confirmation Team agreement.

FNAL: Each hazard; standard pair included a statement of justification from the Identification Team.

ANL: All documentation, including meeting minutes, are included in the report or appendices.

JCI: It was a "roadmap" that pulled all documentation together. Primary focus was scope, coverage, and discussion of how the process was followed to ensure the adequacy. Only a couple of pages reinforcing other parts of documentation.

REDOX: Justification of the set's adequacy was implicit through adherence to the process. That is, through use of qualified SMEs, thorough evaluation of hazards, and a rigorous confirmation process.

LLNL: Included chapter that discussed all of the elements we believed necessary to justify the set and cited where in the final report the information could be found.

SLAC: Forms were used to document the selection of each standard. For each standard selected that was not currently in use at SLAC, Identification Team members answered a question on the form that affirmed the adequacy of that standard to provide protection for the stated hazard.

RF: Summary narrative. This was judged by the Confirmation Team to be insufficiently detailed, so it was later expanded.

SRS: Final report documents that process was followed and set was approved; other records show what comments were made about the set's adequacy and how these were resolved.

2. Did the justification clearly state that the standards, if properly implemented, would provide adequate protection?

Los Alamos: Yes; but we didn't include the caveat.

LBNL: Yes.

FNAL: Pretty much.

ANL: Yes.

JCI: Yes.

REDOX: No.

LLNL: Yes.

SLAC: Yes.

SRS: No.

3. Did you justify the integrity of the process, justify why particular standards were selected and the basis for that selection, or both?

Los Alamos: No.

LBNL: Both; rationale for standard selection was in standards document.

FNAL: Did not specifically justify process. Standard selection justified.

ANL: Both.

JCI: Integrity of process will ensure adequacy of selection. Also, this is a highly regulated.

REDOX: Execution of each step of the process was thoroughly documented. The computer program used to document and record standards selection provided the user the ability to enter a justification for selection/rejection of a particular standard. This approach was used to some extent. We found, however, that it was more efficient to provide such justification in narrative form as part of our implementing assumptions. Use of obvious requirements (e.g., 10 CFR 835) were not justified.

LLNL: Yes; the justification chapter discussed how each element of the process was addressed. The discussion of the work/hazard/standard relationship justified the selection of the standard.

SLAC: Explained why particular standards were selected.

SRS: Report shows the process was followed properly.

E. Implementation Assumptions and Interfaces Necessary to Reach Closure on the Set

1. Were any implementation assumptions or interfaces documented?

Los Alamos: Yes, a number of interfaces were identified.

LBNL: Yes.

FNAL: Yes.

ANL: Yes.

JCI: Yes.

REDOX: Yes.

LLNL: Yes.

SLAC: No.

SRS: Yes.

2. Where were these documented? (e.g., as part of the set, in the justification, in the description of work and hazards, elsewhere)

Los Alamos: In defining the work.

LBNL: Exemptions obtained in standards document, overall assumptions in chapters 1 and 2 of standards document.

FNAL: As part of each hazard pair where applicable.

ANL: Implementation considerations.

JCI: Justification, project plan.

REDOX: Yes; they were documented as narrative introductions to each discipline's set of standards in the report. Additional documentation was developed and become part of the official record.

LLNL: In a separate section of the report and in discussions of particular standards.

SRS: They were not formally documented.

3. For what purpose were implementation assumptions and interfaces used? Was the documentation consistent in the use of these items?

Los Alamos: Interfaces identified and classified the scope to be addressed. Yes.

LBNL: Defined scope.

FNAL: Typically to state how implementation was already achieved. Sometimes to characterize scope of application.

ANL: How the team viewed implementation such as contract modifications and buy-in.

JCI: To define scope and coverage of set.

REDOX: Implementing assumptions were used to establish the infrastructure bounding conditions for the set. In some instances, implementing assumptions were also used to establish a basis for selection of standards.

LLNL: Generally, the discussion stated the management system that would be used to implement the standards.

SRS: Interfaces involved the coordination of the pilot with ongoing sitewide SRIDs development and coordination of N&S outputs with established site design documents and protocols.

F. Justifications to Support Exemptions from Legal Requirements

1. Were any requested?

Los Alamos: No; based on proposed changes to rule.

LBNL: Call for discussion (510- 486-7336).

FNAL: Yes.

ANL: No.

JCI: No.

REDOX: No.

LLNL: No.

SLAC: No.

RF: No.

SRS: No.

If so, what form did they take? (e.g., separate exemption request, or as part of the necessary and sufficient set documentation)

Los Alamos: Separate requests were initially prepared (before rule changes developed).

LBNL: Separate request. We were the first sacrifice to the N&S approach.

FNAL: N/A.

ANL: N/A.

JCI: N/A.

REDOX: N/A.

LLNL: N/A.

2. If the exemptions were not approved, was inadequate documentation cited as a reason for disapproval?

Los Alamos: N/A.

LBNL: In process.

FNAL: N/A.

ANL: N/A.

JCI: N/A.

REDOX: N/A.

LLNL: N/A.

G. Other

1. What team protocols were documented? Where and how were these documented?

Los Alamos: Daily meeting notes for Identification Team, meeting notes for Convened Group inspection/evidence, general protocols for facilitator meetings were posted and enforced, qualification forms for team members approved by project leader.

LBNL: Confirmation Team; charter; separate documents.

FNAL: Entire process was described in narrative form. Since we were involved in an early pilot, we wanted to provide a model for others to follow.

ANL: Body of report; standards identification.

JCI: Project plan included methodology, defined what would be documented, who were on teams and their qualifications, who approved, how disagreements were resolved, responsibilities of basic sets.

REDOX: A protocol document was written which addressed each step of the process. Heavy emphasis was placed on resolution of differing opinions.

LLNL: Protocols on documentation, team selection, team consensus, and conflict resolution were incorporated into the final report. Those on Stakeholder involvement and confirmation were not included because there were as plans that were implemented and discussed in the final report.

SLAC: Instructions to teams were provided.

SRS: No real documentation or development of formal protocols. Existing working relationships were adequate.

2. Did you use any internal standards (i.e., developed because adequate external standards did not exist)?

Los Alamos: No.

LBNL: Yes; LBNL Pub.-3000 (Internal Manuals).

FNAL: Yes.

ANL	--
JCI:	No.
REDOX:	Yes.
LLNL:	Yes.
SLAC:	Yes. The criterion was: "Is an internal standard required to attain a level of risk consistent with management performance goals, assuring compliance with the external and statutory standards identified?"
SRS	No.

If so, how were these documented?

Los Alamos	--
LBNL:	Discussed in standards document.
FNAL:	Included as internal standards with each hazard - standard pair as appropriate.
ANL:	Work forms, set matrix, and mentioned in report.
JCI	--
REDOX:	We developed an internal standard for Quality Assurance, which incorporated selected portions of 10 CFR 830.120, CAMS-005, 5700.6C, and corporate practices. Documentation of the concatenated internal standard was accomplished in the implementing assumptions.
LLNL:	Stated and discussed as external standards were.
SLAC:	Included as part of the N&S set.

Were criteria for using internal standards documented?

Los Alamos:	N/A.
LBNL:	Not formally.
FNAL:	Yes.

ANL: Yes.

JCI: Yes.

REDOX: No.

LLNL: No; but their use was justified.

SLAC: No.

SRS: No.

If so, where and how were these documented?

Los Alamos --

LBNL: Non-existence of standards.

FNAL: Process stated that legal standards and external consensus standards must be considered first in narrative.

ANL: Report.

JCI: Project plan said only use internal standards if no appropriate external standards.

REDOX: N/A.

LLNL: N/A.

3. Describe anything else about your Work Smart Standards documentation that you think is spiffy.

Los Alamos: The team used a computer with overhead projection capability to work (in real time) the finalization of the standards after they were drafted by subteams. Good because it focused everyone's attention and drew focused and pertinent commentary. Bad because it led to incredible nit-picking on specific words.

LBNL: --

FNAL: ICKY forms captured most necessary documentation.

ANL: Summary of impacts on project - showed no net impact 91.6 percent after the process; included pie chart; addressed new technology to be used on project.

JCI: A neat package that enables people to understand process. Key features were (1) matrix format of the set, (2) a project plan to document protocols, (3) benchmarking trip and preliminary questionnaire, (4) establishment of confirmation criteria by Convened Group. Note: Great benefits. Think it's paid for itself already in training area alone. Are going to use as part of performance evaluation - both programs and people ("Are you complying with your WSS requirements").

REDOX: We believe that the tool we developed for this process is both unique and very useful. The tool (Project Requirements Integration Management System; a.k.a. PRIMS) has the following attributes: (1) allows the user to paraphrase the requirement/standard into language usable in work instructions; (2) allows the user to provide a selection/rejection rationale; (3) provides a link between the work element, the hazard and the standard; (4) provides a link between the standard and the implementing document (working-level instructions), concomitantly identifying all of the intervening policies, manuals, procedures, etc. This allows the administrator to instantly identify all documents effected by changes in standards, or all standards associated with a particular work element. Identifies the organizational element and/or the individual or position responsible for conducting the work and adherence to the standards set.

LLNL: It has all been said.

SLAC: Use of electronic data base was very helpful; general advice is to be sure to write down everything for later reference.

RF: Tables that link tasks with the selected standards were very helpful.

Please use this form to answer questions 2 and 3 from Part A.

Site	Question A.2		Question A.3		
	Who will use/review	For what purpose(s)	How well will doc. serve purpose	Strengths for this purpose	Weaknesses for this purpose
LANL	DOE-EH/DSC	Review for acceptability	3 4	Fairly plain language	Specific "quirks" brought questions
LANL	DOE - AL and LAAD	Review for acceptability	3 4	Fairly plain language	Specific "quirks" brought questions
LANL	LANL RAD Groups (ESH-1, -4, -12)	Implementation	4	Allows leeway	Allows leeway
LANL	LANL S & T Divisions	Implementation	4	Allows leeway	Allows leeway
LANL	LANL "Rad Worker"	Implementation	4	Allows leeway	Allows leeway
LANL	Identification Team	Log-keeping of decisions	5	Detailed enough to provide needed info	Tedious, time consuming, voluminous
LANL	Convened Group	Oversight of process; quality of product	3 4	Quality of product	Didn't provide often enough for timely course corrections
LBNL	DSC	Oversight	4		
LBNL	LBNL	Sitewide	4	Good examples of documentation	Charters unfinished
FNAL	Confirmation Team	Review adherence to process and technical selections	4	One-to-one correspondence on ICKY forms	
FNAL	Org. to which standards apply	Implement the WSS	3		Poorly connected to implementation
FNAL	N&S process participants	Develop WSS	5	One-to-one correspondence on ICKY forms	
FNAL	N&S process participants	Periodic update of WSS	4	One-to-one correspondence on ICKY forms	
FNAL	Oversight organizations	Identify requirements	4	One-to-one correspondence on ICKY forms	

Site	Question A.2		Question A.3		
	Who will use/review	For what purpose(s)	How well will doc. serve purpose	Strengths for this purpose	Weaknesses for this purpose
FNAL	Oversight organizations	Review technical selection	4	One-to-one correspondence on ICKY forms	
SLAC	Professional ES&H staff at the site	Developing implementation guidance, procedures; ensuring specific programs reflect selected standards	5	Set of standards clearly distinguishes external from internal standards; makes it easy to keep current	Data base software was not available to everyone at the lab
SLAC	Lab and DOE legal counsel and managers	Establish contract requirements; review compliance with them	5		
RF	DOE	Confirmation	4	Provides a very deliberate way of describing the work, hazards, and standards	Justification of adequacy was not clear at first - revised and strengthened based on input from Confirmation Team
RF	Operations personnel and workers	Preparing work control procedures	4		
SRS	Personnel developing design and safety documentation	Translate standards into specific design elements and safety analysis documentation	3	Description of the standard (in addition to citing a reference) helpful in review process. Need to ensure description is correct	Doc. didn't fit site format and doc. requirements for design basis documents; retranslation involved much additional work

1 = poor, 5 = excellent