

**AUTHORIZATION AGREEMENTS
FOR
DEFENSE NUCLEAR FACILITIES
AND ACTIVITIES**

Defense Nuclear Facilities Safety Board

Technical Report



April 1998

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FOREWORD

In the Defense Nuclear Facilities Safety Board's (Board) **Recommendation 95-2** on Integrated Safety Management, the Board sought to have the Department of Energy (DOE) define and institutionalize a process for arriving at facility and activity-specific control measures for hazardous work, tailored to the dangers involved. For highly hazardous operations the documentation of those safety-related terms and conditions that DOE and contractors mutually agree are needed for specified work to be performed safely should be formalized in an Authorization Agreement.

This report provides a suggested approach for preparing an Authorization Agreement. Although this report was prepared primarily for Board use, the approach to preparing an Authorization Agreement and the key elements and attributes that typify an acceptable Authorization Agreement may assist DOE in executing Authorization Agreements with their operating contractors.

John T. Conway
Chairman

INTRODUCTION

The Department of Energy executes work authorization agreements with contractors at its high-hazard facilities. By executing an authorization agreement, the contractor commits to perform the specified work in accordance with safety terms and conditions mutually agreed upon to ensure that the public, workers, and the environment are adequately protected.

This report provides a suggested approach for preparing an authorization agreement. This suggested approach addresses the concept or purpose of an authorization agreement, the activities that must be completed prior to preparation of an authorization agreement, and the key elements and attributes that should be included in an authorization agreement. This report also relates the Authorization Agreement with existing processes and programs, such as the Unreviewed Safety Question process, configuration management, and integrated safety management.

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1. BACKGROUND

1.1 THE NEED FOR AUTHORIZATION AGREEMENT

The Defense Nuclear Facilities Safety Board (Board) introduced the authorization agreement concept for Department of Energy (DOE) nuclear facilities in **DNFSB/TECH-5, *Fundamentals for Understanding Standards-Based Safety Management of Department of Energy Defense Nuclear Facilities*** (DiNunno, May 31, 1995). **DNFSB/TECH-5** suggests that DOE ought to extract, in a manner similar to a Nuclear Regulatory Commission (NRC) license, terms and conditions from authorization basis information submitted by a contractor. These terms and conditions ought to contain the contractor's commitments to programs and activities that will be conducted to ensure safe performance of contract requirements.

Defense nuclear facilities have been operating for several decades. The level of rigor and commitment with regard to protection of the public, workers, the environment, and the missions of the facilities have varied over time, depending on the in-house practices of the different contractors. This has resulted in uncertainties in the level of protection of different facilities. These uncertainties can be reduced significantly by implementing a formal process that requires execution of an authorization agreement before a major activity or operation can be started. The process described in this report for executing an authorization agreement for existing and ongoing activities can result in an enhanced level of protection (safety) for the resources of interest, that is, workers, public, and environment with reduced uncertainty.

Activities at DOE-owned, contractor-operated facilities are conducted in accordance with contract provisions and applicable regulations and statutes which may or may not be incorporated in the contract. These provisions include requirements for the contractor and subcontractors to perform a specific scope of work and to develop programs that, when properly implemented, will ensure adequate protection of the public, workers, and the environment. As the owner of these facilities, DOE needs to be assured that the public, workers, and the environment are adequately protected when the defined operations or activities are performed. An authorization agreement is the vehicle for documenting that:

- DOE is assured, through evaluation of the contractor and the authorization basis, that work can be conducted safely.
- DOE therefore authorizes the conduct of specific work activities subject to express terms and conditions.
- The contractor commits to conduct the specified work activities in accordance with those terms and conditions, which include applicable requirements.

The terms and conditions are discussed in more detail below, but in general, they represent commitments to implement specific programs and processes that are required to be developed under the contract and that DOE reviewed as part of the authorization basis. Although new requirements could be created by the authorization agreement, it is anticipated that requirements will be incorporated in contract provisions (e.g., a requirement to develop a fire protection program), and the authorization agreement will document a commitment to implement the resulting program (e.g., the contractor commits to implement the fire protection program developed under the contract and reviewed by DOE as part of the authorization basis).

1.2 PURPOSE

This report describes the concept of an authorization agreement and the activities that need to be completed prior to preparation of an authorization agreement, and suggests the elements and attributes essential for the its successful execution. Specifically, [Section 2](#) describes what needs to be done before an authorization agreement is prepared for execution, and [Section 3](#) provides a detailed discussion of the key elements of an authorization agreement for defense nuclear facilities. Integration of an authorization agreement with certain other administrative controls, such as the Unreviewed Safety Question process and the Integrated Safety Management System (ISMS), is discussed in [Section 4](#). [Appendix A](#) compares several existing authorization agreements with the key elements presented in [Section 3](#).

The discussion in this report is considered applicable to any authorization agreement protocol for activities or facilities where the hazards are significant enough to require signing of an agreement between DOE and contractor officials for implementation of the contractor's commitments.

1.3 DEFINITION

Consistent with the definitions in DOE's *Functions, Requirements and Authorities Manual*, the authorization agreement is defined as a documented agreement between DOE and the contractor for hazard category 1 and 2 facilities, incorporating the results of DOE's review of the contractor's proposed authorization basis for a defined scope of work. The authorization agreement contains key terms and conditions under which the contractor is authorized to perform the work. Any changes to these terms and conditions require DOE approval.

2. UNDERLYING CONCEPTS

This section describes several underlying concepts related to the development of an authorization agreement. These include prerequisites to the authorization agreement, and the implementation plan and compensatory measures.

2.1 PREREQUISITES TO AN AUTHORIZATION AGREEMENT

A core function of integrated safety management is performance of safety and hazard analyses for the proposed scope of work. These safety and hazard analyses lead to the identification or design of means (controls) for preventing hazardous situations from occurring, mitigating the consequences of any hazardous conditions, preserving and maintaining safety features so they will function when needed, and providing the resources and administrative infrastructure needed to perform the activities safely or recover from an abnormal situation.

DNFSB/TECH-5 builds on this basic concept and introduces several elements that, if implemented properly, will provide assurance that the public, workers, and the environment are not subject to undue risk. The four basic elements are:

- Identification of requirements
- Authorization basis
- Authorization Agreement
- Readiness certification

This section focuses on the first two of these elements, which must be accomplished before an authorization agreement can be prepared. Readiness certification is discussed in DNFSB/TECH-5.

2.1.1 Identification of Requirements

The Board and DOE have issued several documents that describe in detail how the applicable requirements should be identified. These documents include **DNFSB/TECH-5** (DiNunno, May 31, 1995); **DNFSB/TECH-16**, *Integrated Safety Management* (DiNunno, June 1997); *Standards/Requirements Identification Document Development and Approval Instruction* (U.S. Department of Energy, September 1994); *Closure Process for Necessary and Sufficient Set of Standards* (U.S. Department of Energy, January 25, 1996); and the DOE Acquisition Regulation clause (commonly termed the DEAR “Laws” clause), 48 CFR § 970.5204-78. The discussion here focuses on the need for identification of the requirements and not the process used to derive them.

The DOE DEAR Laws clause states that “in performing work, the contractor shall comply with the requirements of applicable Federal, State, and local laws and regulations (List A)” and “those Department of Energy directives, or parts thereof, identified in the List of Applicable Directives (List B) appended to the contract.” These requirements therefore must be identified and, where appropriate, tailored to the facility or activity prior to preparation of an authorization agreement (some discussion on tailoring is given in the ISMS Guide, DOE G 450.4-1). This set of requirements (Lists A and B) is to be comprehensive enough to encompass all the elements required for performance of the desired activity, consistent with the overall requirement for adequate protection of workers, public health and safety, and the environment. For example, a contractor’s mission may require processing some amount of plutonium. In this situation, one of the requirements would be to prepare a criticality safety program (DOE Order 5480.24, *Nuclear Criticality Safety*, August 12, 1992) for processing the plutonium. The contractor would also have to provide a criticality safety program manual to comply with this requirement. Preparation of the manual by itself would not be sufficient for compliance with the requirement. The contractor would also have to implement the program, as described in the manual, to comply with the requirements for criticality safety. The authorization agreement documents the contractor’s commitment and provides DOE with assurance that the program, tailored to the activity, will be implemented.

Another example is the element that requires the contractor to perform safety and hazard analysis of the activity to ensure that the public, workers, and the environment are adequately protected (DOE Order 5480.23, *Nuclear Safety Analysis Reports*, April 30, 1992). The contractor would prepare a safety or hazard analysis report identifying several potential scenarios with high consequences to the public and/or workers. Preventive and mitigative systems would be identified that will function in a certain manner to eliminate or reduce any harm to the public and workers to acceptably low values. The contractor would have to ensure, with certain reliability, that these systems will function when needed to support the contractor’s analysis of protection of the public and workers. The reliability of the systems would be defined by parameters such as design requirements, quality assurance, environmental qualification, maintenance, and surveillance programs. These and other requirements, therefore, would have to be identified (for example, in the DEAR Laws clause List B) prior to preparation of an authorization agreement. In other words, identification of safety controls to protect the public and workers is necessary for the activity to be performed safely, but is not sufficient without explicit description of the requirements the system must meet.

2.1.2 Authorization Basis

DNFSB/TECH-5 defines the authorization basis as those aspects of the facility design basis and operational requirements relied upon by DOE to authorize operation. The authorization basis is considered to be the collection of information a contractor must provide in response to all environment, safety, and health (ES&H) requirements applicable to a facility or activity.

Most defense nuclear facilities have prepared a Safety Analysis Report (SAR), Basis for Interim Operations (BIO), or other equivalent documents analyzing the hazards associated with a particular activity or facility. These documents identify any potential harm that the analyzed activity or facility may pose for the public, workers, the environment, and the mission of the facility or site. Workers, public, and the environment are defined as follows:

- The workers who are involved in the operation of a facility or activity, as well as any collocated workers who may be within the same facility and close to the activity or in the neighboring areas
- Members of the public who are off site or within the site boundaries with no DOE escort or supervision
- Natural resources and the environment on site or off site
- The mission of the facility and its charter for carrying out processes that may affect national security or other federal and state commitments

The heart of an authorization basis is the set of safety controls identified through a safety and/or hazard analysis. Safety controls consist of

- Active and passive engineered design features (safety systems, structures, and components and their support systems)
- Associated safety, design, or operational limits for the active and passive engineered design features
- The administrative controls and work practices identified for protection of the public, workers, and the environment

Guidance for the preparation of key safety documents is contained in DOE directives, e.g., for Technical Safety Requirements, Order 5480.22 (U.S. Department of Energy, February 25, 1992) and DOE-STD-3011-94 (U.S. Department of Energy, November 1994), or for the SAR, Order 5480.23 (U.S. Department of Energy, April 30, 1992) and DOE-STD-3009-94 (U.S. Department of Energy, July 1994). Other DOE directives contain guidance for preparing a Safety Evaluation Report, an Environmental Assessment (EA), and an Environmental Impact Statement (EIS). The breadth and depth of the information that needs to be provided in these documents, or any other authoritative document that systematically analyzes hazards and identifies associated controls, however, will depend on the hazards associated with the activity or with operation of the facility.

2.2 IMPLEMENTATION PLAN AND COMPENSATORY MEASURES

Compliance with the set of controls identified in the authorization basis is addressed differently depending on whether the facility is new (preparing for operation) or existing (currently operating). For a new facility or activity, the contractor will have indicated its readiness to comply with all the requirements or have put in place all necessary controls by the time the authorization agreement is signed. In the case of existing facilities, however, the authorization agreement is often prepared prior to full implementation of the controls. For DOE to authorize activities in this situation, the contractor must prepare an implementation plan and schedule with milestones and dates of completion for compliance with the controls and requirements identified in the authorization basis. The implementation plan and its associated schedule are submitted to DOE along with the authorization basis for review and approval. The implementation plan then becomes part of the terms and conditions of the authorization agreement, and the contractor is thereby committed to full implementation according to the schedule provided.

To ensure adequate protection during implementation of the elements in the plan, compensatory measures may be needed. Recent efforts at defense nuclear facilities to prepare detailed and up-to-date safety and hazard analyses have led to significant improvement in defining the hazards associated with activities and operations and identifying the necessary controls. Some of these controls may be new, because of better hazard analyses or the application of new requirements, or some change in the mission or activities. The implementation plan and its associated schedule prepared by the contractor provide a time line for putting the new controls in place.

Development of the authorization basis for existing facilities and operations requires a period of adjustment during which a review is undertaken to assess whether it is safe to continue ongoing activities, or safety constraints and compensatory measures need to be imposed for continued operation until the authorization basis is established and the new safety controls are implemented. The contractor therefore needs to review the hazards and the new controls and, depending on the extent of any deficiency in the existing safety controls as compared with the new ones, identify compensatory measures that will fill the gap until the implementation plan has been completed. These compensatory measures need to be submitted to DOE along with the authorization basis and the implementation plan for review, and will become part of the authorization agreement.

3. KEY ELEMENTS OF AN AUTHORIZATION AGREEMENT

An authorization agreement needs to contain the following elements: identification of facility and activity, scope of authorization, DOE review and concurrence, terms and conditions, process for reporting violations, exemptions, contractor organization and qualifications, and administration of the authorization agreement. These elements are described below. Note that, as stated earlier, although an authorization agreement needs to contain these elements, the level of detail is a function of the mission and the hazards of the activity or facility.

3.1 IDENTIFICATION OF FACILITY AND ACTIVITY

An authorization agreement may be prepared for a specific activity or operations within a facility. It normally ought not to be so general as to authorize all the operations at a site. This is because the authorization basis is prepared for either an activity or a set of activities in a facility at a site. The physical and programmatic boundaries of the activity need to be defined based on the technical, managerial, and operational safety considerations provided in the authorization basis. This element of the authorization agreement commits the contractor to perform the activity within the physical boundaries (system, equipment, and structures) defined in the authorization basis.

3.2 SCOPE OF AUTHORIZATION

This element of the authorization agreement defines what is authorized. Operations at defense nuclear facilities entail a variety of activities, ranging from transportation to storage, and from processing of nuclear materials to assembly of nuclear weapons. Thus, it is important to define the specific activity.

The scope of work for an activity and the associated hazards are usually defined in the authorization basis and may be referenced in the authorization agreement. The scope of the authorization agreement cannot go beyond what is analyzed in the authorization bases. The scope of the authorization agreement may be a subset of the work defined in the authorization basis, or consist of several activities defined in different authorization basis and combined into one authorization agreement. In other words, the work authorized in an authorization agreement must have been analyzed in the referenced authorization basis documents.

Interdependent activities authorized in one authorization agreement may not be modified or deleted without evaluating the effects on the remaining activities. These activities may also need subsequent modification with regard to scope or conditions of performance.

3.3 DOE REVIEW AND CONCURRENCE

This element of the authorization agreement reflects the work that has been done prior to signing of the authorization agreement by DOE and the contractor. Several documents must have been prepared (such as List A and List B, the authorization basis, and an EIS/EA) to set forth an adequate set of requirements and demonstrate compliance with those requirements (e.g., through implementation of safety management programs and controls) to ensure protection of the public, workers, and the environment. DOE must review and concur, or identify deficiencies to be corrected, regarding the completeness of these documents prior to execution of an authorization agreement. DOE may accomplish this task by several methods: resolving of comments on Lists A and B, preparing of an Safety Evaluation Report on the authorization basis, or holding a public hearing and resolving comments for an EIS/EA. This element of the authorization agreement attests to the fact that such efforts have been completed and that implementation of the authorization agreement is sufficient to protect the public, workers, and the environment.

3.4 TERMS AND CONDITIONS

This element of an authorization agreement identifies the specific items from the authorization basis that the contractor commits to perform and follow to assure DOE that the authorized work will be performed safely. Typically, these items include the programs and processes required by the contract, such as criticality safety, fire protection, configuration management, the unreviewed safety question process, environmental protection, adherence to technical safety requirements, and others. It is through these commitments that DOE will be assured of safe operation of the facility within the bounds of the authorized activities.

The controls are usually identified in the technical safety requirements or a technical safety requirement-like document. DOE Order 5480.22 and its attachment provide a detailed description of expectations for the format and contents of a Technical Safety Requirement document for nuclear facilities. Technical safety requirements, however, may also be tailored to the hazards of the activity or facility. The contractor may prepare a technical safety requirement-like document to satisfy this requirement. This element of the authorization agreement seeks to ensure implementation of controls to the extent described in the authorization basis documents.

DOE review of the authorization basis (described in [Section 3.3](#) above) may result in additional controls or obligations for the contractor that are reflected in documents such as Safety Evaluation Reports or comment resolution transmittals. These additional conditions ought to be considered for incorporation in the contract as requirements, and then identified in this section of the authorization agreement as a contractor's commitment to successful completion.

The implementation plan prepared by the contractor for the controls and full compliance with the requirements of the authorization basis documents are also to be identified in this section of the authorization agreement (see [Section 2.2](#)). Their inclusion in the authorization agreement

will give DOE assurance that the schedule provided with the implementation plan will be met, and that the obligations will be satisfied by a certain date.

For existing facilities and ongoing activities, DOE may choose to enforce implementation of certain compensatory measures until the terms identified in the implementation plan have been met. This approach immediately enhances the operational safety of existing facilities to a level above current practices with a relatively small investment. The compensatory measures need to be identified and become mandatory upon signing of the authorization agreement.

As the authorizing authority, DOE may choose to impose additional programs or agree to stipulations already negotiated in a contract change through the authorization agreement. These additional programs or stipulations may or may not be related to the safe performance of the desired activity, but DOE regards their implementation by the contractor as necessary. For example, the contractor may be required to implement an environmental monitoring program. This effort may not have any direct safety impact on the operation of the facility or activity and thus not be identified in the authorization basis documents, but will become mandatory upon signing of the authorization agreement.

Protection of property or the mission of the facility may be of special interest to DOE for specific areas. DOE may provide additional stipulations in this element to meet those needs.

DOE may wish to hold the contractor to more stringent programs or commit the contractor to certain modifications that are not identified as necessary in the authorization basis documents. Such programs or stipulations may be identified in this element of the authorization agreement after contract negotiations to adopt the new requirement are complete. For example, the safety or hazard analysis may have taken credit for the existing fire sprinkler system and identified a residual risk due to a potential fire in the facility. DOE might choose to reduce the residual risk by upgrading the fire protection system even if such a modification is not required in the authorization basis documents. The upgrade then becomes part of the safety controls committed to in the authorization agreement.

3.5 PROCESS FOR REPORTING VIOLATIONS

The authorization agreement needs to describe the process, or include commitment to a process, the contractor should follow if the commitments identified in the authorization agreement cannot be or are not met. Although the contract may contain provisions regarding violation of its terms and communication of such violations to DOE officials, the authorization agreement needs to provide specific guidance regarding the performance of its elements. It may refer to the terms of the contract or the reporting requirements identified in the administrative controls section of the technical safety requirements, such as the Unreviewed Safety Question process, or provide more detailed and specific direction for particular commitments or elements of the authorization agreement.

3.6 EXEMPTIONS

Exemptions granted to a contractor (e.g., a regulation or an order requirement in a contract) need to be identified in the authorization agreement. DOE has provided several processes for the contractor to request exemptions and for DOE to grant them. The exemptions that have been granted via these processes and are related to the specific activity or facility ought to be listed in the authorization agreement.

3.7 CONTRACTOR ORGANIZATION AND QUALIFICATIONS

By signing an authorization agreement with the contractor, DOE demonstrates confidence that the commitments identified in the authorization agreement can be met. This confidence needs to be included as one of the elements in the authorization agreement. This element may be stated generically with regard to the contractor's general technical and managerial capabilities; more specifically through the specification of a certain organization chart; or if essential to the assurance of safety, even through the designation of certain individuals for key positions to provide more assurance regarding implementation of the commitments.

3.8 ADMINISTRATION OF THE AUTHORIZATION AGREEMENT

The authorization agreement needs to be incorporated in the contract as a binding provision. It must therefore have an effective date and an expiration date that define the time period for which activities are authorized. The effective date may be immediate or some time in the future. The expiration date may be the completion date of the activity, termination of the contract, or an earlier date to provide some flexibility for midcourse corrections and reevaluations; it ought not to be open ended.

Provisions may also be made in this section for periodic review and update or modification of the authorization agreement. Doing so allows for minor changes in the mission of the facility, conceptual changes in the activities, schedule modifications, or any other changes that could be authorized through an amendment to the authorization agreement.

4. INTEGRATION

4.1 TIES TO THE UNREVIEWED SAFETY QUESTION PROCESS

DOE established the Unreviewed Safety Question process to allow contractors to make physical and procedural changes and to conduct tests and experiments without prior DOE approval, as long as these changes do not explicitly or implicitly affect the authorization basis of the facility or activity or result in a Technical Safety Requirement change. DOE Order 5480.21, *Unreviewed Safety Questions*, December 24, 1991, describes a process implemented at defense nuclear facilities to give the contractor the flexibility needed to conduct day-to-day operations, with DOE involvement being required only when there is a potential impact on the authorization basis of the facility or activity. The Order requires that the Unreviewed Safety Question review process be integrated into all the technical aspects of the contractor organization responsible for design, engineering, maintenance, inspection, operations, and assessment of the nuclear facilities or activities.

To a large extent, if the Unreviewed Safety Question process is implemented properly, any potential violations of the authorization basis will be identified through its screening process, and the contractor management can determine at what point and how DOE officials need to be informed. The Unreviewed Safety Question process is, therefore, an in-house administrative control that may identify potential violation of the authorization agreement. In other words, if the Unreviewed Safety Question is determined to be positive, by either being outside the boundaries of the safety analysis or violating a Technical Safety Requirement, chances are the authorization agreement is potentially jeopardized, and the approval authorities need to be informed.

There may, however, be other terms and conditions in the authorization agreement that are beyond the scope of Unreviewed Safety Question process, and their violations may not be discovered through administration of this program. The contractor needs to implement a program that will identify such violations and report to DOE according to the process identified in the authorization agreement (see Section 3.5).

4.2 TIES TO THE CONFIGURATION MANAGEMENT PROGRAM

The fundamental objective of configuration management is to establish and maintain consistency among the facility design, physical configuration, and documentation of safety controls. Implementation of a configuration management program ensures that changes or modifications to the approved design bases, functional requirements, and as-built configuration of safety controls are managed to prevent inadvertent degradation or changes that may place them outside their committed boundaries.

The concept of configuration management can be expanded to encompass all the commitments made by the contractor in the authorization agreement. As discussed earlier, the Unreviewed Safety Question process identifies potential violations of certain commitments related to the authorization basis documents. There are other terms and conditions in the authorization agreement that the contractor needs to manage in a systematic way to identify potential violations and associated actions that may need to be taken.

The contractor may therefore need to prepare and implement a configuration management program, or extend the existing one, to encompass all the commitments made in the authorization agreement. The key elements of the authorization agreement need to be identified and maintained in a comprehensive configuration management program and controlled to maintain consistency, and they may be reviewed periodically to ensure compliance. The configuration management program needs to provide a mechanism for tracking commitments into their respective governing procedures, practices, training programs, and the like. Such a program may also be used to identify potential internal changes (discussed in Section 3.8) and the need to communicate to the authorizing authority.

4.3 TIES TO THE INTEGRATED SAFETY MANAGEMENT SYSTEM

In the Implementation Plan for Board Recommendation 95-2 (U.S. Department of Energy, April 1996), DOE committed to “institutionalize the process of incorporating into the planning and execution of every major defense nuclear activity involving hazardous materials those controls necessary to ensure that environment, safety, and health objectives are achieved.” This commitment is to be met at each DOE site through the development and implementation of an Integrated Safety Management System compliant with provisions of DOE Acquisition Regulations 48 CFR § 970.5204.78. The ISMS is then verified by DOE to be adequate, to ensure that work will be planned and executed in a manner that protects the public, workers, and the environment while meeting all legal requirements, including those imposed by contract.

The ISMS is expected to include functional area safety management programs such as radiation control, configuration management, maintenance, electrical safety, hazard analysis, training, and several others. These programs are typically set forth in the contractors “manuals of practice.” The ISMS also is expected to include work planning processes identifying proposed operations that require formal DOE review and approval, up to and including the execution of a new authorization agreement.

Some of the component ISMS programs may be specified as administrative controls in the technical safety requirements for a specific on-site hazardous scope of work. The technical safety requirements may then be invoked as commitments in the authorization agreement for those operations, thereby making use of the specified manuals of practice contractually binding.

4.4 TIES TO THE CONTRACT

An authorization agreement documents, among other things, a contractor's commitment to perform certain tasks (e.g., conduct activities, maintain systems, upgrade equipment, train personnel). The tasks to be performed are those incorporated in the contract; thus the authorization agreement ought not to provide a commitment to implement a program unless the contract requires development of the program. Therefore, the contract and the authorization agreement need to be consistent: the contract requires the contractor to develop programs consistent with given work hazards, and the authorization agreement commits the contractor to performing the work under a work-specific safety program. To ensure consistency, the contract needs to be reviewed, or amended, before an authorization agreement is signed to ensure that certain provisions have been made for the contractors to perform the tasks to which they are committed in the authorization agreement.

APPENDIX A

COMPARISON OF AUTHORIZATION AGREEMENTS WITH KEY AUTHORIZATION AGREEMENT ELEMENTS

The Board's staff reviewed several existing authorization agreements and compared their contents with the key elements identified in Section 3 of this report. Table A-1 shows the results of this comparison. For the most part, similar information exists in one form or another in these four authorization agreements. Some of the elements are not as detailed as described in this report, and others do not exist.

Some of the deviations or deficiencies in the existing authorization agreements may be significant. For example, the authorization agreement that authorizes the activities in the H-Canyon at the Savannah River Site also authorizes transportation and storage of radioactive material at the site to support the canyon activities without making specific reference to the authorization basis of these activities or identifying the necessary controls (see Section 3.2). The authorization agreement for plutonium facility building 332 at Lawrence Livermore National Laboratory does not describe the activities that are authorized. "Research and development activities involving unencapsulated fissile material," the description of the authorized activities, is not detailed enough to commit the contractor to perform only those activities that have been analyzed in the authorization basis.

**TABLE A-1. COMPARISON OF FOUR AUTHORIZATION AGREEMENTS
WITH KEY AUTHORIZATION AGREEMENT ELEMENTS**

No.	Key Elements	Lawrence Livermore National Laboratory Building 332	RFETS Building 771	Savannah River Site H-Canyon and Areas	Pantex W69 Dismantle
1	Identification of Facility/ Activity	Describes the facility, Building 332 at Lawrence Livermore National Laboratory.	Describes the facility.	Describes the areas: canyon, outside facilities.	Describes Building 12-44, Cells 5 & 6, Building 12-64, Bays 14 & 15.
2	Scope of Authorization	Covers activities conducted at Building 332 (undefined, very general).	Refers to BFO and MAL: mission program activities, baseline activities.	Describes the work that needs to be done (not all is covered in AB).	Describes in detail, authorization agreement is lesser-order than work control in contract.
3	DOE Review and Concurrence	DOE/OAK determined adequate protection of the public, workers, and the environment.	RFFO concludes the BFO is adequate for protection of the public, workers, and the environment.	DOE/SR determined operations comply with S/RID, BIO, and EIS, and protect the public, workers, and the environment.	Refers to NESS, BIO, CSSM, SAR, Safety Evaluation Report, ABCD, and EIS, which result in assurance of adequacy.
4	Terms and Conditions	Refers to SAR, Technical Safety Requirements, Safety Evaluation Report, IP, EIS, and RA. Unreviewed Safety Question, Surv. Req. A/C; SAR + Safety Evaluation Report = S/RID	Refers to BFO, Technical Safety Requirements, IP/S, DOE Review Report, RA (TBD), safeguards and securities plan.	Refers to operational controls from BIO, Unreviewed Safety Questions, S/RID, EP, FP, water and air pollution/control permit.	ABCD, Unreviewed Safety Questions—Do the first 20, then the rest provided certain conditions are met. Process changes, configuration control.
5	Process for Reporting Violations	“Timely” notification; Unreviewed Safety Question process.	Refers to change control process in the BFO.	“Deviations should use exemption request.”	Refers to contract for communication, Unreviewed Safety Question; describes process for violations.
6	Exemptions	Occasional noncompliance with A/C not a violation.	Requirements in Appendix J to contract superseded by BFO and Technical Safety Requirements.		Emergency situations exempt from the authorization agreement.
7	Contractor Organization and Qualifications			“WSRC is technically qualified...”	
8	Administration of the authorization agreement		Expires with contract.	Expires with contract.	Expires with contract or NESS.

Note: Acronyms appearing on this table are defined in the glossary at the end of the report.

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GLOSSARY

A/C	administrative control
ABCD	Authorization Basis Control Document
BFO	Basis for Operation
BIO	Basis for Interim Operations
Board	Defense Nuclear Facilities Safety Board
CSSM	Critical Safety Systems Manual
DEAR Clause	DOE Acquisition Regulation Clause
DOE	Department of Energy
DOE/OAK	DOE Oakland Area Office
DOE/SR	DOE Savannah River Office
EA	Environmental Assessment
EIS	Environmental Impact Statement
EP	emergency planning
ES&H	environment, safety, and health
FP	fire protection
IP	implementation plan
ISMS	Integrated Safety Management System
MAL	Master Activity List
NESS	Nuclear Explosives Safety Study
NRC	Nuclear Regulatory Commission
RA	Readiness Assessment
RFFO	Rocky Flats Field Office
S/RID	Standards/Requirements Identification Document
SAR	Safety Analysis Report
TBD	to be determined
WSRC	Westinghouse Savannah River Company