

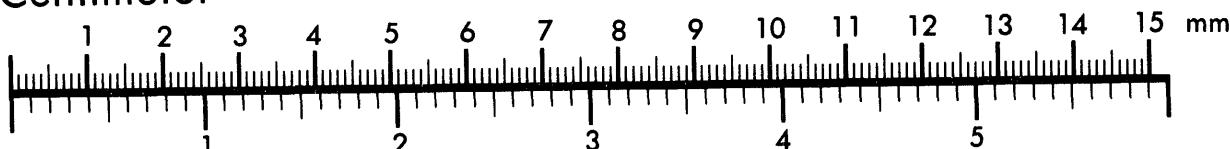


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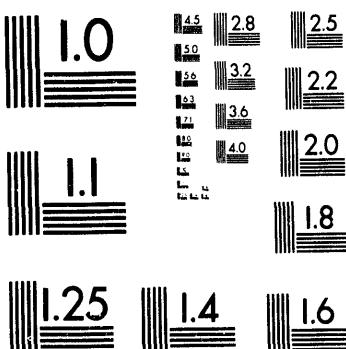
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STANDARDS/REQUIREMENTS IDENTIFICATION DOCUMENTS (S/RIDS)

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## INTRODUCTION

This paper describes the Fernald Environmental Restoration Management Corporation's (FERMCO) Standards/Requirements Identification Documents (S/RIDs) Development Program, the unique process used to implement it, and the status of the program. We will also discuss the lessons learned as the development program was implemented.

The Department of Energy (DOE) established the Fernald site to produce uranium metals for the nation's defense programs in 1953. In 1989, DOE suspended production and, in 1991, the mission of the site was formally changed to one of environmental cleanup and restoration. The site was renamed the Fernald Environmental Management Project (FEMP) to reflect this change. From its inception until November 1992, the site was managed under a Management and Operating contract. As a result in the change in mission, DOE awarded an Environmental Restoration Management Contract (ERMC), focusing on restoration. FERMCO assumed management of the site December 1, 1992. The joint DOE-FERMCO mission is to protect human health and the environment through the safe, early, and least-cost final clean-up of the site in compliance with all applicable regulations and commitments while addressing stakeholder concerns.

DOE has managed nuclear facilities primarily through its oversight of Management and Operating contractors. These contractors were responsible for formulating, selecting, and administering standards controlling design, construction, operations, and maintenance. The DOE Operations Office Manager was responsible for approving individual contractor practices and the governing site standards and requirements to be met. Due to the absence of comprehensive nuclear industry standards when most DOE sites were first established, Management and Operating contractors had to apply existing non-nuclear industry standards and, in many cases, formulate new technical standards to address unique applications.

Because it was satisfied with the operation of its facilities, DOE did not always incorporate modern practices and standards as they became available. In 1990, the Defense Nuclear Facilities Safety Board (DNFSB) was formed to oversee DOE operations. The DNFSB reports directly to Congress. In March 1990, the DNFSB issued Recommendation 90-2, which questioned this practice. The recommendation called for DOE to identify relevant standards and requirements, conduct adequacy assessments of requirements in protecting environmental, public, and worker health and safety, and determine the extent to which the requirements are being implemented.

While this recommendation did not originally apply to restoration facilities specifically, in January 1992, the Environmental Restoration and Waste Management Office of DOE (DOE-EM) embraced the recommendation for facilities under its control. With the ERMC concept, there were strict accountability requirements, which made it absolutely essential that FERMCO clearly identify applicable requirements necessary for this type of contract, determine the requirements' adequacy, and assess FERMCO's level of compliance.

## THE PROCESS

### Development

In the first stage of this project, we identified functional areas, developed an action plan, and secured personnel. To create the S/RIDs, we brought in experienced Subject Matter Experts from one of the corporate teaming partners that form FERMCO. The Action Plan defined the qualification criteria for the Subject Matter Experts, which was consistent with those contained in DOE Order 5480.18A, "Accreditation of Performance-Based Training for Category A Reactors and Nuclear Facilities." The criteria were guidelines and could be waived by the Functional Area Manager if the prospective candidate demonstrated extensive functional area knowledge through personal interviews or professional experience. The final approval of the Subject Matter Expert resided with the Functional Area Manager.

FERMCO identified twenty-four functional areas (see Table 1). The first eighteen of the functional areas addressed the protection of the environment, and the safety and health of the public and site workers, consistent with those identified in the May 1993 draft DOE Functional Area Guidelines for Environmental Safety and Health in response to Recommendation 90-2. The last six dealt with business management requirements and addressed minimization of avoidable cost, ensuring cost efficient management, and effective utilization of resources as part of sound business practices. These functional areas encompass all requirements essential to conducting safe and cost effective environmental restoration by FERMCO. Requirements that overlap into other functional areas were also identified.

Potential requirements were reviewed for applicability to the FEMP. Our approach allowed us to determine how much of a potential requirement was relevant to the environmental restoration activities at the FEMP. In some cases, entire requirement documents were cited. At other times, only a paragraph was referenced. Occasionally, requirement documents were judged not to relate to our mission.

Sources of potential requirements included federal, state, and local statutes, regulations, and agreements; DOE Orders, rules, policies, guidance documents, regulatory guides, technical standards, and Secretary of Energy Notices; national consensus codes and standards; the Environmental Restoration Management Contract; and requirement documents from other DOE facilities. The result of this determination addressed the degree of implementation needed for a specific requirement based on the hazards associated with the structure, system, component, process, or procedure. A graded approach was applied to requirements concerned with the design, construction, operation, maintenance, and decommissioning of facilities with the potential of affecting safety. A graded approach was not an option for many federal, state, or local laws and regulations.

Because of FERMCO's focus on expediency and cost efficiency, we applied a unique approach to developing the S/RIDs. First, in identifying the requirements, we did not do line-by-line documentation. We only identified requirements down to the paragraph or section

level. Our review of the source documents was rigorous; however, we did not expend extra time by typing every statement of the requirement. Second, we did not restate the requirement in our document in any way, as in quoting or paraphrasing. We only cited the requirement by title, number, major section, and issue date. This saved time and money by avoiding the time required to enter the text and the time required to edit the requirements documents every time a source document changed. Our S/RIDs have two primary functions: 1) direct our site experts to the appropriate sections of source documents as they develop our procedures and programs; and 2) list the requirements that auditors will use to assess our level of compliance. That way there is only one source of the actual information: the requirement source document itself. This helps prevent misinterpretation through inappropriate paraphrasing. The biggest advantage is not expending resources to re-key the actual requirement statement. Our database instead contains a fully related list of requirement citations, implementing documentation, and associated audit findings.

The requirements were then reviewed for adequacy in several areas: protecting the environment and the health and safety of workers and the public; providing risk minimization and cost effective management of resources; and fulfilling contractual obligations. Within the DOE S/RIDs efforts, adequacy is defined as the applicability and sufficiency of requirements. Applicability is established when a requirement is identified and included in a Standards/Requirements Identification Document (S/RID) and subsequently used as the standard against which compliance is to be determined. Requirements are sufficient if they prescribe sound management and business practices or adequately protect the environment and the safety and health of the public and FERMCO employees and subcontractors against potential site originated hazards.

Adequacy determination required a systematic evaluation of each functional area to ensure that all requirements applicable or relevant and appropriate to the site were identified and included in the S/RID. The evaluation showed if the appropriate environmental, safety, health, personnel, community relations, risk management, and business management issues were identified and addressed. The adequacy determination of requirements for the ES&H derived functional areas relied heavily on the hazards and risks evaluated in the safety analysis report and other safety documentation. This evaluation showed if the requirements selected for the site were sufficient to fulfill ERMC contractual obligations and provide the level of protection necessary for the identified safety and hazard issues. Where the actual requirements alone are not sufficient to do this, additional standards (such as industry standards or good business practices) were invoked. The adequacy process was a continuous process and relied on constant feedback from operating experiences, oversight and self-assessment results, audits, industry incidents and experiences, and new or revised standards and requirements.

It should be noted that in doing the applicability and adequacy determinations, it was not within our authority to use the S/RID to waive federal or state regulatory requirements. The S/RID could be used as the vehicle, internal to DOE, to highlight issues that needed to be addressed at a higher level. For example, the S/RID could not be used to waive

requirements from a Consent Agreement. Even within DOE itself, the S/RID cannot be used to get exemptions from DOE orders approved. Such exemptions still need separate secretarial officer approval.

The individual standards or requirements were analyzed to ensure that they provided for the adequate protection of worker and public safety and health against all known site-originated hazards and that they fully covered all safety assumptions defined in Safety Analysis Reports or other safety documents. The adequacy process relied on constant feedback from operating experiences, oversight and self-assessment results, audits, industry incidents and experiences, and new or revised standards and requirements. Once we established the applicability of a standard or requirement, it became the basis against which compliance was determined.

For business management concerns, the evaluation process was essentially the same. Good management practices were addressed, in addition to source documents that related to the business management functions and cost effective management, use of resources, and minimization of financial risk.

Each S/RID was assigned to a Functional Area Manager, who was a division director (also called Level II manager) reporting to the FERMCO president. Each Functional Area Manager assigned a Site Technical Expert to the S/RID. The Site Technical Expert was an expert in both the subject of the Functional Area and the site's specific activities as they related to that Functional Area.

After each S/RID was drafted, the Program Manager and the Subject Matter Expert reviewed it. The S/RID was then given to the Site Technical Expert for a two week review, which was followed by a peer challenge. Peer challenge reviews were key to ensuring the quality and adequacy of the requirements documents. During the peer challenge, the Subject Matter Expert presented evidence to support the identification of standards or requirements. The peer challenge was a critical review to ensure that the Subject Matter Expert's determination of applicability was adequate for the specific functional area. These reviews resulted in comments that, in some cases, required the redefinition of the functional area or a revision of the individual requirements document. Peer challenge participants included the following: the Functional Area Manager; the S/RID Project Manager; DOE; multiple Subject Matter Experts; representatives of the Quality Assurance, Training, and Continuous Performance Improvement organizations; and other individuals deemed necessary by the Functional Area Manager, the Program Manager or the Subject Matter Expert. Additional meetings between the Subject Matter Expert and the Site Technical Expert addressed all concerns identified during the peer challenge. After the review process was completed, the necessary approval from the Functional Area Manager and DOE approved the S/RID, and it was included in FERMCO's Management Plan.

## **Assessment**

The initial assessment of the implementing documentation, comprising the second stage of this project, was performed by the Subject Matter Experts, who were given the consolidated list of open audit findings from past external appraisals. They also developed a requirements checklist that contained the citation and general topic of each requirement. Existing implementing documentation, such as policies, plans, or procedures, were then listed with the corresponding requirement. All three facets (the requirements, the implementing procedures, and the documented deficiencies) provided an initial assessment of FERMCO's compliance baseline level.

FERMCO's Compliance Baseline Development Department, with the assistance of the Quality Systems and Forms and Procedures Development Departments, was responsible for identifying evaluation criteria, developing an assessment reporting format, conducting assessment orientations, collecting all site procedures and audit findings for each functional area, and determining the extent to which site operating procedures were in compliance with the S/RIDs. A full peer review was conducted to review the entire set of documents, especially the Interfaces and Requirements Sections, to identify overlaps, inconsistencies, or gaps in the information and communicate where changes were needed. A more in-depth compliance assessment is now in process in conjunction with Operational Readiness Review and Quality Assurance audits.

## **Maintenance**

The third stage of the program established a program to update the S/RIDs when new requirements are identified or previous requirements are revised. When new or revised requirements appear, various organizations within FERMCO review them to determine what, if any, impact they have on the current S/RIDs. Because the S/RIDs contain only current requirements, any anticipated regulatory changes were not included until such changes are formally published. Site Technical Experts lead the revision process. A full peer review is conducted to ensure adequacy of requirements cited and identify interface areas. Ultimately, the revised S/RID is issued and included in the quarterly revision to FERMCO's Management Plan. These activities ensure the S/RIDs are of the highest quality before inclusion in the Management Plan.

A key part of our approach to developing the S/RIDs was ensuring that they become "living" documents. One way of keeping the S/RIDs living is by combining the requirements identification process with other existing, accepted programs, such as the Management Plan. In addition to the S/RIDs, the Management Plan contains FERMCO presidential policies, which are also categorized by functional area. Together the policies and requirements must then be integrated into various separate implementing documents, including site plans and procedures. After the S/RID is approved by the Functional Area Manager, it then becomes his responsibility to ensure that procedures and programs are in place to implement the requirements contained in the document. The S/RID provides the framework to ensure that our procedures correctly implement the requirement and our people are following the procedures correctly. The Functional Area Managers are ultimately responsible for the

content of procedures and programs that cite their functional areas' requirements. The Functional Area Manager, as the expert within his specific activities, must approve any procedures in his functional area, and is responsible for ensuring compliance with the procedures.

Both FERMCO's and DOE's Self-Assessment Programs were set up to mirror the S/RIDs. FERMCO is also developing an audit management plan that would focus audits into these 24 functional areas. Therefore, both self-assessments and internal/external audits could be used to determine FERMCO's compliance with the S/RIDs.

Each requirements document is supported by a complete set of working files. These files contain the list of all requirement sources evaluated, in addition to justification for requirements not included in the document where such exclusion might seem questionable. Requirements that go beyond those deemed to be necessary and sufficient are identified there for possible inclusion in implementing procedures. The Functional Area Manager receives a copy of the entire working file at the end of the S/RID development.

A final tool in keeping the S/RIDs up to date is an issues management database. The database is capable of cross-referencing the requirements and implementing procedures, and identifying any redundancies. This database is capable of creating the actual S/RID document, a summary level report, and the detailed requirements compliance matrix.

## **STATUS**

As of September 1, 1994, 21 of 24 S/RIDs have been drafted, approved by the Functional Area Managers, and transmitted to DOE for approval. As of this writing, Subject Matter Experts from DOE Headquarters are reviewing the 18 Fernald environmental, safety and health functional area S/RIDs prior to approval by Headquarters.

## **LESSONS LEARNED**

### **Clearly Define the Purpose**

We were trying to simultaneously design and implement the S/RIDs program to meet project deadlines and fulfill our commitment to the FERMCO president and the DOE Fernald Field Office. We should have taken more time at the beginning to develop the program and document it through the Action Plan and administrative procedures. Some ideas were not thought out before they were implemented, and proved to be of questionable value. People working on this project made changes independently. Before these changes were approved, they were communicated to coworkers who would then include them. At times, the changes were rejected. By this time, though, they were so wide-spread that finding and removing the changes was a major undertaking. For example, some functional area titles were changed without approval. There then existed different lists depending on which title had been communicated last.

The Action Plan should have been issued before work began on the project. It was delayed because the constant refining of the process caused constant revisions to the draft. Our program was also developed to be consistent with DOE-published guidelines, which remained in draft through most of the project. DOE has not yet published the minimum acceptance criteria it is using for its independent reviews. As a result, the Action Plan became a moving target and was not widely distributed. It was out of date by the time it was published. Because the project was nearing completion, it was no longer appropriate to continue changing the plan, but to accept it as a snapshot of what the process was at a given time. The Action Plan was issued on August 20, 1993, then revised on September 9, 1993, to clarify how S/RIDs relate to FERMCO's contract. The document was revised to reflect Revision 4 of the draft DOE 90-2 Implementation Plan, which was received July 13, 1993, and Draft C of the ES&H Configuration Guidelines, received May 7, 1993. Revision 0 of the ES&H Configuration Guide, issued July 30, 1993, was received by FERMCO November 3, 1993, but the S/RIDs had already been transmitted to DOE on November 1.

The receiving audience and goals continually changed as the project proceeded. The working files were originally intended to be informal, internal files containing all information in support of the S/RID. As the project evolved, the working files became an auditable part of the S/RID paper trail, as evidenced by the recent DOE Fernald Field Office audit as part of its approval process. The files should have been in auditable condition from the start of the program.

### **Define the Organization/Roles and Responsibilities**

We initially pictured six teams working on six functional areas at a time, using a core support group of a clerk and two professionals. We didn't fill the approved positions, anticipating a hiring freeze. Scheduling the peer challenges, taking minutes at the challenges, and following up on the paperwork became a full-time job for the administrative staff we had. We brought in additional help from temporary agencies, but experienced a high rate of turnover. All peer challenges were recorded, but we experienced a high turnover of clerical help retained to transcribe the tapes. Confusion also arose concerning whose responsibility it was to proof-read and issue the minutes, once they were finally typed. These factors led to the minutes from the peer challenges not being published in a timely manner. As a result of the delay, policy decisions and specific instructions arising during individual peer challenges were not communicated quickly or consistently to all Subject Matter Experts.

The length of time required to generate the S/RIDs varied greatly from document to document. Where the Subject Matter Expert and Site Technical Expert made the document their highest priority, the document took an average of twelve weeks from development to approval. This was generally not the case. With Subject Matter Experts working out of locations across the country, it was difficult to monitor the amount of attention the document was given. Some documents took as long as nine months and required multiple peer challenges. Peer challenges were repeated for five documents because key stakeholders did not attend or because extensive comments during the first review resulted in a change in document scope. We requested that alternates who attend peer challenges be briefed on

the requirements identification process. Some divisions delegated their representation to people who didn't know the requirements identification process, nor were they familiar with their organization's role in it. To remedy this problem, the Program Manager scheduled time within all Level II Managers' staff meetings to ensure all had a clear picture of the S/RIDs process, the drivers for the process, and the divisional interactions within the process. These interactions were very productive. As a result, other organizations within the company began to recognize this activity's importance to their success. Some members of middle and first-line management started to accept the process and eagerly anticipated the deliverables.

### **Make Decisions Early - and Stick With Them**

Directions changed mid-project and were not always communicated clearly to all participants. Some changed many times: for example, how to handle redundant requirements, how to justify and document non-applicability, or who would approve the S/RIDs. There needed to be a change control mechanism in place for the program so all changes or refinements could be controlled and tracked.

### **Continuous Information Flow**

The Subject Matter Experts should have been controlled as a more close-knit "task force," reducing the number of remote work locations. More daily management attention should have been focused on their efforts. Many Subject Matter Experts did not work closely enough throughout the process and had to be continuously urged to communicate with each other. As a result, the documents were initially approved containing overlapping or contradicting requirements and interface descriptions. This, while corrected by the quality check before inclusion in the Management Plan, caused some confusion during the review process.

Lessons learned from one peer challenge to the next should have been communicated in a number of ways. In retrospect, it would have been a good idea to establish a running list of lessons learned as a required reading file for all Subject Matter Experts. Because of the unique setup with a number of Subject Matter Experts working at locations across the country, it was difficult to ensure that everyone received the same information at the same time. We began to have the Subject Matter Experts attend any peer challenges that occurred while they were in town, especially before conducting their own, so that they could be better prepared for their reviews.

Monthly status meetings were not enough for communicating changes in the process. Weekly progress meetings were then held to improve internal communications among the Subject Matter Experts. However, we noted that information passed on orally at the weekly status meetings was not necessarily assimilated or disseminated, because of the number of Subject Matter Experts working in other parts of the country, and because of lack of documentation of these meetings. We began to teleconference our weekly status meetings, using a more structured agenda with minutes published after each one. This idea came about when a Continuous Performance Improvement Department facilitator was brought in to help us identify weaknesses in the communications throughout the program.

### **Training/Process Standardization**

The qualifications for a Subject Matter Expert should have been more strictly defined. A Subject Matter Expert was defined as an individual who possessed functional area knowledge and experience acquired from similar government or industry activities. We thought the Subject Matter Expert should have a minimum of eight years of professional experience of which two should be in the specific functional area and should include knowledge of DOE Orders, rules, and policies; federal, state, and local laws and regulations; and national consensus codes and standards. We found that two years of experience in a specific functional area was not enough. Additionally, too much emphasis was placed on engineering experience, whereas many of the areas were not of an engineering nature. The candidates' communication skills should have also been evaluated and weighed heavily. To this end, there should have been more emphasis on conducting personal interviews between the Subject Matter Experts and the Program Manager, the Functional Area Managers, and the Site Technical Expert. The qualifications of the Site Technical Expert should have been reviewed so that any proposed Subject Matter Experts would complement the Site Technical Expert with whom they were to work to develop the S/RID.

We experienced inconsistency from one Subject Matter Expert to the next. The quality of each draft document and its initial reviews directly reflected the personalities of the Subject Matter Expert and Site Technical Expert. This was not reflected in the ultimate quality of the document because of the number and variety of reviews that each document underwent. The problem would have been avoided with better up-front training and more continuous management control as discussed above and below.

Midway through the project, the Program Manager began to review each Subject Matter Expert's preparation for his or her peer challenge one or two days before the event. Each was to have the following prepared: a list of all documents reviewed, a list of all comments and their disposition, and the S/RID itself. These were passed out to the peer challenge participants. As a result, the peer challenges progressed more smoothly and were more significant.

The Subject Matter Experts received orientation when they started their work. The quality and content of this orientation changed with time. At the beginning of the project, little orientation was received beyond reading a copy of the draft Action Plan and going on a site tour. Since the Action Plan changed drastically over the project, this was not always meaningful. By the middle of the project, we had built the orientation to include a site tour, a copy of the Action Plan, overview talk from the Program Manager regarding the purpose of the S/RIDs, and an explanation of expense and time sheets. By the end of the project, the last Subject Matter Experts to arrive, or replacement Subject Matter Experts, tended to be thrown into the project with little instruction beyond receiving a copy of the Action Plan and explanation of the time and expense sheets.

### **Clarify Format and Content**

The Interface Section of the S/RIDs caused some confusion. This section was intended to clarify where unique or complex overlaps exist between functional areas. Where a functional area has a general scope that affects all other functional areas equally, it need not be identified. The Interface Section was intended to explain where the relationship between functional areas was unique, or where they possibly shared a requirement and it was not clear which document should contain the citation. The Interface Section dictated which document should contain which citation and, therefore, which Functional Area Manager owned the requirements. It had clearly delineated the boundaries where two or more functional areas may have had joint responsibilities. Most functional areas affect all the other functional areas; an interface is called out if there are individual requirements that are shared between areas, or if there is something unique in the interface.

Even after many instructions to the contrary, we continued to see whole requirements listed. It is an unusual case where any specific DOE Order, for example, applies in its entirety to one functional area. Our intention was to cite major sections or paragraphs. We also experienced difficulty in citing all applicable requirements where primary sources contained references to additional requirements. Any applicable references were invoked by specific citation.

In identifying the requirements, we have to ask if we have adequately defined the safety envelope. Are the requirements being identified necessary? Are they sufficient to protect the public and worker health and safety, and that of the environment? If not, we may wish to invoke industry standards. This reinforces that we don't want to include sweeping references: where a requirement cites additional requirements by reference, those citations should be evaluated and specifically cited as applicable or not. We don't want to let an auditor infer that something is applicable only because it was invoked by something else that was. All citations must be exact, specific, and explicit. If requirements were cited as not being applicable, it was documented in the working file.

### **CONCLUSION**

We are nearing completion of the S/RIDs Program using our unique approach. The results of ongoing work to identify the content and format of the documents may be so prescriptive as to make our approach incorrect, and may require rework. The true test will be after the documents are in place, to see if they can function as the tools to build good programs and provide a sound and appropriate program and basis for audits.

Determining the level or number of constraints that we build into the documents and, thus, into the management of the FEMP is difficult. It is against the requirements contained in these S/RIDs that we will be audited. We have here a defense mechanism for focusing any auditor's appraisal on only the requirements that are truly applicable to work done by FERMCO. This then becomes a double-edged sword. We are building the bat with which

we can be beaten. Or, more positively, this will be the yardstick against which our success will be measured. Any good contractor determines the requirements he must meet before beginning construction work. As keepers of the public trust we can do no less.

## **ACKNOWLEDGEMENTS**

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## **DISCLAIMER**

This paper was prepared as an account of work sponsored by an agency of the United States Government. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, or any agency thereof or Fernald Environmental Restoration Management Corporation, its affiliates or its parent company.

TABLE 1  
FERMCO STANDARDS/REQUIREMENTS IDENTIFICATION DOCUMENTS

		AREA DESCRIPTIONS
1.	Configuration Management	<ul style="list-style-type: none"> <li>· establish change control process</li> <li>· establish and control facility technical baselines</li> <li>· establish and maintain records management</li> <li>· establish and maintain documentation control</li> </ul>
2.	Engineering Design	<ul style="list-style-type: none"> <li>· manage demolition plans</li> <li>· identify safety class systems</li> <li>· design and modification of facilities</li> <li>· evaluate site structural characterization</li> </ul>
3.	Emergency Preparedness And Management	<ul style="list-style-type: none"> <li>· emergency preparedness planning and hazards identification</li> <li>· emergency response</li> </ul>
4.	Research And Development And Experimental Activities	<ul style="list-style-type: none"> <li>· technical search and evaluation</li> <li>· experimental programs and demonstrations</li> <li>· experimental programs design, approval, control, assessment, and reporting</li> </ul>
5.	Environmental Protection	<ul style="list-style-type: none"> <li>· programmatic and technical requirements, formal controls, and standards which are protective of human health and the environment and which particularly emphasize environmental media, biota, and cultural resources</li> </ul>
6.	Fire Protection	<ul style="list-style-type: none"> <li>· fire prevention/detection</li> <li>· fire protection</li> </ul>
7.	Maintenance	<ul style="list-style-type: none"> <li>· establish equipment/systems maintenance methods/practices</li> <li>· provide equipment calibrations, routine and on demand</li> <li>· establish preventative/routine equipment maintenance</li> <li>· set standards for facility and utility support</li> </ul>

TABLE 1  
FERMCO STANDARDS/REQUIREMENTS IDENTIFICATION DOCUMENTS

		AREA DESCRIPTIONS
8.	Management Systems	<ul style="list-style-type: none"> <li>· management of procedures issues</li> <li>· ES&amp;H compliance controls and occurrence reporting</li> <li>· operational readiness review moved here per DOE</li> <li>· emergency reporting</li> <li>· coordinate the identification, evaluation, and documentation of site requirements and the degree of compliance</li> <li>· ensure corrective action and tracking of noncompliance</li> </ul>
9.	Nuclear and Safety Systems	<ul style="list-style-type: none"> <li>· nuclear safety analysis, reporting, and planning</li> <li>· nuclear criticality safety</li> </ul>
10.	Occupational Safety And Health	<ul style="list-style-type: none"> <li>· construction safety</li> <li>· occupational (worker) safety and health</li> <li>· employee safety and health</li> </ul>
11.	Operations	<ul style="list-style-type: none"> <li>· execution and monitoring of operational activities</li> <li>· operating methodologies and procedures</li> <li>· lock and tag</li> <li>· abnormal events investigation</li> <li>· equipment/process labeling</li> </ul>
12.	Packaging And Transportation	<ul style="list-style-type: none"> <li>· administration/monitoring on-site/off-site transportation of hazardous and radioactive materials and waste</li> <li>· administration/monitoring packaging of hazardous and radioactive materials and waste</li> </ul>
13.	Quality Assurance	<ul style="list-style-type: none"> <li>· identify integral elements of the QA program</li> </ul>
14.	Radiological Protection	<ul style="list-style-type: none"> <li>· monitoring and ALARA approach to limiting radiological exposure of workers and public</li> </ul>

TABLE 1  
FERMCO STANDARDS/REQUIREMENTS IDENTIFICATION DOCUMENTS

		AREA DESCRIPTIONS
15.	Security	<ul style="list-style-type: none"> <li>· program planning and management</li> <li>· personnel security</li> <li>· protection program operations</li> <li>· nuclear materials control and accountability</li> <li>· surveys and facility approval</li> <li>· independent inspection and evaluation</li> </ul>
16.	Training And Qualification	<ul style="list-style-type: none"> <li>· training and qualification of personnel</li> <li>· development of accreditable programs</li> </ul>
17.	Environmental Restoration and Waste Management	<ul style="list-style-type: none"> <li>· elements and programmatic controls directly associated with Environmental Restoration program compliance</li> <li>· activities and requirements associated with the management and implementation of the DOE remedial action program and the decontamination and decommissioning program for surplus contaminated facilities</li> <li>· elements and programmatic controls necessary to manage hazardous, radioactive and solid waste compliance at active treatment, storage, and disposal facilities</li> <li>· includes generation, characterization, transport, processing, storage, treatment, and disposal of radioactive, solid, and hazardous waste</li> </ul>
18.	Construction	<ul style="list-style-type: none"> <li>· physical demolition</li> <li>· planning, scheduling, managing, and closing construction of new facilities or modification to existing ones</li> </ul>
19.	Acquisition	<ul style="list-style-type: none"> <li>· long lead procurement</li> <li>· property purchasing and acquisition</li> <li>· subcontractor purchasing</li> </ul>
20.	Human Resources And Industrial Relations	<ul style="list-style-type: none"> <li>· human resource management</li> <li>· career development</li> <li>· equal employment opportunity</li> <li>· career retraining</li> </ul>
21.	Project Control	<ul style="list-style-type: none"> <li>· scheduling/cost control</li> <li>· project performance measure and reporting</li> </ul>

TABLE 1

## FERMCO STANDARDS/REQUIREMENTS IDENTIFICATION DOCUMENTS

		AREA DESCRIPTIONS
22.	Property Management	<ul style="list-style-type: none"> <li>· track usage, inventory, and disposal of property</li> <li>· materials control and accountability <ul style="list-style-type: none"> <li>- nuclear material tracking</li> <li>- hazardous waste (RCRA) tracking</li> <li>- low level radioactive waste</li> </ul> </li> </ul>
23.	Public Involvement	<ul style="list-style-type: none"> <li>· promoting good relations between the site and surrounding communities through interactive programs and media involvement</li> <li>· researching community concerns through community interviews</li> <li>· addressing concerns through community relations activities</li> </ul>
24.	Financial Management	<ul style="list-style-type: none"> <li>· maintain site financial accounting and reporting system</li> <li>· exercise control over expenditures and assets</li> <li>· limit financial risks through investigation and planning</li> </ul>

The image consists of three rows of abstract geometric shapes. The top row contains three vertical rectangles of varying widths, with the central one being the widest. The middle row features a large trapezoid on the left and a large U-shaped cutout on the right, both in black against a white background. The bottom row contains a single large, solid black U-shaped cutout.

hobby  
high/  
DATE

