

United States Government

Department of Energy

Fernald Area Office

# memorandum

DATE: SEP 03 1997

DOE-1380-97

REPLY TO

ATTN OF: FEMP:Akgündüz

SUBJECT: LESSONS LEARNED DOCUMENT FOR THE SILO 3 PROJECT

TO: James Fiore, Acting Deputy Assistant Secretary for Environmental Management, EM-42

The purpose of this memorandum is to transmit the Lessons Learned Document on privatization project as it applies to the Silo 3 Project. This commitment was made to you on August 28, 1997, during the 2:30 p.m. conference call.

Each aspect of the Lessons Learned identified in the attached document will be incorporated into the draft Final Request for Proposal (RFP) when all comments are received from the Draft RFP review pending your approval for the release of the Draft RFP as soon as possible.

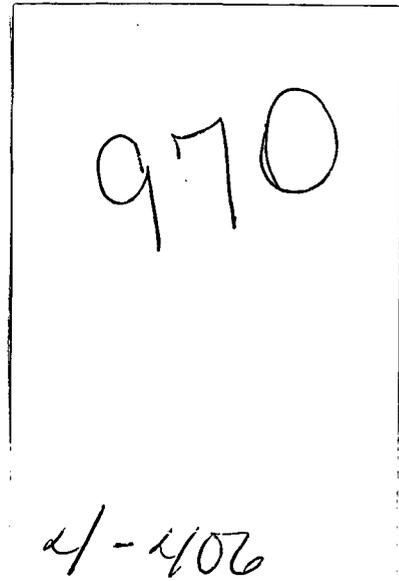
If you have any questions, please contact me at (513) 648-3101.

*John Griffiths*  
for Jack R. Craig  
Director

Attachment: As Stated

cc w/att:

N. Hallein, EM-42, CLOV  
R. Nace, EM-42, CLOV  
R. Leotta, HR-52, FORS  
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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

SILO 3 WASTE PROJECT  
LESSONS LEARNED DOCUMENT

40400-LL-0001

REVISION 0

SEPTEMBER 1997

APPROVED BY:

Karen N. Wintz  
Karen N. Wintz, Project Manager, Silo 3 Waste Project

9/3/97  
Date

Don Paine  
Don Paine, Acting Vice President, Silos Project

9/3/97  
Date

**Lesson Learned #1: The Contractor Pays Fines and Penalties For Which It Is Responsible**

The Silo 3 Contractor will be responsible for paying any fines and penalties incurred by DOE and/or FDF that are incurred due to the fault of the Contractor. The following provisions from the draft Request for Proposal (RFP) establish this Contractor responsibility:

**H.65 ENFORCEABLE EPA MILESTONES**

**H.65.1**

Within 30 calendar days of receipt of U.S. EPA approval of the ESD for the Silo 3 Waste Project, a revised OU4 RD/RA Work Plan for the Silo 3 Waste Project will be developed by DOE-FEMP/FDF, and submitted to the U.S. EPA and OEPA by DOE for review and approval.

In accordance with the ACA (between DOE and U.S. EPA) and with other agreements with the EPAs, the RD/RA Work Plan will discuss the EPA's involvement in the Silo 3 Waste Project RD/RA process and will propose the Silo 3 remediation activities to be established as enforceable EPA milestones. It is anticipated that the OU4 Silo 3 Waste Project remediation activities with enforceable milestones will include the following:

- Initiation of Operations (i.e., treating Silo 3 waste); and
- Completion of Operations (including above-ground operations).

Additional milestones may be established upon comments received from the EPA on the RD/RA Work Plan.

**H.65.2**

The Contractor acknowledges that its schedule forms the basis for certain enforceable milestones set by the EPA. "Claim" as used in General Provision A.32, Section I, Indemnity, includes the assessment of any penalties by the EPA against the DOE or FDF for failure to meet any of the enforceable milestones set with reference to the Contractor's schedule.

**A.32 INDEMNITY**

(a) Seller agrees to defend, indemnify and hold harmless Fluor Daniel, FERMCO and the Government, their parent, affiliated and subsidiary companies, including the employees, agents, representatives, officers, and directors of each of them, from and against:

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(1) Any claim, demand, cause of action, liability, loss or expense arising from Seller's actual or asserted failure to comply with any of the provisions of this contract;

(2) Any claim, demand, cause of action, liability, loss or expense arising from Seller's actual or asserted failure to comply with any law, ordinance, regulation, rule or order of any governmental or quasigovernmental body (including, but not limited to, the actual or asserted failure to pay taxes) including such failures be Seller, its subcontractors or suppliers; and

(3) Any claim, demand, cause of action, liability, loss or expense relating to actual or alleged contamination, pollution, or public or private nuisance, arising directly or indirectly out of the goods or services provided under this contract, including the acts or omissions of Seller, its subcontractors or suppliers.

**Lesson Learned #2: Interim Milestones Are Required In The Contract For Early Detection Of Non-performance**

There are milestones specified in the Silo 3 draft RFP; however; early detection of non-performance would principally be the result of specific requirements for project management oversight by FDF. For example, detailed project schedules will be maintained and tracked on a weekly basis. Larger tasks must be broken down so that they do not have a schedule duration of more than four weeks. Weekly progress meetings and reports will be used to maintain open communication with the Contractor throughout the project. The following provisions of the draft RFP clearly define the project tracking and oversight:

**C.4.6.1 Project Schedule Bar Chart**

Within ten days from the NTP, the Contractor shall submit a detailed bar chart (Gantt) proposed schedule for the entire project. The schedule shall highlight the critical path logic throughout the duration of the project. This schedule shall be negotiated and in place ten days prior to the start of premobilization by the Contractor. The schedule shall illustrate the project's activities, interdependencies for all activities, and identify all submittals and required review cycles for the deliverables as required in Figure C.4-2.

The schedule shall be clearly traceable to the scope of work by organizing the items in Section C.3.2 into separate sections. All Line Items identified in Section B shall be shown as hammers on the schedule. Project activities will roll up into these hammers to demonstrate how progress against each line item is accomplished. Each area of the schedule shall be provided in sufficient detail to depict the Contractor's approach to meeting all requirements. Once this schedule is agreed upon by all parties, it will serve as the project baseline and path forward for the project. Weekly meetings may be held to determine the status of the ongoing items. The schedule shall be updated and provided to FDF on a weekly basis.

**C.4.6.4 Milestones**

In the project schedule required under Section C.4.6.1, the Contractor shall include all major performance, regulatory compliance, design, construction, start-up, and operations, etc. Activities shall be detailed to a level where the duration of a single activity does not exceed four weeks.

**C.4.8.1 Weekly Activity Reports**

A written weekly activity report shall be provided to the FDF Project Manager Monday morning of each following work week and shall contain the following information:

- Updated project schedule;
- Overall project status including a narrative by the Project Manager including a Summary of Activities completed during the reporting week;
- Major accomplishments, including completed milestones;
- Problem areas affecting project baselines (cost, schedule, and technical) and proposed or recommended resolutions;
- Agreements and commitments for problem resolution; and
- Major activities planned for the next weekly reporting period.

#### **C.4.8.2 Weekly Progress Meetings**

Meetings shall be held weekly between FDF and the Contractor to review progress. During these meetings, the Contractor shall present the project task status, identify existing or anticipated problem areas (including impacts), and report on progress toward resolution of problems. The Contractor shall issue the meeting agenda in advance of the meeting and prepare the meeting minutes. Minutes shall emphasize agreements, commitments, and planned activities. Meeting minutes are subject to revision and addendum and subject to approval by FDF. All meeting minutes shall be issued by the close of business the next day following the meeting. Although it is intended that these be working meetings, the number of persons involved and the duration of the meetings shall be held to a minimum, it is essential that all key personnel attend. The meeting location will be designated by FDF.

#### **C.4.8.3 Special/Topical Meetings**

Special meetings shall be called by FDF or the Contractor when necessary to discuss proposals or problems that need attention earlier than the next progress meeting. The location or identity of attendees for these meetings will be determined on a meeting-by-meeting basis. The Contractor shall publish meeting minutes. Meeting minutes are subject to review and revision if required, and addendum and approval by FDF. All meeting minutes shall be issued by the close of business the next day following the meeting.

**Lesson Learned #3: There Should Be No Up-front Progress Payments For Anything Other Than Product**

No payments whatsoever are to be made to the Silo 3 Contractor until Silo 3 waste has been successfully treated and accepted by the disposal facility, as specified in the following draft RFP excerpts:

**G.2 Invoicing Instructions**

**G.2.1**

Notwithstanding the General Provision entitled "Delivery and Payment," FDF will pay the Contractor upon the submission of proper invoices, the prices stipulated in Section B of this contract for services rendered and accepted, less any deductions provided in this contract. Payment for work performed on this contract will be made on a unit price actual quantity basis and not on any estimated quantity.

**G.2.2**

Payment to the Contractor will be based on unit pricing per ton of dry Silo 3 waste accepted at the disposal facility. Dry weight of the unmodified Silo 3 waste shall be measured before any other components are added. Treatment operations must be monitored and controlled by the Contractor in such a manner as to result in accurate logs and records of quantity of waste treated (on both a batch, if utilized, and cumulative basis), process rates, waste loading (exact or narrow range), and other material utilization. Waste product must be cross-referenced to operating logs to provide accurate process information.

**BASIS FOR INVOICE (Excerpt from Table G.2-1)**

Payment monthly for tonnage, as retrieved, from Silo 3 prior to processing (Reference G.2.2) and accepted at the disposal facility. Unit Price for Item 001 shall also include all Capitalized Items of Direct Cost to this contract (e.g., construction and equipment costs). These costs shall be amortized over the Line Item 001 unit price and is the only method to recover Capitalized Items of Direct Cost.

**Lesson Learned #4: Clear Nuclear Safety Regulatory Oversight Framework Up-Front**

Extensive efforts have been made to clarify nuclear safety regulatory oversight within the Silo 3 draft RFP as it applies to remediation of the FEMP OU4 Silo 3 waste. Section J.3.2 of the RFP contains a detailed discussion of the requirements for the project safety basis. This section walks the Contractor through the requirements to properly develop, analyze, and document the safety basis for the project. The safety basis is information regarding the control of hazards (e.g., design, engineering analysis, and administrative controls) that DOE requires to ensure that remediation activities can be conducted safely.

Nuclear safety regulatory oversight is also discussed in the Silo 3 draft RFP in terms of establishing a clear definition of roles/responsibilities for the implementation of health and safety, and radiological protection, for the project. Section J.3.3 of the draft RFP (FEMP Safety Requirements), broadly identifies the governing documents, and then goes further by identifying for the Contractor, the specific portions of those documents which are applicable to the Silo 3 Waste Project. Section J.3.4 of the draft RFP (Silo 3 Waste Radiological Safety Requirements) provides an extensive definition of the radiological protection program at FEMP, to which the Contractor will be held. Finally, Section C.7 of the draft RFP provides a discussion of nuclear safety regulatory oversight during the facility shutdown and dismantlement phase of the project in terms of identifying an option for the Contractor to remove its equipment from the site under an appropriate license (e.g., NRC license), should the Contractor possess one.

### Lesson Learned #5: The Contract Should Incorporate Idle Facility Charges

There is currently not a separate line item in the Silo 3 draft RFP for idle facility charges. Based on the INEL Pit 9 lessons learned, and also on positive experience with similar provisions at FEMP, a provision for idle facilities, or stand down time, is being drafted for review and inclusion in the draft RFP.

The RFP currently defines shutdown of the operations by three modes, depending on the reason for and the length of the shutdown and the required elements of the shutdown. A shutdown of 30 calendar days, or less, will be considered a project delay and will not be subject to the requirements of this section.

#### **C.6.2.15.1 Shutdown Mode 1: Emergency Shutdown**

In the event of a catastrophic system failure or threat to human health, safety, or the environment, the shutdown of operations shall be abrupt and immediate. All systems and operations shall be stopped and placed in a safe configuration and no equipment decontamination shall be required. This mode can be initiated by any project personnel in the event of threat to worker safety, public health, and/or the environment. Operations will remain shutdown until a mutual restart date is agreed upon by the Contractor, FDF, and if necessary, DOE, and the EPAs.

#### **C.6.2.15.2 Shutdown Mode 2: Short-Term Shutdown**

A short-term shutdown would occur to repair or replace failed equipment, perform scheduled system maintenance, resolve technical problems, or wait for materials. This mode shall be initiated by the Contractor in coordination with FDF. A short-term shutdown shall last no longer than six months, after which restart of the operations and facilities will be initiated following DOE Order 425.1 (Section C.5.4.1.4, Pre-operational Assessment Process). The operations shall remain shutdown until a mutual restart date is agreed upon by the Contractor and FDF.

Short-term shutdown would require the Contractor to shutdown the processing equipment in a safe, controlled manner leaving all equipment, facilities, and/or process areas in a configuration that ensures safety of workers and protection of the environment. Upon entering into a short-term shutdown, the Contractor shall revise the Inspections and Periodic Maintenance Plan to include requirements for inspection and interim maintenance of shutdown equipment (e.g., turning motors and lubrication) to prevent deterioration of equipment and facilitate restart. The Contractor shall perform any required periodic or routine maintenance during the shutdown periods as necessary to protect the equipment and facilitate rapid restart. The Contractor shall also ensure operations and facilities restart without major equipment replacements or maintenance delays.

**C.6.2.15.3 Shutdown Mode 3; Long-Term (Greater Than Six Months) or Final Shutdown Prior to Facility Shutdown and Dismantlement**

Long-term shutdown will be directed by FDF. This mode of shutdown shall require the Contractor to cease operations for a prolonged period of time, or at the completion of the project prior to facility shutdown and dismantling of the equipment. Operations shall remain shutdown until a mutual restart date and restart approach are agreed upon by the Contractor, FDF, and DOE. The restart of the operations and facilities after a long-term shutdown shall comply with DOE Order 425.1 as discussed in Section C.5.4.1.4, Pre-operational Assessment Process.

Long-term shutdown shall require the Contractor to shutdown the processing equipment in a safe, controlled manner to ensure all equipment, facilities, and/or process areas are in a configuration that promotes safety of workers and protection of the environment. Additionally, the internal components of equipment shall be emptied to the extent possible and decontaminated. Waste removed from the treatment process equipment must be managed in accordance with requirements of Section C.6.2.13.5 and the ARARs and TBCs in Attachment J.4.1. During long-term shutdown, except for final shutdown, the Contractor shall revise the Maintenance Plan to include requirements for inspection and interim maintenance of shutdown equipment (e.g., turning motors and lubrication) to prevent deterioration of equipment and facilitate restart. The Contractor shall perform any required periodic or routine maintenance during the shutdown periods as necessary to protect the equipment and facilitate rapid restart. Long-term shutdown, excluding final shutdown, will also ensure operations and facilities restart without major equipment replacements or maintenance delays.

**Lesson Learned #6: Use Ranges For Waste Characterization/Quantity Data Rather Than Specific Values**

Actual Silo 3 material will be sent to interested potential Contractor prior to issuance of the final RFP. Contractors will be required to demonstrate that their proposed stabilization process will successfully treat the Silo 3 material by submitting treatability test results with their proposal. Successful completion of this treatability test is a pass/fail criteria of the draft RFP. The Silo 3 Waste Project feels that this is a preferable approach to requesting fixed price and technical proposals based on detailed characterization data.

The Silo 3 draft RFP General Requirements for treatability testing is excerpted as follows:

**C.8.1 General Requirements**

The Contractor shall perform treatability testing at its own expense (Section L.9.2.2, Section II, Item K). The Contractor shall be provided with \_\_\_\_ grams of actual Silo 3 waste. The sample may not be representative of the entire contents of Silo 3. The Contractor shall develop a treatment formula range and Process Control Plan (Section C.6.3.1) that can handle the potential variability of radioactive and nonradioactive constituents in the Silo 3 wastes. The expected variability in concentrations of the Silo 3 waste constituents is represented in the OU4 RI data summary tables found in Attachment J.2. However, any constituent in Silo 3 may be present in significantly lower or higher quantities than shown in the tables. The objective of this study is to ensure the Contractor's proposed treatment method will meet the WAC of the Contractor's proposed disposal site. Testing will also establish a waste loading range and process control methods to be used in refining treatment methods and cost estimate.

The Contractor shall submit treatability samples to FDF for independent analysis and evaluation. The Contractor shall provide detailed laboratory notes on the treatability testing to FDF for review. The Contractor shall also schedule a site visit for FDF personnel to observe their treatability testing, if requested by FDF. (End of excerpt)

An estimate of the quantity of waste in Silo 3 is provided in the draft RFP (3,925 tons). There is sufficient information to believe that this estimate is reasonably accurate. However, the pricing arrangement in the draft RFP makes provisions for the possibility that the actual quantity of material treated may be more or less than the estimate. The pricing is for a fixed price per ton of Silo 3 waste actually treated. If the actual quantity treated is less than 3,925 tons, the price will be adjusted to allow the Contractor to fully recover its capital investment costs, which would otherwise have been under-recouped. Any tonnage treated above 3,925 tons will have its own fixed unit price in the contract, which will be based on the Contractor's recurring costs for treatment.

**Lesson Learned #7: Incorporate A Key Personnel Clause Into The Contract And Have Approval Authority Over Changes**

A key personnel clause has been included in the Silo 3 draft RFP, which gives FDF approval authority for contractor substitutions in these positions.

**H.16 KEY PERSONNEL**

**H.16.1**

The following Contractor positions are key to the performance of this contract:

Project Manager	Lead Operations Supervisor
Construction Manager	Health and Safety Representative
Operations Manager	Quality Assurance Representative
Lead Project Engineer	Radiological Controls Manager
Project Controls Manager	Contract Manager

The Project Manager shall provide oversight of project activities and shall not be involved in performing or supervising operations activities or construction.

**H.16.2**

The Contractor shall provide the FDF Contract Administrator, for each key position listed in Section H.16.1 above, a one or two page resume concisely identifying the following information in the sequence described in Section L.9.2.2, Section V.

**H.16.3**

The key personnel positions listed in Section H.16.1 are essential to the work being performed under this contract. FDF will approve all personnel assigned to these key personnel positions. Prior to diverting to other positions or substituting any of the individuals filling these key personnel positions, the Contractor shall notify the FDF Contract Administrator at least 30 calendar days in advance and shall provide the name and a resume of the proposed substitution in sufficient detail to permit evaluation by FDF of the impact of the change on the project. No diversion or substitution shall be made by the Contractor without the written consent of FDF.

**Lesson Learned #8: Incorporate Relevant Portions Of The Offeror's Proposal Into The Contract**

The Silo 3 draft RFP allows for incorporation of some portion of the Contractor's technical proposal into the contract, as appropriate.

**L.11 Incorporation of Technical Proposal**

Selected portions of the successful Contractor's technical proposal may be incorporated into the resulting contract as an attachment in Attachment J and, if incorporated, shall be contractually binding on the parties. Notwithstanding the above, in the event of conflict or ambiguity, nothing in the Contractor's technical proposal will be deemed to change or take precedence over any requirement set out elsewhere in the contract. After contract award, any request to change the provisions of the technical proposal shall be made in writing to the designated FDF official and shall not be implemented unless approved in writing by the authorized FDF official.

**Lesson Learned #9: Incorporate Into Proposal Evaluation Process (Consideration of)**

**a) Project Manager's Experience:**

The Silo 3 draft RFP includes an award criterion that specifically includes the Project Manager's experience in the evaluation process. Excerpts from the draft RFP follow:

**L.9.2.2.**

**Section V. Qualifications, Experience, and Technical Competence of Proposed Personnel**

For each proposed staff member/key personnel, the Contractor shall provide a one or two page resume concisely identifying the following information in the sequence described below. The Contractor shall provide resumes for key personnel to fill the following key positions: Project Manager, Construction Manager, Operations Manager, Lead Project Engineer, Lead Operations Supervisor, Health and Safety Representative, Quality Assurance Representative, and Radiological Controls Manager. (Reference Section H.16, entitled "Key Personnel"). The following format shall be used to present resume information:

Name

Company affiliation and current position

Total number of years experience with this firm and total number of years of relevant experience in radiological and environmental remediation work

Education; degree(s), date(s), school(s)

Professional registrations

Specific experience applicable to this project, including:

- Position and roles on each specific project;
- Time of performance on each specific project;
- Roles, responsibilities, and accomplishments; and
- Summary of DOE experience and accomplishments.

Contractor shall identify those projects described in Section VI (of L.9.2.2) below that this individual worked on and the individual's specific role on that project.

#### **M.4 Technical Evaluation Criteria**

All proposals that satisfy the pass/fail criteria will be evaluated for technical merit. In conducting its evaluation of the Contractors' proposals, FDF will be looking for the Contractors' demonstrated capabilities and experience (Section L.9.2.2 for a definition of "demonstrated experience"). The Technical Merit Evaluation Criteria are listed in descending order of importance as follows:

- Criteria M.4.1 and M.4.2;
- Criterion M.4.3;
- Criterion M.4.4; and
- Criterion M.4.5.

In order to be considered responsive and receive the maximum technical score, Contractors are cautioned to fully address all technical criteria in a comprehensive and professional manner.

##### **M.4.4.1**

Demonstrated qualifications, experience, and technical competence of the proposed key personnel (Section H.16).

##### **M.4.4.2**

Demonstrated qualifications and technical competence of the Contractors to perform work on similar types of projects to include:

1. Waste retrieval, material handling/transfer, and process control;
2. Stabilization/solidification, off-gas treatment and emissions control;
3. Waste sampling, analysis, and certification;
4. Packaging, transportation and disposal of radioactive waste at the NTS or a PCDF; and
5. Reprocessing waste that fail to meet WAC.

#### **Lesson Learned #9 continued: b) Corporate Experience:**

The Contractors' experience is highly emphasized in the draft RFP, both in the pass/fail criteria and in the evaluation criteria, as follows:

### M.3.1 Pass/Fail Criteria

Contractors' proposals will be evaluated against a set of pass/fail criteria that represent the minimum requirements a Contractor must satisfy. Any proposal that does not meet all the pass/fail criteria will be determined to be nonresponsive and will not be considered further for technical merit and cost. The Contractors must demonstrate the following pass/fail criteria:

- Contractors possess a suitable safety record and recent safety performance, as defined in Section L.14.3;
- Contractors demonstrate the ability to finance the capital investment of the Silo 3 Waste Project;
- Contractors' stabilization/solidification process is technically developed on a commercial basis (through previous remediation experience) and the treated waste would meet the waste acceptance criteria (WAC) as demonstrated by Silo 3 treatability tests using Silo 3 waste;
- Contractors possess radiological waste experience by demonstrating at least one project summary experience under DOE radiological engineering, monitoring, control, and As Low As Reasonably Achievable (ALARA) compliance programs;
- Contractors possess experience and ability in use of union labor and experience in performing remediation activities by demonstrating at least one project summary experience;
- Contractors possess experience with packaging, transportation, and disposal at the Nevada Test Site (NTS) or a permitted commercial disposal facility (PCDF) by demonstrating at least one project summary experience;
- Contractors possess remediation experience and ability by demonstrating at least one project summary experience in performing remediation activities at a site under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and
- Contractor's proposed disposal facility is licensed and/or permitted to both dispose the treated Silo 3 Waste classified under AEA Section 11(e)(2) as by-product material, and as waste generated under CERCLA.

#### **M.4.1 Processing and Operating Capabilities**

##### **M.4.1.1**

Demonstrated remediation experience that the proposed stabilization/solidification process has successfully retrieved and treated waste material of a similar scale and characteristics to those of the Silo 3 wastes.

##### **M.4.1.2**

Demonstrated understanding of the scope of work, complexity of the work programs and the ability to integrate complex programmatic requirements including Quality Assurance, Conduct of Operations, Maintenance, Pre-operational Readiness Assessments, Safety Analysis, System Operational Testing, ALARA, Radiological Protection and Engineering, and Multi-Union Labor Force Training and Management.

#### **M.4.2 Project Implementation Capabilities**

##### **M.4.2.1**

Capability to meet design, construction, start-up, operations, and waste shipping schedule requirements as defined in Section C.4.6 and C.4.7. In developing their schedule, the Contractors should demonstrate a clear understanding of the level of detail and time required to implement a remedial process and prepare documentation demonstrating regulatory compliance.

##### **M.4.2.2**

Capability of the Contractors to properly perform all detailed engineering design; design control; safety basis documentation; construction, including modular construction; and start-up.

##### **M.4.2.3**

Capability of the Contractors to manage a project of this size and duration at a DOE-owned site.

##### **M.4.2.4**

Demonstrated experience by the Contractors to perform a project of this size under CERCLA.

**M.4.2.5**

Capability of the Contractors to meet the management and control of the engineering design process as defined in Section C.5.1.2.4.

**Lesson Learned #9 continued: c) Risk Assessment Considering Technical, Cost, Schedule and Contractual Risk:**

The technical complexity of stabilizing Silo 3 waste by any of the technologies carried forward in the draft RFP is low. Commercially-proven stabilization processes currently exist and can be readily implemented. The physical, chemical, and radiological characteristics of Silo 3 waste also make the waste amenable to these treatment processes. Several of the Contractor on the Qualified Bidders List (QBL) have implemented or are implementing turn-key contracts to stabilize mixed waste at the FEMP. However, the risk still exists that off-specification waste products could be produced. To mitigate this risk, FDF will provide potential Contractor a sample of actual Silo 3 material to be used to demonstrate their treatment process prior to contract award. Successful demonstration of the process is a pass/fail criteria of the RFP. The Contractor will also be required to maintain a process control program during treatment operations to monitor Silo 3 waste characteristics and reduce the risk of producing off-specification waste products. Ultimately, the Contractor will be responsible for reprocessing treated waste that fails to meet the disposal facility WAC.

Because of the thorium-230 content of the Silo 3 waste and the highly dispersible form (powdery), the waste poses a significant inhalation hazard. This risk exists for workers during waste retrieval and treatment operations, and also in the event the concrete silo structural integrity is compromised. To mitigate these risks, the Contractor will be required to maintain a fully closed retrieval/operations system. Engineering controls, such as a ventilation system, will be designed into the system. Other necessary controls, such as personnel protective equipment (PPE) or respiratory protection will then be utilized by the workers. The existing OU4 Safety Basis requires any breaching of Silo 3 to be evaluated for silo integrity concerns.

The Silo 3 RFP is structured to allow payment only for actual Silo 3 waste treated and accepted at the disposal facility. Payments will be a fixed unit price per ton of Silo 3 waste. The measurement will be on a pretreatment basis, so that a Contractor will not receive additional payment for added weight or volume during the treatment process. Any capital costs, as well as design and other up-front costs, may be recouped by the Contractor only after successful performance. Separate payments will be made after the Contractor completes facility shutdown and dismantlement, and demobilization. In

addition, the Contractor will be required to maintain performance and payment bonds for the project.

**Lesson Learned #9 continued: d) Corporate Oversight/Project Management Process:**

The Silo 3 draft RFP requires the following proposal submission, which will be an evaluated item:

**C. Project Management**

Contractor shall describe the approach to the management, tracking, control, and execution of the project. Contractor is advised to demonstrate their ability to manage a complex project of the size and duration of the subject project of this RFP. Contractor should refer to their inventory of projects submitted in Section VI to substantiate their demonstration. Contractor is particularly advised to refer to their remedial experience at DOE owned and operated site(s), where possible. Contractor shall provide an organizational chart indicating their planned organizational structure for this project.

**Lesson Learned #9 continued: e) Contractor's Baseline and Change Control Process:**

The Silo 3 stabilization contract will be managed by FDF. The privatized Contractor's schedule will be incorporated into the approved FEMP baseline through FDF. Control of Contractor changes will be managed in the same way as DOE currently manages any other project changes through its configuration control process. This is not an evaluation criterion in the draft RFP.

**Lesson Learned #9 continued: f) Proposed Progress Reporting:**

The Silo 3 draft RFP requires that detailed project schedules be developed, and updated on a weekly basis. In addition, Weekly Activity Reports shall be submitted to FDF to provide a detailed project status. These schedules and reports will be presented by the Silo 3 Contractor to DOE and FDF at weekly progress meetings.

See Lesson Learned #2 for scheduling and reporting text from the Silo 3 draft RFP.

**Lesson Learned #10: Ensure That The DOE/FDF Project Team Has The Proper Experience/Skills Mix**

The Silo 3 DOE/FDF project team possesses a wealth of experience on successfully completed projects at Fernald, at other DOE sites, and outside of DOE. Strengths of the team include technical background, project management experience, turn-key subcontracting experience at the FEMP and elsewhere, and FEMP project execution lessons learned. The following individuals comprise the core management team of DOE and FDF:

- Jack Craig, DOE-FEMP, Project Manager
- Nina Akgunduz, DOE-FEMP, OU4 Team Leader
- Gordon Brown, DOE-FEMP, OU4 Facility Representative
- Loretta Parsons, DOE-FEMP, Contracting Officer
  
- Don Paine, FDF, Silos Project Acting Vice President
- Karen Wintz, FDF, Silo 3 Project Manager
- T. Jeff Stone, FDF, Silo 3 Stabilization Contract Lead
- Paul Sturgeon, FDF, Silo 3 Project Support Lead
- Steve Beckman, FDF, Silo 3 Regulatory Documentation Lead
- Claude Griffin, FDF, Silo 3 Small-Scale Waste Retrieval Lead
- Ed Green, FDF, Source Selection Official
- Don Castle, FDF, Procurement Representative
- Lavon Rutherford, FDF, Safety & Health Representative
- Larry Sexton, FDF, QA Representative

**Lesson Learned #11: Avoid Over Committing DOE Regarding The Budget Formulation Process- i.e. Specifying What DOE Will Request In BA For The Project**

Budget Authority (BA) has been requested in an amount to cover the estimated capital investment portion of the Silo 3 contract. This amount is based on a preconceptual estimate at this time, as neither the stabilization technology nor the specific Contractor process will be determined until the time of contract award.

The entire project cost will be funded up front either through privatization BA or EM-40 funding for the FEMP.

**Lesson Learned #12: Establish A D&D Escrow Fund Via The Contract If Applicable**

Safe Shutdown and Dismantlement of the Silo 3 Contractor's waste retrieval and treatment facilities, as well as Demobilization of the Contractor from the FEMP, will be fully funded at the time of contract award, as line items 003, 004, and 005 of the contract, respectively. The draft RFP stipulates the requirements which must be satisfied prior to FDF providing approval for the Contractor to proceed with each of these portions of the work scope.

Silo 3 Lessons Learned Document  
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**Lesson Learned #13: Incorporate Relevant Portions of DOE Orders Into The Contract Using The SRIDS/Work Smart Process- Do Not Specify The Entire Order**

The Silo 3 Contractor must comply with all Applicable or Relevant and Appropriate Requirements (ARARs) and To Be Considereds (TBCs) contained in the ROD for OU4. The Standards/Requirements Identification Document (S/RIDs) identify the DOE requirements which are applicable to FDF work at the FEMP. The draft RFP for the Silo 3 Waste Project specifies the applicable DOE requirements that must be met by the Contractor as identified in the S/RIDs for FDF. The draft RFP utilizes a graded approach and lessons learned to providing direction for compliance with the S/RIDs. In some instances FDF procedures, which have been developed to comply with the S/RIDs, are included in Section J (attachments) of the draft RFP as examples of the activities necessary to demonstrate compliance. In other instances, based on site lessons learned, the draft RFP specifically directs the Contractor on how to perform work to demonstrate compliance.

**Lesson Learned #14: Workforce Arrangement**

Under the terms of FDF's Collective Bargaining Agreement (CBA) with the Fernald Atomic Trades & Labor Council (FAT&LC), work under the jurisdiction of FAT&LC is to be performed by FAT&LC workers employed by FDF. In that the CBA identifies that certain of the Silo 3 remediation activities are to be performed by FAT&LC workers, the Silo 3 draft RFP accordingly states that FDF will provide for the Contractor's use, the workforce required to perform the portion of the work. The number and mix (i.e., crafts) of this workforce is to be established by the Contractor based on the particulars of its remedial operations. Section C.9 of the draft RFP goes into detail as to how this labor agreement is to work, including the planned participation by FDF in this labor management process. This FDF participation is established to ensure consistency across the FEMP, from the standpoint of FDF Industrial Relations administration and interpretation of the CBA. In addition, this FDF participation is set forth in the use of FDF Team Leaders (Section C.9.3.1) who will act as subject matter experts for the Contractor in terms of providing day-to-day advice and interpretation of the CBA, as well as coordinating activities such as disciplinary action, the employee replacement process, overtime scheduling, etc. This FDF Team Leader will work cooperatively with the Contractor supervisor, who will be responsible for overseeing the technical direction of the FAT&LC workforce. The draft RFP also provides labor arrangement details associated with necessary planning activities, workforce staffing requirements, the handling of disputes and disciplinary actions, work hours, etc. This type of workforce arrangement has been successfully used, on a smaller scale, in other projects at the FEMP, and the discussions provided in Section C.9 reflect lessons learned from those projects.

**Lesson Learned #15: Independent Estimate Process**

The Independent Government Estimate (IGE) may be prepared only after issuance of the final RFP, when all identified comments have been resolved. In addition, one or more significant amendments to the RFP could be issued as a result of potential Contractors' input at the preproposal meeting. FDF will prepare an IGE, in accordance with existing procedures, prior to receipt of the initial Contractor proposals. This is currently scheduled for July 1998.