



**Department of Energy**

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**MAY 26 1998**  
**DOE-0800-98**

**Mr. Gene Jablonowski, Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V, SRF-5J  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590**

**Mr. Tom Schneider, Project Manager  
Ohio Environmental Protection Agency  
401 East 5th Street  
Dayton, Ohio 45402-2911**

**Dear Mr. Jablonowski and Mr. Schneider:**

**COMMENT RESPONSES/REVISIONS TO THE DRAFT IMPLEMENTATION PLAN FOR  
ABOVE-GRADE DECONTAMINATION AND DISMANTLEMENT OF THE SEWAGE  
TREATMENT PLANT COMPLEX**

- References:
- 1) Letter from Jablonowski to Reising, "Technical Review Comments on Sewage Treatment Plant Complex Implementation Plan for Above-Grade Decontamination and Dismantlement," dated April 2, 1998.
  - 2) Letter from Schneider to Reising, "DOE-FEMP Comments: STP Complex Implementation Plan," dated May 1, 1998.

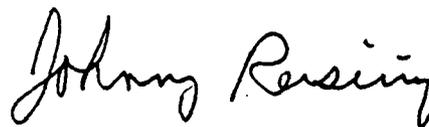
Please find enclosed Department of Energy (DOE) responses to the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) comments to the February 1998 draft Sewage Treatment Plant (STP) Complex Implementation Plan for Above-Grade Decontamination and Dismantlement (D&D). Although DOE does not believe that any of the comments from the regulatory agencies would prevent implementation of the project within the next 30 days, it is DOE's intention to begin STP Complex D&D mobilization on May 26, 1998. Therefore, to avoid proceeding at risk, it is requested that resolution of these comments/responses be obtained by that date. A conference call with the Agencies to resolve any outstanding issues with these responses would be welcomed.

The U.S. EPA comments, dated April 2, 1998, included three General Comments and five Specific Comments. The OEPA comments, dated May 1, 1998, included a total of twelve

comments. The enclosed comment response package consists of three sections: 1) a reiteration of the U.S. EPA and OEPA comments followed by a DOE response and description of action taken; 2) a table that identifies significant DOE enhancements made to the draft version; and 3) redline/strikeout change pages of the Implementation Plan, which were prepared as a result of the U.S. EPA and OEPA comments and significant DOE enhancements. Upon final resolution of these comments, DOE will prepare the Implementation Plan in final form for distribution.

If you have any questions, please contact Art Murphy at (513) 648-3132.

Sincerely,



Johnny W. Reising  
Fernald Remedial Action  
Project Manager

FEMP:Murphy

Enclosure: As Stated

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**OPERABLE UNIT 3**

**SEWAGE TREATMENT PLANT COMPLEX  
IMPLEMENTATION PLAN  
FOR ABOVE-GRADE  
DECONTAMINATION AND DISMANTLEMENT**

**COMMENT RESPONSE PACKAGE**



MAY 1998

**FERNALD ENVIRONMENTAL MANAGEMENT PROJECT  
FERNALD, OHIO**

**U.S. DEPARTMENT OF ENERGY  
FERNALD AREA OFFICE**

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## INTRODUCTION

United States Department of Energy (DOE) comment responses have been provided on the following pages to address United States Environmental Protection Agency (U.S. EPA) and Ohio EPA comments to the February 1998 draft Sewage Treatment Plant (STP) Complex Implementation Plan for Above-Grade Decontamination and Dismantlement. The U.S. EPA comments, dated April 2, 1998, include three General Comments and five Specific Comments. Ohio EPA comments, dated May 1, 1998, include a total of twelve comments.

This comment response document is divided into three sections, which are described below:

- Section 1:** Includes a reiteration of U.S. EPA and Ohio EPA comments to the draft STP Complex Implementation Plan, each of which is followed by a DOE response and description of action taken.
- Section 2:** Identifies significant DOE enhancements made to the draft version.
- Section 3:** Includes the redline/strikeout change pages of the Implementation Plan, which were prepared as a result of U.S. EPA/Ohio EPA comments and significant DOE enhancements. These change pages represent the draft final version of the document. Upon approval of the revisions provided in this comment response package, the implementation plan will be prepared in final form for distribution.

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U.S. EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses

U.S. EPA GENERAL COMMENTS

U.S. EPA General Comment #1

*As part of the Operable Unit (OU) 3 decontamination and dismantlement (D&D) project at the Fernald Environmental Management Project, the U.S. Department of Energy (DOE) researched and evaluated D&D technologies for incorporation in OU3 remedial activities. It is not clear whether DOE is incorporating or promoting use of D&D technologies for the Sewage Treatment Plant (STP) Complex. DOE should revise the implementation plan to include a section that discusses potential or planned applications of D&D technologies.*

DOE Response

Agree. Although the source of labor for the STP D&D project will be the Site Support Contractor, as discussed in Section 5 of the Implementation Plan, DOE has decided to deploy several technologies in the process of dismantling STP Complex structures. The chosen technologies are devices used for shearing and ramming that may be individually mounted on a trackhoe or skid steer, and the oxy-gas torch. These devices were procured under the Accelerated Site Technology Deployment (ASTD) program. Since the STP Complex D&D project is not being contracted out to a D&D contractor under the typical Invitation for Bid/Request for Proposal (IFB/RFP) approach, in which the prospective contractor would propose potentially new and innovative D&D technologies to meet performance specification criteria, DOE decided that it would be cheaper and faster to use technologies that are already available at the site. In fact, due to the economies of scale and the simplicity of D&D (i.e., the STP Complex is one of the smallest and least difficult D&D projects), use of the Site Support Contractor rather than a contractor obtained through the IFB/RFP process was the most practical and cost-saving approach.

DOE Action:

Section 2.5.3 of the implementation plan has been enhanced to reflect the use of specific technologies. Please refer to page 26, lines 27-30, and page 27, lines 1-13, contained in Section 3 of this package, which show the revised text in redline/strikeout form.

U.S. EPA General Comment #2

*Section 5.0 provides information regarding DOE's management of the site support contractor. The recent problems experienced with subcontractor management during OU3 D&D activities raises a concern regarding the effectiveness of DOE's field oversight of OU3 site support contractors. The implementation plan should be revised to provide additional detail regarding the frequency of DOE field oversight and DOE efforts to prevent subcontractor performance problems (see Original Specific Comment No. 5).*

DOE Response

Lines 8-18 on page 37 of the February 1998 draft implementation plan address the measures that DOE will take to oversee subcontractor performance. The existing text also identifies the frequency of oversight by stating "weekly coverage". In regards to U.S. EPA's concern for the effectiveness of DOE's field oversight of OU3 D&D contractors, it is precisely the effectiveness of DOE oversight that lead to recent findings that a D&D contractor did not properly follow approved Safe Work Plan procedures. The findings from DOE oversight have been shared with both agencies and the stakeholders in monthly project status meetings.

U.S. EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)

Furthermore, as a result of DOE concern for the D&D contractor's actions, DOE has reinforced the importance that D&D contractors to plan their work and work the plan.

For the STP Complex D&D project, DOE will continue its diligent oversight of field activities. The Environmental Management Contractor, Fluor Daniel Fernald, will provide instruction to the Site Support Contractor on all Safe Work Plans during the mobilization kick-off meeting and, during tool box briefings, stress the requirement that the Site Support Contractor adhere to all work scope conditions, procedures, and Safe Work Plans developed for each D&D activity.

DOE Action:

DOE believes that the current language in Section 5 of the Implementation Plan adequately describes the detail of DOE oversight and frequency. Regarding FDF project management oversight on the STP Complex D&D project, the third bullet in on page 38 has been revised to incorporate details regarding the alignment meeting and the daily work briefing discussed above. Please refer to the redline text on page 38, lines 26-28, for the revision made in response to this comment.

U.S. EPA General Comment #3

*Appendix B addresses recycling and reuse of structural steel (accessible metals) associated with the STP Complex. First, no information is provided regarding whether recycling and reuse alternatives exist for other types of STP Complex materials. Such information should be provided. Second, the text indicates that disposal alternatives for structural steel do not meet the threshold-phase cost criteria based on "recent" or "current" Plant 4 Case Study cost data. The cost data for the Plant 4 Case Study was presented at a public meeting on July 8, 1997. DOE should provide the actual date of the cost data and not the date that it was presented at a public meeting. The cost data is likely to be over 1 year old by the time STP Complex activities are initiated and will require validation. Third, the text at the end of the appendix indicates that a re-evaluation of the disposition alternatives would be considered should vendor or market conditions change significantly prior to disposal of the structural steel in the On-Site Disposal Facility. DOE should confirm that it will investigate and evaluate recycling and reuse alternatives for structural steel and other STP Complex materials before STP Complex activities begin. The text should be revised to address these issues.*

DOE Response

Regarding evaluation of material types other than structural steel for potential recycling, the only other significant material type to be generated from STP Complex demolition is concrete/cinder block. Because this material has little or no intrinsic value, and because of the difficulties associated with receiving approval for radiological release of porous (and therefore volumetrically contaminated) materials, the economics of recycling this material (as opposed to On-Site Disposal Facility placement) would be very unfavorable. Unless On-Site Disposal Facility placement costs increase drastically, or some dramatic breakthrough occurs concerning the technical feasibility or economics of concrete recycling, there is no reason to believe that any alternative other than On-Site Disposal Facility placement (which is the selected remedy in the Operable Unit 3 Record of Decision) would pass the Total Cost Threshold.

Regarding structural steel, the cost data for the Plant 4 Case Study were originally dated

**U.S. EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)**

September 27, 1996. As indicated in Table B-1, no alternative evaluated comes within 675% of the cost of OSDF placement. Although changes in interest rates, wage rates, or other factors may have occurred since the Plant 4 Case Study data were generated, it is extremely unlikely that the impact on the total cost comparison could amount to any more than a few percent. Since a change of 625% would be required before any alternative besides On-Site Disposal Facility placement could receive further consideration, no additional effort is planned to evaluate recycling of STP Complex structural steel.

DOE Action:

Appendix B has been revised to reference the actual date for the cost data cited in the Plant 4 Case Study. Please refer to line 20 on page B-1 in Appendix B, which shows the added text in redline form as a result of this comment.

**U.S. EPA SPECIFIC COMMENTS**

U.S. EPA Specific Comment #1

*The text [Section 1.2, p.2, lines 19-20] discusses the scope of work for the STP Complex. The text indicates that Component 25D is not included in the scope of the plan because 75 percent of the component is below grade. DOE also indicates that Component 25D is included in the scope of the Area 1, Phase II (A1PII) excavation project. It is not clear why the 25 percent above-grade portion of the component is not included in the scope of the plan, nor is it clear how the A1PII excavation project would address D&D of the above-grade portion of the component. The text should be revised to address these issues.*

DOE Response

STP Complex D&D design revealed that there is no benefit to removal of the above-grade portion of the building (estimated to be 25 percent or three feet above grade) during the above-grade D&D project. In fact, due to the cinder block construction of the building, the integrity of the below-grade remnants (cinder block walls and concrete floor) would present a serious safety hazard for the several months prior to at- and below-grade dismantlement. Safety barriers would have to be erected around the open pit and inspections and maintenance would be necessary. Additionally, the newly created pit would collect rainwater, which would have to be pumped, collected, and probably treated.

The strategies and methods for D&D of Building 25D and other at- and below-grade structures are being addressed in the revisions to the Implementation Plan for Area 1 Phase II Soil Characterization and Excavation Project (SCEP). As noted in Section 3.2.7 of the OU3 Integrated Remedial Design/Remedial Action Work Plan (May 1997), the planning and performance details for at- and below-grade dismantlement will be addressed by the SCEP. Other than ensuring that above- and below-grade dismantlement projects were coordinated and integrated (i.e., break lines established), STP Complex D&D design did not address at- and below-grade dismantlement strategies.

DOE Action:

No changes to the implementation plan text.

**U.S. EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)**

U.S. EPA Specific Comment #2

*The text [Section 1.2, p.2, line 33] states that DOE will provide notification to the regulatory agencies of any significant changes to the design before its implementation. DOE should clarify and provide an example of what is meant by a significant change in terms of the STP Complex.*

DOE Response

A significant change is one that requires a change to the Certified for Construction (CFC) design package that alters the implementation strategy represented in the implementation plan. An example of such a change would be a modification to the work scope condition/specification that would allow a new or innovative structural decontamination or dismantlement technique not previously stated in the implementation plan.

DOE emphasizes that it has agreed to provide notification of significant changes to the design prior to their implementation. Should U.S. EPA have any concerns regarding any significant design change, DOE will properly address those concerns as soon as practicable. It is also emphasized that there may be instances during field implementation of each D&D project where circumstances dictate that changes must occur rapidly to abate potentially serious situations (e.g., worker safety) and DOE may need to act immediately.

It is believed that the DOE's practice of advance notification for any significant change, which has been in place for the previous D&D projects, meets the commitments made in the OU3 Integrated RD/RA Work Plan. The OU3 Integrated RD/RA Work Plan describes in Section 4.2.2 the process that has been agreed upon by both U.S. EPA and Ohio EPA to address design changes. That provision is provided below:

Construction Change Requests/Engineering Change Proposals

As OU3 remediation progresses, the original design may require modification. At that time the remedial design subcontractor will perform any additional design required to address the field modification. Significant changes to the design will require CFC modification and may require that affected activities be suspended until the revision has been completed and approved. At the same time, while the CFC remedial design is being revised, DOE will determine, in consultation with the U.S. EPA, if there is a need to perform either of the following: amend the RODs; submit to U.S. EPA an explanation of significant difference to the RODs; amend this work plan; and/or amend the implementation plan. Since each design package will provide performance-based specifications rather than detailed specification, it is not anticipated that a CFC remedial design will require significant changes.

The RD/RA Work Plan provision above outlines the commitment for DOE to consult with U.S. EPA on significant changes to determine the proper course of action. DOE believes that rather than list all potential examples of what would and would not require prior approval, both U.S. EPA and DOE will have an opportunity prior to implementation of a significant change to discuss any concerns related to a particular example and whether or not formal approval is required.

DOE Action

The final paragraph of Section 1.2 reaffirms the DOE's intent to inform the regulatory agencies of any significant changes to the design prior to implementation and no further action is

U.S. EPA Comments on the Draft STP Complex  
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(Continued)

believed to be necessary.

U.S. EPA Specific Comment #3

*The text [Section 2.3.4, p.11, lines 20-27] refers to commingling of OU3 debris categories A, B, D, and E. Commingling of debris is acceptable contingent upon DOE's ability and commitment to track the quantities of the various waste categories in interim storage.*

DOE Response

OU3 Debris Categories A, B, D, and E debris are classified as OSDF Category 2 material. Therefore, commingled Debris Categories A, B, D, and E quantities will be tracked in SWIFTS/Integrated Information Management System (IIMS) under a new, discreet Material Evaluation Form that corresponds to Impacted Material Category 2. Since the volume of commingled debris will represent a combination of waste streams, proportions of OU3 debris categories within that total volume will be derived (for the purpose of reporting in the Project Completion Report) based on original estimates to identify and track waste volumes by OU3 debris category.

DOE Action

Section 2.3.4 has been revised to reflect the clarification provided above. Additional clarifications were also made to the strategy on commingling. Please refer to redline text on page 11, lines 22-25, and page 15, lines 5-20.

U.S. EPA Specific Comment #4

*The text [Section 4.0, p. 35, lines 11-13] states that significant delays in STP startup would likely necessitate reconsideration of the STP Complex D&D project milestones for completion of field activities and submittal of the project completion report. DOE should revise the text to state that it will notify the regulatory agencies of any proposed schedule modifications.*

DOE Response

Agree.

DOE Action:

The text has been revised as requested. Please refer to the redline text on page 36, lines 13-15.

U.S. EPA Specific Comment #5

*The text indicates that the DOE Fernald Area Office will conduct field oversight to monitor construction, engineering, quality assurance, and health and safety activities. In light of recent subcontractor problems at OU3, DOE should revise the text to specify the frequency of its field oversight and to clarify how it will prevent subcontractor performance problems and schedule delays.*

DOE Response

Please refer to the response given for U.S. EPA General Comment #2, which addresses the same comment.

**U.S. EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)**

**DOE Action:**

Please refer to "DOE Action" in response to U.S. EPA General Comment #2.

**Ohio EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses**

**OHIO EPA GENERAL COMMENTS**

Ohio EPA Comment #1

*Ohio EPA does not believe that the OSDF is the proper disposition location for the incinerator refractory brick. Ohio EPA believes the incinerator is most appropriately characterized as process related equipment. The contents of which should be dispositioned off-site. The fact that no decontamination of the bricks is possible, as stated in the plan, provides further basis for concluding the material should be dispositioned off-site.*

DOE Response:

The STP Incinerator refractory material (brick and mortar) will be visually inspected for *visible process residues* as stated in the work scope condition/specification — Removing/Fixing Radiological Contamination. That condition/specification clearly defines what is to be considered as "visible process residues". Recognizing that the refractory material is not amenable to decontamination (i.e., removal of the residues), any portion of the refractory material that exhibits visible process residues will be categorized as OU3 Debris Category C, which would require disposal at NTS as required under the OU3 ROD. Accordingly, as also provided in the OU3 ROD, debris that meets OSDF waste acceptance criteria will be disposed of in the OSDF in the safest practical manner.

DOE Action:

No revisions to text are necessary.

Ohio EPA Comment #2

*The issue of refractory brick brings up a similar unresolved issue regarding the refractory brick from the plant 4 furnaces. The September 1997, Plant 4 final report states, Final disposal will be resolved in the near future and will be reported to the USEPA and Ohio EPA. Please provide an update on this waste stream.*

DOE Response:

The refractory brick from the Plant 4 furnaces is different from that of the STP Incinerator. Plant 4 refractory brick is asbestos-containing (STP Incinerator refractory is not) and was already packaged in a manner that is acceptable for NTS shipment. OSDF shipment of the Plant 4 refractory brick would require extensive repackaging, which would result in safety concerns and increased costs. Therefore, off-site disposition to NTS is currently planned.

DOE Action:

None. Response only.

**OHIO EPA SPECIFIC COMMENTS**

Ohio EPA Comment #3

*[Re: Section 1.2, Pg. 3, lines 3-5] Please define what is meant by a significant change that will require agency review and approval.*

DOE Response:

A significant change is one that requires a change to the Certified for Construction (CFC) design package that alters the implementation strategy represented in the implementation plan.

**Ohio EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)**

An example of such a change would be a modification to the work scope condition/specification that would allow a new or innovative structural decontamination or dismantlement technique not previously stated in the implementation plan.

Please refer to the explanation given in the DOE response to U.S. EPA Specific Comment #2 for further explanation.

DOE Action:

The final paragraph of Section 1.2 reaffirms the DOE's intent to inform the regulatory agencies of any significant changes to the design prior to implementation and no further action is believed to be necessary.

Ohio EPA Comment #4

*[Re: Section 2.3.4, Pg. 14, lines 14-17] DOE must provide more detail regarding the temporary stockpiling. Details regarding maximum duration, stormwater controls, etc., need to be included.*

DOE Response:

Due to the limited number of available Roll-off Boxes (ROBs) and the priorities for their use by other on-going D&D projects, it is still uncertain whether the needed ROBs for the first STP debris (requiring ROBs) will be delivered prior to their generation. Due to the resequencing of the Skeet Range Building to later in the D&D schedule and the delay of dismantlement of the STP Incinerator loading dock to approximately one month after start of field activities (to allow greater STP Incinerator containment preparation time), it is anticipated that minimal stockpiling will occur. The expected duration, based on the current plan and barring bad weather, is approximately two weeks. Details regarding stormwater controls are provided by the Work Scope Condition/Specification — Mobilization, Demobilization and General Site Requirements, which has also been revised per Ohio EPA Comment #10.

DOE Action:

Additional detail has been added to the referenced text in Section 2.3.4 regarding debris stockpiling. Please refer to the redline text on Page 14, lines 27-32, and page 15, lines 1-3. Additional direction has also been provided in the above-referenced Work Scope Condition/Specification. Please refer to the redline/strikeout text in Article 3.1.G.1 on Page 4 of the Mobilization, Demobilization and General Site Requirements Work Scope Condition/Specification, located in Section 3 of this comment response package.

Ohio EPA Comment #5

*[Re: Section 2.4, Pg. 19, lines 19-27] The IEMP air monitor station AMS-3 is located NNE of the STP. The MEI was modeled to be 715m SSE of the STP. An air monitor should be placed near the MEI.*

DOE Response:

The computer modeling results have been revised due to a reporting error in the February draft Implementation Plan. The correct computer modeling result for Effective Dose Equivalent is  $1.3 \times 10^{-3}$  mrem/year, and the MEI is located 714 meters east-southeast. The modeling result of a maximum projected Effective Dose Equivalent of  $1.3 \times 10^{-3}$  mrem/yr is still orders of

Ohio EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)

magnitude below both the NESHAP standard of 10 mrem/yr and the point-source monitoring guideline of 0.1 mrem/yr. DOE does not plan to either move any existing monitors or add any additional monitors due to several key reasons. The primary reason is that the STP Incinerator was the only STP component found to be a potential source for airborne radiological contamination; however, the CAP88PC model conservatively looked at the dismantlement of that structure prior to any decontamination (removing/fixing of radiological contaminants) and *without* any engineering controls. As described in Sections 2.4 and 3.4 of the Implementation Plan, decontamination will precede dismantlement, and throughout decontamination and dismantlement engineering controls (enclosure, HEPA ventilation, encapsulation of all surfaces, etc.) will be used. The other key reason, which is represented as another primary consideration in determining appropriateness of monitoring in Section 3.6.2.1 of the Integrated RD/RA Work Plan, is the short duration of the activity. Following the establishment of an enclosure around the STP Incinerator, the duration of D&D of that structure is less than three weeks. Since the data would not be available to project management until after a two-week sampling and analysis period, there would not be much use for the information during the last few days of dismantlement.

DOE Action:

Text has been revised to reflect the corrections referenced above. Please refer to the redline/strikeout text on page 20, lines 20-28, which is included in Section 3 of this response package.

Ohio EPA Comment #6

*[Re: Section 2.5.3, Pg. 26, line 5] Typo, second word of this line.*

DOE Response:

Comment acknowledged.

DOE Action:

The typo has been corrected. Please refer to the redline/strikeout text on page 27, line 14, located in Section 3 of this comment response package.

Ohio EPA Comment #7

*[Re: Section 3.5, Pg. 32, lines 24-25] The Skeet Range Building is located on Figure D-10, not D-9 as indicated. Please correct.*

DOE Response:

Comment acknowledged.

DOE Action:

Please refer to the redline/strikeout text on page 33, lines 25-26, located in Section 3 of this comment response package.

Ohio EPA Comment #8

*[Re: Section 3.6, Pg. 33, lines 29-30] The removal of electrical cable was scheduled for April*

**Ohio EPA Comments on the Draft STP Complex  
Implementation Plan and DOE Comment Responses  
(Continued)**

*1998. Was the schedule met? If not, please correct.*

DOE Response:

The CG&E High Tension Electrical Tower has been removed from the scope of the STP Complex D&D project. Please refer to the explanation for DOE Significant Enhancement No. 1 located in Section 2 of this comment response package.

DOE Action:

Please refer to the revisions identified under DOE Significant Enhancement No. 1, located in Section 2 of this comment response package.

Ohio EPA Comment #9

*[Re: Appendix A, Pg. A-2, lines 25-27] Please cite the reference which states that 25% of the workers should be monitored with occupational air samplers when entering a radiological controlled area.*

DOE Response:

The FDF Radiological Control Requirements Manual is the source of the requirement for 25% coverage for occupational air monitoring within a contamination area, high contamination area, or an airborne radioactivity area where there is a potential to exceed 10% of the appropriate Derived Air Concentration (DAC).

DOE Action:

The text has been revised to be more specific. Please refer to the redline/strikeout text on page A-2, lines 27-30, and page A-3, lines 1-3, under the subheading of Radiological Air Monitoring.

Ohio EPA Comment #10

*[Re: Appendix C, Mob, Demob... Pg. 14, Article G.1] The use of hay bales as storm water controls is not acceptable. Ohio EPA has commented on this in numerous other documents and was under the impression that this had been a site-wide change. The text should be revised.*

DOE Response:

Agree. The reference to straw bales has been deleted from the specification. Storm water control will be performed in accordance with the Ohio Department of Natural Resources design standard for erosion and sediment control ("Rain Water and Land Development Manual"). The referenced Work Scope Condition/Specification has been revised to require that staked silt fences be used rather than allowing straw bales as an option. Future project D&D specifications will reflect this change as well.

DOE Action:

Please refer to the strikeout text shown on page 4 of the Work Scope Condition/Specification — Mobilization, Demobilization and General Site requirements, located in Section 3 of this comment response package.

Ohio EPA Comments on the Draft STP Complex  
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(Continued)

Ohio EPA Comment #11

*[Re: Appendix C, Structural Steel Dis., Pg. 2, Article 3.2.C.2] The use of Category 1 & 2 types of steel may lead to confusion with OSDF Category 1 & 2 type materials. Ohio EPA recommends use of different terminology for steel segregation.*

DOE Response:

Agree. The category designations have been revised to avoid confusion. Although it has been initially decided pursuant to the recycling evaluation (see Appendix B of the STP Complex Implementation Plan) that structural steel will not be managed for potential recycling, this provision of the Structural Steel Dismantlement condition/specification has been revised to reflect the potential execution of such an option in the Task Order Scope of Work if there is a decision at some point later in the project to recycle.

DOE Action:

Please refer to the redline/strikeout text shown on page 2 of the Work Scope Condition/Specification — Structural Steel Dismantlement, which has been included in Section 3 of this comment response package.

Ohio EPA Comment #12

*Several diagrams are difficult to read due to the poor copies, i.e., Figure D-2, Figure D-6, D-7, etc.*

DOE Response:

The original CAD drawings are unfortunately of poor quality to begin with and, due to the reduction from the full D-size drawing to 11 x 17 inches for the implementation plan, the reproduction quality suffered further. Since it is not possible to improve the reproduction quality of these drawings for the Implementation Plan, DOE will make available full size drawings upon request.

DOE Action:

Should Ohio EPA or any stakeholder desire to see full size drawings, DOE will make available full size drawings upon request.

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## SECTION 2

**Other Significant DOE Enhancements to the  
Draft STP Complex Implementation Plan**

The references identified in the table below identify significant DOE enhancements made to the draft implementation plan resulting from the need to provide greater clarification on certain topics as well as provide significant updated information. The table provided below also identifies the basis for each enhancement. The referenced pages are included in Section 3 of this document.

**Significant DOE Enhancements**

Significant DOE Enhancements to Draft (Pg./Line Nos.)	Basis for Enhancement
1. Figure 1-1, Tables 2-2, 2-3, 2-4, Sections 2.1, 2.3.5, 3.6, and Figures D-11 and E-9 (removed)	Removed the Cincinnati Gas & Electric (CG&E) High Tension Electrical Tower from the project scope. This decision was made due to unsettled negotiations with the regional power utility, CG&E, regarding safe work plans on removal of transmission line, which must precede the tower removal. CG&E indicated that it would not be able to remove the cable prior to the STP D&D project NTP date. This structure will now be dismantled under the scope of the Miscellaneous Small Structures D&D Project and be reflected in the next version of the implementation plan for that project.
2. Page 7, Section 2.1, lines 8-19	The sequence of D&D has been revised to reflect the placement of Component 28F later in the sequence due to later availability of dismantlement technology (shear). Still, the shear will be used on Component 28F outside the STP radiologically controlled area before being used on STP radiologically controlled components. Other revisions to the sequencing text were also made for clarification.
3. Page 12 (Table 2-2)	Waste estimates were updated to reflect current estimates. Additional clarification added to Footnote No. 3.
4. Page 14, Section 2.3.4, lines 12-21; Work Scope Cond./Spec for Removing/Fixing Rad. Contamination, page 2	Clarification has been added to the need for visual inspection of debris from the STP Complex based on the non-process history of the components. Aside from the potential for visible process residues on refractory lining/brick, no other equipment/systems in the Complex will require inspection for visible process residues since none operated in a nuclear processing function.
5. Page 35, lines 13-15	Per request of the SCEP, Area 1 Phase II Project, post indicator valves (PIVs) will remain in place for below-grade excavation to facilitate pipe removal.

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**SECTION 3****Redline/Strikeout Pages Resulting from U.S. EPA/Ohio EPA Comments  
and DOE Enhancements to the Draft STP Complex Implementation Plan**

The pages contained in this section are shown in redline/strikeout form to show how text from the draft version of the implementation plan was affected by U.S. EPA/Ohio EPA comments and DOE responses presented in Section 1, and by DOE enhancements identified in Section 2. Upon approval of the revisions contained in Section 3, the redline/strikeout markings will be removed to finalize the document.

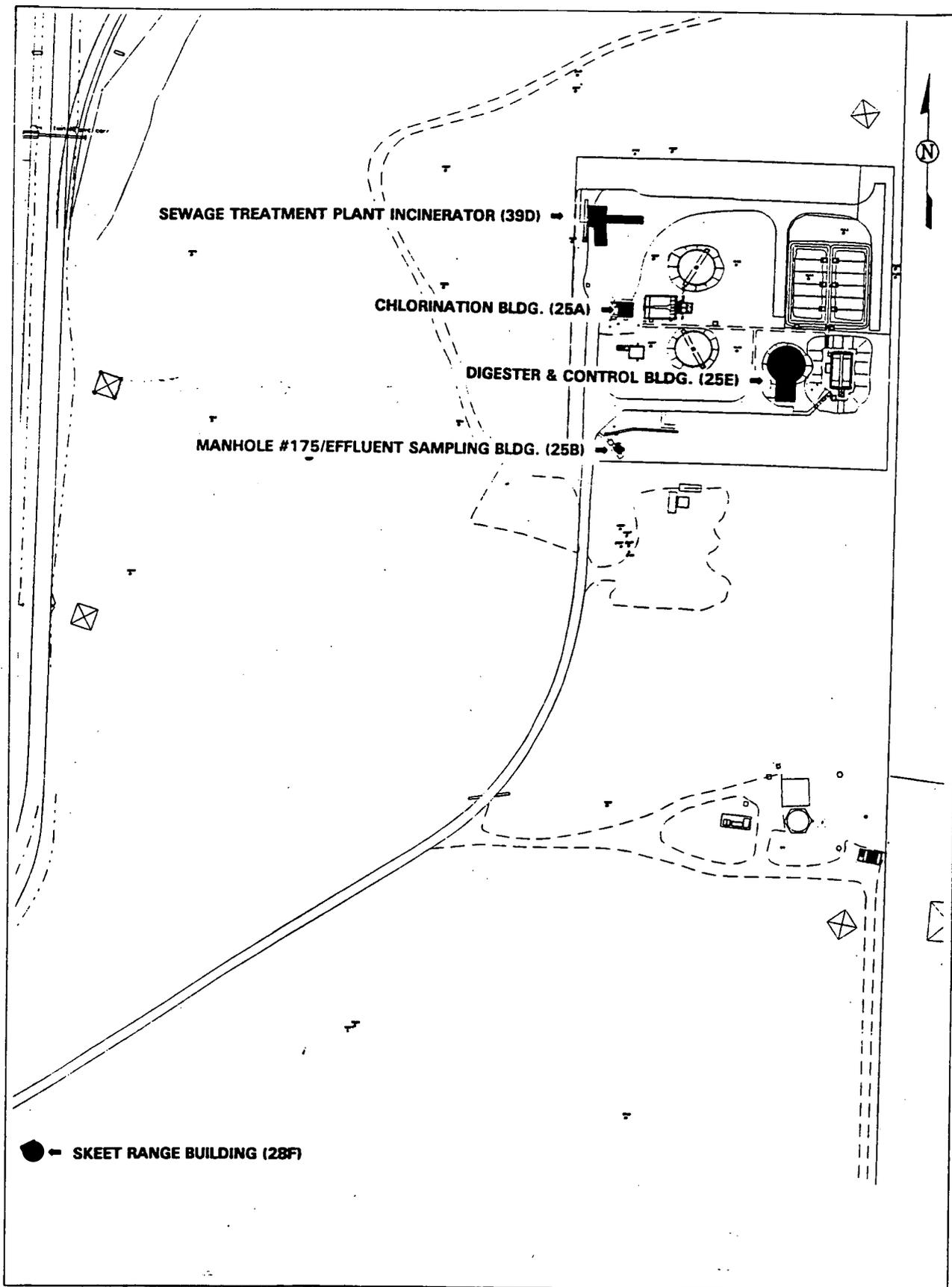


FIGURE 1-1 Sewage Treatment Plant Complex Project Area

## 2.0 GENERAL PROJECT REMEDIATION APPROACH

The overall approach to the above-grade D&D of the STP Complex includes the applicable programmatic elements and tasks that were described in Section 3 of the OU3 Integrated RD/RA Work Plan. This section describes project-specific applications of those elements.

### 2.1 Sequencing of Remediation

The remediation sequence for components in the STP Complex D&D project includes a period of mobilization for several weeks following Notice to Proceed (NTP) to set up equipment, support facilities, and materials. Following mobilization, the ~~Skeet Range Building (28F) and the Cincinnati Gas & Electric (CG&E) tower will be dismantled first by one work crew while D&D preparation activities for the STP Incinerator (construction of a containment structure) will begin using a second work crew. The use of different work crews, one inside the radiologically controlled STP area and the other outside the controlled area, is an effort to eliminate the potential for spread of contamination from inside the STP-controlled area due to movement of equipment by the Site Support Contractor.~~ The planned sequence for D&D inside the STP radiological controlled area is: 1) 39D; 2) 28F; 3) 25B; 4) 25A; and 5) 25E, with STP area miscellaneous structures and fixtures dismantled throughout that sequence. ~~The last of the miscellaneous structures and fixtures in the D&D sequence will be the wooden electric utility poles that extend outside the STP radiological controlled area to the west will be removed last since they will be used to supply electricity to the office/break trailer.~~

### 2.2 Characterization of the Sewage Treatment Plant Complex

The components that make up the actual STP (i.e., the components involved in the treatment and monitoring of FEMP sewage effluent which are designated by the component number 25) and the Skeet Range Building (28F) were not involved in processing of radiological material, according to historical records. Historical and recent radiological surveys were obtained to substantiate this information and have been summarized in Table 2-1. The Sewage Treatment Plant Incinerator (39D) was not a component of the STP effluent treatment process but rather was used to incinerate a variety of site process wastes between 1954 and 1979. Historical and current radiological survey data show that this structure has significantly high levels of

if significant levels of constituents of concern are present, based on OU3 RI/FS analytical data. Section 2.4 further discusses wastewater monitoring strategies. The ultimate disposition of wastewater into the WWTS is managed in accordance with existing site procedure EP-005 "Controlling Aqueous Wastewater Discharges into Wastewater Treatment Systems".

2.3.3 Estimates of Material Volumes

Materials to be generated during this project have been categorized according to the same classification system that was developed for and described in the OU3 RI/FS Report (1996a), and OU3 Integrated RD/RA Work Plan, and are estimated in Tables 2-2, 2-3, and 2-4. Tables 2-2 and 2-3 list quantities of materials in units of bulked and unbulked cubic feet, respectively. Table 2-4 lists the weights of materials in tons.

2.3.4 Material Handling, Storage, Treatment, and Disposition

Materials generated from the D&D of the STP Complex will be reduced in size, segregated, and containerized in accordance with the requirements identified in the MSCC form supplied to the Site Support Contractor (example provided in Appendix A of the OU3 Integrated RD/RA Work Plan). Quantities and disposition of specific material categories were documented in the PWID form for internal use. Table 2-2 summarizes the MSCC and PWID by identifying quantities, containerization, staging/interim storage, and disposal requirements for each category of material. Debris size requirements are described in Sections 3.3.2.1 and 3.3.6.2 of the OU3 Integrated RD/RA Work Plan.

As stated in Section 3.3.2.2 of the OU3 Integrated RD/RA Work Plan, materials will be identified according to the OU3 debris categories identified in the MSCC. The MSCC for the STP Complex allows for commingling of OU3 debris categories A, B, D, and incidental E into a single Roll-Off Box (ROB) since each of these material types conform to OSDF Impacted Material Category 2. The majority of Debris Category E (concrete), however, will be placed in separate ROB's. Commingling of OU3 debris categories A, B, D, and incidental E is being done to conform to the OSDF impacted material categories in order to facilitate placement. By allowing the commingling of these types of debris into the same ROB, there will be more efficient use of a limited number of ROB's in the period leading up to and during the initial impacted material placement in the OSDF in the summer of 1998.

**TABLE 2-2 Bulk Material Estimates (ft<sup>3</sup>)**

Component Designation	Categ. A Accessible Metals	Categ. B Inaccessible Metals	Categ. C Process Related Metals	Categ. D Painted Light-Gauge Metals	Categ. E Concrete	Categ. F Brick	Categ. G Non-Regulated ACM	Categ. H Regulated ACM	Categ. I Misc. Materials <sup>(1)</sup>	Component/Complex Totals
25A	0	62	0	0	709	0	0	0	108	879
25B	0	133	0	0	0	0	0	0	123	256
25E	600	3,407	0	2	8,822	0	0	0	186	13,017
28F	0	146	0	0	47	0	0	0	1	194
39D	0	314	0	0	1	0	41	0	5,658	6,014
Miscellaneous <sup>(2)</sup>	0	952	0	0	0	0	0	0	672	1,624
<b>Complex Total</b>	<b>600</b>	<b>5,014</b>	<b>0</b>	<b>2</b>	<b>9,579</b>	<b>0</b>	<b>41</b>	<b>0</b>	<b>6,748</b>	<b>21,984</b>
Container <sup>(3)</sup> /Quantity	ROB <sup>(4)</sup> /1	ROB/7	n/a	ROB/1	ROB/24	n/a	Pallets/4	n/a	ROB/15	
Interim Storage Config	OSDF Transfer	OSDF Transfer	n/a	OSDF Transfer	OSDF Transfer	n/a	OSDF Transfer	n/a	OSDF Transfer	
Disposition	OSDF <sup>(5)</sup>	OSDF	None <sup>(6)</sup>	OSDF	OSDF	n/a	OSDF	n/a	OSDF	

**Footnotes:**

- (1) Excludes compactibles which will be placed in dumpster for compaction. Miscellaneous materials can be containerized with non-regulated asbestos containing material (ACM).
- (2) Includes Miscellaneous Structures and Fixtures:
  - a. Accessible pumps and piping, post indicator valves, and electrical panels in STP area;
  - b. Three-sided fiberglass shelter at Primary Settling Basin (25G);
  - c. Wiper blade apparatus for Primary Settling Basin (25G);
  - d. Sprinkler arms for Trickling Filters (25H);
  - e. ~~High tension electrical tower (one) located between RIMIA (82A) and STP area;~~
  - f. All wooden utility poles inside the STP area and those extending west towards RIMIA; and
  - g. T-107 (Rad. Control Access Trailer in southwest corner of STP area) is included but may be reused by Area 1 Phase II excavation support.
- (3) Individual Roll-Off Boxes may contain commingled debris based on the following segregation groupings, which are consistent with On-Site Disposal Facility Impacted Material Categories: a) OU3 Debris Categories A, B, D, and E (OSDF Impacted Material Category 2); and b) OU3 Debris Category I – except Component 39D refractory lining (predominantly OSDF Impacted Material Category 4); and c) OU3 Debris Category I – Component 39D refractory lining (OSDF Impacted Material Category 5 2; however, special placement precautions such as continuous wetting will be used to minimize potential emissions during placement due to potential health and safety hazard).
- (4) ROB: Roll-Off Box holds 810 cubic feet and/or 16.95 tons of material
- (5) OSDF: On-site Disposal Facility;
- (6) In the event Process Related Metals are encountered, they will be dispositioned at NTS and described in the project completion report.

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**TABLE 2-3 Unbulked Material Estimates (ft<sup>3</sup>)**

Component Designation	Accessible Metals	Inaccessible Metals	Process Related Metals	Painted Light-Gauge Metals	Concrete	Brick	Non-Regulated ACM	Regulated ACM	Misc. Materials	Component/Complex Totals
25A	0	18	0	0	545	0	0	0	36	599
25B	0	39	0	0	0	0	0	0	41	80
25E	30	1,002	0	1	6,786	0	0	0	62	7,881
28F	0	43	0	0	36	0	0	0	1	80
39D	0	93	0	0	1	0	34	0	1,724	1,852
Miscellaneous <sup>(1)</sup>	0	280	0	0	0	0	0	0	224	504
<b>Complex Total</b>	<b>30</b>	<b>1,475</b>	<b>0</b>	<b>1</b>	<b>7,368</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>2,088</b>	<b>10,996</b>

Footnotes (see below Table 2-4)

**TABLE 2-4 Material Weight Estimates (Tons)**

Component Designation	Accessible Metals	Inaccessible Metals	Process Related Metals	Painted Light-Gauge Metals	Concrete	Brick	Non-Regulated ACM	Regulated ACM	Misc. Materials <sup>(1)</sup>	Component/Complex Totals
25A	0	0.6	0	0	13.7	0	0	0	0.8	15.1
25B	0	1.4	0	0	0	0	0	0	0.9	2.3
25E	6.5	36	0	0	169.7	0	0	0	1.3	213.5
28F	0	1.5	0	0	0.9	0	0	0	0	2.4
39D	0	3.3	0	0	0	0	0.5	0	37.9	41.7
Miscellaneous <sup>(1)</sup>	0	10.1	0	0	0	0	0	0	4.9	15
<b>Complex Total</b>	<b>6.5</b>	<b>52.9</b>	<b>0</b>	<b>0</b>	<b>184.3</b>	<b>0</b>	<b>0.5</b>	<b>0</b>	<b>45.8</b>	<b>290</b>

Footnotes (Tables 2-3 and 2-4):

(1) Includes Miscellaneous Structures and Fixtures:

- a. Accessible pumps and piping, post indicator valves, and electrical panels in STP area;
- b. Three-sided fiberglass shelter at Primary Settling Basin (25G);
- c. Wiper blade apparatus for Primary Settling Basin (25G);
- d. Sprinkler arms for Trickling Filters (25H);
- e. ~~High tension electrical tower (one) located between RIMIA (82A) and STP area;~~
- f. All wooden utility poles inside the STP area and those extending west towards RIMIA; and
- g. T-107 (Rad. Control Access Trailer in southwest corner of STP area) is included but may be reused by the Area 1 Phase II excavation project.

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Materials will be containerized inside the STP controlled area on pavement located adjacent to structures being dismantled. Filled containers will be covered/sealed, screened for exterior radiological contamination, inspected, tagged, and transported directly to the OSDF transfer area.

Materials that do not meet facility release criteria (discussed in Section 2.5.2), which is anticipated for some materials generated from the STP Incinerator, will be containerized inside a load-out vestibule that will be part of an enclosure to be erected around that structure. Should any materials be encountered that do not meet the OSDF waste acceptance criteria (e.g., materials with "visible process residues" such as yellow cake, green salt, etc.), they will be containerized separately from OSDF-bound materials, follow the same load-out and transportation procedures, and be transported to the Plant 1 Storage Pad for packaging and disposal at the Nevada Test Site. Based on records of historical operations of the STP Complex, all equipment/systems in the components are non-process. Although safe shutdown of the STP Incinerator previously removed residuals/ash from the incinerator in 1997, there is potential for visible process residues to be present on refractory material surfaces as a result of process area trash incineration during its operation. The safe shutdown project manager, however, noted that there were no visible process residues observed during safe shutdown. Regardless, the refractory lining of the STP Incinerator will be inspected for visible process residues. Other equipment/systems in the STP Complex are definitely non-process and therefore will not be subject to inspection for visible process residues per Article 3.1.B.1 of the Work Scope Condition/Specification — Removing/Fixing Radiological Contamination.

Stockpiling of debris for interim storage is not currently planned due to the expected availability for placement in the OSDF and the need to remove above-grade debris for access by the Area 1 - Phase II excavation subcontractor. Due to the potential for limited ROB containers during the first few weeks of the project, there may be a need to temporarily stockpile Categories B and E debris from Building 28F on its slab and Categories A, B, and E debris from the loading dock of Component 39D on adjacent asphalt. Stockpiling of debris, if utilized, will follow the strategies provided under Section 3.3.2.3 of the OU3 Integrated RD/RA Work Plan, which requires best available storage configuration, and reduction and potential fixation (encapsulation) of contaminants. Work Scope Condition/Specification — Removing/Fixing Radiological Contamination requires that contaminants be removed to the radiological facility release criteria discussed in Section 2.5.2 or else encapsulate as stated.

Should the best available storage configuration, (i.e., containers with lids or tarps) be temporarily unavailable, stockpiling of debris that meet facility release criteria (as done on previous D&D projects at the FEMP) would be performed.

Material tracking and reporting will be accomplished by including a project-specific Site-Wide Waste Information, Forecasting and Tracking System/Integrated Information Management System (SWIFTS/IIMS) summary in the Project Completion Report. Section 3.3.2.2 (Segregation, Containerization, Tracking) of the OU3 Integrated RD/RA Work Plan describes material tracking and reporting using SWIFTS. OU3 Debris Categories A, B, D, and E debris are classified as OSDF Category 2 material. Therefore, commingled Debris Categories A, B, D, and E quantities will be tracked in SWIFTS/IIMS under a discreet Material Evaluation Form that corresponds to Impacted Material Category 2 debris in interim storage. Debris Category I (Miscellaneous Materials) is also Impacted Material Category 2 but will not be commingled and therefore actual volumes will be easily obtained. Debris Category G (Transite) and Debris Category H (Regulated ACM) are regarded as Impacted Material Categories 3 and 5, respectively, and will also be handled separately. Since the volume of commingled debris will represent a combination of waste streams, proportions of OU3 debris categories within that total volume will be derived based on original estimates to identify and track waste volumes by OU3 debris category. These derived quantities will be documented in the Project Completion Report for the STP Complex. Other than the evolution of tracking more specifically for the purpose of OSDF placement, project-specific material tracking and reporting strategies for the STP Complex project do not differ from the strategies laid out in the OU3 Integrated RD/RA Work Plan and therefore no additional details were developed during the remedial design process.

The disposition strategy for STP Complex materials is consistent with the requirements stated in the OU3 Final Action ROD (1996b) and strategies presented in the OU3 Integrated RD/RA Work Plan. Table 2-2 identifies that debris generated from this project will be placed in the OSDF. No treatment will be necessary for disposal since all chemical-based waste acceptance criteria are met based on OU3 RI/FS data.

2.3.5 Material Recycling/Reuse

Accessible metals (Category A) from the complex have been evaluated for potential recycling

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options and a detailed summary of that evaluation is available in Appendix B. Using the Decision Methodology for Fernald Material Disposition Alternatives (the "Decision Methodology"), 6.5 tons of potentially recyclable accessible metals (OU3 Debris Category A) from all STP Complex components were evaluated by comparing the four leading alternatives to on-site disposal. ~~The 1.3 tons of accessible metals that will be generated by the dismantling of the utility tower, which is located in a non-radiologically controlled area, will be size reduced and sold as scrap by FEMP Property Management under the personal property disposition process and, therefore, were not included in the 6.5 tons considered for the evaluation.~~ Of the three phases of the Decision Methodology (Threshold Phase, Life Cycle Analysis Phase, and Decision Phase), only the first phase was applied since the comparative evaluation of project costs for each alternative showed that the total costs for each of the recycling options greatly exceed the 25 percent total cost criteria compared to OSDF.

**2.4 Environmental Monitoring**

Project-specific environmental monitoring includes only wastewater monitoring. Supplemental environmental radiological air monitoring ~~will not be performed~~ due to negligible potential for contaminant releases from the project; however, the FEMP site-wide air monitoring data from upwind and downwind air monitors will be received to ensure that the site continues to meet applicable standards. Groundwater monitoring is not applicable to this project but may be employed if necessary as described in Section 3.6.2.3 of the OU3 Integrated RD/RA Work Plan.

Project-specific stormwater management is governed by the FEMP Stormwater Pollution Prevention Plan (DOE 1996c) and any monitoring associated with that program is managed by the Aquifer Restoration Project. Since the STP incinerator will be dismantled, reduced in size, and containerized within an enclosure, stormwater control measures will not be necessary during above-grade D&D.

Surface Water (Wastewater) Monitoring

As noted, it is anticipated that only a small volume of equipment decontamination wastewater will be generated. Section 2.3.2 of this implementation plan describes the wastewater management strategies. The OU3 Integrated RD/RA Work Plan describes the overall strategies to be implemented for project monitoring of wastewater. Listed below are the specific

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potential mitigative controls and possibly the use of supplemental monitoring measures; it is not being used as a means to demonstrate compliance with NESHAPs Subpart H. The method to be used for demonstrating NESHAPs Subpart H compliance is presented in the IEMP as a collective sitewide strategy.

The CAP88PC modeling methodology is prescribed by the U.S. EPA reference manual: U.S. EPA User's Guide for CAP88, Version 1.0, 402-B-92-001. Computer modeling of potential radiological emissions from the STP Complex used radiological smear data to provide a more realistic measure of removable alpha, beta, and gamma contamination rather than fixed contamination (identified through intrusive sampling results from the OU3 RI/FS database) for estimating contaminant release. The removable contamination data obtained through smear sampling represents a model input that depicts worst case emissions since it represents removable contamination present prior to the decontamination activities that will precede dismantlement. Fixed contamination should remain fixed in place and not become airborne during D&D activities. Therefore, fixed contamination was not included in the model as potential emissions from the project.

The modeling methodology assumed no controls on emissions release, such as HEPA filters on containment ventilation systems and a percentage (of removable contamination) that would become airborne during D&D activities. Potential emissions sources were treated as being in readily dispersible forms. The results of the computer modeling indicated that the maximally exposed individual would theoretically be located approximately 715 meters south east-southeast of the project area and would potentially receive a maximum Effective Dose Equivalent of  $9.9 \times 10^{-2}$   $1.3 \times 10^{-3}$  mrem/year from the D&D activities. Based on a review of the results of the computer modeling, no supplemental environmental air monitoring will be required for the STP Complex D&D activities. Considerations also used in making this decision were the plan to implement D&D over a relatively short duration for the one significant source of radiological contaminants (STP Incinerator) in addition to the fact that the STP Incinerator will be fully enclosed in a contained environment with HEPA ventilation during D&D and waste management load-out.

Further justification for not providing project specific air monitors comes from analysis of data from the Plant 7 Dismantling - Removal Action No. 19 Final Report (DOE 1995), the Project Completion Report for Building 4A (DOE 1997c), and the Plant 1 Complex - Phase I Project

containerization, storage, and disposal. Materials will be handled according to the MSCC and waste/debris handling requirements in Appendix C.

Methods such as reciprocating saws, portable band saws, and shears are the preferred methods for bulk removal. Methods that volatilize the paint and contamination can be used, provided that additional safety and health requirements for worker protection are met. These methods include the use of respiratory protection and portable air cleaning units. Periodic radioactivity screening measurements will be performed to ensure that the surfaces meet the facility release limits. Surface wiping, vacuuming, water wash, or encapsulation may be required to minimize removable contamination.

**Transite Removal**

The Site Support Contractor will maintain the integrity of the exterior of the STP Incinerator loading platform until the transite has been removed. Transite panels will be sprayed with an encapsulant or surfactant prior to removal. Transite panels will be detached one by one by removing fasteners while carefully avoiding the generation of transite particles and dusts. If the fasteners cannot be easily removed, the area around the fastener will be sprayed with an encapsulant, thus allowing the fastener to be pried out. If a broken panel is encountered, the area surrounding the break will be sprayed with encapsulant. Transite panels that have been removed will be entirely encapsulated with a fixative, thus eliminating the need to wet and enclose in polyethylene. HEPA vacuums will be available to collect any loose material.

**Structural Steel Dismantlement**

Non-load bearing steel members, windows and frames, doors, gutters and down spouts, will be removed using mechanical means. As these items are removed, the exposed component surfaces have the potential of holding debris and contamination. These areas will be radiologically surveyed and visually inspected to determine if these surfaces meet the visible process residue standard. Additional decontamination such as encapsulation of surfaces may be performed as discussed in Section 2.5.2 of this Implementation Plan.

The STP Complex will be dismantled using applicable and effective technologies that have been identified under the DOE's Accelerated Site Technology Deployment (ASTD) program. These technologies include trackhoe and skid steer mounted devices for shearing and ramming. Shearing will be the primary technique for structural steel dismantlement. Another

new technology also being deployed under this program is the oxy-gas torch. The oxy-gas  
~~or oxy-acetylene torches, which is a new technology being deployed under the ASTD program,~~  
 may also be used in a limited manner where the large shears are not capable of reaching or  
~~are otherwise not practical or safe. to dismantle and size reduce structural steel frame~~  
~~members.~~ Prior to and during dismantlement, the area surrounding the structure will be  
 sprayed with water as necessary or other Best Available Technology (BAT) controls will be  
 used to reduce fugitive dust emissions in accordance with FEMP site procedure RM-0047.

**Concrete/Masonry Removal**

The preferred method for dismantling of concrete/masonry unit (CMU) walls, which exist in  
 Buildings 25A and 25E, will be the use of the trackhoe or skid steer-mounted hydraulic shears,  
 ram, or grappler discussed under structural steel dismantlement. The hydraulic shears have  
 the capability to cut through the predominantly CMU construction in both Buildings 25A and  
 25E. ~~hydraulic shears to remove small portions of the structures with each contact.~~ BAT  
 Engineering controls such as water spray will be used as necessary to minimize generation  
 of fugitive dust.

All wire and cable will be cut away to grade level from the conduit embedded in the concrete.  
 Conduit and other slab obstructions will be cut away to grade level, plugged, and covered with  
 grout to grade level for positive drainage as needed.

**Debris/Waste Handling**

Debris/waste handling strategies are discussed in Section 2.3 of this Implementation Plan and  
 specified, for Site Support Contractor directive purposes, in Appendix C.

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top of each segment prior to removal. The refractory lining will be pushed inward so that a pile is created inside the secondary burn chambers. With the refractory lining removed, the four segments of the stack (see Figure E-6 in Appendix E), will be removed one section at a time, allowing for controlled dismantlement. The incinerator section will be demolished with the skid steer using a shear and ram-hoe inside the enclosure. The debris will be loaded into waste containers inside the containment.

Contamination control will include a 3-step process: 1) use a fixative on the interior surfaces prior to D&D; 2) use amended water or diluted encapsulant during D&D while maintaining the enclosure sheeting to minimize dust and minimize equipment contamination; and 3) use fixative on the slab at the completion of D&D activities.

The STP Incinerator loading platform will not be enclosed since it does not exceed facility release limits. Dismantlement of the loading platform, including the asphalt and railroad tie ramp, will take place concurrent with the assembly of scaffolding. Fugitive dust will be minimized by applying BAT controls such as water spray during dismantlement as necessary. The roof and walls of the STP Incinerator loading platform consist of transite panels and structural steel frame (channel iron). Prior to structural dismantlement, transite will be removed as described in Section 2.5.3 and according to the work scope conditions/specifications in Appendix C.

Debris will be placed into containers according to the appropriate designation identified on the MSCC form for this project.

**3.5 Component 28F - Skeet Range Building**

**Background**

Building 28F - Skeet Range Building (formerly known during the OU3 RI/FS as Component 90), is a single-story structure measuring approximately 15 x 15 x 9 feet high. It is located along the STP access road and is located outside the FEMP radiologically controlled area. Figure D-10 in Appendix D is a plot plan drawing of the Skeet Range Building. Architectural drawings do not exist for this small structure. Figures E-7 through E-8 in Appendix E provide exterior photographs of this structure.

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**Process Area:** The Skeet Range Building was used to support security force training (i.e., storing clay pigeons and target launching equipment).

### Remedial Tasks

The Skeet Range Building did not store or process materials. Preparatory actions or asbestos removal are not necessary prior to above-grade dismantlement.

### Above-Grade Dismantlement

Building 28F is constructed of a structural steel frame with metal walls and roof and is situated on a poured reinforced-concrete floor.

Building 28F will be prepared for dismantlement by removing nonstructural steel members and the doors (standard door and roll-up door) using hand tools or other mechanical cutting techniques.

Use of hydraulic shears is the preferred technique for dismantlement and size-reduction of structural steel frame members. All structural materials will be size-reduced and loaded into containers. Fugitive dust will be minimized by applying BAT controls such as water spray when necessary.

## 3.6 Miscellaneous Structures and Fixtures

### Remedial Tasks

The following miscellaneous structures and fixtures will also be included in this project:

~~• **High Tension Electrical Tower:** This structure, which is the northern-most tower (of two) located between RIMIA (82A) and STP area, is to be handled as Category A (accessible metals) originating from a non-radiologically controlled area. D&D Project Planning has coordinated with FEMP Personal Property Management to sell the scrap steel from this structure to a recycling vendor. Since the steel from this tower is not be radiologically contaminated, radiological screening surveying is not necessary. Section views of this structure are provided in Figure D-11 (Appendix D). Figure E-9 provides a photograph of this structure.~~

~~The dismantlement strategy for the utility tower includes the removal of all electrical cable by the owner electrical utility service company, Cinergy/Cincinnati Gas & Electric. Utility redistribution is being performed independent of the STP Complex D&D project in support of Area 1 Phase II SCEP. Removal of electrical cable is anticipated to be complete in April 1998. Dismantlement of the tower~~

~~itself has been proposed to include an engineered fall of the structure by strategic notching of the main supports with guide cables to direct the fall to the east (away from any structures or planned activity). Hydraulic shears would then be used to reduce the structural frame into approximately 10 foot lengths and placed into the container(s) supplied by the successful recycling bidder. Four small above-grade portions of the tower will remain in place for future Area 1 Phase II excavation by the SCEP. Per request of Area 1 Phase II SCEP integrators, approximately two feet of the above-grade steel supports (logs) will remain in place and will be painted orange with flags to aid in visibility.~~

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- Accessible Exterior Pumps, Valves, Piping, and Electrical Panels: STP area structures which contain these fixtures (25A, 25B, 25G, and 25H) will be removed by hardware disassembly, oxy-acetylene/oxy-gas torch, or mechanical cutting. Since the SCEP Area 1 Phase II project has requested that Post Indicator Valves remain in place to facilitate below-grade excavation of connecting pipe, the above-grade D&D scope does not include those fixtures.
- Three-sided Fiberglass Shelter at Primary Settling Basin (25G): This structure includes angle iron and several small fiberglass panels and measures approximately 4 ft. x 8 ft. x 8 ft. high; it will be dismantled by mechanical cutting.
- Wiperblade Apparatus for Primary Settling Basin (25G): This fixture consists of approximately 225 unbulked cubic feet of tubular steel and angle iron; it will likely be dismantled by mechanical cutting.
- Sprinkler Arms for Trickling Filters (25H): This fixture includes approximately 170 feet of five-inch diameter piping with cable supports; it will be dismantled by mechanical cutting or tool disassembly.
- Wooden Utility Poles: Twelve wooden utility poles are located either inside the STP radiologically controlled area or outside of that area extending west towards RIMIA. The several poles that extend west towards RIMIA will be used to supply power to a electrical breaker board and the support trailer until the STP Complex is essentially dismantled, whereupon those remaining poles will be removed just prior to demobilization. The poles will be cut at 2 ft. above-grade, and painted orange w/ flags for future Area 1 - Phase II excavation by SCEP.
- Radiological Control Checkpoint Trailer (T-107): Currently serving as the radiological checkpoint trailer in the southwest corner of the STP radiologically controlled area, this structure may be dismantled as the last remaining structure in the complex; however, the Area I Phase II excavation project may reuse T-107 for support of that activity, in which case the structure will remain in place.

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#### 4.0 SCHEDULE

This section presents the planning and implementation schedules for the STP Complex D&D project. Figure 4-1 presents the schedule for implementation of field activities beginning with the Site Support Contractor's Notice To Proceed (NTP) and ending with the submittal of the Project Completion Report. Within Figure 4-1, the primary milestones of the project include NTP, project completion ("Completion of Field Activities"), and the preparation and submittal of the Project Completion Report to U.S. EPA and Ohio EPA.

The schedule shown in Figure 4-1 was developed based on the projected completion date of July 31, 1998 for the start-up of the new STP and completion of the safe shutdown/facility shutdown tasks, which will be performed for Components 25A, 25B, and 25E under the direction of the Aquifer Restoration Project. Significant delays to the start-up of the new STP facility would likely necessitate reconsideration of the STP D&D project milestones for "Completion of Field Activities" and "Submittal of the Project Completion Report". Should DOE have to revise the project schedule for any reason, the regulatory agencies will be notified of the proposed revision dates.

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## 5.0 MANAGEMENT

The implementation of the STP Complex D&D project will be performed through a coordinated effort by the FEMP Site Support Contractor, FEMP Project Management and support organizations, and DOE Project Management. Section 7 of the OU3 Integrated RD/RA Work Plan provides the overall management structure applied to this remediation project. A description of project-specific management responsibilities have been highlighted for the STP Complex in this section.

DOE will provide direct project oversight in two ways, both of which become a concerted effort to ensure that remedial activities are performed according to project specifications and requirements. The DOE Office of Safety Assessment has assigned a Facility Representative to the Fernald Area Office whose responsibilities will be to perform independent field oversight of all remedial activities performed under this project. This individual will be responsible for weekly coverage of all field activities and necessary reporting to the DOE Program Manager at the Fernald Area Office. The Facilities Representative will have the authority to stop work if conditions warrant such action. DOE Fernald Area Office will also conduct field oversight in the areas of construction, engineering, quality assurance, and health and safety. The DOE Facilities Representative and others will immediately notify the DOE Project Manager of any issues or problems that arise in an effort to seek prompt resolution.

The DOE Project Manager and the environmental management contractor, Fluor Daniel Fernald, will oversee the remedial action through its project team review and approval process and by performing the following functions:

- ensuring that the Site Support Contractor(s) is provided with the proper direction and support necessary to meet the remedial action objectives for this project;
- detailing all work conditions and scope requirements;
- conducting an alignment meeting where all project personnel will be instructed on the Safe Work Plans, pre-construction meetings, daily pre-work scope and safety briefings, and weekly coordination meetings with the Site Support Contractor to address all concerns, schedule status, planning, progress, and deviations;
- performing quality assurance and quality audits of all remediation tasks to determine adherence to work scope conditions;
- verifying work is performed in compliance with approved health and safety plans; and

A project-specific sampling plan for the decontamination washwater will be developed prior to commencement of sampling. An example of a typical wastewater sampling plan is attached to Appendix D of the OU3 Integrated RD/RA Work Plan.

#### Nevada Test Site (NTS) Confirmatory

No sampling is anticipated for qualifying materials for NTS disposal since all STP Complex debris is expected to be dispositioned in the OSDF. Should there be a need to prepare any debris for NTS shipment (e.g., debris from the STP Incinerator that would have visible process residues). One percent of each material/waste stream going to NTS would be sampled. For each container that makes up the one percent, three samples will be taken and analyzed in accordance with the NTS Waste Acceptance Criteria (WAC).

#### Permitted Off-site Commercial Disposal Facility

It is not anticipated that mixed waste will be generated; however, sludge collected from the settling of decontamination washwater and associated filtercake will be sampled along with the washwater to determine disposition. Mixed waste may result from the collection of lead-based paint in the filtrate. No lead flashing is present in the STP Complex components. Sampling and analysis required for shipment certification will be as specified by the permitted facility's WAC. Section 3.2.3 of the SAP contained in Appendix D of the OU3 Integrated RD/RA Work Plan addresses analytical requirements for off-site disposal.

#### Asbestos Air Monitoring

Asbestos air sampling will not be necessary since friable ACM is not present in project STP Complex components. Occupational air sampling for asbestos will not be required during Component 39D transite removal due to the completion of a negative exposure assessment as required by OSHA, unless the Site Support Contractor chooses to use workers with minimal work experience to remove the transite.

#### Radiological Air Monitoring

Data from the IEMP site-wide routine environmental air monitoring program will be used to complement the STP Complex D&D occupational air monitoring program. Per the FDF Radiological Control Requirements Manual, Occupational air (i.e., breathing zone) samplers will be worn by at approximately least twenty-five percent (25%) of the workers in each work group/crew (minimum of one worker) when entering a radiological area controlled for

~~contamination or airborne radioactivity~~ contamination area, high contamination area, or an  
~~airborne radioactivity area where there is a potential to exceed 10% of the appropriate Derived~~  
~~Air Concentration (DAC).~~

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No supplemental environmental radiological air monitoring will be performed.

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## APPENDIX B

EVALUATION OF MATERIAL DISPOSITION ALTERNATIVES  
FOR THE SEWAGE TREATMENT PLANT COMPLEX

Per the OU3 Record of Decision for Final Remedial Action, the selected disposition route for the majority of OU3 radiologically contaminated material, including accessible metals, is placement in the On-Site Disposal Facility (OSDF). However, in support of DOE's commitment to evaluate recycling on a case-by-case basis during each above-grade D&D project design (per Section 3.3.6.1 of the OU3 Integrated Remedial Design/Remedial Action Work Plan under the subheading of Unrestrictive Release Recycling/Reuse), an evaluation of disposition alternatives was performed for potentially recyclable/reusable materials estimated to be generated from the STP Complex. Using the Decision Methodology for Fernald Material Disposition Alternatives (the "Decision Methodology"), which was finalized in July 1997 following extensive stakeholder involvement, 6.5 tons of potentially recyclable accessible metals (OU3 Debris Category A) from all STP Complex components was evaluated by comparing the four leading alternatives to on-site disposal. The 1.3 tons of accessible metals that will be generated by the dismantling of the utility tower, which is located in a non-radiologically controlled area, will be size-reduced and sold as scrap by FEMP Property Management and, therefore, is not included in the 6.5 tons considered for this evaluation.

The Decision Methodology consists of three phases: 1) Threshold Phase; 2) Life Cycle Analysis Phase; and 3) Decision Phase. The first phase, the Threshold Phase, includes a comparative evaluation of project costs for each alternative. The cost estimates which were recently established under the Plant 4 Case Study (presented during July 8, 1997 public meeting; cost data dated from September 27, 1996) were utilized for the 6.5 tons of structural steel from the STP Complex. Since total cost estimates for each recycling alternative are current, and other factors such as vendor and market information have not significantly changed since the Plant 4 evaluation was performed, unit rates for each of the recycling alternatives shown in the Plant 4 Case Study are considered valid for the STP Complex alternative disposition alternative evaluation. The total cost comparison of the disposition alternatives is shown in Table B-1.

## MOBILIZATION, DEMOBILIZATION AND GENERAL SITE REQUIREMENTS

- c. When yellow fence requirements coincide with an existing barrier such as chain link fence or a building wall, the existing physical barrier may serve as the boundary.
5. Fencing for short-term work may be supported with portable stanchions. Fencing for long-term activities must be supported by posts driven into the ground. Posts of stanchions shall be no more than six feet apart. Entry points shall be established such that they may be easily opened and can be held closed. These points shall be large enough to support traffic and/or movement of waste containers. For situations where personnel access is the only need, building doors or overlapping yellow fence that can be tied back and supported by the remaining fence while open (i.e., will not lie on the ground) may be utilized.
- E. Gravel Pads for Access and Queuing Areas
- 1. Grading of site shall prevent ponding of water. Use a minimum slope of 1 percent. All grading will direct water toward the site's storm drainage system.
- F. Protecting Adjacent Facilities and Components
- 1. The Site Support Contractor is responsible for avoiding damage to adjacent structures, material and equipment including underground utilities during decontamination and dismantlement activities.
- G. Storm Water Control
- 1. Storm water control will be required for activities that could disturb soils or otherwise allow for release of contaminants from stockpiled debris. Since debris must have loose surface contamination removed or encapsulated, per Work Scope Condition/Specification — Removing/Fixing Radiological Contamination, it is not anticipated that storm water controls will be necessary for stockpiled debris. If FDF Project Management determines that storm water control devices are necessary, storm drainage systems within the construction zone shall be maintained free and clear of debris and sediments by use of control devices, such as ~~straw bales or~~ staked silt fences, and be maintained throughout the project.
- H. Debris Chutes
- 1. Catch platforms, chutes and other means of handling debris shall be properly isolated by gates or barriers designed and constructed to eliminate impact hazards and to control the flow of material to its final destination.
  - 2. Debris chutes shall meet the requirements of 29 CFR 1926.852.
  - 3. Debris chutes shall be fully enclosed, dust-tight and ventilated.
  - 4. FDF may prohibit the use of a debris chute if the radiological contamination levels could result in the uncontrolled generation of airborne radioactivity.

## STRUCTURAL STEEL DISMANTLEMENT

1. Shear the steel (beams, joists, purlins, etc.) as close to the joints (cross members, plates, decking, etc.) as practical to create long, accessible (straight) metal pieces which may be recycled.

NOTE: Some bending of the structural steel may occur during shearing activities. Straight pieces may be difficult to obtain where main structural members are connected to plates, deck, grates, or cross members.

2. If required in the task order scope of work, structural steel will be handled and sized to facilitate recycling. If structural steel is to be handled and sized for recycling, Segregate the structural steel will be segregated into two categories/piles. The segregation criteria for the steel categories are defined as follows:

Category A1 Structural Steel: Steel allowing access to surfaces for a radiological contamination survey for unrestricted release. Surfaces must be accessible to a Geiger Mueller pancake probe to allow areas to be surveyed. Category A1 steel includes steel with ends crimped due to sizing (e.g., shearing) operations. Welded and riveted joints that have been in place since original construction are not required to be made accessible. However, brackets or structural members bolted to the superstructure must be removed to allow access for survey.

Category A2 Structural Steel: contains surfaces which cannot be radiologically surveyed.

3. Minimize bending, twisting, and smashing of the steel during segregation and bulk storage.
- D. Control of fugitive emissions shall be maintained at all times during this removal work to minimize visible dust in accordance with FEMP Site Procedure RM-0047.
- E. All steel columns, anchors, and other projections shall be removed flush with the floor slab or existing grade.
- F. Lead-based paint chips and debris, released during structural steel dismantlement, shall be collected and managed in accordance with the Waste Management Plan.

### 3.3 SPECIAL INSTRUCTIONS

- A. The following items are also included (where applicable) in the sequence of structural steel dismantlement:
  1. a. Remove all windows in one piece and place them in appropriate containers.
  - b. Remove all doors (wood and/or steel) and place them in appropriate containers.
  2. Lead Materials:
    - a. Segregate all lead materials (i.e., flashing, vent stacks, etc.) and place them in appropriate containers.

## REMOVING/FIXING RADIOLOGICAL CONTAMINATION

- B. If non-strippable coatings are employed, they may include, but are not limited to Polymeric Barrier System (Bartlett), or an approved equal.
- C. Where encapsulation by plastic sheet wrapping is allowed, the wrapping shall be a minimum of 6-mil polyethylene sheeting.

### PART III EXECUTION

#### 3.1 APPLICATION

- A. To remove equipment or debris out of a local containment or enclosure or prior to loading into containers, or to containerize outside of an enclosure, or prior to moving to the inspection area, all surfaces shall be free of visible process residues and dry. The definition of visible process residues (green salt, yellow cake, etc.) is material on the interior or exterior surfaces of debris that is obvious and that if rubbed, would be easily removed. If an item fails visual inspection, the items shall be deemed a Category C (Process-Related Metals) item and shall either be encapsulated or wrapped and containerized as stated in the Waste Management Plan. Dirt, oil, grease, stains, rust, corrosion, and flaking do NOT qualify as visible process material. Dirt, oil, grease, stains, rust, corrosion, and flaking will be considered for contamination control purposes. All equipment, material, building structures, and debris are still considered to be radiologically contaminated unless otherwise specifically identified.
- B. Requirements common to decontamination of debris, equipment, and structural components:
  - 1. Non-process equipment/systems, as identified by FDF Project Management, do not require inspection for visible process residues.
  - + 2. Acceptable methods for removing contamination include, but are not limited to: Hydro-blasting or steam-cleaning with a minimum of 1,000 psi, sponge blasting, HEPA vacuuming, CO<sub>2</sub> blasting, etc.
  - 2 3. Encapsulation of contaminants is required if contamination levels specified in the Radiological Requirements section of traveler/task order package have not been met and decontamination has been attempted at least twice. Acceptable methods for encapsulating contamination, which is not readily removed by the above identified methods include, but are not limited to, encapsulating coatings and non-strippable coatings. Take precautions to prevent the breaching of encapsulating coatings applied to equipment or structure. If an encapsulating coating is breached after application, during activities leading up to but not including structural demolition, take action to reseal the breached areas.
  - 3 4. If stabilizer or non-strippable coatings are used as fixatives, they will meet the requirements of this section.
- C. Requirements specific to debris and equipment decontamination and their removal from a building enclosure or local containment:
  - 1. Debris and equipment that meet removal criteria shall be moved to the inspection area.