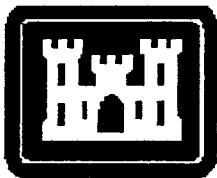




**ADMINISTRATIVE RECORD
FOR THE MADISON SITE
MADISON, ILLINOIS**

**Remedial Investigation Documentation and
Feasibility Study-**

**USACE Responses to Stated Illinois Department of
Nuclear Safety's Comments on the Regulatory Review
Draft Remedial Investigation, Feasibility Study and
Proposed Plan (RI/FS/PP) for the Madison Site**



**US Army Corps
of Engineers
St. Louis District**

Date 01/26/00

Document Title: Response to Stated Illinois Department of Nuclear Safety's comments on the regulatory Review Draft of the RI/FS/PP for the Madison Site

No	Comments	Resolution
1.	<p>"the report inappropriately applies "as low as reasonably achievable" (ALARA) as justification to not address areas in the high bay (45 to 60 ft.) levels. These higher levels should be decontaminated."</p>	<p>Concur in part. USACE will perform a study of accessibility at Madison with IDNS participation to clarify inaccessible areas. Per both ALARA and CERCLA guidance, it is not appropriate to remediate areas in which risks associated with remediation exceed the risk abated by the remediation especially if the site involves risks below the CERCLA threshold.</p> <p>As defined in 10 CFR 20.1003, ALARA means making every reasonable effort to maintain exposures as far below the dose limit as practical, taking into account the economics of improvement in relation to the benefits to public health and safety, and other societal and socioeconomic considerations. The difficult to access areas are not intended for occupation and no access is provided. The lack of access eliminates the possibility of significant exposures in the difficult to access areas. The difficulty of access also greatly increases the cost of remediation in these areas. The benefits to public health and safety that would be achieved with further removals will be assessed as part of the accessibility study but are expected to be very small relative to costs to provide safe access in the uppermost areas. The proposed remedy achieves the</p>

		dose criterion for all areas.
2a	In regard to the demolition assessment, it is recommended that recycle of steel dose factor should be used.	Concrete dose factors from NUREG 1640 were used to model exposures to the worker demolishing the facility for the "No Action" Alternative. The No Action Alternative also considered the recycle of steel scrap contaminated with 70.9 pCi/g Total-U. The scenario producing the highest potential doses was handling contaminated metal at the scrap yard. The dose calculated (0.9 mrem), was about thirty times the dose experienced during building demolition.
b	"The Department recommends that the final report on remedial action include a requirement to re-assess a post-remediation demolition scenario using measured values from the cleanup to confirm the residual risk of future building demolition."	<p>Concur. USACE prepares a residual site risk (dose) assessment in each area remediated to fully document actual residual site conditions. This assessment is incorporated into the Post Remedial Action Report (PRAR).</p> <p>The FS does not assume a residual activity of 1000 dpm/100 cm² in the building demolition evaluation. As described in A.9, a value of 70.9 pCi/g Total-U was used to represent the concentration. This concentration represents the average in the most contaminated level measured. The building demolition scenario is evaluated assuming no action.</p>
c.	"Other factors that should be considered involve the spread of contamination that will occur during post-remediation demolition from contamination left on the higher areas."	Concur in part. Contamination currently meets generally accepted NRC and DOE U-238 soil criteria (e.g. 35 pCi/g for DU for NRC; 50 pCi/g for U-238 for DOE) thus soil contamination can be demonstrated to be within risk thresholds even if all material on beams was deposited in a small area. The small volume of U-238

		on inaccessible surfaces together with the concentration of U-238 on these areas would place a conservation upper bound on the associated residual risk. The risk from the residual U-238 is protective of human health and the environment.
d.	"The demolition risk assessment assumes that water sprays and respirators will be used during demolition activities."	We agree that the assumption of dust suppression and respirators is not the most conservative approach. However, it is reasonable as a best-management practice for construction. The NUREG 1640 dose factors used in the calculation were derived using the dust suppression and respirator assumptions. Although consideration of the use of such controls is considered appropriate, the dose in the absence of these controls would equate to 0.3 mrem assuming they provide a protection factor of 100 (10 for "dust respirators" and 10 for "water spray". Thus, protectiveness is assured irrespective of the use of such devices.
3.	"The Department would like to review the remedial design and the final survey plan to have the opportunity to address these issues with the Corps."	Concur. USACE provides regulatory agencies the opportunity to review and provide comments on all remedial designs and on confirmation survey plans. IDNS will be provided these documents as soon as practicable.
4.	"The Department expects all reasonable attempts be made to remediate all contaminated surfaces. Achieving the 32 Ill Adm. Code Appendix A guidance for radioactive cleanup projects in Illinois will ensure unrestricted release in the future."	Although USACE expects to achieve remediation levels consistent with the Illinois Administrative Code in areas remediated at Madison, legal review supports designation of 10 CFR 20, Subpart E, to include its ALARA provisions, as relevant and appropriate criteria for remediation pursuant to

		unrestricted release of the Madison facility.
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