

Comment No.	Page/Section	Comment	Initials	Response	Initials
1	Section 5, pages 31-45	Section 5, pages 31-45, discuss risk analysis results and makes conclusions regarding properties. Table 5-2 on page 41 (footnote a) and Table 5-3 on page 44 (footnote a) discuss that calculation of risk for particular scenarios was not necessary because a particular receptor was “not likely to be exposed to COCs at the property (i.e., no complete exposure pathways).” Therefore, these risk analysis were not done for all receptors for all pathways. Our letter dated August 16, 2013 mentioned that we were verifying that the Remedial Investigation / Baseline Risk Assessment demonstrate that the properties meet the standard of release for unlimited use and unrestricted exposure (UU/UE). We discussed that if properties do not meet UU/UE, it is not appropriate to release them for no further action because institutional controls, long term stewardship, and five year reviews would then be required. The subject plan does not discuss or conclude that all (or any) of the Group 1 Properties meet the standard of UU/UE. USEPA’s letter dated August 26, 2013 (comment 1) also raised the issue that UU/UE must be demonstrated for each property released for no further action. The department is unable to find any discussion of the UU/UE status of properties in the subject plan. The department strongly objects to this lack standard language stating that each individual included property has been determined to be UU/UE in the subject proposed plan. Further, in http://energy.gov/sites/prod/files/S09273_ProgPlan.pdf, LMS/S09273), pg. 28, USDOE-LM discusses that “In assessing potential site risk, DOE paid particular attention to land-use assumptions and exposure scenarios used for certifying that a given site was suitable for “unrestricted use.” Some sites were remediated to a condition that poses no unacceptable health risk to a hypothetical subsistence farmer or resident with a home garden. (Continued)	MDNR	In response to the statement about discussion of UUUE, because agencies have used different terminology regarding release/use, USACE chose to focus on the actual calculations of risk (i.e. the actual numerical values) for individual properties under different land use scenarios. Instead the focus was on whether a property met the CERCLA risk range. As a result the following text was added to the subject Draft Final Proposed Plan, Page 33. “Since different agencies have used different terminology for the principle of unrestricted use unlimited exposure, the rationale for UUUE was not developed in this Proposed Plan. Instead the risk range data was presented so that each agency could label the risk accordingly.” These calculations were performed for individual properties with the exception of “West of Broadway” and “South of Angelrodt” which were grouped together. With respect to the resident gardener scenario, all of the impacted properties with the exception of DT- 9 Levee and DT-15 were originally evaluated for the resident gardener scenario. In response to MDNR comments, USACE has now performed residential gardener risk analysis calculations for DT-9 levee and DT-15. This information is also presented in Table 5-1 and will be included in a standalone memorandum with supporting RESRAD calculations.	USACE

Responses to MDNR Comments to the Draft Final Proposed Plan for No Further Action for the Inaccessible Soil Operable Unit Associated with Group 1 Properties at the SLDS dated September 23, 2013.

1 cont.		These sites are considered suitable for UU/UE and no ICs are necessary. This level of protectiveness is not confirmed for all sites, and DOE has imposed surveillance requirements at sites where some land uses should be restricted; ICs are being pursued at some of these sites.” If availability for UU/UE is not determined for all impacted and not impacted properties included in the subject plan, USDOE may need to later amend the Group 1 ISOU ROD based on the need to impose land use restrictions and monitor them in the future. Therefore, the UU/UE status of each property should be evaluated consistent with residential gardener or subsistence farmer scenarios to determine they are UU/UE for purposes of no further action being required.	MDNR	Please note that the precise DOE terminology is “unrestricted release” and “restricted release” – which is consistent with MARSSIM. It is USACE’s understanding that the DOE document cited has been pulled because of a lack of interagency review. Regarding assessment of “not impacted” properties, USACE does not agree that a risk assessment is required for nonimpacted properties. The designation as nonimpacted is made early in the Remedial Investigation process based upon rationale described in the Remedial Investigation Work Plan for the Inaccessible Soil Operable Unit at the St. Louis Downtown Site Table 4-3. A narrative describing this rationale is also discussed in the subject Proposed Plan Section 3.8.	USACE
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2	As discussed in OSWER 9355.7-04 pg.7, “If the baseline risk assessment evaluates future use under which exposure is limited, it will not serve the traditional role, evaluating a “no action” scenario. A remedy, i.e. institutional controls to limit future exposure, will be required to protect human health and the environment.” OSWER 9355.0-89 pg. 3 discusses that “The evaluation of whether an IC is needed at a site is a site specific determination. Site Managers and site attorneys should consider whether the site would meet UU/UE as one of the factors in deciding when an IC is appropriate at a site. UU/UE generally is the level of cleanup at which all exposure pathways present an acceptable level of risk for all land uses.” OSWER 9355.7-19 pg. 5 recommends that when multiple land use and receptor scenarios seem feasible, risk assessors should <u>“assume future residential land use if it seems possible based on the evaluation of available information.</u> For example, if the site is currently industrial but is located near residential areas in an urban area, future residential land use may be a reasonable possibility.” DT-15 and DT-9 Levee were not evaluated for the residential gardener land use and other properties were not evaluated for recreational use; USACE should consider whether future residential and recreational land use on all impacted properties with no land use controls as proposed by the plan meets a standard of “seems possible;” the department contends both the scenarios “seem possible” and should be evaluated to determine if UU/UE is met.	MDNR	USACE concurs that the evaluation of whether an IC is needed is a site specific determination. While it is questionable that multiple land use and receptor scenarios are feasible for some of these properties, the point is redundant because USACE did in fact evaluate a future residential land use scenario for all properties with the exception of the areas/properties (DT-15 and DT-9 Levee) which are currently being used for the levee. USACE did consider whether residential land use “seemed possible” for the DT-15 and DT-9 Levee properties. USACE does not feel it is feasible that the levee will be removed and the area turned into a residential development. Removal of the levee would make the area susceptible to major flooding, and therefore unacceptable for residential development. Thus a <i>general</i> approach to considering all land uses & exposure pathways is not appropriate with respect to DT-15 and DT-9 Levee. In response to MDNR comments, USACE has now performed residential gardener risk analysis results for DT-9 levee and DT-15. This information is also presented in Table 5-1 and will be included in a standalone memorandum with supporting RESRAD calculations.	USACE
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2 cont.				With the exception of DT- 15 and DT-9 Levee, USACE does not believe that these properties would likely be used for recreational purposes in the future. They are in an area that has been industrialized for over 100 years. Nevertheless, whether we can reach agreement on this specific future land use or not, a simple examination of the scenarios which were evaluated for these properties indicates that the evaluation of the resident gardener scenario would actually be a more "receptive" scenario. In other words, a recreational user would be less exposed than a resident gardener (who would be consuming plants grown on the properties.) There would be fewer exposure pathways and less exposure time for the recreational user.	
3		OSWER 9355.0-30 (http://www.epa.gov/oswer/riskassessment/pdf/baseline.pdf) discusses that "The preamble to the NCP states that EPA will consider future land use as residential in many cases. In general, residential areas can be assumed to remain residential; and undeveloped areas can be assumed to be residential in the future unless sites are in areas where residential land use is unreasonable." USACE should consider whether a residential gardener or recreational receptor scenarios are "unreasonable" for the properties. The department contends future residential and recreational receptor land use is also "not unreasonable" for impacted Group 1 properties and should be evaluated to determine if UU/UE is met.	MDNR	See answer to comment 2. USACE evaluated individual properties based upon what it considered a reasonable future use for that specific property to determine if unrestricted use was met. Again, all properties (except those used for the Mississippi River levee) were evaluated for residential gardener use. The two properties (DT-9 Levee and DT-15) are not "undeveloped". The land use for these two properties is for flood protection (i.e. levee construction) and as stated in response to Comment 2, a future residential use is not feasible. The "levee areas" were evaluated for other plausible uses such as construction (such as utility maintenance) and recreation (such as the bike path.)	USACE

4	Additionally, the accessible areas proposed plan for SLDS pg 6 (http://www.mvs.usace.army.mil/Portals/54/docs/SLDS/SLDS%20PP.pdf) states “Risks associated with potential future exposures under residential conditions exceeded the upper bound of the EPA risk range. As required by EPA BRA guidance, potential future risks were calculated by assuming that no cleanup measures are implemented and that land use remains industrial or shifts towards onsite residential or recreational activities. These results indicate that some level of additional control is needed to prevent the possibility of unacceptable exposure to remaining contamination at the SLDS (DOE 1993).” Page 29 of the accessible areas ROD states that “Although future residential use is plausible, but unlikely, as a conservative measure the baseline risk assessment evaluated this scenario;” page 31 states “Exposure pathways for the resident include external gamma, soil ingestion, dust inhalation, and groundwater consumption.” Page 67 of the SLDS accessible areas ROD discusses that “Five year reviews will be conducted per the NCP for residual conditions that are unsuitable for unrestricted use” and “Institutional controls may include land use restrictions for those areas having residual concentrations of contaminants unsuitable for unrestricted use.” The subject proposed plan should be made consistent with the previous accessible areas ROD with respect to evaluation of residential risk and UUUE, additionally, for the same reasons given the historical accessible areas Proposed Plan and ROD.	MDNR	The SLDS Accessible ROD was completed in October 1998. In January 2005, the City of St. Louis issued the City of St. Louis Zoning District Map. According to the City of St. Louis Strategic Land Use Map, which was adopted by the City of St. Louis’ Planning Commission on January 5, 2005, all SLDS properties are listed as “Business and Industrial Preservation and Development Area” or “Business and Industrial Development Area.” As stated previously, the SLDS properties are currently zoned for industrial uses, which do not allow new or converted dwellings (residential use). Hence future residential use is prohibited. The long term plans for the area are to retain industrial uses, encourage a wholesale produce district, and phase out junkyards, truck storage lots and the one remaining residential use. Therefore a “shift toward onsite residential or recreational activities” (other than current recreational activities on DT-9 Levee and DT-15) is now unlikely. Further the statements referenced in the MDNR comments are general statements intended to encompass all parts of the “SLDS”. They are not necessarily descriptive of the select group of properties which are addressed in this document.	USACE
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5		DHSS performed residential gardener scenario analysis for DT-15 and DT-9 Levee using similar RESRAD assumptions to those used by USACE in their analysis of other properties. This analysis found risks as high as 1.8E-03 for DT-15 and 2.0E-03 for DT-9 Levee. These results provide additional evidence that USACE should perform residential risk analyses to make an explicit determination of UU/UE for all impacted properties.	MDNR	USACE does not believe that a residential gardener scenario is feasible for the DT-15 and DT-9 Levee properties for reasons stated in response # 2 which stated <i>USACE did consider whether residential land use "seemed possible" for the DT-15 and DT-9 properties. USACE does not feel it is feasible that the levee will be removed and the area turned into a residential development. Removal of the levee would make the area susceptible to major flooding, and therefore unacceptable for residential development.</i> The DHSS appeared to use RESRAD default values for produce consumption rates. These rates are higher than those that were used in the RI/BRA, which consequently, result in higher cancer risks. The produce consumption rates used in the RI/BRA are the standard values that have been used for all dose and risk evaluations conducted for SLDS properties since the 1998 ROD. The produce consumption rates used in the RI/BRA were obtained from USEPA's (2000) <i>Soil Screening Guidance for Radionuclides</i>. Based on DOE's (1993) <i>Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil</i>, which accompanies the RESRAD model, the RESRAD default values for produce consumption are apparently derived from older USEPA data.	USACE
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5 (cont)			MDNR	Other DHSS input values that differ slightly from those applied in the RI/BRA include the following parameters: irrigation, mass loading for inhalation, and the indoor dust filtration factor. However, the risks results are much less sensitive to these parameters than they are to the produce consumption rates. In an attempt to duplicate DHSS calculations, DHSS's input values were used to estimate cancer risks for inaccessible soil, accessible soil, and property-wide soil (i.e., combined inaccessible/accessible soil) using the RI/BRA calculation methods. Maximum property-wide risk for the Resident Gardener were 1.0E-03 for DT-9 Levee and 9.2E-04 for DT-15. Both of these values are below SLDS background residential gardener risk of 7.9E-04. The differences in the property-wide risks are attributed to DHSS merely summing the risks estimated for inaccessible and accessible soil areas. In the RI/BRA, as explained in Appendix K, Section K2.5.3, area-weighted averaging was applied to the combining of the risks estimated for the inaccessible and accessible soil areas to account for the probability or amount of time a receptor would spend in one area versus the other, as the probability for exposures to occur is assumed to be proportional to the sizes of the areas. USACE still considers residential land use on the DT-9 levee and DT-15 properties to be unreasonable for future land use as described in Response to comment 2; however, USACE has now performed residential gardener risk analysis calculations for DT-9 levee and DT-15. This information is also presented in Table 5-1 and will be included in a standalone memorandum with supporting RESRAD calculations	USACE
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6		The department continues to object to language such as that used on page 16, lines 1-4. MDNR has not changed the position discussed in detail at our comment 5 in http://www.mvs.usace.army.mil/Portals/54/docs/SLDS/SLDS%20ROD%20Final%20-%20Appendix%20A.pdf page A-29 for the accessible areas ROD, regarding the potential future usability of groundwater as a drinking water source at SLDS. We still disagree with language that implies counting on a city ordinance to remain unchanging to determine that future use of ground water as a potable water supply will not occur; we maintain that ground water at SLDS could become usable and this will need to be considered regarding groundwater in the ISOU FS for the remainder of the properties. The language of page 16 lines 1-4 should be changed to remove the implication.	MDNR	Groundwater is not a part of the media covered by the Inaccessible Soils Operable Unit. Groundwater was a media addressed by the Accessible Operable Unit. The purpose of this paragraph was to present factual information regarding the Site groundwater. Consequently, the last sentence (on lines 3-4) will be deleted. The last paragraph in Section 3.3 now reads. “There are no known drinking water wells in the vicinity of the SLDS. The City of St. Louis has Ordinance 66777 which explicitly forbids the installation of wells into the subsurface for the purposes of using the ground water as a potable water supply.	USACE
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7		Processing areas delineated on Figure 1 and Figure 4 of the document do not include Plant 4 or buildings historically designated 50-52 which had MED AEC processing that was remediated by USDOE; the figures should be changed to include these areas	MDNR	The buildings designated 50-52 are essentially in the “white” area of Plant 2. This is within the blue outline “ which denotes the processing area. We will add the “(Formerly Plant 4)” language beneath the “Plant 10” designation on Figures 1 & 4 so that the Figures 1, 3 & 4 are consistent. Buildings 50-52 were removed from Plant 2, along with the other 50-series buildings that were on that property. Regarding the designation of Buildings 50-52 on Figures 1 and 4, none of the other buildings at SLDS are designated on the figures. Plant 4 is currently Plant 10, which is labeled on Figure 1 as Plant 10. However, Plant 10 was not presented on Figure 4. The following changes have been made to Figures 1, 3, and 4 regarding consistency in the labeling of Plant 10: • Figure 1 – The label “Plant 10” has been changed to “Plant 10 (Former Plant 4).” • Figure 3 – The label “Plant 10 (Former Plant 4),” along with the bold dashed boundary, has been removed from the west side of North Broadway. It is not believed that the property on the west side of North Broadway is part of Plant 10 or the former Plant 4. • Figure 4 – Because the label was missing, Plant 10 has been labeled “Plant 10 (Former Plant 4).”	USACE
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Responses to MDNR Comments to the Draft Final Proposed Plan for No Further Action for the Inaccessible Soil Operable Unit Associated with Group 1 Properties at the SLDS dated September 23, 2013.

Supplemental Comment 1		DHSS has already presented revised residential risk calculations to the Missouri Department of Natural Resources (DNR) regarding two properties; DT-9 and DT-15. Rev B language for these properties used in Table 5-3, titled "Risk Summary for Hypothetical Residential Land Use at Selected St. Louis Downtown Site Properties Associated with the Inaccessible Soil Operable Unit", indicates that risk for the residential receptor are either "no exposure" or "below background risk". DT-9 and DT-15 are noted as "no exposure". DNR expressed concern over not providing risk calculations for the two properties; hence we provided calculations. The United States Army Corps of Engineers (USACE) has received a copy of DHSS risk assessments. DHSS requests that USACE respond either to agree with their assessments or provide new assessments for both properties.	MDNR	See the responses to MDNR comments 2 and 5.	USACE
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Supplemental Comment 2	Table 5-3	For Table 5-3, DHSS is concerned over the language "above or below background risk," which denotes to the reader the concept that the USACE is only comparing site risk to background risk. Specifically, the draft final uses the column heading "Is Total Property Cancer Risk Above or Below Background Cancer Risk?" Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidance requires both background and site risks be assessed. CERCLA further requires remedial decisions consider risks posed by both site-related and background components of the contaminant, not solely upon whether site-related contamination exceeds or does not exceed background. According to the RESRAD report for background within Appendix O of the remedial investigation (RI), background risk maximum for the residential receptor is approximately $8.0 \text{ E-}04$. Table 5-3 compares site-related activity to this value, and identified as either not exceeding or exceeding background. Following CERCLA guidance, risk for background and site-related contamination is to be addressed separately. For the residential receptor, given background exceeds EPA's risk threshold, site-related risk that does not exceed background can exceed EPA's risk threshold when risk is within $1.0\text{E-}04$ to $8.0\text{E-}04$ range. Comment 4 provides an example of a site's risk exceeding EPA's threshold yet not exceeding background. Consequently, Table 5.3 should not compare site risks to background, but identify whether risk from release-related contamination exceeds or does not exceed EPA's threshold of $1.0\text{E-}04$.	MDNR	OSWER 9285.6-07P states that "Background information is important to risk managers because the CERCLA program, generally, does not clean up to concentrations below natural or anthropogenic background levels." EPA uses the general 10^{-4} to 10^{-6} risk range as a "target range" within which the Agency strives to manage risks as part of a Superfund cleanup. Once a decision has been made to make an action, the Agency has expressed a preference for cleanups achieving the more protective end of the range (i.e./ 10^{-6}), although waste management strategies achieving reductions in site risks anywhere within the risk range may be deemed acceptable by the EPA risk manager. Furthermore, the upper boundary of the risk range is not a discrete line at 1×10^{-4}, although EPA generally uses 1×10^{-4} in making risk management decisions. A specific risk estimate around 1×10^{-4} may be considered acceptable if justified based on site-specific conditions, including any remaining uncertainties on the nature and extent of contamination and associated risks. Therefore, in certain cases EPA may consider risk estimates slightly greater than 1×10^{-4} to be protective." Tables 5-1, 5-2, and 5-3 have been modified to identify whether risk from MED/AEC Related Contamination exceeds or does not exceed EPA's acceptable risk range. Further, Table 5-1 has been modified to describe the Risk Summary for Group 1 Properties at SLDS (including residential gardener). Column headings have been changed to, "Does Risk Due to MED/AEC-Related Contamination Exceed USEPA's Acceptable Risk Range? (Yes/No)" and, "Property Specific Risk".	USACE
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Supplemental Comment 3		Background activities of radionuclides presented within the ISOU baseliner risk assessment for properties within the PP are higher than those used within reports provided prior to the baseline risk assessment. For example, the activity of radium-226 (Ra-226) in picocuries per gram (pCi/g) is 3.04. Table 3-2 of the SLDS document titled "Background Soils Characterization Report for the St. Louis Downtown Site", March 1999, or Table 2.15 of the document Baseline Risk Assessment for Exposure to Contaminants at the St. Louis Site, 1993, which has been referenced for previous SLDS documents, reports background activity for Ra-226 as 2.78 pCi/g. Other Manhattan Engineering District United States Atomic Energy Commission (MED/AEC) radionuclide background activity values have increased as well. The significance of this increase is lower activity that is identified with MED/AEC activity, and ultimately lower dose and risk from site related activity. Please provide in response to comment why and how background activity was revised for the inaccessible soils operable unit remedial investigation.	MDNR	Table 3-2 of the SLDS document titled "Background Soils Characterization Report for the St. Louis Downtown Site", March 1999 presents both Average and the 95% Upper Confidence Limit (UCL). The activity concentration of 2.78 pCi/g represents the average value for Ra-226 and 3.04 pCi/g represents the 95% UCL. In the RI/BRA, 95% UCLs were used to calculate property and background risks for characterization purposes in accordance with CERCLA guidance for estimating EPCs. Using the 95% UCL for estimating background risks also allows for more direct ("apples to apples") comparisons with property risks (i.e., inaccessible soil, accessible soil, and property-wide soil risks). This approach is consistent with EPA's Risk Assessment Guidance (RAG) for Superfund in the 1992 "Supplemental Guidance to RAGs: Calculating the concentration term (EPA 1992). USACE agrees with the last part of the comment that using the mean background value provides a more conservative estimate of activity and risk that would be attributable to MED/AEC contamination. Because of this concern, USACE also conducted internal calculations using the mean background risk values, and the outcome was the same as when 95% UCL background values are applied, and that is that the risks associated with all Group 1 Properties, except for DT-8, are less than background risks. When the mean background risk is subtracted from the DT-8 risk, the net risk is within the acceptable risk range	USACE
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Supplemental Comment 4		Section 3.8.9, West of Broadway Property Group..., improperly notes inaccessible soils to be nonimpacted. Appendix O, RESRAD BRA, provides risk assessments for both inaccessible and accessible soils for the hypothetical resident, both of which demonstrate risk exceeding the 1.08×10^{-4} cancer risk threshold. Total risk for all radionuclides combined is approximately 5.98×10^{-4} for inaccessible soils, and 6.69×10^{-4} for accessible soils. It is unknown whether background activity was included in the estimated risk or not. If risk is limited to MEC/AEC-related contamination, then risk exceeds EPA's threshold; the document should report as such. If the calculation includes background, then background activity should be removed from the calculations. Comparison of MED/AEC-related risk to EPA's threshold should then be made.	MDNR	Appendix O of the RI/BRA shows the RESRAD risk calculations for the resident gardener that include background. The risks presented in Appendix O for the West of Broadway Property Group agree with those cited by MDNR in this comment. However, comparisons to and subtraction of background is a spreadsheet exercise that is not presented in Appendix O, but rather, is presented in Table K-1-6 of the RI/BRA. Table K-1-6 shows that the net risks between the property (i.e., for inaccessible, accessible and property-wide soils) and background soil risk are negative values; therefore, the property risks are below background. Section 4.2.10.5 of the RI Work Plan states that "the inaccessible soil associated with this property group is considered non-impacted." No further sampling was conducted for inaccessible soil for the West of Broadway group as part of the ISOU RI. The inaccessible areas of DT-31, Porter Poultry, were initially considered non-impacted; however, upon further review it has been determined that DT-31 does not have inaccessible areas within the property and would not be included in this proposed plan as a result.	USACE
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AR-255