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VIA ELECTRONIC MAIL ONLY

Mr. Benjamin Washburn
Office of Public Affairs
EPA Region 7
11201 Renner Boulevard
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R7_WestLakeLandfillPublicComments@epa.gov

RE: West Lake Landfill Proposed Record of Decision Amendment

Dear Mr. Washburn:

On behalf of the St. Louis County Branch of the National Association for the Advancement of Colored People (NAACP), Great Rivers Environmental Law Center (“Great Rivers”) submits the following comments on the Environmental Protection Agency’s (“EPA”) “Proposed Record of Decision Amendment WEST LAKE LANDFILL SUPERFUND SITE” (“Proposed ROD”).¹

The NAACP is the nation’s oldest, largest and most widely recognized civil rights organization. The St. Louis County NAACP, through its Environmental and Climate Justice Program, works to address the many practices that are harming St. Louis County communities and advance a society that fosters sustainable, cooperative, regenerative communities that uphold all rights for all people in harmony with the earth.

¹ AR 30352175.

On February 6, 2018, EPA released its Proposed ROD for Operable Unit 1 (“OU-1”) at West Lake Landfill (“WLL” or the “site”).² Of the nine (9) alternatives outlined in the Final Feasibility Study (“FFS”),³ EPA has stated its intention to select Alternative 4 as the remedy for OU-1. Based on the statutory requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”)⁴ and the 1990 National Contingency Plan (“NCP”),⁵ EPA must reject Alternative 4 and select Alternative 7 instead because it is the only alternative that protects human health and the environment, provides long-term effectiveness and permanence, mitigates for millennia the flood, fire, earthquake, and unforeseen risks at the site, and adequately considers long term costs. Unfortunately, both the history of the oversight and cleanup of WLL and now most recently EPA’s Proposed ROD and its analyses used to support its decision to select Alternative 4, can be summed up with the colloquial phrase: “Let’s Kick The Can Down the Road.”

Section 121 of CERCLA sets forth five statutory requirements for EPA in selecting a remedy at a Superfund site: (1) protection of human health and the environment; (2) compliance with applicable or relevant and appropriate requirements (ARARs) unless a waiver is justified; (3) cost-effectiveness; (4) utilization of permanent solutions and alternative treatment technologies or resource recovery to the maximum extent practicable; and (5) satisfaction of the preference for treatment as a principal element or provision of an explanation in the ROD why the preference was not met.⁶ To implement these statutory directives, EPA promulgated the 1990 National Contingency Plan (“NCP”), which defines nine criteria “that are to be used to compare remedial alternatives, to establish the bases for the selection decision, and to demonstrate that statutory requirements have been satisfied.”⁷

Two criteria are considered threshold requirements under the statute and NCP: (1) overall protection of human health and the environment; and (2) compliance with applicable or relevant and appropriate requirements (ARARs). Only alternatives that meet these two threshold criteria may be considered by EPA for selection or be ultimately selected by EPA as the remedy. After screening for compliance with threshold criteria, the NCP sets forth 5 primary balancing criteria that EPA must balance in selecting a remedy: (1) long-term effectiveness and permanence; (2) reduction of toxicity, mobility, or volume through treatment; (3) short-term effectiveness; (4) implementability; and (5) cost.

OSWER Directive 9355.0-27FS sets forth the sequence in which these criteria are to be analyzed and provides how the criteria are to be used.⁸ For example, “Long term effectiveness and permanence is a major theme of CERCLA Section 121, and, therefore, is one of the two

² *Id.*

³ AR 30352116.

⁴ 42 U.S.C. § 9601, *et seq.*

⁵ 40 C.F.R. § 300, *et seq.*

⁶ 42 U.S.C. § 9621(b)(1).

⁷ *A Guide to Selecting Superfund Remedial Actions*, EPA Office of Solid Waste and Emergency Response (“OSWER”), Directive 935.0-27FS (April 1990) (citing 40 C.F.R. § 300.430(f)(1)).

⁸ *Id.* at 3.

most important criteria used during remedy selection to determine the maximum extent to which permanence and treatment are practicable. *This factor will often be decisive where alternatives vary significantly in the types of residuals that will remain onsite and/or their respective long-term management controls.*⁹ (emphasis added). Furthermore “Reduction in the toxicity, mobility, or volume of contaminants achieved through the application of treatment technologies is the other criterion that will be emphasized during remedy selection in determining the maximum extent to which *permanent solutions* and treatment are practicable.”¹⁰ (emphasis added). Finally, “cost may play a significant role in selecting between options that appear comparable with respect to the other criteria, particularly long-term effectiveness and permanence...”¹¹

As explained below, only Alternative 7 can provide: (1) long-term effectiveness and permanence; (2) a cost-effective solution that considers both long-term operation and maintenance costs and the potential for duplicative costs from groundwater contamination; and (3) a permanent solution to reduce the toxicity, mobility, and volume of RIM at the site. EPA’s selection of Alternative 4 violates statutory requirements, regulatory requirements, and EPA agency guidance and is therefore arbitrary and capricious. Additionally, EPA’s selection of Alternative 4 is arbitrary and capricious because: (1) the excavation depth of 16 feet lacks any support in the administrative record and is admittedly arbitrary by EPA; and (2) Alternative 4 will not be consistent with the characterization and remedy for OU-3 and will result in duplicative costs that have been excluded from consideration of the chosen alternative.

I. Alternative 4 fails to provide long-term effectiveness and permanence

Alternative 4 fails to meet the long-term effectiveness and permanence required by the NCP. The Proposed ROD contains the statement that “[f]ollowing excavation of the RIM, a low permeability engineered cover will be constructed to meet more stringent cover design criteria and UMTRCA standards to limit radon releases, protect groundwater, *and be effective for at least 200 to 1,000 years.*”¹² (emphasis added) Yet, in the same breath EPA states that “[b]ecause thorium is present at higher levels than radium at the Site, concentrations of radium will increase due to radioactive decay. *Estimates for the maximum concentrations of radium -226 due to this ingrowth (approximately 9,000 years) have been considered in the conceptual design of the cover to ensure protectiveness in the future.*”¹³ (emphasis added). These two statements cannot be reconciled. A cover that is protective for up to 1,000 years cannot provide long-term effectiveness and permanence when increases in radium will occur for approximately 9,000 years. Choosing an alternative that does not consider costs and risks over the full 9,000 year period in which increased risk to human health and the environment will occur from the RIM left at WLL fails to meet the long-term effectiveness and permanence criteria of the NCP.

⁹ *Id.*

¹⁰ *Id.* at 4.

¹¹ *Id.*

¹² AR 30352175 at p. 2.

¹³ *Id.*

Furthermore, as stated in OSWER Directive 9355.0-27FS, long-term effectiveness and permanence should be decisive where alternatives vary significantly (1) in types of residuals that will remain at the site and (2) their respective long-term management controls.¹⁴ With respect to (1), Alternative 4 will leave 69% of RIM residuals by volume at the site whereas Alternative 7 will remove all RIM residuals—a significant variation that favors Alternative 7 over Alternative 4. With respect to (2), Alternative 4 will require 9,000 or more years of long-term management controls at the site, whereas Alternative 7 would require 30 years—a significant variation that favors Alternative 7 over Alternative 4. Both of these factors alone should be decisive in selecting Alternative 7 as the remedy for OU-1. When combined with other factors, as discussed below, Alternative 7 is the only remedy that meets statutory requirements, regulatory requirements, and EPA guidance.

II. Alternative 4 fails to consider the long-term operation and maintenance costs at the site

According to Section 121 of CERCLA, “[i]f the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.”¹⁵ Alternative 4 proposes to leave 69% of RIM by volume and 33% RIM by radioactivity at the site thereby requiring the five-year reviews contemplated under Section 121 of CERCLA.¹⁶ These five-year reviews at the site will be required for the next 9,000 years as the risks associated with the RIM continue to increase from radium in growth. Furthermore, these five-year reviews will continue to be required by CERCLA as the risk decreases after 9,000 years for another 9,000 years, if not longer.

In addition to five-year reviews, EPA estimates annual O&M costs for the site under Alternative 4 to be between \$176,000 and \$389,000.¹⁷ The higher annual figure occurs on years in which a five-year review is required. To support the cost figure for Alternative 4 in the Proposed Remedy, EPA has relied on present worth analyses provided by the PRPs in the FFS that purports to compare “the estimated costs of each alternative on the basis of a single figure – i.e., a single dollar amount that, if invested in the base year and disbursed as needed, would be sufficient to cover all costs associated with the remedial action over its planned life.”¹⁸

The present worth analyses on which EPA relies cannot support EPA’s conclusions regarding the cost of Alternative 4. The FFS states that “for the alternatives in which radioactively-impacted materials would remain on-site, OM&M cost estimates and present worth estimates were prepared for 30-year, 200-year, and 1,000-year periods in accordance with the

¹⁴ See *supra* Note 7 at 4.

¹⁵ 42 U.S.C. § 9621(c).

¹⁶ AR 30352175.

¹⁷ AR 30352175 at p. 23.

¹⁸ AR 30352116 at p. 259.

criteria set forth under the NCP and the UMTRCA regulations.”¹⁹ Furthermore the FFS states “[t]he 7% discount rate has been in use since the initial Superfund legislation was passed in 1980 and likely does not reflect current pre-tax return on an average private sector investment. Regardless, the 7% discount rate has been used in the calculation of present worth costs for the remedial alternatives for purposes of this FFS.”²⁰ EPA’s reliance on present worth analyses to estimate the cost of Alternative 4 is arbitrary and capricious because EPA expressly acknowledges that O&M will be required for greater than 9,000 years, yet the present worth analyses only calculate estimated costs up to 1,000 years.

The reality is that EPA will be required to conduct O&M at the site for at least ten-times (one order of magnitude) longer than that analyzed in the present worth calculations in the FFS. Reliance on an economic model that only considers a tenth of the amount of time necessary for O&M and that bases its assumptions on a discount rate that is admittedly incorrect at the present time and is beyond speculative if extended 9,000 years into the future is improper and illegal, and renders EPA’s decision arbitrary and capricious. The present worth analysis used to support Alternative 4 is flawed. It skews the comparison of the cost of the various alternatives by: (1) underestimating the true cost of Alternative 4 which would realistically be much higher; and (2) creating the impression that the costs of Alternative 7 would be comparatively higher and prohibitive versus other alternatives such as Alternative 4 – an alternative which “kicks the proverbial can down the road.” The reality is that Alternative 7 requires more upfront capital costs, but lacks the uncertainties of O&M and economic assumptions that simply cannot be justified over nine millennia.

Selecting Alternative 4, which requires long-term O&M and five-year reviews for the next 18,000 years, is patently absurd, arbitrary, and capricious. This is especially true in light of the fact that the present worth analysis for Alternative 4 only considers 200 and 1,000 year present values when, in fact, it is clear that long term O&M and five-year reviews will be required in excess of 9,000 years and the rate of return assumptions are admittedly obsolete at the present time and yet are being applied for 9,000 years.

In using a 7 percent net discount rate, EPA arbitrarily and capriciously has concluded that its preferred alternative is cost-effective. It presents Republic Services and the other potentially responsible parties with a huge gift, and kicks the costs of the selected alternative down the road to future generations. EPA proclaims that the selected discount rate is consistent with EPA guidance. It is not. To the contrary, the guidance on which EPA relies makes clear that, “[f]or long-term projects (e.g., project duration exceeding 30 years), it is recommended that the present value analysis include a ‘no discounting’ scenario.”²¹ The guidance document then provides an example in chart form of when to use non-discounted costs. The example EPA provides is for a project with a 100-year duration, thousands of years shorter in time than the project EPA is dealing with here.

¹⁹ *Id.*

²⁰ *Id.* at 260.

²¹ *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, p. 4-2, US Environmental Protection Agency EPA 540-R-00-002 , OSWER 9355.0-75 (July 2000).

The National Research Council of The National Academies provides the following explanation for EPA's recommended approach, which in fact is set out in EPA's guidance documents:

There is a long-standing debate over what discount rate is appropriate for use in environmental cases where the costs may be intergenerational. While it is beyond the Committee's charge to opine on the appropriate discount rate, discounting should be considered very carefully in the weighing of alternatives along with the other four National Contingency Plan (NCP) balancing criteria listed above. Specifically for projects whose duration exceeds 30 years, EPA and the Army Corps of Engineers recommend that the present value analysis include a "no discounting" scenario to demonstrate (for comparison purposes only) the impact of the discount rate on the total present value cost of the remedy and the relative amounts of future annual expenditures.²²

Moreover, still more recent EPA guidance explains why it is inappropriate for EPA to use a 7% discount rate in situations such as the one here:

Policies designed to address long-term environmental problems such as . . . radioactive waste disposal will likely involve significant impacts on future generations. When future generations are impacted, then [d]iscounting over very long time horizons is complicated by at least three factors: (1) the "investment horizon" is longer than what is reflected in observed interest rates that are used to guide private discounting decisions; (2) future generations without a voice in the current policy process are affected; and (3) compared to intragenerational time horizons, intergenerational investment horizons involve greater uncertainty. Greater uncertainty implies rates lower than those observed in the marketplace, regardless of whether the estimated rates are measured in private capital or consumption terms.²³

These three factors are in play here when one may only guess what future generations will encounter 9,000 years from today, in the year 11018.

The more recent EPA Guidance further cautions that "[a]n extremely large benefit or cost realized far into the future has essentially a present value of zero, even when discounted at a low rate. . . Therefore, mechanically discounting very large distant future effects of a policy without thinking carefully about the implications is not advised."²⁴ This is precisely what EPA has done here.

²² *Alternatives for Managing the Nation's Complex Contaminated Groundwater Sites*, pp. 83-84, The National Academies Press (2013).

²³ *Guidelines for Preparing Economic Analyses*, section 6.3, National Center for Environmental Economics, Office of Policy, U.S. Environmental Protection Agency, (December 17, 2010, updated May, 2014).

²⁴ *Id.*, Section 6.3.2.1.

Finally, the more recent EPA guidance makes several “default recommendations,” including:

(1) “Display the time paths of benefits and costs as they are projected to occur over the time horizon of the policy, i.e., without discounting;”

(2) “Calculate the NPV using the consumption rate of interest. . . . As of the date of this publication, current estimates of the consumption rate of interest, based on recent returns to Government-backed securities, are close to 3 percent; and

(3) “[U]se the consumption rate of interest as well as additional approaches. These approaches include calculating the expected present value of net benefits using an estimated timed declining schedule of discount factors (Newell and Pizer 2003, Groom et al. 2007, and Hepburn et al. 2009). This approach accounts for discount rate uncertainty and variability, which are known to have potentially large effects on NPV estimates for policies with long time horizons.”²⁵

EPA’s preferred 9,000-year remedy would span more than 2,000 generations! That the EPA reasonably could use a 7% discount rate to this scenario with any degree of certainty is absurd. EPA does future generations a disservice. Its approach is contrary to its own guidance and is arbitrary and capricious.

III. Alternative 4 fails to utilize permanent solutions to reduce the toxicity, mobility and volume of contaminants

Section 121 of CERCLA requires utilization of permanent solutions to the maximum extent practicable. While the NCP focuses on reducing toxicity, volume, and mobility through treatment, ultimately the statutory obligation to utilize permanent solutions to the maximum extent practicable requires consideration of permanent solutions to address toxicity, volume, and mobility regardless of the availability of treatment options.²⁶ This is especially true at WLL where the primary constituents of concern are radioactive wastes (which do not have treatment technologies), rather than hazardous wastes (which often have treatment technologies and which CERCLA was truly enacted and designed to address).

The FFS states that because radionuclides cannot be destroyed or fully modified, treatment technologies are not effective to reduce the toxicity of the RIM at the site.²⁷ Further,

²⁵ *Id.*

²⁶ This conclusion is further supported by the statutory requirements of Section 121 of CERCLA which require separate consideration of permanent solutions and the preference for treatment. This is implicitly stated in OSWER Directive 9355.0-27FS “Reduction in the toxicity, mobility, or volume of contaminants achieved through the application of treatment technologies is the other criterion that will be emphasized during remedy selection in determining the maximum extent to which *permanent solutions* and treatment are practicable.” See *supra* Note 7 at 4.

²⁷ AR 30352116, at ES-4 to ES-5.

the FFS states that all alternatives will remove some volume of RIM, which will reduce the volume of RIM at the site.²⁸ Additionally, the FFS states that the mobility of RIM at the site will be reduced by the addition of a UMCTRA cap for all alternatives.²⁹ Contrary to the conclusions in the FFS, Alternative 4 fails to provide permanent solutions to reduce the toxicity, mobility or volume of RIM at the site. Admittedly, Alternative 4 will leave 31% of RIM by toxicity and 60% of RIM by volume at the site. Conversely, Alternative 7 would leave 0% or a *de minimis* amount of RIM by toxicity and volume. Clearly, with respect to toxicity and volume, Alternative 7 provides the most permanent solution. In terms of mobility, and as discussed in more detail in Section V below, while the UMCTRA cap may limit infiltration, only the removal of the full extent of RIM from the site will prevent mobility of RIM into groundwater.

IV. The 16 foot depth chosen in Alternative 4 is arbitrary and capricious

The Proposed ROD states that “[t]he 16-foot depth for Alternative 4 was developed before the additional investigation work was completed at the Site. Since that time, the location and distribution of RIM has been refined in Area 1 and Area 2 based on the results of the additional characterization investigation performed between 2013 and 2016.”³⁰ Beyond this express admission by EPA that the depth chosen in Alternative 4 is arbitrary and capricious, EPA has provided no justification for its decision to use 16 feet as the limit for depth of soil removal. For example, EPA does not compare 16 feet to any other depth, except Alternative 6, which proposes to dig to a depth of 2.2 feet. Neither the proposed ROD nor the FFS provides an analysis that compares depth with risk reduction.

V. In light of the decision to designate OU-3 and the uncertainties pertaining to groundwater contamination, selection of Alternative 4 is arbitrary and capricious and in violation of Section 121 of CERCLA

The decision to cleave off characterization and remediation of groundwater contamination from OU-1 and to designate a new OU-3 only months before proposing a final remedy for OU-1 is arbitrary and capricious. The Proposed ROD states that “laboratory analyses demonstrate that radionuclides have the potential to leach from radioactive contamination under certain conditions, and could migrate to groundwater.”³¹ Furthermore, the Proposed ROD states that a USGS report “found landfill leachate effects in 47 of 83 of the on-site wells, and 13 of these wells had an average dissolved combined radium ranging between 5.1 picoCuries per liter (pCi/L) to 26.7 pCi/ L, which is above its drinking water Maximum Contaminant Level (MCL) of 5 pCi/L.”³² Clearly, there is a relationship between the RIM contained in the soil at the site and groundwater contamination at the site. Selecting a remedy for OU-1 for soil before determining the impact of RIM soil leaching on groundwater is arbitrary and capricious.

²⁸ *Id.* at ES-5.

²⁹ *Id.*

³⁰ AR 30352175 at p. 16.

³¹ AR 30352175 at p. 10.

³² *Id.* at p. 6.

Section 121 of CERCLA mandates that EPA take into account “the potential for future remedial action costs if the alternative remedial action in question were to fail.”³³ Despite this statutory directive, EPA has not considered remedial action costs associated with Alternative 4 in the event that the groundwater investigation for OU-3 determines that the remaining RIM is contaminating groundwater. The Proposed ROD states that “[a] separate remedial investigation will be performed at OU-3 to determine whether potential groundwater contamination may exist as a result of releases which occurred at the Site prior to the implementation of the remedy at OU-1. The remedy for OU-1 will be consistent with the remedy selected for OU-2 and any remedy that may be selected for OU-3.”³⁴ However, it is unclear how these two remedies can be consistent without knowing whether RIM impacted soil is impacting groundwater at the site. In fact, given the laboratory analyses and the USGS report mentioned above, it is very likely that only removing soil to a depth of 16 feet will be in conflict with any remedy for OU-3 which would require removal of deeper soils to prevent leaching and groundwater contamination.

The decision to leave 69% of RIM by volume at the site begs the question of the impact of the lower RIM on groundwater. EPA states that “[t]he nature and extent of groundwater contamination will be characterized during the OU-3 investigation, and if warranted, a CERCLA remedy will be selected under a ROD for OU -3.”³⁵ Clearly, if RIM impacted soil is contaminating groundwater and the remedy for OU-3 requires further soil removal, then EPA has failed to take into account the costs of this subsequent removal under Alternative 4 in violation of CERCLA. EPA must consider these costs in the event that the remedy selected in Alternative 4 results in a situation where more soil must be removed in the groundwater remediation phase. The failure to consider these increased costs that may be required during OU-3 skews the nine-factor CERCLA analysis by down-playing the potential costs of Alternative 4. It creates the illusion that Alternative 4 is reasonable when, in fact, it kicks the can down the road. Of course, all of this would be more likely avoided if EPA were to choose Alternative 7 because there would be significantly less chance of continued leaching and impacts to groundwater from the RIM if more was removed.

The decision not to address groundwater before deciding a soil remedy is both putting the carriage before the horse and kicking the can down the road. While action is needed at the site, the community may prefer to wait fourteen years instead of five to make sure the remedy is right and includes both soil and groundwater impacts.

* * *

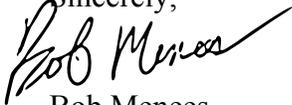
³³ 42 U.S.C. 9621(b)(1)(F).

³⁴ AR 30352175 at p. 10.

³⁵ *Id.* at p. 25.

Conclusion

While cost can “play a significant role in selecting between options that appear comparable with respect to the other criteria, particularly long-term effectiveness and permanence,”³⁶ EPA is letting the up-front cost of Alternative 7 force its hand to select Alternative 4, which does not provide comparable long-term effectiveness, does not adequately consider long term costs, utilizes an arbitrary and capricious discount rate, and fails to provide a permanent solution to reduce the toxicity, volume, and mobility of RIM at the site. In light of the uncertainties related to groundwater contamination and the potential for duplicative costs from OU-3, the absurd requirement for O&M for more than 9,000 with improperly considered costs, together with the risks the site may face over the next 9,000 years and beyond, the only legal alternative for EPA to select is Alternative 7, and not Alternative 4. Selecting Alternative 7 would remove the uncertainties regarding groundwater contamination, would not require O&M for over 9,000 years, and would mitigate all of the potential risks the site may face over the next 9,000 years into a 14 year period of certainty. Based on the foregoing, the St. Louis County NAACP requests that EPA select Alternative 7 because it is the only alternative that will foster sustainable, cooperative, and regenerative St. Louis communities.

Sincerely,

Bob Menees
Staff Attorney

³⁶ See *supra* Note 7 at p. 4.