WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA

February 13, 2015

Attn: Ms. Yarissa Martinez
United States Environmental Protection Agency, Region 9
600 Wilshire Blvd, Ste. 1460
Los Angeles, CA 90017

Subject: WRD Comments on the Proposed Plan for the Cleanup of DNAPL at the Montrose Chemical Superfund Site, Los Angeles, California

Dear Ms. Martinez:

The Water Replenishment District of Southern California (WRD) appreciates this opportunity to submit our comments regarding the United States Environmental Protection Agency's (EPA) Proposed Plan for the cleanup of dense non-aqueous phase liquid (DNAPL) residing in soil and groundwater beneath the Montrose Chemical Superfund Site in the City of Los Angeles, California (DNAPL Proposed Plan). As you are aware, the Site is located within the West Coast Groundwater Basin (West Coast Basin), a valuable drinking water resource for nearly 1.5 million residents in the Los Angeles area. Per the *California Water Code,* WRD is a State special district tasked with managing groundwater replenishment and preserving high-quality groundwater within the West Coast Basin, as well as the adjacent Central Basin. These responsibilities make WRD a primary stakeholder within these basins. As such, WRD has been working closely with the EPA, as well as State regulatory agencies, for years to help expedite the investigation and cleanup of the Montrose Superfund Site as well as other high-priority groundwater contaminated sites, in particular through data sharing and review of technical documents.

WRD looks forward to the rapid implementation of a DNAPL remediation plan by EPA that adequately halts the further spread of contamination in groundwater. To assist WRD in preparing for our comments, we also reviewed the following:

1.) Final DNAPL Feasibility Study for the Montrose Superfund Site, prepared by AECOM and dated September 27, 2013 (DNAPL FS Report) and

2.) Memorandum Regarding the Revised Montrose Dense Non Aqueous Phase Liquid (DNAPL) Feasibility Study, Los Angeles, CA, prepared by the California Department of Toxic Substances Control (DTSC) and dated August 21, 2012 (DTSC Memo).

Below are our General and Specific Comments related to EPA's DNAPL Proposed Plan, as well as the DNAPL FS Report.

I. GENERAL COMMENTS

WRD strongly supports all of EPA's remediation objectives for the DNAPL remedy, as described in the DNAPL Proposed Plan:

1) *Prevent human exposure to DNAPL constituents (via ingestion, inhalation, or dermal contact) that would pose an unacceptable health risk to on or off property receptors under industrial land uses of the Montrose Property and adjacent properties;*
2) *To the extent practicable, limit uncontrolled lateral and vertical migration of mobile DNAPL under industrial land use and hydraulic conditions in groundwater;*
3) *Increase the probability of achieving and maintaining containment of dissolved-phase contamination to the extent practicable, as required by the existing groundwater ROD, for the time period that such containment remains necessary;*
4) *Reduce mobile DNAPL mass to the extent practicable;*
5) *To the extent practicable, reduce the potential for recontamination of aquifers that have been restored by the groundwater remedial actions, as required by the groundwater ROD, in the event containment should fail; and*
6) *To the extent practicable, reduce the dissolved-phase concentrations within the containment zone over time.*

As discussed in the DNAPL Proposed Plan, EPA selected Alternative 6A – Electrical Resistance Heating (ERH) treatment for a limited area (i.e. Focused Treatment Area) of the Montrose Site as the Preferred Alternative, based on the review of six remediation alternatives for DNAPL cleanup. EPA reported that this Preferred Alternative only address the mass removal/reduction of "mobile" DNAPL and thus, the proposed cleanup will not address the full extent of all DNAPL (i.e. mobile and residual) at the Montrose Site. On page 4 of the DNAPL Proposed Plan, EPA states, "*The extent of mobile DNAPL may be further refined, if needed, during the remedial design and remedial action phases of work, with input from the State.*" No other details were provided to describe how and when the extent of mobile DNAPL would be further refined. As a public agency entrusted with protecting and preserving groundwater resources in the West Coast Basin, WRD is very concerned about the limited extent of DNAPL cleanup at the Montrose Site, as further explained below.

A. Soil and groundwater beneath the Montrose Site is contaminated with DNAPL that reportedly consists of both DDT and chlorobenzene (also called monochlorobenzene or MCB). However, EPA's Preferred Alternative (6A) only addresses mobile chlorobenzene beneath the Focused Treatment Area of the Montrose Site and leaves DDT in place. Because the chlorobenzene is only being remediated at a limited area of the site, there remains the potential for the entrained DDT to be remobilized in the future. Thus, if Alternative 6A is implemented, EPA should consider mass removal of both chlorobenzene and DDT beneath the Montrose Site; otherwise, Alternative 6B should be implemented.

B. WRD is very concerned about the volume/mass of contamination beneath the Site, especially since it has been confirmed that chlorobenzene has been detected as deep as the Lynwood Aquifer, a major water supply aquifer in the region. Groundwater monitoring by the responsible party should resume as soon as possible in order to continuously assess DNAPL migration both laterally and vertically in the subsurface, including the Gage and Lynwood Aquifers. Given the extent of documented contamination beneath the Montrose Superfund Site, as well as the adjacent Del Amo Superfund Site, and the significant known and potential impacts to the quality of groundwater in the West Coast Basin, WRD recommends that a full public participation process be implemented and that the Draft Monitoring and Aquifer Compliance Plan (MACP) be circulated for a minimum 45-day public review and that a public meeting be held by the EPA to explain the monitoring plan and to receive public comment for consideration. At a minimum, the MACP should describe a groundwater monitoring program that designates adequate monitoring points laterally and vertically and a monitoring frequency that not only evaluates the overall performance of the Dual Site Groundwater Treatment System and drinking water protection, but also complete capture of all DNAPL that can migrate off site.

C. The distinction between mobile and residual DNAPL serves as EPA's entire basis for the limited DNAPL cleanup at the Montrose Site. On page 4 of the DNAPL Proposed Plan, EPA states, "*DNAPL at the Montrose Property occurs in both "mobile" and "residual" forms. Mobile DNAPL is a continuous mass of DNAPL that can flow with groundwater and/or sink under gravitational forces. Residual DNAPL is trapped in the pore spaces of soil particles and cannot move laterally and/or vertically under natural conditions.*" According to the FS Report, mobile DNAPL was defined based on physical properties testing of one soil core sample collected from Boring 2DSB-1 at the site and the lateral and vertical extent of mobile DNAPL was based on sampling conducted in 2004 (and prior) and 2008, respectively. Given the current extent of groundwater contamination downgradient of the site and the confirmed detection of chlorobenzene in the Lynwood Aquifer, it is possible and likely that mobile DNAPL has extended beyond the Focused Treatment Area, as defined by EPA in the DNAPL Proposed Plan. Additionally, residual DNAPL may become mobile as groundwater levels continue to rise. WRD nested groundwater monitoring well Carson 2 (approximately 2 miles southeast and downgradient of the Montrose and Del Amo Superfund Sites) show groundwater levels rising an average of 15 feet over the last 12 years in all underlying aquifers (Gage, Lynwood, Silverado, and Sunnyside Aquifers).

As a result, WRD recommends that EPA reconsider the Preferred Alternative and select a treatment alternative that covers the entire 160,000-square foot DNAPL-impacted area. WRD believes this more conservative approach could not only ensure the success of the Dual Site Groundwater Remedy, but also better address areas that may now, or expect to, contain mobile DNAPL should groundwater levels continue to rise in the region. On page 15 of the DNAPL Proposed Plan, EPA states, "*Alternative 6B, ERH treatment of the entire treatment area* [i.e. full extent of both mobile and residual DNAPL at the Montrose

Site], *was ranked lower because it is more difficult to implement due to the larger treatment volume, and because of the considerably higher cost of this alternative compared to Alternative 6A* [ERH, Focused Treatment Area]." Although Alternative 6B may cost more than Alternative 6A, Alternative 6B may be conducted in multiple phases of work, starting with the Focused Treatment Area, and allow EPA the flexibility to refine the remedial design based on the current full extent of DNAPL. Experience at many contaminated sites has shown that the best approaches for remediation often contain a combination of remedial technologies and that within these suites of technologies, some may be multi-phased in order to neutralize all identified chemicals of concern.

D. The DNAPL Proposed Plan does not describe the vertical extent of mobile DNAPL, so it is unclear how deep the Electrical Resistance (ERH) electrodes and multiphase extraction wells that will be installed as part of the Preferred Alternative – 6A. According to the FS Report, DNAPL has been found to a total depth of 101.5 feet below ground surface. As such, the ERH electrodes and extraction wells should be installed at least to depths of 101.5 feet below ground surface.

E. WRD agrees with the following statements on page 5 of the DNAPL Proposed Plan, "*. . . mobile DNAPL that is present at the former Montrose Plant Property remains a threat to groundwater and soil vapor, because it is capable of continued vertical and/or lateral migration outside the TI Waiver Zone. This potential migration of mobile DNAPL may result in failure of the Groundwater remedy. Removing mobile DNAPL, therefore, is a critical component in preserving the groundwater resource and ensuring protection of human health and the environment.*" To meet EPA's remediation objective to prevent uncontrolled migration and the spread of mobile DNAPL, WRD recommends preparation of a contingency plan to address other areas of the site that may be identified in the future to contain mobile DNAPL, especially since residual DNAPL may become mobilized due to rising groundwater levels. It would be very helpful if the contingency plan also summarized how the Montrose Site will continue to be monitored in the future for mobile DNAPL and how newly identified mobile DNAPL areas will be remediated.

F. WRD agrees with EPA that the Preferred Alternative should include institutional controls that restrict future activities at the entire Montrose property for industrial use only, as described under Alternative 2 in the DNAPL Proposed Plan. In addition to implementing a formal site inspection and maintenance program that would continuously monitor the land use and access restrictions, WRD recommends that the institutional controls also prohibit the use of any chemical, including chlorobenzene, that could re-mobilize or solubilize the DDT that will remain in place on site.

G. As EPA is aware, the West Coast Basin has complexities with regards to pumping rights, replenishment needs, replenishment assessments, watermaster duties, and the interests of the various cities and public/private utilities that supply groundwater to residents and businesses, in addition to concerned stakeholder groups. As the agency responsible for

groundwater replenishment and water quality and protection within the West Coast Basin and Central Basin, WRD requests to be included in future stakeholder discussions and copied on all technical correspondence regarding the cleanup of the Montrose and Del Amo Superfund Sites.

II. SPECIFIC COMMENTS

A. Revise Document Title to Accurately Reflect the Scope of the Proposed Plan

The Proposed Plan only addresses confirmed, free phase, mobile chlorobenzene DNAPL in the Upper Bellflower Aquitard beneath a significantly smaller area of the Site (i.e. Focused Treatment Area). Based on the limited scope of the DNAPL Proposed Plan, WRD requests the current title be revised as follows, to more accurately reflect EPA's current remediation objectives: "Proposed Plan for the Cleanup of Confirmed Mobile Chlorobenzene DNAPL in the Upper Bellflower Aquitard Beneath a Limited Area of the Montrose Chemical Superfund Site."

B. Add Section to Proposed Plan Describing the Dual Site Groundwater Operable Unit

EPA's current design of the Preferred Alternative only address the chlorobenzene component of mobile DNAPL. Thus, residual DNAPL beneath the site, including DDT and those existing outside the Focused Treatment Area, will remain in place and potentially could continue to migrate further southeast (downgradient) beyond the limits of the TI Waiver Zone. As such, the Dual Site Groundwater Treatment System will be a necessary component of the DNAPL cleanup since it will need to be relied upon to capture all contaminants that will be migrating off site. WRD recommends that a section be added to the DNAPL Proposed Plan to describe how the current design of the Dual Site Groundwater Treatment System will accommodate any contamination, in particular residual chlorobenzene and DDT, that is anticipated to continue to migrate off site.

C. Duration of Preferred Alternative is Inconsistent

On page 9 of the DNAPL Proposed Plan where Alternative 6A is discussed, the duration of this treatment is described as "4 to 7 years," while the duration of Alternative 6A is described as "4 years" on page 14 of the Proposed Plan. Please provide an explanation on why the duration is inconsistently referenced for the same Alternative. Secondly, WRD recommends adding a section to the DNAPL Proposed Plan to describe the measures that will be in place to ensure that all mobile DNAPL has been completely removed from the Montrose Site, how residual DNAPL will continue to be monitored throughout the entire site to confirm that it has not become mobilized, and how on-site areas that are identified to contain mobile DNAPL in the future will be remediated.

D. Nearest Drinking Water Wells

On page 3 of the DNAPL Proposed Plan, it states the following, "*Although the State of California designates all of the water-bearing units beneath the Montrose property as having potential potable beneficial use, there are currently no known municipal or private potable production wells in use within the area of DNAPL distribution and/or dissolved groundwater contamination at the Montrose Superfund Site. The nearest municipal supply wells are located more than 2 miles from the Montrose Property, and about 0.5 to 1 mile southeast from the furthest extent of groundwater contamination related to the Montrose and Del Amo Superfund Sites.*" As a clarification, the second sentence should be revised to add "downgradient," so that the sentence is revised as follows: "The nearest downgradient municipal supply wells are located more than 2 miles . . . ." Secondly, EPA may want to consider designating a buffer zone around the Montrose and Del Amo Superfund Sites and establishing formal notification procedures for future production wells that may be installed in the area, which could potentially impact future operations of the Dual Site Groundwater Treatment System.

E. Figures 5 and 8 Are Exactly the Same

Figures 5 and 8 have different titles, but the figures are exactly the same. Based on the title of Figure 8 ("ERH in the Focused Treatment Area") and the description of Figure 8 under the Preferred Alternative – 6A, it appears that the wrong Figure 8 was inserted into the DNAPL Proposed Plan. Currently, Figure 8 does not depict or reference ERH within the figure. Please issue a Revised DNAPL Proposed Plan with the correct Figure 8.

F. Permitting for Reinjection of Treated and Untreated Water

Waters of the State beneath the Site, including the Upper Bellflower Aquitard (UBA), Middle Bellflower Sand (BFS), Lower Bellflower Aquitard (LBA), Gage Aquifer, and Lynwood Aquifer, are designated for beneficial use, and therefore must be protected. WRD strongly opposes the discharge of untreated water into the subsurface that could further degrade the water quality of these aquifers. With regards to reinjection of treated water, WRD recommends that the EPA and Los Angeles Regional Water Quality Control Board adopt limits of "nondetect" for anthropogenic chemicals of concern where no scientific or regulatory criteria exist, which is in accordance with the State Antidegradation Policy (Resolution No. 68-16 adopted by the State Water Resources Control Board on October 28, 1968). The State Antidegradation Policy was established to maintain aquifers with the "highest water quality consistent with the maximum benefit to the people of the State" and protect the designated beneficial uses. All reinjection activities should comply with State Waste Discharge Requirements.

WRD appreciates the opportunity to comment on the Proposed DNAPL Cleanup Plan and we trust that our comments are helpful and support EPA's efforts. We look forward to continuing our close working relationship to expedite groundwater cleanup at the Montrose and Del Amo Superfund Sites. Please continue to keep us involved on this important project. If you have any questions regarding this letter, please contact me at tjohnson@wrd.org or (562) 275-4240.

Yours truly,

Ted Johnson, P.G., C.HG
Chief Hydrogeologist

cc: (via e-mail only)
Scott Warren, California Department of Toxic Substances Control