Via Electronic Mail Only

Peter Zorba
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National Aeronautics and Space Administration
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Re: City of Los Angeles’ Comments on Draft Supplemental Environmental Impact Statement for Soil Cleanup Activities at Santa Susana Field Laboratory

Dear Mr. Zorba:

The City of Los Angeles appreciates the opportunity to review the National Aeronautics and Space Administration’s (NASA) Draft Supplemental Environmental Impact Statement (Draft SEIS) for Soil Cleanup Activities at the Santa Susana Field Laboratory. These cleanup activities shall be referred to as the “Proposed Project” throughout this comment letter. The City respectfully submits these comments, including and incorporating the accompanying Technical Memorandum on Comments on NASA’s Draft Supplemental Environmental Impact Statement for Soil Cleanup Activities, dated January 6, 2020, from Formation Environmental LLC, on the Draft SEIS (Technical Memorandum), for NASA’s review, consideration and response.

BACKGROUND

The City, on behalf of its residents, submits these comments based on its concerns regarding the inadequacy of the cleanup proposed to address radioactive and other contamination at the Santa Susana Field Laboratory (SSFL). The SSFL site is the location of significant environmental hazards and contamination, which were kept hidden from the public for decades. One of its nuclear reactors experienced a partial nuclear meltdown in 1959, causing releases of radioactivity into the air, and two other reactors experienced accidents with significant fuel damage. This, in addition to incineration of a wide array of radioactive and toxic chemical waste in open-air burn pits, dumping of trichloroethylene and perchlorate, and other contamination,
from more than 50 years of operations, left the site polluted with radioactive and chemical contaminants.

NASA administers two areas of the SSFL site, Area I and II. In 2010, NASA entered into an Administrative Order on Consent for Remedial Action (AOC) with the California Department of Toxic Substance Control (DTSC) that requires all of the detectible radioactive and chemical contamination at its SSFL operations be cleaned up to background levels similar to those before the site was contaminated. Specifically, the AOC requires,

[T]he cleanup of soils at the Site shall result in the end state of the Site after cleanup being consistent with ‘background’ (i.e., at the completion of the cleanup, no contaminants shall remain in the soil above local background levels, with the exception of the exercise of the exemptions that are specifically expressed in the AIP). All response actions taken pursuant to this Order shall be performed so as to achieve this standard, in full compliance with the terms and conditions detailed in the AIP [Agreement in Principle], in accordance with workplans that have been submitted to and approved by DTSC . . . .

(AOC § 2.1 [emphasis added].) The AOC defines “soil” comprehensively as “saturated and unsaturated soil, sediment, and weathered bedrock, debris, structures, and other anthropogenic materials.” (AOC § 1.7.4.) The only items not included in the definition of “soil” under the AOC are “surface water, groundwater, air, or biota.” (AOC § 1.7.4.)

The AOC requires disposal of all soil contaminated with radioactive contaminants above background at a licensed low-level radioactive waste disposal facility or authorized licensed low-level radioactive waste disposal facility at a DOE site. (AOC § 2.10.1.) The AOC makes clear that “Cleanup to Background Levels’ means removal of soils,” or “in situ or other onsite treatment of soils that is able to achieve the cleanup standards as specified in the AIP” per DTSC determination. (AOC §§ 1.7.2.) Cleanup to Background Levels “does not include ‘leave in place’ alternatives” or burial or landfilling. (Id.) These commitments were important to the community, particularly the residents who live nearby and will be most directly affected by the clean-up.

Earlier this year, NASA indicated that it intended to move forward with its soil clean-up obligations without full compliance with the AOC’s requirement that soils be cleaned up to background levels. Despite the immediate objections of DTSC to this approach, the Draft SEIS continues to propose soil remediation activities that fail to comply with NASA’s obligations under the AOC. As discussed in more detail below, the City objects to the Proposed Project, to the extent it violates the AOC and is contrary to law. NASA is legally bound to comply with all components of the AOC, including the requirement to clean up to background.

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1 AIP refers to the Agreement in Principle, incorporated as Exhibit B to the AOC. (AOC § 1.6.)
PROCEDURAL CONCERNS

The Draft SEIS is approximately 225 pages long, accompanied by early 1000 pages of appendices. National Environmental Policy Act (NEPA) regulations, 40 C.F.R. § 1502.7, mandate that “The text of final environmental impact statements . . . shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages.” The Draft SEIS exceeds this standard, particularly given that it is purportedly intended to be a supplemental document and the original EIS needs to be revisited in order to understand the Draft SEIS. The short comment period (originally to December 9, 2019) was subsequently extended to an additional 30 days, but all falling within the November-January holiday season. This provides insufficient time to allow for adequate review. The proposed project is a component of one of the largest and most significant clean-up actions in the history of California. The issues involved are extremely complicated and NASA’s short comment period makes it extremely difficult for members of the public to comprehend and respond to this new NEPA document. The subject is of importance to every citizen of Los Angeles and the surrounding region, and the City urges NASA to provide adequate opportunity for the public to review and provide feedback on the proposed activities.

GENERAL COMMENTS

The current environmental review does not comply with the National Environmental Policy Act, 42 U.S.C. §§ 4321 et. seq. An EIS must identify and provide a full and fair discussion of all significant environmental impacts caused by the proposed action. 42 U.S.C. § 4332; 40 C.F.R. § 1502.1. An EIS shall not serve as a means of justifying decision-making or policy direction already made. 40 CFR § 1502.2(g). An EIS shall describe the environment of the area. 40 C.F.R. § 1502.15. It shall also describe all direct and indirect effects and their significance. 40 C.F.R. § 1502.16. An EIS shall identify the means to mitigate adverse environmental impacts. 40 C.F.R. § 1502.16(h). Agencies must ensure professional and scientific integrity in the discussions and analysis in an EIS. Any methodologies used shall be identified and explicit reference to the scientific and other sources relied upon for conclusions shall be made in the statement. 40 C.F.R. § 1502.24.

An agency must take a “hard look” at identifying and evaluating potential adverse environmental impacts. Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1376 (9th Cir. 1998). An action will be set aside as arbitrary or capricious if the agency identified no “rational connection between the facts found and the choice made,” if the “explanation for its decision [ran] counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

Here, the Draft SEIS appears to be a post hoc attempt to justify NASA’s intention to ignore the AOC requirements, not a “hard look” analysis of the environmental impacts of the proposed soil remediation activities in light of new information on the volume and scope of the cleanup. In doing so, NASA is not only violating the AOC but also fails to fully disclose the
impacts of the proposed project. These deficiencies are fully discussed in the Technical Memorandum (attached as Exhibit A and incorporated fully here) and summarized briefly below.

NASA’s disregard for its legal obligations under the AOC is exacerbated by its apparent lack of any coordination with DTSC concerning the decisions that will be made based on the findings in the final environmental document. The AOC requires that NASA make its specific decisions on how to conduct the cleanup to background in accordance with NEPA and in coordination with DTSC. (AOC §§ 4.2.1, 4.3.) The Draft SEIS, however, is silent concerning how NASA plans to meet this requirement. NASA must revise the SEIS to adequately inform the public and decision-makers about how it will coordinate with DTSC to complete this Proposed Project.

SPECIFIC COMMENTS

A. The Newly Added Alternatives Fail to Comply with the Cleanup Standards in the Administrative Order on Consent

NASA claims that new information regarding the volume and extent of soil contamination requiring removal under the original soil cleanup alternative (Alternative A - AOC Cleanup from 2014 EIS) requires re-examination of Alternative A and the addition of three new soil-cleanup alternatives (Alternatives B, C, and D). None of the three new alternatives will comply with the requirements of the AOC, thus, their inclusion violates NEPA.

The alternatives analysis is the “heart” of the EIS process. 40 C.F.R. § 1502.4. NEPA requires an EIS consider reasonable alternatives to the proposed project. 42 U.S.C. § 4332(2)(C)(iii). Reasonable alternatives are limited to those alternatives that are “practical and feasible” from a legal, technical, economic and common sense standpoint. 40 C.F.R. § 1502.4. They should not be mere conjectural possibilities that cannot be implemented nor an option simply desirable from the applicant’s standpoint. Here, the only new alternatives NASA included in the Draft SEIS are three alternatives that fail to satisfy the clean-up obligations imposed on the agency under the AOC. To the extent NASA included these alternatives because it would like to avoid its AOC obligations, such desires do not make these alternatives reasonable or overcome the legal bar to their implementation. Alternatives B, C, and D are not reasonable alternatives as a matter of law, thus, NASA has failed to comply with the requirements of NEPA.

Moreover, the Draft SEIS fails to even acknowledge the fact that none of the alternatives except Alternative A meet the AOC-mandated cleanup standards, misleading the public about the validity and feasibility of these alternatives. The AOC outlines specific conditions that must be met in order to permit a deviation from the requirement to cleanup soil to background concentrations. The SEIS must state how and why these requirements will be met for any alternatives considered that do not result in cleanup to background concentrations, including a description of the processes and approvals needed prior to implementation. By leaving out this critical information, the Draft SEIS fails to adequately disclose the infeasible and unreasonable nature of these proposed alternatives.
By including only new alternatives that ignore the AOC, NASA has further violated NEPA by failing to evaluate a reasonable range of alternatives. Indeed, NASA has failed to evaluate any other alternatives that comply with the AOC. See 40 CFR § 1502.14(a); *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008) (“The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.”) Accordingly, the SEIS is fatally deficient and must be revised to include all reasonable alternatives that satisfy the requirements of the AOC.

**B. The Draft SEIS’s Overestimated Soil Volumes Lack Evidentiary Support and Appear to be Manipulated to Avoid AOC Compliance**

As noted, NASA asserts the need to prepare the Draft SEIS is based on “significant new information” with respect to the soil volume requiring cleanup. However, this purported new information regarding the scope and volume of the contaminated soil appears to be purposefully overestimated, without sufficient evidentiary support, warranting cleaning up the site to levels less than what is required under the AOC.

The Draft SEIS’s estimated cleanup volume for Alternative A is 870,000 cubic yards, an increase of 60% from an earlier estimate of 550,000 cubic yards in the 2014 Final EIS. However, the Draft SEIS fails to provide sufficient technical support for this estimate, claiming only that it is a conservative approach. (See, e.g., Draft SEIS at 2-12.) Rather, the Alternative A volume estimate merely assumes that soil will be removed to the depth of underlying bedrock or to a depth of 20 feet below ground surface. No site-specific data has been presented in the Draft SEIS to support the assumption that soil contamination extends to those depths across the entire 220 acres targeted for soil excavation. A more rigorous analysis of excavation volumes, and/or a discussion of uncertainties in the volume estimates is required; without adequate evidentiary support for using this overestimate and assessment of the inherent uncertainties in relying on it, the Draft SEIS fundamentally misleads the public and decision-makers as to the footprint area and volume of soil that will ultimately be targeted for excavation.

This fundamental flaw is not only a disclosure issue, but it also undermines the entire alternatives analysis. Although the soil estimates used for Alternatives B, C and D are similarly vague as to evidentiary support, the result of overstating the soil cleanup volume for Alternative A exaggerates the cleanup needs and costs for complying with the AOC cleanup to background requirements. Once again, NASA has impermissibly manipulated the Draft SEIS to justify its decision to ignore the legal mandates of the AOC.
C. The Draft SEIS Fails to Adequately Analyze Treatment Options for All Alternatives

The Draft SEIS’ analysis of treatment of specific chemicals under Alternative A as compared to the non-AOC compliant alternatives also demonstrates improper manipulation to create an unsupported justification for ignoring the AOC cleanup standards.

For example, the Draft SEIS fails to identify whether any specific candidate chemicals could be effectively treated or distinct areas, per DTSC and AOC standards, where a viable treatment technology and/or in situ bioremediation could be relied on to address soil contamination instead of soil excavation and replacement. If the volumes of soil that could be effectively treated are significant compared to the estimate of soil volume to be removed from the SSFL site (870,000 yards), then many of the impacts associated with Alternative A may be overstated. For example, TPH is readily treated by monitored natural attenuation, and volatile organic compounds are usually remediated by soil vapor extraction. NASA must conduct additional soil treatability studies so that the Draft SEIS accurately reflects the reasonable range of cleanup options for Alternative A. This would also help address concerns of excessive trucking activities during cleanup consistently expressed, and ignored, by neighbors to the SSFL site located in the City of Los Angeles.

Similarly, the Draft SEIS’s discussion of Alternative A mentions the potential for radiological contamination of soil in the NASA cleanup areas, but fails to discuss that same possibility for the non-AOC compliant alternatives. Under the AOC, if radioactive contaminants are present in soil above the provisional radiological Look-Up Tables (LUT) levels, NASA is required to cleanup that soil, regardless of the source of that contamination. This requirement needs to be imposed on all alternatives, not just Alternative A, to provide an accurate comparison of the impacts and benefits of each option.

D. The Draft SEIS’s Analysis of the Newly Added Alternatives Fail to Use the Proper Cleanup Standards and Lack Technical Support

Even if it was proper to include alternatives that would not satisfy the AOC standards (which it is not), the analysis of Alternatives B, C and D are further deficient because the Draft SEIS does not use clean-up standards adopted by DTSC for the SSFL site.

The descriptions of Alternatives B, C, and D are misleading because they refer to soil screening levels as accepted standards for soil cleanup at the project site, without any technical explanation or support for their selection. For example, screening levels identified as “Revised LUT levels” in Alternative B (i.e., EPA Regional Screening Levels, California EPA Human Health Screening Levels) and screening levels identified as “cleanup levels for soil at SSFL” in Alternatives C and D (i.e., site-specific screening levels from the 2014 Standardized Risk Assessment Methodology Rev. 2 Addendum) have not been approved by DTSC as soil cleanup standards for any areas at the SSFL site. Indeed, as provided in the DTSC and EPA guidance cited in the SEIS, these screening levels were not intended for adoption as soil-cleanup standards.
without further site-specific risk analysis. Yet, the Draft SEIS does not disclose this critical information to the public and decision-makers nor does it provide any justification for the use of these screening levels. The SEIS simply refers to them with as cleanup levels, without evidentiary support for using them, ignoring all applicable guidance. This is misleading and violates the public disclosure mandates of NEPA.

The Draft SEIS further fails to provide any sufficient technical rationale for the selection of seven soil contaminants that have revised LUT levels for Alternative B except to say that these are “the seven contaminants that result in the greatest disproportionate level of cleanup” between the AOC (i.e., LUT) and alternative cleanup levels. Under the AOC, NASA does not have the option to modify the LUT levels in order to reduce the level of effort associated with soil cleanup. If revision of the LUT level for any soil contaminant is necessary for successful implementation of soil cleanup in accordance with the AOC, that must be demonstrated through objective technical arguments. The Draft SEIS fails in this regard.

These same deficiencies are found in the Draft SEIS’s analysis of Alternatives C and D. Further, the Draft SEIS states that each of the remedial alternatives provides equally beneficial protection of human health. However, for carcinogenic compounds, risk is generally understood to be proportional to concentration and exposure, so this statement is inaccurate. An assessment of the relative protection of human health should be provided for each alternative to adequately disclose the potential health impacts.

In closing, the City appreciates the opportunity to comment on the SEIS. The SEIS, however, does not adequately disclose and analyze the impacts of the cleanup and closure activities proposed, fails to enforce the applicable AOC cleanup standards and procedures, and fundamentally undermines longstanding NASA commitments for a full cleanup of SSFL. The public that resides in the area surrounding the site is entitled to the full and transparent disclosure of all activities and their impacts, and the assurance from NASA that all significant health risks will be identified and addressed. The SEIS does not meet these standards under NEPA and the AOC, and the City respectfully requests the SEIS be revised to address the City’s comments and to ensure compliance with the AOC and federal law, and a new SEIS be recirculated for public review. If you should have any comments about anything in this letter, please contact me at 213-978-8205.

Sincerely,

[Signature]

Robert M. Mahlowitz
Deputy City Attorney
Los Angeles City Attorney’s Office

Enclosures
RMM:lc
EXHIBIT "A"
Comments on NASA’s Draft Supplemental Environmental Impact Statement for Soil Cleanup Activities

Prepared for: City of Los Angeles at request of Attorneys Greg Newmark and Shaye Diveley - Meyers Nave

Prepared by: Kathy Tegtmeier, PhD and Mike Tietze, PG, CEG, CHG - Formation Environmental, LLC
Craig Little, PhD - Two Lines, Inc.

Date: January 6, 2020

Formation Environmental has reviewed the subject document for compliance with National Environmental Policy Act (NEPA) standards and consistency with NASA’s soil-cleanup commitments for the Santa Susana Field Laboratory site. As noted by NASA, the Draft Supplemental Environmental Impact Statement (SEIS) was prepared to consider new information and a significant change in circumstances since the original EIS was finalized in 2014. Since 2014, the extent of soil contamination and future land use have been better defined. In light of that new information, NASA has updated and re-evaluated Alternative A (the “AOC Cleanup Alternative”), which was previously evaluated in NASA’s 2014 Final EIS, and also included three new alternatives (Alternatives B, C, and D) for a comparative evaluation of environmental impacts.

Overall, we find that the Draft SEIS does not fulfill the NEPA requirement to evaluate a range of reasonable alternatives because only one of the alternatives evaluated can be implemented in accordance with the 2010 Administrative Order on Consent (AOC). NASA is bound to comply with the soil-cleanup requirements included in the 2010 AOC, which include cleanup of contaminated soil to achieve the background conditions defined by the State of California’s Department of Toxic Substances Control (DTSC). Each of the three new alternatives, Alternatives B, C, and D, includes soil cleanup criteria that are less stringent than DTSC’s Look-up Table (LUT) values, as presented in the 2017 Draft Program Environmental Impact Report (PEIR), Appendix B-4. As such, Alternative A is the only alternative evaluated in the Draft SEIS that meets the requirements of the 2010 AOC. Given the soil-cleanup requirements of the AOC, it is not reasonable to assume that Alternatives B, C, or D can be implemented.

Additionally, agencies are required to prepare an EIS document that will promote meaningful public review and participation. When three of the four alternatives evaluated cannot be implemented in accordance with existing site-specific cleanup agreements, the public input on those alternatives is not meaningful.
If Alternatives B, C, and D warrant further consideration, then the Draft SEIS must provide accurate context for their evaluation. The 2010 AOC outlines specific conditions that must be met in order to permit a deviation from NASA’s requirement to cleanup soil to background concentrations. The Draft SEIS does not address how these conditions will be met for the three alternatives that do not cleanup soil to background concentrations. Further, the Draft SEIS does not fully disclose or explain the legal and regulatory processes and decisions that need to take place before Alternatives B, C, and D could be selected for implementation.

In addition to these general observations, we have the following additional comments that are organized by topic, as indicated in the headings below.

1. **Alternatives B, C, and D Soil-Cleanup Criteria**

   The descriptions of Alternatives B, C, and D are misleading because they refer to soil screening levels as accepted standards for soil cleanup at SSFL.

   1. The screening levels identified as “Revised LUT levels” in Alternative B (i.e., EPA Regional Screening Levels, California EPA Human Health Screening Levels) and screening levels identified as “cleanup levels for soil at SSFL” in Alternatives C and D (i.e., site-specific screening levels from the 2014 Standardized Risk Assessment Methodology Rev. 2 Addendum) have not been approved by DTSC as soil cleanup standards for any areas at the SSFL site. This should be clearly stated in the SEIS.

   2. The SEIS description of Alternative B does not provide sufficient technical rationale for the selection of seven soil contaminants that have revised LUT levels except to say that these are “the seven contaminants that result in the greatest disproportionate level of cleanup” between the AOC (i.e., LUT) and alternative cleanup levels. Given the commitments made in 2010 AOC, NASA does not have the option to modify the LUT levels in order to reduce the level of effort associated with soil cleanup. If revision of the LUT level for any soil contaminant is necessary for successful implementation of soil cleanup in accordance with the AOC, that must be demonstrated through objective technical arguments.

   3. Each set of screening levels referred to in these alternatives was originally developed to support further site-specific risk assessment, and ultimately the selection of appropriate, final, risk-based cleanup levels. They were not intended for adoption as soil-cleanup standards without further site-specific conceptual model development and risk analysis. The purpose, application, and limitations of the proposed screening levels should be described consistent with the source documents that are cited in the Draft SEIS.

      a. The alternative cleanup level for total petroleum hydrocarbons (TPH) under Alternative B is one of several screening levels utilized by the Los Angeles Regional Water Quality Control Board. The application of this screening level depends on a site’s soil type, depth to groundwater, and the nature of the TPH in question. Additional justification for the use of this screening level is required.
b. The alternative cleanup level for acetone (6.1 percent by weight) is based on protection of human health and does not consider protection of groundwater resources or burrowing animals, or potential nuisance effects. The selection of this standard should be supported by a more thorough analysis that considers potential adverse impacts via these pathways.

c. The alternative cleanup standard for dioxin should reference and be based upon applicable guidance from the DTSC, which is DTSC HERO Note 2 - Soil Remedial Goals for Dioxins and Dioxin-like Compounds, dated April 2017. If a different standard is proposed, its use should be justified through detailed risk analysis and approved by DTSC before assuming it can be implemented.

d. The Draft SEIS should consider all applicable guidance, including the DTSC’s Human and Ecological Risk Office (HERO) guidance including, but not necessarily limited to, Note 3. DTSC-modified Screening Levels, dated April 2019.

4. The SEIS states that each of the soil-cleanup alternatives provides equally beneficial protection of human health. We note that for carcinogenic compounds, risk is generally understood to be proportional to concentration and exposure, so this statement is inaccurate. An assessment of the relative protection of human health provided by the various alternatives should be provided.

2. **UPDATED ESTIMATE OF NASA SOIL-CLEANUP AREAS AND VOLUMES**

The Alternative A soil-cleanup volume of 870,000 yd$^3$ (increased from an earlier estimate of 550,000 yd$^3$ included the 2014 Final EIS) remains highly uncertain at this time, and the Draft SEIS does not provide adequate technical detail to understand the basis for this estimate. The soil cleanup volumes for Alternatives B, C, and D are similarly uncertain and poorly supported within the Draft SEIS. The Draft SEIS needs to clearly identify such uncertainties to allow for meaningful public review and participation in the NEPA process.

In addition, certain assumptions developed by NASA to compute the new cleanup volume may result in an overestimate of the volume of soil that is reasonably expected to be targeted for removal and offsite disposal and overstatement of the negative impacts associated with Alternative A - AOC Cleanup. For example:

1. The Alternative A volume estimate assumes that soil will be removed to the depth of underlying bedrock or to a depth of 20 feet below ground surface. No site-specific data have been presented in the Draft SEIS to support the assumption that soil contamination extends to those depths across the entire 220 acres targeted for soil excavation and removal. A more rigorous analysis of excavation volumes, and a discussion of uncertainties in the volume estimates, should be provided.

2. Biological-resource and cultural-resource “exception” areas that may be identified by DTSC within the NASA cleanup areas delineated in the Draft SEIS have not been considered. One or more of the possible exception areas identified by DTSC in their 2017 Draft Program Environmental Impact Report (PEIR) may be excluded from the soil cleanup requirements of the
2010 AOC, and as such, the area (and associated soil volume and severity of impacts) of soil cleanup may be less than the Alternative A estimate included in the Draft SEIS.

3. As discussed below, the likely outcome that some areas can be remediated by in-situ treatment and/or Monitored Natural Attenuation is not considered.

The possibility of the outcomes listed above should be considered in a more complete discussion of uncertainties associated with the Alternative A impact analysis.

3. SOIL TREATMENT ALTERNATIVES

Sufficient information is available to identify the specific contaminants and general areas of contaminated soil that could be targeted for treatment by one or more of the viable soil-treatment technologies identified in Section 2.1.1 and in Table 2.1-1 of the SEIS. However, the Draft SEIS does not identify specific candidate chemicals that could be effectively treated or distinct areas where a viable treatment technology could be relied on to address soil contamination in place of soil removal and replacement. As such, the Draft SEIS has not adequately evaluated the range of feasible alternatives.

1. If the volumes of soil that could be effectively treated are significant compared to the estimate of soil volume to be removed from the SSFL site (870,000 yd³), then many of the impacts associated with Alternative A may be overstated. For example, TPH is readily treated by monitored natural attenuation and/or in situ bioremediation, and volatile organic compounds are usually treated by soil vapor extraction.

2. Additional soil-treatability studies should be completed, areas targeted for soil treatment should be identified, and the reasonable range of soil-treatment outcomes should be assessed so that alternatives that include soil treatment can be identified and rigorously compared in a meaningful way.

4. RADIOLOGICAL CONTAMINATION OF SOIL

Per the 2010 AOC, NASA is responsible for cleanup of soil having radiological contamination above background levels, regardless of the source of that contamination. If radioactive contaminants are present in soil above the provisional radiological LUT levels, NASA is required to address those conditions, and the provisional radiological LUT levels are the required cleanup criteria.

The Draft SEIS discussion of Alternative A mentions the potential for radiological contamination of soil in the NASA cleanup areas, but there is no similar discussion of potential radiological contamination in the other Alternatives. Further, the Draft Provisional Radiological LUT Values (from Appendix B of DTSC’s 2017 Draft PEIR) have not been referred to in the Draft SEIS, and they are not included with tables of other soil-cleanup criteria presented in Appendix 2. This oversight needs to be corrected.
5. **Selection of a Soil Cleanup Alternative**

The Draft SEIS does not explain how NASA will consult and coordinate with the California DTSC to make decisions based on the findings presented in their Final and Supplemental EIS documents. The 2010 AOC specifies:

“NASA shall make its specific decisions on how to conduct the cleanup to background defined in this Agreement in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 et seq.).”

—Section 4.2.1, page 17

“DTSC and NASA shall work to coordinate the CEQA and NEPA processes.”

— Section 4.3, page 17

1. The SEIS should explain how NASA plans to issue a soil-cleanup Record of Decision while also meeting the requirements of the 2010 AOC for coordination with DTSC. For example, the 2010 AOC’s Agreement in Principle states “The remedial action implementation work plan will be subject to DTSC review and approval.” How will a conflict between NASA’s ROD and DTSC’s decisions under CEQA be resolved?

2. The NASA EIS closely mirrors DOE’s FEIS in that the same alternatives were considered/selected and neither agree with the cleanup to background directive of the AOC.

6. **Wildfire Effects**

In the event of future wildfires, the soil cleanup alternatives that do not reduce the concentrations of chemicals of concern to background concentrations may negatively impact human health and the environment through dispersal of contaminants that remain in soil. Additional discussion of the potential for wildfire dispersion of the chemicals of concern should be included in the impact analyses for Alternatives B, C, and D.

7. **Source of Dioxins**

The Draft SEIS suggests that the detection of dioxins is associated with the combustion of chlorine-containing compounds during recent wildfires and states that dioxins “are not associated with previous or current SSFL activities.” A substantiation for this statement, based on the types of dioxins (congeners) detected, is not provided. In addition, the statement wrongly suggests that if chlorinated compounds released by NASA were burned, leading to the generation of dioxins, NASA would not be responsible for their cleanup. This language should be corrected.