

2018 Report on Estimated Direct Site Remediation Costs for National Priorities List and State Orphan Sites



Department Of Toxic Substances Control

STATE OF CALIFORNIA

Edmund G. Brown, Jr.
Governor

Matthew Rodriquez
Secretary, California Environmental Protection Agency

Barbara A. Lee
Director, Department of Toxic Substances Control

Francesca Negri
Chief Deputy Director, Department of Toxic Substances Control

Mohsen Nazemi, M.S., P.E.
Deputy Director, Department of Toxic Substances Control, Site Mitigation Program

This report is prepared pursuant to Health and Safety Code Section 25173.7(c), which requires the Department of Toxic Substances Control to submit a report on estimated direct site remediation costs for the Site Remediation Account.

Tim Reese (2015). *Eastwood Multiple Arch Dam, Argonaut Mine Site, Jackson, California [Photograph]*



Department of Toxic Substances Control
1001 I Street
Post Office Box 4025
Sacramento, CA 95812-4025
www.dtsc.ca.gov/PublicationsForms

TABLE OF CONTENTS

Executive Summary	1
Federal Cleanup Sites	1
State Orphan Sites	1
Economic and Fiscal Benefits of Brownfields Restoration.....	1
Background	2
Activities Associated with NPL and Orphan Sites	2
Funding History	2
Federally-Funded NPL Sites	3
NPL Site Costs.....	3
State Orphan Sites	4
Phases of a Cleanup	4
State Orphan Site Costs	4
Imminent and Substantial Danger	5
Prioritization	5
Site Specific Cost Estimates	6
Priority 1 Sites	6
Examples of Priority 1A Sites	7
Examples of Priority 1B Sites.....	7
Priority 2 Sites	8
Examples of Priority 2 Orphan Sites.....	8
Priority 3 Sites	8
Examples of Priority 3 Orphan Sites.....	8
Statewide Service Contracts	9
Tables	
Table 1 – National Priority List Sites and Locations.....	10
Table 2 – Estimated NPL 10% Match for Response Actions 2018-2020.....	11
Table 3 – Estimated NPL 100% State Funded O&M 2018-2020	12
Table 4 – State Orphan Funded Sites and Locations	13
Table 5 – Estimated State Orphan Funded O&M 2018-2020	14
Table 6 – NPL and State Orphan Sites Funded 2013-2015	19
Figures	
Figure 1 – Figure 1 – NPL and Orphan Sites.....	24
Figure 2 – Figure 2 – San Francisco Bay Area and Los Angeles Area NPL and Orphan Sites	25
Figure 3 – References	26

Executive Summary

One of the core functions of the Department of Toxic Substances Control (DTSC) is cleaning up contaminated properties throughout the State of California. Funding for this responsibility comes from an annual Budget Act item that transfers funds into the Site Remediation Account (SRA) and appropriates resources for this purpose. The SRA is used exclusively to fund the direct site remediation of both federal Superfund and state orphan sites.

Section 25173.7 of the California Health and Safety Code conveys the Legislature’s intent that sufficient funds be appropriated in the annual Budget Act each year to pay for the estimated costs for direct site remediation costs at state and federal sites where no responsible party exists to pay for such work. It specifies that DTSC shall annually submit to the Legislature a report providing DTSC’s estimate of the funding needed. In accordance with Section 25173.7(c), this report provides DTSC’s cost estimates for “budget year” 2018/19 and the two following “budget years.”

The Health and Safety Code authorizes use of funds from the SRA for the following purposes:

Federal Cleanup Sites

- To expend funds to provide the state’s share for federal National Priority List (NPL) sites (federal Superfund sites);

State Orphan Sites

- To take a response action when a potentially responsible party (PRP) is non-compliant with an issued order;
- To take a response action when no PRP is identified;
- To take a removal or remedial action when there may be an imminent and substantial danger to the public health or the environment; and
- To verify a suspected hazardous substance release and conduct a PRP search, i.e., site discovery.

DTSC’s total estimated direct site remediation costs for state obligations at NPL and state orphan sites for the 2018 budget year (equivalent to fiscal year), and the two following fiscal years (FY), are summarized in the table below and detailed in [Tables 2, 3, and 5a-5e](#). Finally, pursuant to provision 2, item 3960-001-0018 of

the Budget Act, prior year expenditures from the SRA are presented in [Tables 6a-b](#).

Total Estimated Direct Site Remediation Costs (\$ in thousands)

	FY 2018/19	FY 2019/20	FY 2020/21
NPL Obligation	\$5,448	\$11,053	\$12,803
Orphan Estimate	\$12,525	\$14,363	\$12,863
Total Estimate*	\$17,973	\$25,416	\$25,666

*May Revise Budget includes an appropriation of \$14.2 million to support all NPL sites and Priority 1A, 1B, and 2 orphan sites, consistent with current year methodology.

Economic and Fiscal Benefits of Brownfields Restoration

Cleaning up and reusing hazardous waste sites is an investment into community and economic growth. Many prior hazardous waste sites are now redeveloped parks, shopping centers, and office buildings. There are numerous studies by government, universities, and non-profits that identify the economic benefits of brownfields restoration.

In addition to the tremendous health benefits that can be provided to the communities and the environment, as described later in the Background, Prioritization and Site Specific Cost Estimates sections, when contaminated sites are remediated, revitalizing brownfield sites creates benefits throughout communities. U.S. EPA reports the following accomplishments and benefits resulting from leveraging resources to revitalize communities:¹

- Through FY 2015/16, every \$1 U.S. EPA invested leveraged into approximately \$16.11;
- In FY 2016/17, 8.5 jobs were created per every \$100,000 of U.S. EPA brownfields funds expended, resulting in 8,472 jobs leveraged; and
- Over 3,600 acres were made ready for anticipated reuse in FY 2016/17.

U.S. EPA also reports a 2017 study concludes that cleaning up brownfield properties increased residential property values between 5 - 15.2% within 1.29 miles of

accomplishments-and-benefits.

¹ <https://www.epa.gov/brownfields/brownfields-program->

the sites,² resulting in additional tax revenue being generated for local governments.

In FY 2015/16, DTSC spent \$8.4 million on brownfields restoration as shown on [Tables 6a and 6b](#). Using the statistics above, this public investment equates to a leveraged investment of \$135.3 million.

A U.S. EPA Region 9 paper published in 2016, *Superfund Sites Work for Communities: How Superfund Redevelopment in EPA Region 9 Is Making a Difference in Communities*,³ reports that 39 California Superfund sites produce \$6.5 billion in annual sales with 22,987 employed, resulting in \$2.5 billion in annual employee income.

Background

The number of unidentified contaminated sites across the state was recently estimated at 9,800. Many of these sites, especially sites like dry cleaners and plating shops that generate significant quantities of waste water and solvents, have likely already impacted groundwater designated for crops or drinking water, or are migrating towards priority groundwater reserves. These same sites can also release toxic vapors from underground contamination into buildings where people and their children work, live, and play. When contamination is found, the U.S. EPA or the state searches to identify potentially responsible parties (PRPs) to fund the investigation and complete the cleanup. At a majority of the sites, PRPs are found. However, at many of these sites the PRP refuses to pay, cannot pay, or cannot be identified. In situations where an imminent or substantial threat to public health or the environment exists, the government has the authority to use public funding to abate the environmental threat.

Activities Associated with NPL and Orphan Sites

These publicly-funded sites are in areas throughout the State of California, including urban, rural, and suburban communities. They cover a wide range of operations, such as industrial manufacturing, dry cleaning, metal plating, wood treating, pesticide manufacturing and storage, and mining. These sites have one element in common: hazardous substance contamination. This contamination may harm public health and the

environment by contaminating water supplies, soil, air, or wildlife habitat. Action must be taken to protect the communities where these sites are located.

A majority of these publicly-funded sites are located in areas identified by the state as environmental justice communities including Bell Gardens, Commerce, Bakersfield, El Monte, Los Angeles, and Oakland. These communities are identified using CalEnviroScreen 3.0, a tool that applies a science-based method for evaluating multiple pollution sources in a community while accounting for a community's vulnerability to the pollution's adverse effects. Environmental justice communities are defined as those communities with CalEnviroScreen scores in the top 25% of communities across the state. [Figures 1 and 2](#) of this report contain maps that illustrate the location of NPL and state orphan sites throughout the state. Each map also contains an overlay of communities around sites with CalEnviroScreen scores within the top 25%. Finally, the maps provide information on the relative amount of funds spent at each site through FY 2014/15.

Funding History

Historically, the annual Budget Act transferred approximately \$10 million from the Toxic Substances Control Account to support the corresponding annual appropriation to the SRA. DTSC has fully expended each year's appropriation to pay for investigation and cleanup work on NPL and state orphan sites as funding allowed. In FY 2017/18, DTSC received an SRA appropriation of \$10.626 million, plus an additional \$3.7 million from three one-time funding sources. DTSC performs critical work on all NPL sites and state orphan sites identified as Priority 1A, 1B, and 2. Major one-time costs associated with construction projects at NPL sites can overwhelm the program. This report provides cost estimates for the next three years for these publicly-funded NPL and state orphan sites.

These publicly-funded cleanups are separated into two categories: federally-funded NPL sites and state orphan sites.

² Haninger, K., L. Ma, and C. Timmins. 2017. [The Value of Brownfield Remediation](#). *Journal of the Association of Environmental and Resource Economists* 4(1): 197-241.

³ U.S. EPA, Region 9. *Superfund Sites Work for Communities*:

How Superfund Redevelopment in EPA Region 9 Is Making a Difference in Communities. Washington: Government Printing Office, 2016

Federally-Funded NPL Sites

In partnership with U.S. EPA, DTSC acts on behalf of the State of California to remediate sites listed on the NPL.⁴ NPL sites are among the most heavily contaminated and difficult to clean up toxic waste sites in the nation. When no viable PRPs can pay for work at these sites, the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorizes the investigation of the site to be paid for with federal funds and for response actions to be paid for with a mix of federal and state funds.

[Figure 3](#) of this report shows a letter⁵ recently sent from U.S. EPA, Region 9's Superfund program to DTSC, which details the state's obligation under federal law as well as U.S. EPA's legal authority to enforce these financial obligations. Under CERCLA at sites where no viable PRP exists, DTSC, acting on behalf of the state, is legally obligated to pay a 10% state match for federal response action costs while federal public funds pay for the remaining 90%.

CERCLA also legally obligates DTSC to pay for 100% of operation and maintenance (O&M) costs at these NPL sites and prohibits U.S. EPA from funding the O&M of constructed response actions at NPL sites.

Overall, the state greatly benefits from this program. Since 2000, DTSC has spent nearly \$37 million on NPL 10% match and O&M obligations, while U.S. EPA has spent nearly \$342 million investigating and cleaning up contaminated sites in the State of California.

NPL Site Costs

At federally-funded NPL sites, U.S. EPA funds and contracts for each phase of the response action, or the cleanup process. DTSC coordinates with U.S. EPA and reviews documents through each phase of the project to ensure the state has input into the selected remedy. Once U.S. EPA selects a cleanup remedy in a record of decision, the U.S. EPA and DTSC enter into a state Superfund contract which obligates the state to 10% of the total cost of the response action construction. The state Superfund contract utilizes the estimated costs documented in the record of decision for this contract. Then, as construction is completed and the remedy is in

operation, U.S. EPA invoices DTSC for the state's 10% obligation to fund construction of the remedy.

Once the remedy is operating properly, an O&M plan is created to ensure the remedy continues to function properly, and the cost estimate for O&M is developed. As required by federal law, the project then transitions from U.S. EPA to the state. Once the project transitions to 100% state-contracted O&M, DTSC uses state remediation contractors to implement the plan for the site and applies contract rates to the work performed. O&M costs are based on known scopes of work and are generally predictable from year to year.

[Table 1](#) shows the 22 federally-funded NPL sites and their locations in California. Each of these sites is in one or more of the various phases of the cleanup process. Those that have reached the construction phase begin to incur state costs. [Tables 2 and 3](#) detail the state's NPL obligations.

[Table 2](#) details the individual NPL sites where U.S. EPA has forecast state-match costs for remedy construction and operation. The forecast indicates seven (7) sites will incur state 10% match costs in FY 2018/19. All fourteen (14) sites represented on Table 2 will incur 10% state-match costs by FY 2020/21.

[Table 3](#) details the NPL sites where the state will incur 100% O&M costs and identifies eight (8) sites (shown in bold) incurring these costs in FY 2018/19. All thirteen (13) sites will incur 100% O&M costs by FY 2020/21. The federally-funded NPL sites not listed in Tables 2 and 3, but included on Table 1, are not forecast to have state 10% match costs for the next three years.

For FY 2018/19, the total of the state 10% match and O&M costs are estimated at \$5.4 million (Table 3). However, in FY 2019/20, the U.S. EPA is proposing construction costs at the Sulphur Bank Mine Site with estimated state 10% match costs of \$6 million (Table 2). This construction project presents a significant impact to the SRA allocation. The total cost for NPL sites is estimated at over \$11 million in FY 2019/20 (Table 3), exceeding the SRA minimum appropriation and leaving no funding for state orphan sites.

⁴ The official term for sites where response actions are publicly funded under CERCLA is "fund-lead NPL sites." In this discussion, "NPL sites" is used to denote publicly-funded sites on the NPL.

⁵ Letter from Enrique Manzanilla, Division Director, Superfund Division, U.S. EPA, Region 9, to Mohsen Nazemi, Deputy Director, Brownfields & Environmental Restoration Program, DTSC (January 18, 2017).

State Orphan Sites

Under the authority of Chapter 6.8 of the Health and Safety Code, DTSC investigates hazardous substance releases and constructs and operates remedies at sites that pose an imminent or substantial danger to people or the environment. These state-funded sites, also referred to as “orphan sites,” are those in which a PRP fails to comply with an order to address the threat or there is no financially viable PRP. The SRA is used to fund direct site remediation costs for investigating and cleaning up orphan sites. Unlike the federally-funded NPL sites, the state is solely responsible for all phases of the cleanup process and related costs. Direct site remediation includes, but is not limited to, the following actions:

- Investigating complaints and conducting discovery activities (such as identifying sources of contamination);
- Searching for PRPs, which can include property title, database, and investigative searches;
- Site investigations to characterize the extent of contamination and the risk to the public;
- Providing other costs such as an interim supply of bottled water to people with drinking water contaminated by hazardous substances; and
- Construction and O&M of systems that treat contaminated media, including contaminated indoor air, groundwater aquifers used for drinking water, soil, and drinking water supplies (e.g., providing activated carbon to treat water at supply wells).

Cost estimates for a project are the anticipated costs for each phase of a project or for ongoing O&M of an existing remedy. The primary phases of a project are discovery, characterization, remedy selection, remedy implementation, and O&M. Additionally, costs may be incurred to address conditions that may create an immediate danger at a site. The cleanup phases are described below.

Phases of a Cleanup

Discovery Phase: The discovery phase includes investigating complaints or releases identified through research, conducting initial site screening investigations to verify the existence of a hazardous substance release, and finding a source of the release. This phase also includes searching for potentially responsible parties (PRP) which may result in the issuance of an order to the PRP to conduct the response, referral to another agency, or designation as an orphan.

Characterization Phase: During characterization, often called the remedial investigation, detailed investigations are conducted to determine the extent of the contamination, conduct a risk assessment, and identify and screen alternative remedies (potential cleanup options) for three factors: effectiveness, implementability, and cost. A cost estimate is developed for constructing and operating each of the alternatives based on site-specific findings.

Remedy Selection Phase: Within the remedy selection phase, the permanent remedy is selected for the site, utilizing the nine (9) criteria categorized into “threshold” factors, “primary balancing” factors, and “modifying” considerations, as well as, public and regulatory involvement. Then a remedy selection document is prepared that identifies and estimates the costs to construct and operate the remedy. These remedy selection documents are accompanied with the appropriate California Environmental Quality Act process and review, as well as public review and comment.

Remedy Implementation Phase: The remedy implementation phase consists of the design and construction of the selected remedy. Depending on the type of remedy constructed, the project will either have a finite end point and result in a certification that all remedial actions are complete or certification that the remedy is constructed and ongoing operation and maintenance are required to maintain the protectiveness.

Operation and Maintenance (O&M) Phase: Remedies that once constructed require long-term operation, maintenance, and monitoring of engineered treatment or containment systems are considered to be in the O&M phase. Depending on the type of remedy, this phase can last years, decades, or some last in perpetuity. Treatment remedies operate until the cleanup goals are met. Containment remedies may require maintenance forever.

State Orphan Site Costs

For state orphan sites, DTSC is responsible for all phases of the project from discovery to O&M. Each orphan site listed is in at least one of the major phases of work on a cleanup project.

State orphan site costs begin during discovery for historical reviews, site sampling to identify the source of contamination, and PRP searches. Characterization costs are related to soil sampling, soil borings, soil vapor

sampling, and groundwater sampling to determine the list of contaminants, the extent of the threat or risk, and to gather data to support remedy selection.

Characterization of site contamination may take multiple investigations over the course of years, with each investigation dependent upon the results of the previous one. Cost estimates for remedy selection are documented in the project record in characterization reports, the feasibility study, removal action workplan, and remedial action plan.

DTSC develops cost estimates for remedy construction using information provided under contract by the architectural and engineering firm preparing the remedy screening and remedy selection phase documents. Finally, each project in long-term O&M has a plan with specifications for operation, equipment change-outs, and chemical or other treatment costs, among other things necessary for the specific site.

Imminent and Substantial Danger

During each phase of a cleanup, DTSC focuses on eliminating conditions that cause an imminent and substantial danger. If it is determined that there is a current risk for exposure to hazardous substances, DTSC takes immediate action to eliminate the exposure.

Examples of these situations include direct exposure to hazardous substances in contaminated soil, indoor air, or in drinking water supplies contaminated above state or federal drinking water standards. If these conditions are identified, DTSC may contract for work to remove the immediate exposure risk. Examples of this work may include fencing and posting the site to exclude access, installing air filters in buildings to remove contaminants from indoor air, or providing bottled water until a long-term remedy can be implemented.

Under current law, DTSC can only use SRA funds for contracted costs and cannot utilize these funds for staff costs. DTSC pays for staff costs to manage NPL and orphan sites out of its operating budget. This report does not include the state orphan sites where contracted work is not currently required.

[Table 4](#) identifies the current list of state orphan sites requiring contracted work and their locations.

[Tables 5a – 5e](#) provides cost estimates and other information for individual state orphan sites as well as statewide service contracts necessary for the cleanup process. The tables provide information on the specific sites and are organized by the current site priority.

The total estimated need for state orphan sites for FY 2018/19 is \$12.53 million (Table 5e). The estimated costs for work on these sites increases in FY 2019/20 due to deferred fieldwork for investigation and construction at Priority 3 sites resulting from funding limitations (see next section for prioritization factors). Estimated costs are reduced again in FY 2020/21 because remedy cost estimates are only provided for work already in the pipeline. Limited resources have resulted in a reduction of discovery site investigations and site characterization. At these sites, because contaminant sources have not been characterized, the sites rank a lower priority and the cost of future work cannot be accurately estimated. Cost projections do not include costs for sites that do not yet have completed documentation to support cost estimates.

Prioritization

Allocation of funds to a site from the SRA is based on several factors. Federal NPL and state orphan sites are scored and prioritized on a quantitative weighting of exposure (meaning the number and proximity of humans or resources such as drinking water) and threat (meaning risk of damage or harm when exposed) to human health and the environment (HSC § 25356 (c)). Immediate and acute threats are assigned a priority of 1A. Sites with operating remedies that require ongoing contract support are given a priority of 1B. Likewise, federal NPL sites are provided a priority of 1B since the state is obligated by federal law to fund these activities. Additional factors include site access, likelihood of identifying a PRP, findings from the previous phase of work, and readiness of the contract documents (shovel ready).

The following provides definitions of each priority:

- Priority 1A: Immediate and acute conditions requiring a "time critical" response;
- Priority 1B: Ongoing O&M of a state or federally funded site remediation treatment system necessary to prevent exposure to human or environmental receptors. Priority 1B includes state-match NPL costs;
- Priority 2: Actual human exposure or resource impacts under current conditions;
- Priority 3: Potential exposure under current conditions; and
- Priority 4: Potential exposure under future conditions.

The scoring and prioritization of a site can be a fluid process as new information is discovered and exposure or threat to human health and the environment changes. When an acute threat of exposure to human health is identified, DTSC must take immediate action regardless of a site's given priority, such as in the case of the Selma Pressure Treating Company.

The Selma Pressure Treating Company Superfund site is a former wood-preserving treatment facility bordering the city limits of Selma, California. There are 12 residences and businesses within a quarter-mile of the site. The town of Selma has a population of approximately 10,000 people. DTSC has operated the groundwater remedy and collected samples to assess the efficiency of the system since 2009, while the U.S. EPA continues to investigate the off-site contamination. In 2017, U.S. EPA groundwater monitoring included sampling of additional off-site domestic water wells downgradient of the Selma Pressure Treating Company. The results indicated that two domestic wells supplying three residences, 0.37 miles and 0.85 miles from the site, were contaminated with hexavalent chromium, a known carcinogen, above the drinking water standard, and one with concentrations nearly nine times the drinking water standard.

Using Site Remediation Account (SRA) funding, DTSC immediately provided bottled water to people while U.S. EPA funded and constructed treatment systems consisting of reverse osmosis on the two wells. The systems were installed in July 2017, and DTSC took over operation and maintenance of the systems in October 2017. DTSC will continue to monitor and provide safe drinking water for these neighbors. As a follow-on to these findings, the U.S. EPA is currently conducting additional off-site investigation to better define the extent of the contamination and analyze options to expand the remedy.



Site Specific Cost Estimates

The SRA funds response actions to protect people and the environment from the risks posed by releases of hazardous chemicals. Historically, there have been insufficient funds to ensure the protection of people at all known federal and state orphan sites. For that reason, DTSC funds these response activities on a worst-first basis.

[Tables 2, 3, and 5a – 5e](#) present the estimated direct site remediation costs for response actions at federally-funded NPL sites and state orphan sites. Sites are only removed from the list when there is no further need for contracted activities. This may occur when the imminent and substantial danger has been eliminated, when a responsible party has been identified to fund the cleanup, or the site is cleaned up with no ongoing O&M.

Priority 1 Sites

[Table 2](#) includes the estimated state 10% match costs for construction and operation of remedies at federally-funded NPL sites. When a site is listed on the NPL, the state is then obligated under federal law to pay the 10% state match for response actions. Federal law prohibits the U.S. EPA from spending federal money on remedy construction or long-term remedial action (LTRA) without assurance from the state in meeting its state-match obligation. For FY 2018/19, the U.S. EPA forecasts seven (7) construction or operation projects that require state-match funding at a total cost of \$1.27 million ([Table 2](#)). These sites have, or will have, a state Superfund contract with the U.S. EPA. Because of the federal obligation to fund them, and the risk to human health, these sites are assigned a priority of 1B.

[Table 3](#) includes the estimated costs at federally-funded NPL sites where the O&M of the remedy has transitioned to 100% state responsibility. These sites have state contracts in place to operate groundwater treatment systems, soil vapor extraction systems, and maintain protective caps on contaminated waste. Maintaining these remedies will protect drinking water supplies and the public from exposure to toxic vapors entering homes and offices. Because of the federal obligation to fund, and the risk to human health, these sites are assigned a priority of 1B.

[Table 5](#) lists the estimated costs for state orphan sites. The table is organized by priority. [Table 5a](#) lists Priority 1A sites where people are currently being exposed to

toxic substances in drinking water or indoor air at levels significantly above risk levels. Failure to fund these activities will result in continued current exposure and health risk to people, including workers.

[Table 5b](#) lists Priority 1B sites where DTSC has constructed a remedy to protect human health that requires ongoing operation and maintenance. Failure to fund these activities will result in shutdown of the remedy, which will lead back to the original impacts the site had on drinking water supplies and indoor air.

Examples of Priority 1A Sites

In Delano, California, south of Fresno, significant soil and groundwater contamination of tetrachloro-ethylene or PCE has resulted from dry-cleaning operations. PCE is classified as a likely carcinogen and is a known respiratory, kidney, and neurological toxin. DTSC conducted indoor air sampling in small businesses and residences adjacent to the former **National Cleaners** and **Oasis Cleaners**, both considered priority 1A sites, and found occupants unknowingly breathing the dry-cleaning solvent PCE at concentrations more than 200 times the safe screening level for indoor air. DTSC took immediate action to install filters within the businesses to clean the air and install venting systems. However, this is only a short-term fix; FY 2018/19 funding is needed to investigate the extent of contamination and evaluate permanent solutions to prevent the PCE vapors from entering the buildings and to clean up the contamination.

Examples of Priority 1B Sites

In Davis, California, DTSC has taken over 100% of the cost of operation and maintenance of the groundwater pump and treat system at the former **Frontier Fertilizer Company** NPL site that protects the city's drinking water supply from pesticides, including 1,2-dibromoethane, 1,2-dichloropropane, and 1,2,3 trichloropropane. These pesticides are known toxins to the kidney, liver, gastrointestinal system, and respiratory system. DTSC estimates the cost to operate this system at \$800,000 per year. DTSC requires FY 2018/19 funding to continue this operation and maintenance.

In Maywood, an environmental justice community in Los Angeles county, DTSC is taking over operation of the pump and treat system at the former **Pemaco Chemical Company** NPL site. This was the site of a major chemical fire. After extensive cleanup, high levels of toxic volatile chemicals remain in the soil and groundwater; currently DTSC pays 10% of the annual operating costs of the

treatment system. In 2018, DTSC will become responsible for 100% of the costs which will exceed \$1 million.

This is just a sampling of the continuing efforts of DTSC to protect Californians and cleanup Priority 1 contaminated sites. As stated above, Priority 1A sites are sites where citizens are currently being exposed to toxins in their air, drinking water, and soil at levels significantly exceeding those considered safe. In most of these cases, the exposures are not even known to the people. At Priority 1B sites, DTSC is maintaining remedies to continue to protect people and the environment from toxic chemicals. These chemicals are known to cause cancer, poison our organs, and damage our nervous system. Many chemicals have extremely low or no safe level of exposure. Funding for Priority 1 sites is used for these time-critical responses, and the Priority 1B sites include funding federally mandated costs and keeping protective systems running. Failure to fund Priority 1A sites will result in acute hazardous exposure to contaminants in indoor air and drinking water. Failure to fund Priority 1B sites could result in federal lawsuits, loss of federal cleanup funding, and remedy failure of critical containment systems that protect California's drinking water supply, indoor air, and prevent exposure to contained chemical hazards.

There are significant costs associated with delaying or failing to fund continued operation and maintenance, or remedy implementation, in a timely manner. Restarting a remedial system after shutdown can result in dramatic cost increases when the project is restarted. These costs include rehabilitating the system equipment which can quickly be contaminated with algae and sediment, fittings which lose their seals causing leaks on start-up, extraction wells which become fouled and require redevelopment, and treatment systems which need complete overhauls. Even carbon filters cannot be left idle once put in operation. In addition to the rehabilitation of the actual system, if the system is containing a contaminant plume, shutting off the containment system will allow the contaminants to migrate beyond the containment system. In the worst case, the system cannot be turned on again without leaving contamination outside the system. This would require extensive new investigation to identify the new extent of contamination and expansion, or rebuild of the system to contain the contaminants at their new extent. Similarly, for new remedy construction or implementation, failure to fund in a timely manner will result in significant additional costs associated with the

re-evaluation of the system design, extent of the contamination, and cost to construct, which includes access to install the system.

Priority 2 Sites

[Table 5c](#) lists Priority 2 sites where DTSC is either conducting discovery or ongoing investigations of a known release, where people or the environment are currently at substantial risk of harmful impacts. Discovery includes investigations to verify and identify the source of a release, the potential risks to humans and identifying PRPs. Ongoing investigations identify the extent of the contamination and develop alternative cleanup options to select and construct the final remedy. Failure to use SRA funds for these activities will delay discovery or investigation, development of the remedy, and could allow the contamination to spread, impacting additional people and resources and increasing future costs.

Examples of Priority 2 Orphan Sites

At the **Dunnigan Groundwater** site (Dunnigan, California) carbon tetrachloride, a cancer causing substance historically used as a solvent and as a fumigant (pesticide), was detected in the drinking water of the local volunteer fire station at three (3) times the drinking water standard. DTSC is planning to use FY 2018/19 funding to continue to investigate soil and groundwater to determine the source and extent of the contamination. These efforts will eventually lead to a remedy for the groundwater contamination and prevent future exposure to the carbon tetrachloride from drinking water.

Peter Pan Cleaners (Santa Rosa, California) is situated immediately adjacent to a residential neighborhood. This Priority 2 site will transition to a Priority 1B site in FY 2018/19. The soil and groundwater concentrations of dry-cleaning solvents including perchloroethylene (PCE) and vinyl chloride are extremely high. Perchloroethylene or PCE is classified as a likely carcinogen and is a known respiratory, kidney, and neurological toxin. Vinyl chloride is a known human carcinogen and a respiratory, liver, and neurological toxin. Solvents are detected in soil vapor at over 8,000 times the screening levels considered safe and in groundwater at nearly 66,000 times the drinking water standard. DTSC is currently completing the remedy selection process to cleanup the soil and groundwater and will then construct the remedy. FY 2018/19 funding is required to conduct operation and maintenance of the constructed remedy. Failure to fund the remedy will defer operation and

allow for the PCE and vinyl chloride vapors to continue to flow off-site into the neighborhood, contaminating residential homes and continuing the expansion of the groundwater contamination plume.

Remedies for these sites may require ongoing operation and maintenance, depending on the type of remedy constructed. Those remedies require ongoing operation and maintenance will be assigned a priority of 1B for the following year. Sites that are cleaned up and do not require contracted operation and maintenance are removed from the list.

Priority 3 Sites

[Table 5d](#) lists Priority 3 sites where, like Priority 2 sites, DTSC is conducting ongoing investigations of releases where there is known contamination, but it poses lower risks than Priority 2 sites. Failure to fund these activities will delay discovery or investigation, development of the remedy, and could allow the contamination to spread, increasing the risk and priority, and potentially impacting additional people and resources, increasing future costs.

At Priority 3 sites, contamination is also known to be in the environment at levels above safe standards such as drinking water standards, soil screening concentrations, or soil vapor screening concentrations, but there is no known current exposure to humans. Often this is because the site has been abandoned and/or fenced, or not enough information is available.

Examples of Priority 3 Orphan Sites

Lane Metal Finishers (Oakland, California) is a former metal finishing (e.g., polishing, electroplating, anodizing, and plating of metal parts) facility located at the intersection of San Pablo Avenue and 30th Street in a mixed commercial and residential area of Oakland. Soil, soil gas, and groundwater are contaminated with trichloroethylene (TCE), a cancer-causing substance. Groundwater is contaminated at over 180,000 times safe levels. Soil gas is contaminated at over 100,000 times screening levels. Soils are also contaminated with cadmium, lead, and nickel. Lead concentrations are 100 times screening levels. Cadmium is a human carcinogen and causes developmental and reproductive toxicity. Lead also causes developmental and reproductive toxicity and is particularly neurotoxic to children causing decreased intelligence. Nickel in high doses causes respiratory and blood toxicity as well as developmental and reproductive toxicity.

DTSC will prepare a draft Removal Action Workplan (RAW) with anticipated approval in May 2018. The RAW would propose in-situ remediation of volatile organic compound contamination in soil and groundwater, and excavation of soils contaminated with metals. The requested funds are necessary to complete the implementation of the remedies in FY 2018/19 as selected in the RAW. If not funded, TCE in soil gas could migrate into the adjacent residential homes, increasing the risks to people's health in nearby residences. TCE-contaminated groundwater would continue to migrate and require a much larger treatment area, significantly increasing cleanup cost.

Electro-Forming Richmond (Richmond, California) is a former metal finishing (polishing, electroplating, anodizing, and plating of metal parts) facility located at 130 Nevin Avenue in a mixed commercial and residential area of Richmond. Soil and groundwater are contaminated with cyanide and a variety of metals including hexavalent chromium, cadmium, nickel, and lead. Groundwater is contaminated with nickel at over 54,000 times and cyanide at over 32,000 times the screening levels for drinking water. The FY 2018/19 funds are necessary to complete the investigation and identify remedies in FY 2018/19. If not funded, contaminated groundwater will continue to migrate and require a much larger treatment area, significantly increasing cost to cleanup.

Statewide Service Contracts

DTSC also utilizes the SRA to fund statewide service contracts. These contracts are necessary to provide services such as, conducting potentially responsible party (PRP) searches, monitoring remedies to prevent damage from third parties, and providing court reporters during statutory lien hearings. [Table 5e](#) lists the statewide contracts that DTSC uses to conduct PRP searches or monitor existing remedies that have protective long-term land use restrictions in the form of land use covenants. For example, the CLEAR Database service is necessary to research and locate those that may be liable for the contamination. These searches may lead to the issuance of Remedial Action Orders resulting in the responsible parties paying for the cleanup, or they may lead to financial settlements with potentially responsible parties. The funding received is used to reimburse past costs and/or pay future costs. These responsible-party funded sites are then removed from the SRA expenditure plan. Settlements were recently completed at the former **Wickes Forest Industries** site and the **Chicago Musical** site, which have been removed from the expenditure plan.

TABLE 1 – LIST OF ALL FUND-LEAD NPL SITES AND THEIR LOCATIONS – This table presents the current list of all federal fund-lead NPL sites in the State of California as defined by the U.S. EPA. The sites are listed alphabetically along with their city or county location.

Table 1: National Priority List Sites and Locations			
Site Name	City/County	Site Name	City/County
Alark Hard Chrome	Riverside	McCormick and Baxter Creosoting Co.	Stockton
AMCO Chemical	Oakland	Modesto Groundwater Contamination	Modesto
Argonaut Mine*	Jackson	Palos Verdes Shelf	Palos Verdes
Blue Ledge Mine	Siskiyou County	Pemaco Chemical Corporation	Maywood
Brown & Bryant	Arvin	San Gabriel Area 3	El Monte
Frontier Fertilizer	Davis	Selma Treating Co.	Selma
Halaco Engineering	Oxnard	South Bay Asbestos Area	San Jose
Iron Mountain Mine	Redding	South El Monte Operating Unit (San Gabriel)	El Monte
Jervis Webb	South Gate	Southern Avenue Industrial Area	South Gate
Klau/Buena Vista Mine	Paso Robles	Sulphur Bank Mercury Mine	Clearlake
Lava Cap Mine	Nevada City	Whittier Narrows Operating Unit (San Gabriel)	El Monte

*Note: DTSC is currently undertaking response activities at the Argonaut Mine NPL site utilizing General Fund money and not the SRA.

TABLE 2 – COST ESTIMATE FOR DTSC’S 10% STATE MATCH AT FEDERAL NPL SITES – U.S. EPA and DTSC create and agree on the estimated costs for federal NPL sites as described above.

Table 2: Estimated NPL 10% Match for Response Actions FYs 2018/19-2020/21							
PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
AMCO Chemical	Oakland	1B	no	Response Action	\$0	\$150,000	\$0
Argonaut Mine	Jackson	1A	no	Response Action	\$0	\$50,000	\$0
Blue Ledge Mine	Rogue NF	1B	no	Response Action	\$100,000	\$200,000	\$0
Brown & Bryant (OU1 & OU2)	Arvin	1B	yes	Response Action	\$200,000	\$200,000	\$200,000
Halaco Engineering	Oxnard	1B	yes	Response Action	\$0	\$0	\$5,000,000
Jervis Webb	South Gate	1B	yes	Response Action	\$0	\$0	\$200,000
Klau/Buena Vista Mine	Paso Robles	1B	no	Response Action	\$300,000	\$0	\$0
Lava Cap Mine (OU1 & OU4)	Nevada City	1B	no	Response Action	\$250,000	\$66,000	\$0
McCormick and Baxter Creosoting Co.	Stockton	1B	yes	Response Action	\$0	\$0	\$1,700,000
Modesto Groundwater	Modesto	1B	yes	Response Action	\$200,000	\$0	\$0
Pemaco Chemical Corporation	Maywood	1B	yes	Response Action	\$200,000	\$0	\$0
South El Monte OU (San Gabriel)	El Monte	1B	yes	Response Action	\$25,000	\$25,000	\$25,000
Southern Avenue Industrial Area	South Gate	1B	yes	Response Action	\$0	\$0	\$200,000
Sulphur Bank Mercury Mine	Clearlake	1B	no	Response Action	\$0	\$6,000,000	\$0
Total NPL 10% Match for Response Actions Estimate					\$1,275,000	\$6,691,000	\$7,325,000

TABLE 3 – COST ESTIMATE FOR DTSC'S 100% O&M COSTS AT FEDERAL NPL SITES – Sites incurring 100% O&M costs in FY 2018/19 are shown in bold.

Table 3: Estimated NPL 100% State Funded O&M FYs 2018/19-2020/21							
PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
AMCO Chemical	Oakland	1B	no	Operation and Maintenance	\$0	\$0	\$50,000
Argonaut Mine	Jackson	1A	no	Operation and Maintenance	\$0	\$50,000	\$50,000
Blue Ledge Mine	Rogue NF	1B	no	Operation and Maintenance	\$0	\$0	50,000
Brown & Bryant (OU1 & OU2)	Arvin	1B	yes	Operation and Maintenance	\$50,000	\$50,000	\$50,000
Frontier Fertilizer	Davis	1B	no	Operation and Maintenance	\$800,000	\$800,000	\$800,000
Iron Mountain Mine (OU5)	Redding	1B	no	Operation and Maintenance	\$50,000	\$50,000	\$50,000
Lava Cap Mine (OU1 & OU4)	Nevada City	1B	no	Operation and Maintenance	\$100,000	\$234,000	\$300,000
McCormick and Baxter Creosoting Co.	Stockton	1B	yes	Operation and Maintenance	\$0	\$0	\$50,000
Modesto Groundwater	Modesto	1B	yes	Operation and Maintenance	\$350,000	\$350,000	\$300,000
Pemaco Chemical Corporation (Former)	Maywood	1B	yes	Operation and Maintenance	\$1,150,000	\$1,175,000	\$1,175,000
Selma Pressure Treating Company	Selma	1B	yes	Operation and Maintenance	\$250,000	\$250,000	\$250,000
Sulphur Bank Mercury Mine	Clearlake	1B	no	Operation and Maintenance	\$0	\$0	\$950,000
Whittier Narrows OU (San Gabriel)	El Monte	1B	yes	Operation and Maintenance	\$1,423,000	\$1,403,000	\$1,403,000
Total NPL 100% State Funded O&M Estimate					\$4,173,000	\$4,362,000	\$5,478,000

Total NPL 10% Match for Response Actions Estimate

Total NPL 100% State Funded O&M Estimate

Total Estimated NPL Obligation

\$1,275,000	\$6,691,000	\$7,325,000
\$4,173,000	\$4,362,000	\$5,478,000
\$5,448,000	\$11,053,000	\$12,803,000

TABLE 4 – LIST OF ALL CURRENT STATE ORPHAN SITES AND LOCATIONS - This table presents the current list of state orphan sites in California. The sites are presented alphabetically along with their city or county location.

Table 4: State Orphan Funded Sites and Locations				
Site Name	City		Site Name	City
AAD Distribution & Dry Cleaning, Inc.	Vernon		Hytone Cleaners	El Monte
Alco Pacific, Inc.	Carson		J&S Chrome Plating	Bell Gardens
Benham and Johnson	Bakersfield		K & D Salvage	Bakersfield
Charles Caine Company, Inc.	Los Angeles		Lane Metal Finishers	Oakland
Cal Tech Metals	Oakland		Lubrication Company of America	Canyon Country
Cameo	Commerce		Madera PCE Groundwater Plume	Madera
Central Valley Fertilizer Co., Inc.	Dos Palos		McNamara and Peepe Lumber Mill	Arcata
Chemical & Pigment Company	Bay Point		Mobile Smelting	Mojave
Cook Battery	Oakley		Modern Cleaners	Red Bluff
Custom Chrome and Bumper	Yuba City		Momin Lodge	Torrance
Davis Chemical Company	Los Angeles		North Fresno PCE Plume	Fresno
Delano PCE Plume	Delano		Oasis Cleaners	Delano
Dunnigan Groundwater	Dunnigan		OCMP	Fullerton
DWA Plume	San Leandro		Orland-Cleaners	Orland
Electro Forming Co.- Richmond	Richmond		PCA Metal Finishing, Inc.	Fullerton
Engineering Plating Corp.	Santa Ana		Peter Pan Cleaners	Santa Rosa
Former National Cleaners	Delano		Porterville MGP	Porterville
Harbour Way South	Richmond		Porterville PCE Plume	Porterville
Hard Chrome Engineering	Oakland		Sacramento Plating, Inc.	Sacramento
Hard Chrome Products	Los Angeles		San Gabriel Source Identification	El Monte
Harris Dry Cleaners	Oakland		San Luis Obispo PCE Plume	San Luis Obispo
Sierra Launderers & Cleaners	Sonora		Statewide Orphan Discovery Funding	Statewide
Singer Friden	Oakland		Talley Brothers, Inc.	Huntington Park
South Fresno PCE Groundwater Plume	Fresno		Tri-City Plating, Incorporated	Oceanside
Southland Oil	Commerce		Valley Plating Company	Shasta Lake
Spence Property	Los Angeles		Visalia Dry Cleaner Investigation	Visalia

TABLE 5a -TABLE 5e – COST ESTIMATE FOR DTSC’S STATE ORPHAN SITES - DTSC's costs for response actions at state orphan sites. DTSC created the estimated costs for the state orphan sites as described above. The figures in this table are the best, currently available estimates of response actions costs at state orphan sites in the state.

Table 5a: Estimated State Orphan Funded Activities 2018-2020 - Priority 1A							
PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
DWA Plume	San Leandro	1A	no	Investigation	\$200,000	\$200,000	\$200,000
Former National Cleaners	Delano	1A	no	Remedy Construction	\$400,000	\$500,000	\$300,000
Momin Lodge	Torrance	1A	no	Interim Remedy Construction	\$1,000,000	\$1,800,000	\$1,800,000
Oasis Cleaners	Delano	1A	no	Remedy Construction	\$400,000	\$500,000	\$300,000
Singer Friden	Oakland	1A	yes	Remedy Construction	\$200,000	\$200,000	\$200,000
Priority 1A Projects Subtotal					\$2,200,000	\$3,200,000	\$2,800,000

Table 5b: Estimated State Orphan Funded Activities 2018-2020 - Priority 1B

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
AAD Distribution & Dry Cleaning, Inc.	Vernon	1B	yes	Operation and Maintenance	\$75,000	\$75,000	\$75,000
Alco Pacific, Inc.	Carson	1B	yes	Operation and Maintenance	\$75,000	\$75,000	\$75,000
Charles Caine Company, Inc.	Los Angeles	1B	no	Operation and Maintenance	\$609,000	\$640,000	\$640,000
Central Valley Fertilizer Co., Inc.	Dos Palos	1B	yes	Operation and Maintenance	\$15,000	\$0	\$0
Chemical & Pigment Company	Bay Point	1B	yes	Operation and Maintenance	\$15,000	\$15,000	\$15,000
Cook Battery	Oakley	1B	no	Operation and Maintenance	\$5,000	\$5,000	\$5,000
Engineering Plating	Santa Ana	1B	yes	Remedy Construction	\$1,042,000	\$1,800,000	\$1,800,000
J&S Chrome Plating	Bell Gardens	1B	yes	Operation and Maintenance	\$368,000	\$405,000	\$405,000
Lubrication Company of America	Canyon Country	1B	no	Operation and Maintenance	\$450,000	\$450,000	\$450,000
McNamara and Peepe Lumber Mill	Arcata	1B	no	Operation and Maintenance	\$50,000	\$1,000,000	\$100,000
OCMP	Fullerton	1B	yes	Operation and Maintenance	\$118,000	\$123,000	\$123,000
Orland-Cleaners	Orland	1B	no	Operation and Maintenance	\$60,000	\$35,000	\$35,000
PCA Metal Finishing, Inc.	Fullerton	1B	no	Operation and Maintenance	\$118,000	\$123,000	\$123,000
Peter Pan Cleaners	Santa Rosa	1B	no	Operation and Maintenance	\$50,000	\$50,000	\$50,000
Southland Oil	Commerce	1B	yes	Operation and Maintenance	\$600,000	\$600,000	\$600,000
Spence Property	Los Angeles	1B	yes	Operation and Maintenance	\$72,000	\$72,000	\$72,000
Tri-City Plating, Incorporated	Oceanside	1B	no	Operation and Maintenance	\$5,000	\$5,000	\$5,000
Priority 1B Projects Subtotal					\$3,727,000	\$5,473,000	\$4,573,000

Table 5c: Estimated State Orphan Funded Activities 2018-2020 - Priority 2

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
Cameo	Commerce	2	yes	Operation and Maintenance	\$250,000	\$200,000	\$200,000
Delano PCE Plume	Delano	2	yes	Investigation	\$425,000	\$425,000	\$425,000
Dunnigan Groundwater	Dunnigan	2	no	Investigation	\$75,000	\$75,000	\$75,000
Hard Chrome Plating	Los Angeles	2	yes	Remedy Construction	\$230,000	\$230,000	\$230,000
Madera PCE	Madera	2	yes	Investigation	\$500,000	\$500,000	\$500,000
Mobile Smelting	Mojave	2	no	Investigation	\$50,000	\$250,000	\$250,000
San Luis Obispo PCE Plume	San Luis Obispo	2	no	Investigation	\$100,000	\$200,000	\$400,000
Sierra Launderers & Cleaners	Sonora	2	no	Investigation	\$285,000	\$285,000	\$285,000
Statewide Orphan Discovery Funding	Statewide	2	yes	Discovery	\$500,000	\$500,000	\$500,000
Talley Brothers	Huntington Park	2	yes	Remedial Investigation	\$483,200	\$50,000	\$50,000
Visalia Dry Cleaner Investigation	Visalia	2	yes	Investigation	\$200,000	\$200,000	\$200,000
Priority 2 Projects Subtotal					\$3,098,200	\$2,915,000	\$3,115,000

Table 5d: Estimated State Orphan Funded Activities 2018-2020 - Priority 3

PROJECTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
Benham and Johnson	Bakersfield	3	yes	Remedy Construction	\$350,000	\$0	\$0
Cal Tech Metals	Oakland	3	no	Remedy Construction/O&M	\$1,700,000	\$100,000	\$250,000
Custom Chrome and Bumper	Yuba City	3	no	Operation and Maintenance	\$5,000	\$0	\$0
Electro Forming Co.- Richmond	Richmond	3	yes	Remedial Investigation	\$100,000	\$50,000	\$1,100,000
Harris Dry Cleaners	Oakland	3	yes	Remedy Construction	\$0	\$1,700,000	\$100,000
Lane Metal Finishers	Oakland	3	no	Remedy Construction	\$600,000	\$100,000	\$100,000
Modern Cleaners	Red Bluff	3	no	Investigation	\$125,000	\$125,000	\$125,000
North Fresno PCE Plume	Fresno	3	yes	Investigation	\$100,000	\$200,000	\$200,000
Porterville MGP	Porterville	3	yes	Remedy Construction	\$200,000	\$0	\$0
Porterville PCE Plume	Porterville	3	yes	Investigation	\$20,000	\$50,000	\$50,000
South Fresno PCE Groundwater Plume	Fresno	3	yes	Groundwater Monitoring	\$100,000	\$250,000	\$250,000
Priority 3 Projects Subtotal					\$3,300,000	\$2,575,000	\$2,175,000

Table 5e: Estimated State Orphan Funded Activities 2018-2020 - No Priority

CONTRACTS	CITY	PRIORITY	EJ SCORE TOP 25%	SCOPE OF WORK	FY 18/19	FY 19/20	FY 20/21
LUC Monitoring (Terradex)	Statewide	n/a	yes	Monitoring/Service Contract	\$180,000	\$180,000	\$180,000
PRP - Title Search (CLEAR Contract)	Statewide	n/a	n/a	PRP Search/Subscription	\$16,000	\$16,000	\$16,000
Statutory Lien Hearing - Court Reporter	Statewide	n/a	n/a	Statutory Compliance	\$4,100	\$4,100	\$4,100
Contracts - No Priority Subtotal					\$200,100	\$200,100	\$200,100

Priority 1A Projects	\$2,200,000	\$3,200,000	\$2,800,000
Priority 1B Projects	\$3,727,000	\$5,473,000	\$4,573,000
Priority 2 Projects	\$3,098,200	\$2,915,000	\$3,115,000
Priority 3 Projects	\$3,300,000	\$2,575,000	\$2,175,000
Contracts - No Priority	\$200,100	\$200,100	\$200,100
Total Orphan Need	\$12,525,300	\$14,363,100	\$12,863,100

TABLE 6a - SRA FUNDS EXPENDED ON NPL SITES - This table lists DTSC's expenditures for response actions and operation and maintenance at NPL sites FY 2013/14 through FY 2015/16.

Table 6a: SRA Funds Expended - NPL Sites FYs 2013/14-2015/16*				
PROJECTS	CITY	FY 13/14	FY 14/15	FY 15/16
Argonaut Mine	Jackson	\$0	\$0	\$1,286.07
Brown and Bryant, Inc., Arvin Facility	Arvin	\$39,978.31	\$31,087.88	\$42,205.44
Frontier Fertilizer	Davis	\$584,306.39	\$60,786.40	\$10,912.50
Iron Mountain Mine	Redding	\$16,929.50	\$44,967.20	\$57,332.95
Lava Cap Mine	Nevada City	\$372,354.68	\$22,578.94	\$23,975.11
Modesto Groundwater Contamination	Modesto	\$278,703.08	\$313,606.79	\$227,247.43
Pemaco Chemical Corporation (Former)	Maywood	\$0	\$320,496.18	\$0
Selma Pressure Treating Company	Selma	\$334,147.46	\$235,890.54	\$317,749.23
South El Monte	South El Monte	\$0	\$69,210.08	\$24,297.79
Whittier Narrows	El Monte	\$970,754.66	\$1,052,863.56	\$954,041.63
State Funds Expended on NPL Sites		\$2,597,174.08	\$2,151,487.57	\$1,659,048.15
U.S. EPA Funds Expended on NPL Sites		\$10,973,959.00	\$7,319,927.00	\$9,032,929.00

*This table does not include FY 2016/17 SRA expenditures because the reconciliation process has not been completed.

TABLE 6b - SRA FUNDS EXPENDED ON STATE ORPHAN SITES - This table lists DTSC's expenditures for response actions at state orphan sites FY 2013/14 through FY 2015/16.

Table 6b: SRA Funds Expended - State Orphan Funded Sites FYs 2013/14-2015/16*				
PROJECTS	CITY	FY 13/14	FY 14/15	FY 15/16
AAD Distribution & Dry Cleaning, Inc.	Vernon	\$0	\$36,993.04	\$48,395.65
Benham And Johnson	Bakersfield	\$0	\$0	\$3,005.00
Benicia Arsenal, Area 1, Bld50	Benicia	\$0	\$0	\$7,210.33
Cal Tech Metals	Oakland	\$28,010.56	\$13,542.45	\$64,454.35
Cameo	Commerce	\$227,721.61	\$16,957.32	\$64,335.75
Central Valley Fertilizer Co., Inc.	Dos Palos	\$385,015.39	\$0	\$0
Charles Caine Company, Inc.	Los Angeles	\$1,044,507.82	\$1,689,790.30	\$1,134,675.26
Chemical & Pigment Company	Bay Point	\$117,851.34	\$15,112.22	\$32,532.82
Chicago Musical Instruments (Former)	Fullerton	\$719,770.20	\$1,129,516.83	\$909,652.42
Contract (Administrative Services)	Statewide	\$1,668,004.66	\$1,079,965.82	\$152,965.84
Custom Chrome and Bumper	Yuba City	\$0	\$17,392.70	\$57,607.30
Davis Chemical Corporation	Los Angeles	\$300,467.45	\$294,310.63	\$0
Davis Mill/Hoge Mine	Nevada City	\$0	\$0	\$109,944.87
Delano PCE Plume	Delano	\$48,739.03	\$45,997.42	\$241,667.19
DWA Plume (AKA San Leandro Plume)	Alameda County	\$0	\$129,856.36	\$52,113.66
Engineering Plating Corp.	Santa Ana	\$0	\$0	\$227,593.95
Former National Cleaners	Delano	\$0	\$0	\$7,253.50
Goshen Carbon Tet Plume Discovery	Goshen	\$0	\$17,164.86	\$1,002.50
Harbour Way South	Richmond	\$6,345.00	\$3,257.00	\$0

Table 6b: SRA Funds Expended - State Orphan Funded Sites FYs 2013/14-2015/16*

PROJECTS	CITY	FY 13/14	FY 14/15	FY 15/16
Hard Chrome Engineering	Oakland	\$1,250,485.32	\$358,106.21	\$61,265.19
Hard Chrome Products	Los Angeles	\$11,688.57	\$119,694.24	\$248,765.56
Hard Chrome Products (Prop 84)	Los Angeles	\$31,000.00	\$0	\$0
Harris Dry Cleaners	Oakland	\$0	\$14,481.78	\$0
Hytone Cleaners	El Monte	\$25,333.71	\$74,746.69	\$214,413.39
J&S Chrome Plating	Bell Gardens	\$334,548.91	\$1,430,580.82	\$1,061,189.50
K & D Salvage	Bakersfield	\$20,396.63	\$0	\$0
K & L Plating Company, Inc.	Oakland	\$4,585.00	\$16,765.34	\$0
Lane Metal Finishers (Former)	Oakland	\$220,263.57	\$215,864.66	\$84,808.41
Lubrication Company of America	Canyon Country	\$161,852.80	\$106,388.78	\$135,220.67
Madera PCE Groundwater Plume	Madera	\$5,639.47	\$79,670.56	\$12,866.50
McNamara and Peepe Lumber Mill	Arcata	\$0	\$3,250.00	\$26,422.65
Mobile Smelting Site	Mojave	\$0	\$0	\$23,860.00
Modesto Dry Cleaner Discovery	Modesto	\$11,654.13	\$0	\$0
North Fresno PCE Plume	Fresno	\$28,050.00	\$30,448.00	\$33,349.38
Oasis Cleaners	Delano	\$0	\$0	\$6,560.50
Orange County Metal Processing	Fullerton	\$253,093.66	\$253,439.36	\$498,349.68
Orchard Supply Company	Sacramento	\$64,321.89	\$79,084.47	\$9,131.87

Table 6b: SRA Funds Expended - State Orphan Funded Sites FYs 2013/14-2015/16*

PROJECTS	CITY	FY 13/14	FY 14/15	FY 15/16
Orland Cleaners	Orland	\$29,952.96	\$29,634.07	\$43,987.33
Pacific Aluminum Corporation	Modesto	\$10,820.75	\$52,635.15	\$0
PCA Metal Finishing, Inc.	Fullerton	\$296,677.18	\$373,246.97	\$505,772.54
Peter Pan Cleaners	Santa Rosa	\$176,538.39	\$60,161.16	\$41,464.50
Porterville MGP	Porterville	\$0	\$11,976.75	\$26,956.10
Porterville PCE Plume	Porterville	\$0	\$19,536.39	\$45,379.35
Sacramento Plating, Inc.	Sacramento	\$26,232.00	\$63,419.90	\$17,981.53
San Luis Obispo PCE Plume	San Luis Obispo	\$8,301.07	\$73,097.52	\$0
Sierra Launderers & Cleaners	Sonora	\$4,350.00	\$97,021.64	\$6,310.00
Singer Friden	San Leandro	\$0	\$0	\$87,368.82
South Fresno PCE Groundwater Plume	Fresno	\$103,933.61	\$96,983.00	\$0
Southland Oil	City of Commerce	\$131,048.93	\$120,359.83	\$127,606.64
Spence Property	Los Angeles	\$49,584.51	\$43,291.09	\$41,806.55
Standard Nickel-Chrome (Prop 84)	Los Angeles	\$19,440.00	\$16,053.32	\$0
Talley Brothers Inc.	Huntington Park	\$58,877.90	\$0	\$13,578.80
Technichem, Inc.	Emeryville	\$19,079.20	\$3,300.00	\$0
Tri-City Plating, Incorporated	Oceanside	\$295,680.56	\$190,653.94	\$64,765.96
Visalia Dry Cleaner Investigation	Visalia	\$9,493.28	\$66,315.52	\$125,692.50
Watts/South Gate Discovery Project	Visalia	\$0	\$84,423.45	\$22,936.01

Table 6b: SRA Funds Expended - State Orphan Funded Sites FYs 2013/14-2015/16*				
PROJECTS	CITY	FY 13/14	FY 14/15	FY 15/16
Western Electrochemical Company	Los Angeles	\$45,466.24	\$0	\$0
Wickes Forest Industries	Elmira	\$55,398.10	\$43,158.39	\$40,187.69
Wildomar Assessment Project	Wildomar	\$0	\$2,500.00	\$0
State Orphan Funded Sites Subtotal		\$8,894,527.79	\$8,780,932.35	\$6,753,320.51

*This table does not include FY 2016/17 SRA expenditures because the reconciliation process has not been completed.

SRA Funded NPL Sites	\$2,597,174.08	\$2,151,487.57	\$1,659,048.15
SRA Funded State Orphan Sites	\$8,310,221.40	\$8,720,145.95	\$6,742,408.01
Total SRA Funds Expended FYs 2013/14–2015/16	\$10,907,395.48	\$10,871,633.52	\$8,401,456.16

Figure 1 – NPL and Orphan Sites

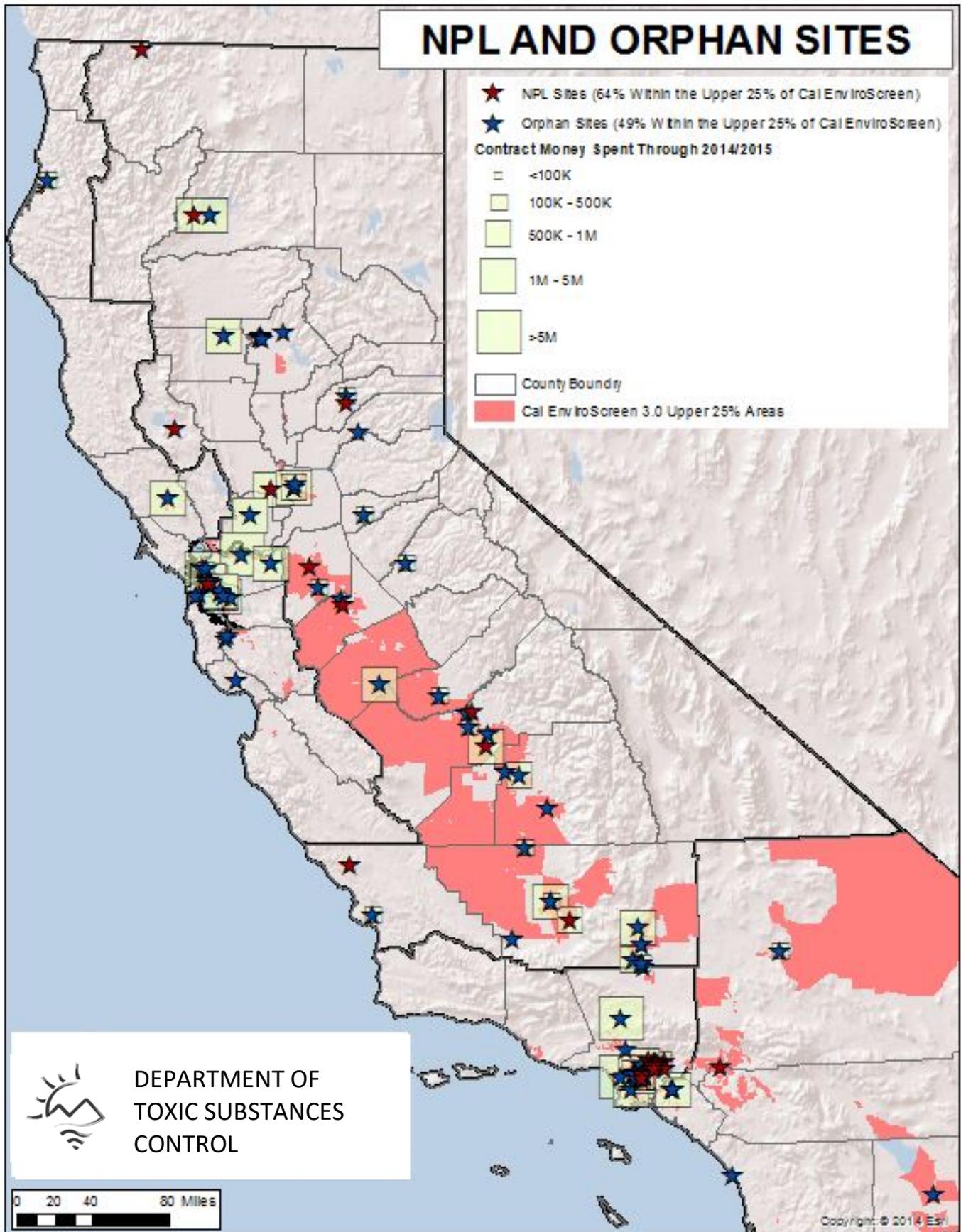


Figure 2 – San Francisco Bay Area and Los Angeles Area NPL and Orphan Sites

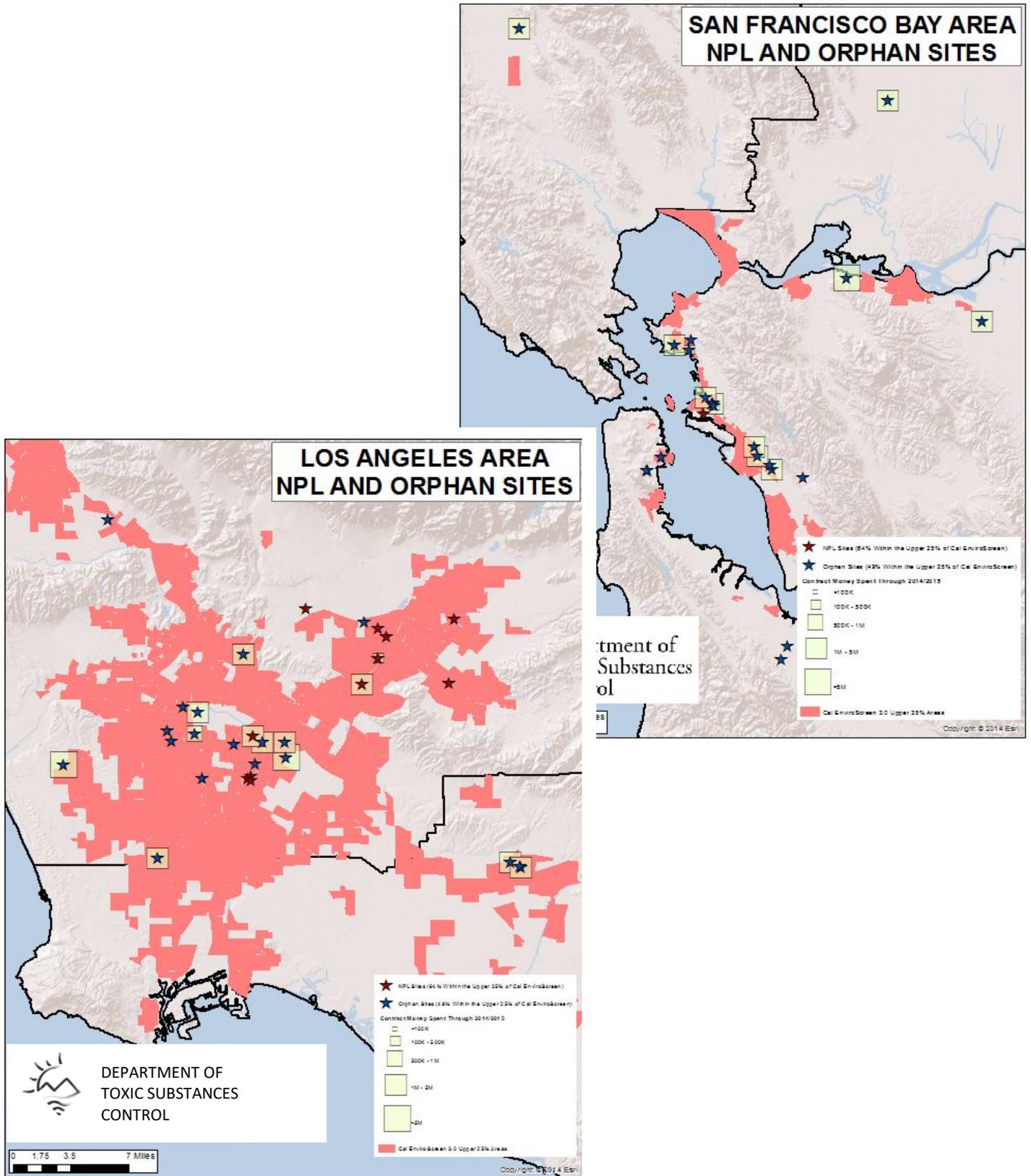
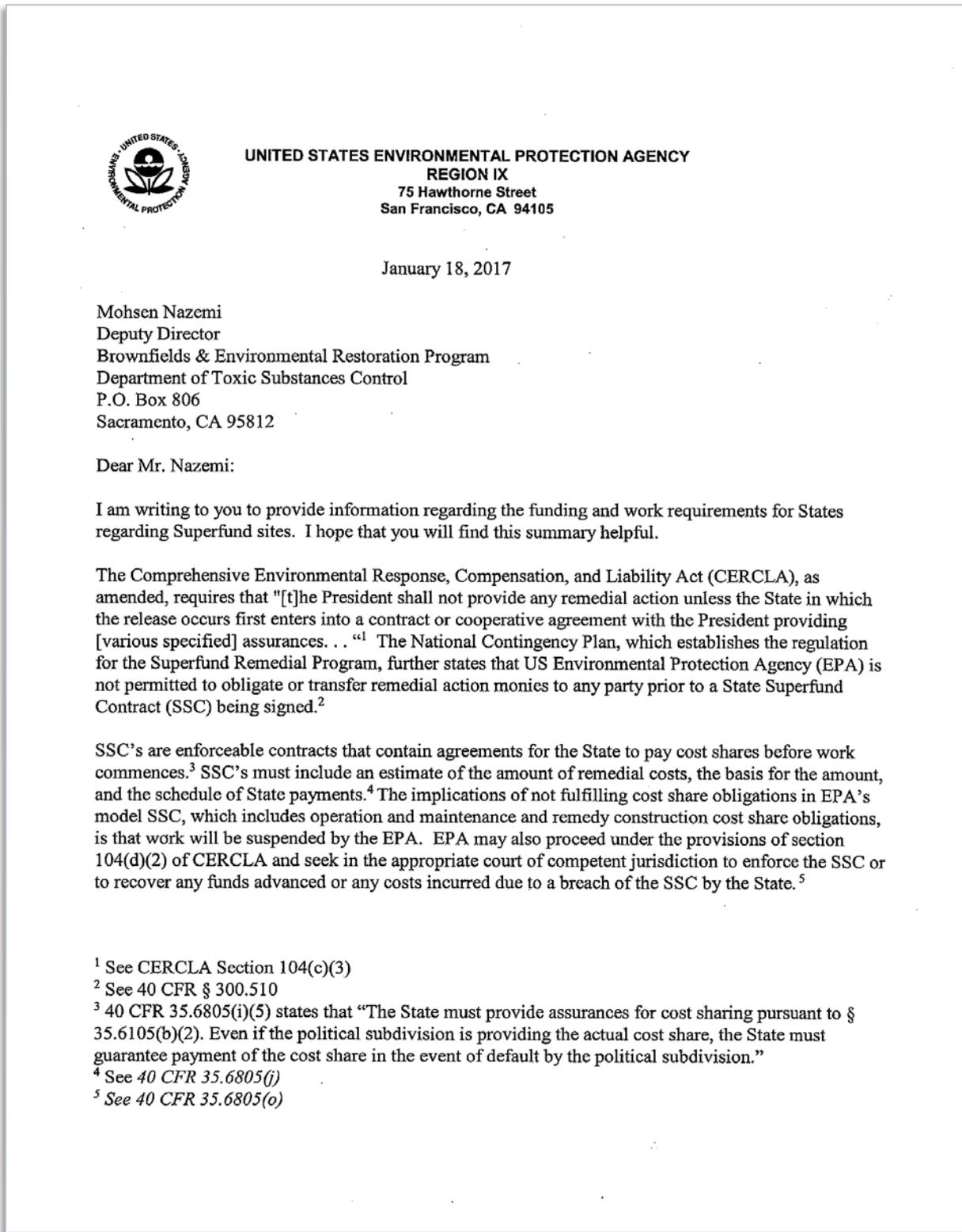


Figure 3 - References



Additionally, operation and maintenance is not an authorized expenditure of EPA's appropriated funds, and is the responsibility of the State. 40 CFR 35.6805(i)(1) states that: "The State must provide an assurance pursuant to § 35.6105(b)(1). The State's responsibility for operation and maintenance generally begins when EPA determines that the remedy is operational and functional or one year after construction completion, whichever is sooner."⁶

Finally, over the course of 2016, my staff worked with the California Legislative Analyst's Office, as well as with your staff, on estimating state cost shares for NPL sites projected out for the next five federal fiscal years. Those estimates were based upon available data at the time, and may be subject to change as new information comes to light. We will continue to work closely with your staff on evaluating and revising those projections as appropriate. I hope that these projections we discussed in early November 2016, along with the summary in this letter, provides you with a more complete picture of the state of California's projected NPL cost obligations in the coming years. If you have any questions, please don't hesitate to contact me at (415) 972-3843.

Sincerely,



Enrique Manzanilla
Division Director, Superfund Division

⁶ See 40 CFR 300.435(f)