
Independent Review Panel

DEPARTMENT OF TOXIC SUBSTANCES CONTROL



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DTSC Independent Review Panel Sixth Report to the Governor and the Legislature Pursuant to Health and Safety Code Sections 57014(d) and 57014(f)

April 22, 2017

Introduction

The Department of Toxic Substances Control (DTSC) Independent Review Panel (IRP) submits this sixth quarterly report in compliance with Health and Safety Code (HSC) sections 57014(d) and 57014(f), which became law in Chapter 24, Statutes of 2015 (SB 83). HSC section 57014(d) requires the IRP to make recommendations for improving the Department's programs. HSC section 57014(f) requires the Panel to report to the Governor and Legislature 90 days after it was appointed and every 90 days thereafter on DTSC's progress in reducing permitting and enforcement backlogs, improving public outreach, and improving fiscal management. The IRP has interpreted the two code sections together as authorizing the Panel to make recommendations on DTSC programs other than those specified by HSC 57014(f) for inclusion in a quarterly report. The IRP also concluded early in its existence that DTSC site mitigation¹ was an important topic for review and recommendations. Following the IRP's work plan schedule, this report is devoted to recommendations on DTSC site mitigation.

The Panel previously submitted quarterly progress reports on January 28, 2016; April 21, 2016; July 26, 2016; October 24, 2016; and January 20, 2017. The first report addressed the following five DTSC topics: budget, permitting, enforcement, public outreach, and fiscal management. It offered initial recommendations and information requests on each of these items. The next four reports individually addressed DTSC's permitting, enforcement, public outreach, and fiscal management, in that order. They presented summaries, recommendations to the Governor and Legislature, recommendations for DTSC, suggested performance metrics, and information requests for the four topics. The second report also included initial recommendations and information requests on DTSC site mitigation.

The Panel devoted the major portion of its last three public meetings to DTSC site mitigation. Those meetings took place on January 11, February 8, and April 12 of 2017. The IRP also asked

¹ This report uses the term DTSC Site Mitigation Program to refer to the Department's Brownfields and Environmental Restoration Program. It uses the term site mitigation to refer to the program's activities.

DTSC to provide the Panel with site mitigation reports and presentations, and stakeholders submitted written or verbal comments on the subject. In addition, the IRP surveyed a small cohort of stakeholders about DTSC programs, including site mitigation, in August 2016.

Using the information gathered, this sixth report is devoted to an in-depth discussion of site mitigation, including an update on previously submitted recommendations, additional recommendations for the Governor and Legislature, additional recommendations for DTSC, suggested performance metrics, and information requests.

Site Mitigation Summary

DTSC's Site Mitigation Program is responsible for evaluation and cleanup² of toxic contamination on National Priorities List (Superfund) sites, state response sites, hazardous waste facility corrective action sites, Voluntary Cleanup Program sites, school sites, formerly used defense properties, and various miscellaneous sites. Although the numbers fluctuate from day to day, DTSC reported to the IRP in early 2017 that it was performing site mitigation activities on approximately 1,700 sites or properties. This work can be categorized as follows:

- 76 Superfund sites that have a responsible party. These include two sites where the state of California is the responsible party: Stringfellow Acid Pits (Stringfellow) in Jurupa Valley and Leviathan Mine in Alpine County. DTSC has been remediating, operating, maintaining, and monitoring Stringfellow, a hazardous waste legacy landfill,³ on behalf of the state since 1998. The Lahontan Regional Water Quality Control Board (RWQCB) has been conducting pollution abatement activities with the Leviathan Mine since the 1980s. Superfund sites are release sites that present the most significant risks to health and the environment nationally. U.S. EPA is the lead site mitigation agency on Superfund sites, operating under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- 22 Superfund sites that do not have a responsible party, often referred to as Superfund Orphan sites or Fund-Lead Superfund sites. Once U.S. EPA, the lead agency, selects a remedy for these sites, DTSC is responsible for funding 10 percent of the remedy construction and 100 percent of the remedy operations and maintenance.
- 444 state response sites that are not on the Superfund list and which have a responsible party. DTSC is the lead site mitigation agency on these release sites, which are sometimes referred to as State Superfund sites.
- 85 state response sites that do not have a responsible party, often referred to as State Orphan sites or Fund-Lead State Orphan sites. DTSC is the lead site mitigation agency on these sites.

² The terms cleanup and remediation are used interchangeably in this report.

³ A hazardous waste legacy landfill is a landfill with hazardous wastes that has been abandoned.

- 191 permitted or non-permitted hazardous waste facilities that have had a release. DTSC's site mitigation staff handles this corrective action, which is funded by the owner-operator or responsible party.
- 578 sites in the Voluntary Cleanup Program, which allows motivated parties to sign agreements to remediate their lower-risk sites with DTSC or RWQCB oversight, often for development purposes. This work is proponent funded. Among the Voluntary Cleanup program sites are sites in the California Land Reuse and Revitalization Act (CLRRRA) Program. CLRRRA incentivizes the development of brownfields by providing owners who did not cause the contamination or only acquired the property later with immunity from liability from certain agency response costs or other damages caused by the release of hazardous materials.
- 146 school sites with site mitigation activities funded by school districts. This work includes site evaluations for proposed new or expanded K through 12 schools that would use state funds for property acquisition or construction. These evaluations have been required by the Education Code since 2000 and involve an assessment of the presence of naturally occurring hazardous materials and legally applied pesticides, not just the release, or threatened release, of hazardous materials. In addition to school site evaluations, DTSC conducts remedial activities and land use covenant monitoring for schools.
- 39 formerly used defense properties (FUDS). These are defense properties that were closed and transferred to other owners prior to October 1986. DTSC shares responsibility for evaluating the properties and overseeing any remedial actions with the RWQCBs. To date DTSC and/or the RWQCBs have cleaned up or made no further action determinations on 253 FUDS, with approximately 900 additional properties requiring evaluation. The U.S. Army Corps of Engineers manages the remediation and funds the majority of this work.
- 99 miscellaneous sites. The majority of the sites in this category are tiered permit facilities undergoing corrective action, sites being evaluated for U.S. EPA under an agency grant, and sites in the Expedited Remedial Action Reform Program, a pilot program for the cleanup of hazardous substance release sites using an alternative process that is no longer open to applications. (Or 188 sites based on information supplied subsequent to January 2017 presentation?)

Program Organization

The Deputy Director of Brownfields and Restoration oversees the Department's site mitigation work. The program is made up of three divisions, each led by a division chief. One division encompasses much of northern California plus various special projects. It has 146 staff positions in six branches, each led by a branch chief. Another division encompasses much of southern California plus various special projects. It has 180 staff positions in six branches, each led by a

branch chief. A third division, the Exide Division, is dedicated to the closed Exide Technologies facility in Vernon. It has 39 positions in two branches, one of which is responsible for the facility closure plan and corrective action, and the other of which is responsible for the remedial action plan for cleanup of lead contamination in the surrounding community. Both are led by a branch chief. (Clarification requested from DTSC on discrepancy in number of total site mitigation positions.)

The site mitigation staff members work out of six of the nine DTSC offices: Sacramento Headquarters, Sacramento Regional Office, Berkeley Regional Office, Clovis Field Office, Chatsworth Regional Office, and Cypress Regional Office.

They receive support from several DTSC offices: Legal Affairs, Public Participation, Environmental Justice and Tribal Affairs, Communications, and Planning and Environmental Analysis.

DTSC's site mitigation staff works in close coordination with other federal, state, and local agencies. Among the federal agencies are the U.S. EPA, Department of Defense, U.S. Fish and Wildlife Service, and Department of Energy. The state agencies include CalEPA, State Water Resources Control Board (SWRCB), Air Resources Board, Department of Public Health, Office of Environmental Health Hazard Assessment, and Department of Fish and Wildlife. Local agencies include RWQCBs, Air Quality Management Districts, water agencies, county agencies, and school districts. DTSC also conducts outreach with Native American tribes and expects to finalize a tribal consultation policy in 2018.

The Process

The site mitigation process can be divided into several stages. The same stages generally apply to cleanups at state response sites and corrective action facilities, although the legal authority for the two types of action comes from different chapters of the HSC, and the terminology for the component steps and work products is often different. Significant parallels also can be found with the stages of work on other types of mitigation sites, such as Superfund projects, Voluntary Cleanup Program projects, schools, Expedited Remedial Action program projects, and federal facilities, although there are differences. The following summary of the site mitigation process stages applies to state response sites and corrective action facilities unless mentioned otherwise.

The first stage is discovery. There are many ways that DTSC can learn about hazardous substance releases, including emergency responses, referrals from other agencies, requests for supervision of voluntary cleanups, systematic investigations funded by U.S. EPA grants, and public complaints.

The next stage is evaluation. This begins with an initial site assessment to verify a hazardous substance release and the existence of threat. If there is a threat, DTSC identifies the responsible parties and signs a consent agreement with them or issues an enforcement order. Immediately thereafter, DTSC lists the site as a hazardous substance release site selected for,

and subject to, a response action.⁴ DTSC then characterizes the site by creating a conceptual site model that can be refined as the nature and extent of contamination are further defined. Once the site is characterized, the Department performs a risk assessment. If DTSC determines that there is no risk or insignificant risk, it can decide to take no further action. If DTSC decides that urgent action is necessary, it can take interim action during this stage or any other stage in the process.

The next stage is remedy selection. Remedy selection begins with a feasibility study to identify remedial options based on nine criteria in the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan) and, in the case of state response sites, six criteria in HSC section 25356.1. Typically one option emerges from this process as the best remedial action, and DTSC memorializes that option in a decision document. The decision document, called a Remedial Action Plan in the case of state response sites, includes cleanup goals that are based on background levels and/or acceptable health risk as defined by the National Contingency Plan. It also contains provisions to protect workers and nearby communities from fugitive dust and other harmful air emissions, following local air district rules. It is prepared concurrently with required CEQA documents. There is no requirement for a Remedial Action Plan, however, if the estimated cost of the removal action is less than \$2 million. In that case the remedy is selected in a Removal Action Work Plan, a streamlined process that still requires CEQA review.

The final stage is implementation. After the draft decision document is finalized, DTSC reviews and approves design plans, makes sure any required state and local agency permits are obtained, and provides field oversight to ensure that the remedy meets design plans and applicable regulations and is conducted in a safe manner. Representatives of the Los Angeles Unified School District assert that DTSC staff spends too much time on project management, thus greatly increasing costs for responsible parties, and that its on-site oversight should be limited to inspection/confirmation. DTSC responds that staff members should be and are sent to monitor cleanups when the consequences of an improperly implemented remediation plan would be severe for workers or the nearby community. Upon installation of the remedy, DTSC provides oversight to ensure that confirmation sampling is done and sometimes collects and evaluates its own samples to verify the cleanup levels attained. If all cleanup goals are met, the site is certified for unrestricted use or use with restrictions. In the case of long-term remedies for hazardous waste that must be left in place for a period, such as many groundwater remedies, DTSC requires an operations and maintenance agreement from the responsible party once the initial remedy is certified as working properly. This agreement includes a description of the future operations and maintenance, criteria for shutting down the remedy, financial assurances in the event the responsible party loses financial viability, inspections, periodic reporting, and five-year reviews. DTSC does not make land-use decisions, but it can require property owners to sign and record covenants restricting the use of the property if waste is left in place above levels considered safe for unrestricted use.

⁴ Listing only applies to corrective action if DTSC takes the action because a facility/operator failed to comply with a date to correct a violation or because of an imminent or substantial endangerment.

The National Contingency Plan requires five-year reviews when the remedial action leaves hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure. The principal guidance document that DTSC follows is the U.S. EPA Comprehensive Five-Year Review Guidance (EPA 540-R-01-007). The reviews are intended to assess the remedy's performance and, ultimately, to determine its protectiveness. This includes a consideration of whether the exposure assumptions, toxicity data, cleanup levels, and cleanup objectives in the decision document are still valid in light of any new information. Included in the process is a review of the financial assurances.

Public participation is an integral part of Site Mitigation Program by federal and state law, federal and state regulation, and DTSC policy. The following is a summary of the public participation component to state response sites:

HSC section 25358.7 requires DTSC to provide an opportunity for public participation in response actions undertaken for listed sites. It requires the Department to inform the public, especially persons living in close proximity to a hazardous substances release site, of the site's existence and the intention to conduct a response action. It requires DTSC to conduct a baseline community survey to determine the level of public interest and desire for involvement in the Department's activities and to solicit concerns and information about the site from the community. Based on the survey results, it requires DTSC to develop a public participation plan commensurate with the level of interest expressed by the respondents. It also requires DTSC to present any person affected by the response action with access to specified information, fact sheets, notifications upon request of any public meetings, and, depending on the survey results, opportunities for public involvement at key stages of the response process. If DTSC determines that opportunities for public comment are not appropriate at any of those stages, the Department must provide notice of that decision to the affected community. The statute further requires DTSC to develop and make available a schedule of activities for any site for which remedial action is expected to be taken and any plan provided by any responsible party, unless the department is prohibited from releasing the information pursuant to any law. In making decisions regarding the methods to be used for removal or remedial actions, DTSC is required to incorporate or respond in writing to the advice of persons affected by the actions. HSC section 25358.7.1 authorizes the establishment of a community advisory group to review and comment on any response action. HSC section 25356.1(e) and other statutes require DTSC to submit the draft Remedial Action Plan and CEQA documents for public review and comment. HSC section 25356.1(h)(1) requires certain public outreach activities for sites that are exempt from a Remedial Action Plan because the estimated costs are less than \$2 million.

DTSC's Public Participation Manual states that, depending on the informational needs and concerns of the community, a variety of optional public participation activities may be performed during design and installation.

U.S. EPA guidance calls for community involvement during five-year reviews, and DTSC told the IRP that it involves the public in the process, although the Department's Public Participation Manual does not address this subject.

DTSC's Public Participation Manual calls for or encourages generally equivalent actions for other types of site mitigation work, often going beyond the legal requirements. For example, the manual notes that there were no federal or state regulations addressing public involvement in corrective action at the time of its last update (2001), but it calls for public involvement actions that are similar to those it mentions for state response sites at similar stages of cleanup. These actions also take into consideration other appropriate requirements.

The IRP relied heavily on DTSC presentations to the Panel, laws, regulations, and the Public Participation Manual for the information on the stages of site mitigation. The IRP notes that DTSC has apparently issued or updated only one site mitigation policy in the last 10 years and that its website information on site mitigation policies did not seem to cover the broad scope of this work.

Budget

DTSC has a site mitigation budget of approximately \$178 million in FY 2016-17. About \$136 million of this money is set aside for site mitigation and brownfield reuse. The remainder, about \$42 million, is budgeted for Exide Technologies facility contamination cleanup.

DTSC has several funding sources for its site mitigation activities, one of which the IRP highlighted in previous reports: the Site Remediation Account (SRA) for direct site remediation costs on Superfund Orphan sites and State Orphan sites. This money had been appropriated annually from the Toxic Substances Control Account according to a fixed formula that resulted in a FY 2016-17 SRA appropriation of approximately \$10.5 million. However, beginning in FY 2018-19, the cost of Superfund Orphan site commitments is expected to exceed the SRA appropriations that would result from the formula, leaving no money for State Orphan cleanups. Currently 85 State Orphan sites are in various stages of cleanup.

Fortunately, AB 2891 (Chapter 704, Statutes of 2016) changed the funding process for these sites as of January 1, 2017. The new law requires DTSC to estimate its costs for direct site remediation at both Superfund Orphan sites and State Orphan sites in a report submitted to the Legislature with the Governor's annual budget. The new law also expresses the intent of the Legislature to appropriate sufficient funds to the SRA in future budgets. As stated in a previous report, the IRP welcomes this expression of intent.

The Governor's proposed budget for FY 2017-18 includes funding for two DTSC budget change proposals that pertain to its Site Mitigation Program.

DTSC requests an augmentation of \$610,000 from the Lead-Acid Battery Cleanup Fund to begin the initial implementation of Chapter 666, Statutes of 2016 (AB 2153), the Lead-Acid Battery Recycling Act of 2016. Beginning on April 1, 2017, this law requires a lead-acid battery dealer to charge purchasers a \$1 battery fee for each replacement lead-acid battery purchased and to remit most of the collected fees to the State Board of Equalization for deposit into the fund. The law also requires manufacturers to pay a \$1 fee for each lead-acid battery it sells for the California market for deposit into the fund. The law allows moneys in the fund to be available to DTSC upon appropriation by the Legislature for response actions at any area of the state that

is reasonably suspected to have been contaminated by the operation of a lead-acid battery recycling facility as well as for enforcement of requirements imposed on the dealers and manufacturers. By February 1, 2018, the law requires DTSC to report to the Legislature on the status of the fund as well as the Department's progress in implementing the law.

DTSC believes five environmental scientist positions plus operating expenses and equipment are needed to implement the law. Implementation includes investigating former lead smelting activities to determine if they meet the definition of a lead-acid battery recycling facility. Because of the timing of the fee establishment, DTSC expects limited fund revenue to be available during the first fiscal year.

DTSC requests an augmentation of \$2.46 million in FY 2017-18, \$2.99 million in FY 2018-19, and \$2.6 million in FY 2019-20 from the General Fund for the continuation of soil and groundwater characterization activities and remedy evaluation at Stringfellow that would culminate in a Remedial Investigation and Feasibility Study. DTSC is required by a 2014 agreement with U.S. EPA to complete this significant milestone in the cleanup of this Superfund site. The Department has previously completed a number of response actions at the site. In 2016, for example, it dedicated a new, \$52 million water treatment facility at Stringfellow. Approximately \$4 million has been appropriated in the current fiscal year for cleanup activities at the site.

The U.S. President's budget blueprint, released on March 16, 2017, creates uncertainty for DTSC. The Office of Management and Budget would cut \$2.6 billion from U.S. EPA's 2018 budget, a 31 percent reduction from the current level. The agency's Hazardous Substances Superfund Account would be reduced by 30 percent and its Categorical Grants would be reduced by 55 percent. The proposed cutbacks, if enacted, likely would affect DTSC's programs in addition to causing a slowdown of Superfund work in California. The Governor's proposed budget envisions DTSC spending about \$24 million of federal government funding on site mitigation in FY 2017-18.

Process Improvements

DTSC reported to the IRP that it recently made two process improvements to its Site Mitigation Program.

One was an initiative to reduce remedy selection time at Resource Conservation and Recovery Act corrective action sites, while at the same time protecting human health and the environment, meeting cleanup goals, and maintaining public participation and California Environmental Quality Act (CEQA) compliance. Using Lean Six Sigma principles to eliminate waste and make evidence-based decisions, DTSC found that considerable time could be saved by agreeing on the conceptual site model and cleanup goals early in the remedy selection process through front-end coordination and elevating decisions quickly to management levels. In 2016 the Department tested this process improvement at the former Univar USA facility in Commerce, a groundwater cleanup site. By selecting a remedy early in the process and dispensing with the time-consuming corrective measures study, DTSC says the cleanup will begin in 2018, two years ahead of schedule. The Department plans to apply the enhanced remedy selection process on three additional pilot sites in 2017.

The other improvement was the Spatial Prioritization Geographic Information Tool (SPGIT), which DTSC developed with the help of grant funding from U.S. EPA. SPGIT uses several databases to prioritize drinking water wells according to health risk, potential risk (generator density), environmental justice information from CalEnviroScreen, and nearby environmental work completed. DTSC has used SPGIT as a centerpiece in discussions with various groups and has shared it with RWQCBs and other agency partners.

DTSC reported that it is working on two additional process improvements. One is to apply the Lean Six Sigma methodology to the Voluntary Cleanup Program to streamline the decision-making process and reduce time for review of workplans and reports. The Department hopes to complete this initiative in 2017. The other is to develop new regulations to establish clearer toxicity criteria for contaminants of concern in cleanup sites. The Department expects to begin formal rulemaking in 2017.

In addition, the Voluntary Cleanup program is slated to be the first of several programs to be evaluated by DTSC's Office of Strategic Planning and Performance. The office is focusing on three deliverables: statutory program review, baseline program evaluation, and the creation of a strategic program development plan.

Three Problem Cleanup Sites

The vast majority of toxic substance cleanups are successful. However, a very small number of complex cleanups have severely challenged the Department, resulting in controversy and sometimes distrust. This report will briefly touch upon three such projects that the IRP discussed at various public meetings since its first meeting in November 2015.

Riverside Agricultural Park (Ag Park)—Ag Park is a 60-acre property in Riverside. Soil contamination there resulted from the operation of a former sewage treatment plant built by the U.S. Army in 1942 as part of Camp Anza. After the base closed in 1946, the plant was run by a private utility company from 1947 to 1963 and then acquired by the City of Riverside, which operated it until 1965. In 2003 there was a sludge spill, which led to DTSC oversight in 2005, when the Department signed a voluntary cleanup agreement with the city. DTSC entered into a reimbursement agreement with a developer later that year and a CLRRRA agreement in 2006 to continue the investigation and cleanup under the Department's oversight. DTSC also continued to work with the city to investigate offsite drainage impacts. Both the Ag Park and offsite activities were certified closed with no further action required in 2014.

In response to a request from the Center for Community Action and Environmental Justice, DTSC subsequently collected additional samples at Ag Park to confirm the closure results. The results indicated higher than expected concentrations of polychlorinated biphenyls (PCBs) in some soil samples. U.S. EPA testing of the split samples found higher concentrations. DTSC's testing found lower levels. Based on the results, DTSC required the developer to conduct additional sampling in 2015.

DTSC concluded that the sampling results indicate that PCB levels do not pose a significant health risk to surrounding communities, but that additional cleanup is needed in certain areas of Ag Park prior to residential use. DTSC oversaw the collection of approximately 1,250 soil samples in 2016 and is providing oversight on further cleanup. This work is being done under a CLRRRA Program response plan. Also in 2016, DTSC approved an updated work plan for the cleanup and established a work group to involve the surrounding community.

Community residents and environmental justice advocates have had a number of concerns about the handling of the cleanup. Paramount among them are the 2014 no further action decision and the different lab results the following year. DTSC's Environmental Chemistry Laboratory investigated the reasons for the different lab results in 2016. It concluded that both labs followed the same method, but that there was some inherent variability in the methodology. DTSC is compiling a list of lessons learned at Ag Park.

Santa Susana Field Laboratory (SSFL)—The 2,849-acre SSFL is a former rocket engine test and nuclear research facility in the hills of Simi Valley about 30 miles from downtown Los Angeles. Although SSFL was intended to be far away from populations to minimize dangers when operations began in 1947, residential neighborhoods eventually mushroomed around it. Over the years numerous releases led to widespread contamination of groundwater, surface water, and soil. Cleaning solvents impacted the groundwater. Soil at various areas on the site is impacted by cleaning solvents, metals, combustion by-products, and radionuclides. The parties responsible for this very complex cleanup are the National Aeronautics and Space Administration (NASA), the U.S. Department of Energy (DOE), and The Boeing Company (Boeing). Boeing owns 80 percent of the property, and the federal government owns the remaining 20 percent.

As the facility began gradually closing down in the 1980s, various piecemeal cleanups were undertaken with varying degrees of protective quality. However, the site was not fully evaluated and characterized when, in 2007, DTSC signed a Consent Order for Corrective Action with NASA, DOE, and Boeing for cleanup. Later that year, SB 990 (Chapter 729, Statutes of 2007) was signed into law. It authorized DTSC to compel the responsible parties to take or pay for prescribed removal or remedial action and prohibited the sale, lease, or transfer of any of the land unless the Department certified that it had undergone complete remediation. The prescribed remedial action was strict, with a land use assumption of either suburban residential or rural residential, whichever was stricter. In 2010, the Department signed Administrative Orders on Consent for Remedial Action with DOE and NASA, but not with Boeing, for cleanup of soils to local background levels. Boeing instead sued to overturn SB 990, arguing that it was being held to a higher cleanup standard than was being applied to the other responsible parties in California and that the law preempted the federal government's authority to oversee matters related to nuclear safety. It won the case on appeal in 2014. Boeing expressed a commitment to clean up its portion of the site to a less strict, residential standard, and leaving it as open space.

DTSC and the responsible parties have been working on the evaluation and remedy selection stages of this complex cleanup. DTSC has worked closely with Ventura County to collect the information it needs to determine the reasonably foreseeable land uses at SSFL and has stated

it will consider such uses in evaluating potential risks. DTSC also promised that the Department will establish cleanup goals based, in part, on a risk assessment that is consistent with U.S. EPA guidelines and other published criteria. It expects the draft decision document and CEQA documents to be ready in 2017.

Community residents have numerous concerns about the cleanup. They are frustrated by the long period of time that has passed since operations began to shut down on the site in the 1980s or even since the 2010 consent orders. They also are frustrated by timelines that DTSC and the responsible parties at times have not met. It is not easy for a government agency and a community to have a productive dialogue about health and environmental risks when the latter is directly impacted by those risks, and worries exist about community health and whether onsite nuclear and chemical contamination will migrate offsite. There is resentment that Boeing has not committed to cleaning up its portion of the site to the standards of SB 990 or the 2010 consent orders, a belief that DOE's commitment to those orders is eroding, and a fear that DTSC will not hold the responsible parties fully accountable. There are accusations that DTSC staff members minimize the contamination and engage in activities that undermine the 2010 consent orders. The community residents are divided. DTSC sanctions a Community Advisory Group (CAG), as the HSC requires it to do, but the SSFL CAG has been criticized by other members of the community who note that the group does not fully support the 2010 consent orders and that some of its leaders have ties to the responsible parties. Many residents are unhappy that DTSC relinquished its role as the leader of an interagency work group in 2012.

Exide—This 15-acre facility has been used for a variety of metal fabrication and recovery operations since 1922. Georgia-based Exide, a manufacturer of lead-acid batteries, took it over in 2000 through its acquisition of GNB Technologies, which had operated a lead-acid battery smelter at the facility to recycle used batteries. The facility was then operating under an interim status permit first granted in 1981 by the Department of Health Services, DTSC's predecessor agency. The facility continued to operate until 2015 even though it never received a full hazardous waste facility permit. During those 33-plus years, DTSC inspectors found numerous violations. An investigation by Tony Barboza, a journalist for the Los Angeles Times, found that state inspectors documented violations every year between 1996 and 2015, many of them serious Class I violations and recurring violations, and that GNB and Exide paid about \$1 million in fines during that period. However, only 29 percent of those fines were levied prior to 2013.

In April 2013, DTSC issued an administrative suspension order because it was concerned about the release of hazardous waste leaking from stormwater pipes and air emissions. However, Exide successfully challenged the order in court. Beginning in 2014, the Department of Justice used DTSC evidence to investigate Exide for criminal prosecution. In February 2015, DTSC informed Exide that it would not approve a permit for the facility. In March 2015, DTSC issued an enforcement order with provisions for closing the facility, including requirements for specific financial assurances for closure, onsite corrective actions, and some offsite cleanup. That same month, the Department of Justice and Exide reached a settlement in which the latter admitted to illegal disposal, shipment, and transportation of hazardous waste, but which allowed the company to avoid federal criminal prosecution. The settlement was tied to DTSC's enforcement

order. Without the avoidance of criminal prosecution, Exide likely would not have survived bankruptcy to finance closure and cleanup.

Exide submitted its closure implementation plan in January 2017, and DTSC currently is evaluating it. There will be three phases to the closure process: a first phase will involve the decommissioning and removal of the above-ground facility structures; a second phase will involve foundation and on-site soil remediation, and a third phase of post-closure operations and maintenance will follow, if necessary. DTSC currently is conducting the corrective measures study for on-site corrective action, the results of which will also inform the second phase of closure.

The off-site cleanup in the surrounding residential communities will likely be the largest remediation of its kind in California. 2015 testing revealed that an area with a 1.7-mile radius, including about 10,000 homes, may be contaminated by lead from the facility. Lead has multiple toxic effects on the human body, and no levels have been proven safe. Exposure is an especially significant concern for children and infants, whose bodies tend to absorb more lead than the average adult.

Normally the offsite remediation would be part of the corrective action. However, because of the concerns about the harmful effects of the lead contamination in the surrounding community, the state has “jump started” the residential cleanup. In November 2015, DTSC finalized a plan to conduct sampling on all homes in the 1.7-mile radius and remediate the most impacted properties. Although some residential sampling and cleanup had taken place in an initial assessment area, DTSC began aggressive sampling that same month. In early 2016, Governor Brown requested, and the Legislature approved, a \$176.6 million loan to DTSC’s Toxic Substances Control Account that will be available to the Department until June 30, 2018 to expedite sampling and remediate up to 2,500 high-priority properties. The state hopes to recover the costs of this testing and cleanup from Exide if the offsite contamination is determined to have been caused by the facility. Some of Exide’s financial assurances are expected to be rolled over from closure and corrective action costs for this purpose, but that amount is expected to be less than the budget augmentation. However, the 2015 enforcement order preserved DTSC’s rights against Exide for the off-site cleanup.

DTSC released its draft plan for cleaning up the residential neighborhoods and the accompanying draft Environmental Impact Report in December 2016. They are expected to be finalized in June 2017, with cleanup beginning immediately thereafter.

As of April 6, 2017, DTSC had taken soil samples from 7,258 properties.

The relationship between DTSC and many community residents has been rocky. This should not be surprising, given the public outrage about Exide and the cascade of news during the past few years about the contamination and its effects. The IRP heard numerous complaints about the need for better communication and a perceived lack of urgency and racial fairness. On the other hand, community residents have expressed appreciation for the efforts of many DTSC staff members, especially recent hires, and for the Department’s Workforce Environmental

Restoration in Communities, a new program that trains and promotes the hiring of community residents. In fairness to DTSC, it has understandably taken some time for the Department to gear up for this significant undertaking. For example, the Exide Division was not quite fully staffed as of January 2017.

One area of contention has been a delay in the cleanup of residential properties since June 2016. When the Governor announced his emergency funding plan in February 2016, he proposed exempting the residential cleanup from CEQA, which would have allowed DTSC to begin the cleanup without waiting for the Environmental Impact Report (EIR) process. However, residents insisted on the process to ensure transparency and community involvement. The proposed exemption was dropped, and DTSC took the position that it could not begin the cleanup of the vast majority of the properties until the EIR was finalized. In January 2017, however, DTSC issued guidelines to allow for a limited number of properties posing the highest risk to undergo expedited, time-critical removal actions.

Another area of contention is a July 2016 change that DTSC made in its hazard ranking system for assessing the level of contamination in residential properties. As a result of this change to a widely used nationwide U.S. EPA approach, a number of properties fell off the priority list. Since there is only funding for the cleanup of approximately 2,500 of the properties in the 1.7-mile radius, the possibility exists that properties once on the priority list may not be cleaned up.

A final example describes a problem that could have been contentious had DTSC not responded pro-actively. DTSC recently learned of allegations that one of the two contractors conducting soil sampling on residential properties was not following established soil sampling protocols and that its employees made racially derogatory remarks. DTSC appears to be taking the allegations seriously and has confronted the contractor.

Successful Cleanup Examples

Contaminated sites that are difficult to remediate or where mistakes have been made become notorious. Successful remedial actions, on the other hand, can be taken for granted. Two examples of successful recent brownfield⁵ cleanups are the Porsche Experience Center redevelopment in Carson and the Bay Street redevelopment in Emeryville. The Porsche Experience Center, which is on the site of what once was a hazardous waste landfill, is expected to generate \$22 million in annual economic activity. The Bay Street redevelopment, which is on landfill that was used for industrial purposes, is a vibrant hub of urban mixed-use, in-fill development. DTSC should be especially applauded for its quick interim action at the Argonaut Mine Tailings Site in Jackson. In July 2015 DTSC learned that the “non-jurisdictional” Eastwood Multiple Arch Dam had a 98-percent chance of failure with sustained rainfall and that failure could cover portions of downtown Jackson with up to 15 feet of arsenic-contaminated mine tailings and impair the Jackson Creek watershed, public water supplies, and Lake Amador. Concerned that the dam would fail in the upcoming rainy season, DTSC requested and received emergency funding in September 2015 to construct interim measures to direct water around the dam and initiate the design of a dam retrofit. DTSC completed construction of those interim

⁵ DTSC defines brownfields as properties that are contaminated, or thought to be contaminated, and are underutilized due to perceived remediation costs and liability concerns.

measures by November 2015. The Department subsequently requested and received funding in the 2016 Budget Act for additional funding for operation of the diversion system as well as for design and construction of the dam retrofit. These activities were successful in preventing contamination during heavy rainfalls and are a good example of recent DTSC achievements.

Update on Previously Submitted IRP Site Mitigation Recommendations

In its April 21, 2016 progress report to the Governor and Legislature, the IRP made three site mitigation suggestions for the Governor and the Legislature.

1. Support Gov. Brown's proposed \$176.6 million appropriation to fund expedited and expanded testing and cleanup of residential properties, schools, daycare centers, and parks impacted by the former Exide Technologies facility in Vernon.

SB 93 (De León), Chapter 9, Statutes of 2016 and AB 118 (Santiago), Chapter 10, Statutes of 2016, transferred the \$176.6 million as a loan from the General Fund to the Toxic Substances Control Account for DTSC to use for this purpose. The funds are available until June 30, 2018. Funds recovered from responsible parties are to be used to repay the loan.

2. Require the DTSC to prioritize the Exide Technologies residential cleanup based on mapping data on metal levels in blood and soil.

Pending. DTSC has a formula for prioritizing the residential cleanup based on metal levels in blood and soil as well as other factors, with special consideration given to homes with small children and pregnant women.

3. Require collaboration between national, state, and local agencies to better make available and use data, including blood data, to address lead contamination in California communities.

Pending—AB 247 (C. Garcia) of 2017 would require the Office of Environmental Health Hazard Assessment to convene a Lead Advisory Taskforce by April 1, 2018 to review and advise regarding policies and procedures to reduce childhood lead poisoning in the state. The March 28, 2017 version of the bill would give the task force authorization to make various recommendations to ensure that regulatory standards are protective of health.

In its April 21, 2016 progress report to the Governor and Legislature, the IRP made three site mitigation suggestions for DTSC.

1. Publish a strategy by July 1, 2017 on how, in appropriate cases, DTSC will work with CalEPA and its boards, departments, and offices, as well as with local air districts, to require fence line/aerial deposition monitoring during site mitigation in situations where there are adjacent sensitive receptors.

DTSC reported to the IRP on February 3, 2017 that it is actively pursuing this recommendation. The Department stated that it continues to work collaboratively with CalEPA, the Air Resources Board, other interested CalEPA entities, and local air districts to explore opportunities to address concerns about potential emissions from site mitigation sites.

2. Publish on DTSC's website an easy-to-read matrix of clean-up standards, cleanup schedules, and sampling levels to enhance transparency of mitigation at particular sites that are subject to public concern and inquiry.

DTSC reported to the IRP on February 3, 2017 that it plans to pursue this recommendation in the future. The Department stated that it is evaluating and prioritizing a range of improvements to the website and will implement them based on available resources.

3. Provide Level 4 data packages for site mitigation analyses and decisions to the public upon request.

DTSC reported to the IRP on February 3, 2017 that this recommendation has been implemented. The Department stated that it already provided data packages to the public when it receives them from the contract lab that conducts the analysis, in the form the packages are received.

Recommendations for the Governor and Legislature to Improve Site Mitigation

1. Double the number of staff members in the Office of Public Participation and Office of Communications to better engage stakeholders throughout all phases of contentious site mitigation projects, especially the early phases.
2. Provide additional funding to enable DTSC to promptly and adequately maintain all necessary site mitigation updates on Envirostor.
3. Consider legislation to allow different agencies to work together effectively and cooperatively during complex site mitigation projects.
4. Stipulate disposal requirements for radiological waste in statute.
5. Place in statute a requirement for DTSC to conduct five-year reviews of all long-term cleanup remedies for as long as the hazardous substances remain at the site above levels that allow for unlimited use and unrestricted exposure.
6. Provide funding for the five DTSC staff personnel who were recently redirected from other duties to serve as administrative project managers (APMs) to support site

mitigation. Among other duties, the APMs work with technical project managers and public outreach personnel to ensure that community concerns, cost recover and fiscal management are properly executed. The APMs will correct historical problems with site mitigation, but the redirected positions were also important and need to be backfilled.

Recommendations for the DTSC to Improve Site Mitigation

1. Develop procedures to give all stakeholders who have concerns about specific contaminated sites the opportunity to discuss and contribute to the planning and implementation of site mitigation plans during the initial phases and throughout the project period.
2. Begin high-priority residential cleanups in the communities surrounding the closed Exide Technologies facility by June 1, 2017.
3. Approve and certify the Remedial Action Plan and Environmental Impact Report for cleaning up the lead-impacted soil in residential neighborhoods near the closed Exide Technologies facility by July 1, 2017.
4. Submit proposed regulation specifying the toxic criteria for human health risk-based screening levels, action levels, and remediation goals to the Office of Administrative Law by December 31, 2017.
5. Streamline the decision-making process and the time taken for review of work plans and reports in the Voluntary Cleanup Program by _____.
6. Compile lessons learned from the DTSC cleanup activities at Riverside Agricultural Park and release them to the public by September 31, 2017.
7. On a timely basis, submit report to the Legislature with an estimate of the money needed to fund direct site remediation costs at State Orphan sites and meet the state's obligation to pay for site remediation costs at federal Superfund Orphan sites, as required by Health & Safety Code section 25173.7(c).
8. Promulgate written guidance on when DTSC should use fence-line monitoring on remediation sites.
9. Hire new Exide Division chief by May 1, 2017.
10. Review site mitigation policies. Update existing policies if necessary and issue new policies if needed. Post all policies on DTSC website and provide contact information for staff member who can answer questions about them.

11. Regularly update “frequently asked questions” and other website information on site mitigation projects and indicate date of last update on website page.
12. With the aim of preventing another “Exide,” write and post a report on the DTSC Internet website on lessons learned from the Exide experience. This report should assess how Exide was allowed to operate for many years on an interim permit, with outdated safeguards to prevent releases of hazardous waste into the environment, and with numerous violations, many of them serious.

Recommended Goals and Performance Metrics for Site Mitigation

1. Using surveys and other methods, measure community satisfaction of site mitigation projects on an annual basis.
2. On an annual basis, provide the number of Superfund, state response, and corrective action sites at the beginning of the year, the number of each of those sites at the end of the year, the number of each of those sites undergoing operations and maintenance at the beginning of the year, the number of each of those sites where construction of the remedy was completed during the past year, and the number of each of those sites that completed operations and maintenance during the past year.
3. On an annual basis, provide the number of interim remedies completed during the past year.
4. On an annual basis, provide the number of school sites being evaluated by DTSC at the beginning of the year, the number of school sites being evaluated at the end of the year, the number of completed evaluations during the past year, the number of school sites undergoing a response action at the beginning of the year, the number of school sites undergoing a response action at the end of the year, the number of school sites undergoing operations and maintenance at the beginning of the year, the number of school sites where construction of the remedy was completed during the past year, and the number of school sites that completed operations and maintenance during the past year.
5. On an annual basis, provide the number of formerly used defense properties undergoing evaluation or remediation at the beginning of the year, the number of formerly used defense properties undergoing evaluation or remediation at the end of the year, the number of formerly used defense properties undergoing operations and maintenance at the beginning of the year, the number of formerly used defense properties where construction of the remedy was completed during the past year, and the number of formerly used defense properties that completed operations and maintenance during the past year.

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