

STATE OF CALIFORNIA
 Spring Finance Letter - Cover Sheet
 DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 3960	Department Toxic Substances Control	Priority No. 9
Budget Request Name 3960-008- 000 -BR-2016-GB		Program 3625 HAZARDOUS WASTE MANAGEMENT 9900100 ADMINISTRATION 9900200 DISTRIBUTED ADMINISTRATION	Subprogram

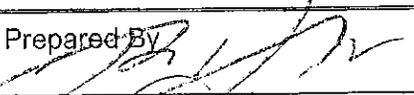
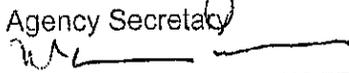
Budget Request Description
 Replacement of Laboratory and Investigatory Equipment

Budget Request Summary
 The Department of Toxic Substances Control requests a one-time augmentation of \$2.0 million (Hazardous Waste Control Account) resulting from an enforcement action and settlement to procure laboratory and investigatory equipment used for conducting investigations and testing of wastes and substances for hazardous characteristics in support of criminal, civil and administrative enforcement of hazardous waste laws, cleanups, and safer products.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.
 FSR SPR Project No. Date:

If proposal affects another department, does other department concur with proposal? Yes No
 Attach comments of affected department, signed and dated by the department director or designee.

Prepared By 	Date 2.5.16	Reviewed By 	Date 2.5.16
Department Director 	Date 2-5-16	Agency Secretary 	Date 2-8-16

Department of Finance Use Only

Additional Review: Capital Outlay ITCU FSCU OSAE CALSTARS Dept. of Technology

CP Type: Policy Workload Budget per Government Code 13308.05

PPBA	Original Signed By: Ellen Moratti	Date submitted to the Legislature	APR 04 2016
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ECL serves as the analytical and environmental chemistry expertise for DTSC, identifying and measuring the amount of chemicals in a wide variety of environmental, product, and biomonitoring samples. Laboratory data are essential to regulatory activities such as permitting, complaint and criminal investigations, enforcement actions, site characterization and remediation, and safer products and workplaces. ECL provides impartial and legally defensible scientific data for critical decision-making by DTSC. The Department needs analytical data to identify an increasing number of toxic chemicals. This requires reliable, state-of-the-art instruments and equipment.

ECL also serves as a reference laboratory for the State Water Resources Control Board's Environmental Laboratory Accreditation Program (ELAP), the State's laboratory certification program under Title 22 California Code of Regulations (CCR) section 64811(g). ELAP is necessary to validate laboratory facilities, scientist qualifications and competency; quality operation systems and data accuracy and precision of commercial laboratories that operate as business entities in California for hazardous waste testing. ECL is the reference laboratory for ELAP's hazardous waste fields of testing.

As a reference laboratory ECL is called upon to validate or refute data from commercial laboratories used by defendants and other potential responsible parties. These commercial laboratories generally use updated and advanced instruments for their work. For ECL to support an investigation and potential prosecution it must be able to match, or exceed, the capability of private labs. The scientific credibility of ECL and DTSC is firmly linked to its analytical and data management capabilities and these capabilities require modern, properly functioning instruments and equipment.

In addition, as a reference laboratory, ECL has a role in developing new methodologies for identifying and measuring non-traditional chemicals in waste streams, in products, and at contaminated sites. ECL needs to procure the specialized instrument and supporting equipment to carry out these functions.

Resource History
(Dollars in thousands)

Program Budget	PY - 4	PY - 3	PY - 2	PY - 1	PY
Authorized Expenditures	109	259	259	259	1,759
Actual Expenditures	516	555	550	253	1,759

C. State Level Considerations

DTSC is charged with enforcing laws and regulations governing the management and disposal of hazardous waste and the cleanup of sites contaminated with hazardous substances under Chapter 6.5 of the Health and Safety Code section 25100 et seq. and Title 22 CCR section 66260 et seq.

For OCI, this proposal is consistent with the following goal and objectives of DTSC's 2014-2018 Strategic Plan:

Goal 2: Effectively, efficiently, and fairly administer and enforce California's hazardous waste management laws.

Objective 2.3: Improve effectiveness, efficiency, and consistency in enforcing California's hazardous waste laws; and make DTSC's enforcement program's information and processes more accessible to the public.

Objective 2.4: Improve public confidence in DTSC's enforcement decisions by establishing clear guidelines for decision points that ensure enforcement actions result in timely resolution with appropriate penalties and corrective actions.

Object 2.9: Using a cross-functional workgroup, assess, report on, and implement initiatives to increase collaborative enforcement efforts between DTSC's Enforcement Division and Office of Criminal Investigations, CUPAs, US EPA, local prosecutors, and other enforcement agencies.

For ECL, this proposal is aligned with the following goal and objective of DTSC's 2014-2018 Strategic Plan:

Goal 4: Maintain and increase DTSC's organizational and operational capacity, effectiveness, and performance.

Objective 4.6: Strengthen and augment the capability and capacity of the Environmental Chemistry Laboratory (ECL) to provide scientific leadership and serve DTSC's programs by prioritizing work, updating equipment, and implementing an internationally recognized quality management system.

D. Justification

DTSC is requesting an augmentation to procure investigatory and laboratory equipment using the \$2.0 million received for this purpose in *The People of the State of California v Comcast Cable Communications LLC*.

ECL proposes to use the \$1.6 million to procure equipment to improve and expand the capacity and measurement technologies used in criminal, civil, and administrative enforcement of hazardous waste laws and other DTSC activities. With the proposed instruments and equipment, DTSC will be able to: update the sample preparation equipment for extraction and digestion of samples; expand the analysis of organic compounds in soil, water, sludge, solid waste and consumer products at lower detection levels; develop methods for detection of trace metals and hexavalent chemicals in drinking water at the new health-based levels; develop methods for the speciation of arsenic and other toxic metals; develop new methods for soil vapor analysis of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOC) from vapor intrusion; test and validate methods developed by commercial labs. The proposed instruments and associated data systems provide updated tools for the identification and quantitation of toxic chemicals.

In addition, procuring instruments with the latest technology would allow ECL to achieve greater efficiency in chemical analysis capacity to support enforcement cases. The improved technology allows for faster analysis of samples resulting in shorter turn-around-time for generating analytical results that can be used by the Department in support of investigations to reach timely resolutions. Delays in analysis translate into delays in case referrals and prosecutions.

The new instruments offer greater sensitivity in detecting chemicals and with greater computational power to generate data that are reliable and defensible and meet U.S. EPA and other standard method quality control requirements. If laboratory data are not presented in a timely manner or do not meet legal standards of defensibility, they can be successfully challenged. This can result in the failure of enforcement actions.

DTSC relies heavily on impartial and legally defensible scientific data for critical decision-making to enforce hazardous waste laws and ensure the safety of communities and the environment. ECL's role is to provide this defensible scientific data by using

advanced instruments to identify and measure chemicals in wastes and other samples. The instruments must be accurate, precise, and reliable, so that ECL's results will withstand challenges in legal proceedings.

OCI proposes to use \$400,000 for investigatory equipment that will facilitate and improve evidence collection activities in criminal investigations. OCI search warrants and other field investigation activities often require identifying, screening, collecting, and preserving key evidence in a very short period of time utilizing sophisticated investigatory equipment. The acquisition of investigatory equipment such as computer forensics equipment and real-time hazardous materials screening devices will facilitate, enhance, and improve OCI's evidence collection capabilities. Field screening equipment such as the X-Ray Fluorescence instruments that can detect hazardous constituents in various media instantaneously will enable OCI scientists to quickly identify and collect samples of hazardous waste that have been illegally disposed of into the environment. Computer forensics laboratory equipment will enable OCI's computer forensics examiner and investigators to identify, transfer, and preserve digital data from computers, servers, phones, memory cards, and other devices during search and seizure activities conducted as part of a search warrant.

E. Outcomes and Accountability

This proposal would enhance ECL's capabilities to identify and measure chemicals of concern to the Legislature and the public. It would also aid OCI in providing more rapid and accurate decision-making during field investigations.

Outcomes

- DTSC management decisions would be based on high-quality scientific data on chemicals of emerging concern to California.
- Standardized and validated methods used by commercial laboratories that measure toxic chemicals in wastes and water streams.
- Use of high-quality scientific reports and publications as basis by regulatory management for policy decision making.
- Data quality, precision, and accuracy would improve.
- Shorter turn-around-time for sample analysis.
- Stronger, legally defensible criminal and civil cases.
- Evidence collection capabilities would improve.

Accountability

ECL would use tracking indicators to measure the effectiveness of the instrument purchase.

Outcomes will be tracked using ECL's performance indicators on scientific publications, professional meetings attended, and specific PCA codes for time spent supporting DTSC management and other programs on hazardous chemical issues.

Outcomes will also be tracked using ECL's Laboratory Information Management System's output of the number of samples analyzed and methods used, and by OCI's Envirostor system for case tracking and management.

F. Analysis of All Feasible Alternatives

Alternative 1: Approve this request for a one-time laboratory equipment augmentation

Pro:

- Provides authority to expend monies as intended in the judgment.
- Allows DTSC to improve data quality, precision, and accuracy.
- Expands analysis to other toxic chemicals in soil, water and consumer products
- Provides DTSC the ability to develop new methods for soil vapor analysis of VOCs and SVOCs from vapor intrusion.
- Helps DTSC to develop methods for detection of trace level metals and hexavalent chromium in drinking water at new health-based levels.
- Provides DTSC the ability to develop methods for the speciation of arsenic and other toxic metals.
- Updates software for increased data storage and security.
- Allows shorter turn-around time for sample analysis.
- Improves on-site identification, collection, and decision-making ability of field investigators and scientists.

Con:

- Requires a one-time augmentation to DTSC's budget to allow it to expend the funds as designated in the judgement.

Alternative 2: Approve the request only for \$400,000 for investigatory Equipment

Pro:

- Improves investigatory abilities for on-site identification, collection, and decision-making ability by field investigators and scientists.

Con:

- Does not allow DTSC to comply with all the requirements of the supplemental environmental program to spend the funds for designated purposes as specified in the court judgment.
- Does not provide funding for laboratory activities that would support investigations, enforcement, hazardous waste management, and hazardous substances response activities.

Alternative 3: Approve the request only for \$1.6 million for laboratory instruments and equipment

Pro:

- Allows DTSC to improve data quality, precision, and accuracy.
- Expands analysis to other toxic chemicals in soil, water and consumer products

- Provides DTSC the ability to develop new methods for soil vapor analysis of VOCs and SVOCs from vapor intrusion.
- Helps DTSC to develop methods for detection of trace level metals and hexavalent chromium in drinking water at new health-based levels.
- Provides DTSC the ability to develop methods for the speciation of arsenic and other toxic metals.
- Updates software for increased data storage and security.
- Allows shorter turn-around time for sample analysis.

Con:

- Does not allow DTSC to comply with all the requirements of the supplemental environmental program to spend the funds for designated purposes as specified in the court judgment.
- Does not provide funding for on-site identification, collection, and decision-making ability of field investigators and scientists.

Alternative 4: Maintain status quo/do nothing

Pro:

- Does not require an augmentation in DTSC's budget.

Cons:

- Does not allow DTSC to comply with the supplemental environmental program specified in the court judgement to spend the funds for designated purposes.
- Does not meet the intent of the judgment and the \$2.0 million SEP will remain in the HWCA.
- Does not provide the opportunity to expand analysis to other toxic chemicals in soil, water and consumer products.
- Does not improve data quality, precision, and accuracy.
- Does not provide the opportunity to develop new methods for soil vapor analysis of VOCs and SVOCs from vapor intrusion.
- Does not provide the opportunity to develop methods for detection of trace level metals and hexavalent chromium in drinking water at new health-based levels.
- Does not provide the opportunity to develop methods for the speciation of arsenic and other toxic metals.
- Does not allow for increased data storage and security.
- Does not allow the lab to provide timely sample and chemical analysis for enforcement cases.
- Does not allow for improved field collection, screening and decision-making.

G. Implementation Plan

July 2016 – October 2016

- Contact vendors to provide information and demonstration on instruments to understand the technology and capabilities of the equipment.
- Compare capabilities and costs with different vendors.
- Identify the appropriate procurement method and proceed with procuring equipment.

November 2016 – December 2016

- Coordinate with vendor on schedule for installation and training for laboratory and investigatory equipment.
- Prepare facility to ensure it can accommodate laboratory equipment (i.e. location, electrical and ventilation requirements, safety measures).
- Receive field screening and other investigatory equipment.

January 2017 – February 2017

- Install equipment, which includes setup, optimization of equipment parameters and familiarization of hardware and software of equipment.
- Train ECL Staff on equipment operation.
- Train OCI staff on use of field screening and other investigatory equipment.

February 2017 to April 2017

- Method development and validation on new equipment.
- Write standard operating procedures (SOPs) for methods using new equipment.
- Establish competency on analyzing samples with new methods for ECL.

Begin using investigatory equipment by OCI staff

H. Supplemental Information

Attachment 1 provides a list of equipment that will expand DTSC's sample analysis and method development capabilities in support of criminal, civil, and administrative enforcement of hazardous waste laws.

I. Recommendation

DTSC recommends Alternative 1: Approve a one-time augmentation of \$2.0 million to procure investigatory and laboratory equipment. This option provides DTSC the authority to expend funds resulting from a judgment as required. It also would serve to improve the quality, precision, and accuracy of data. It also serves to improve on-site identification, collection, and decision making of field investigators and scientists.

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
 BCP Title: Replacement of Laboratory and Investigatory Equipment
 BCP Priority: 9

Attachment A

PROPOSED EQUIPMENT	ANALYSIS CAPABILITY	LAB LOCATION	ESTIMATED COST
Liquid Chromatography Q-Trap Mass Spectrometer	Expands analysis of emerging chemicals of concern in soil, water and consumer products at environmentally relevant detection limits. Advanced data processing capability to tentatively identify new compounds, better tools for data analysis and data mining and capability to address data storage and security.	Berkeley	\$400,000
Inductively Coupled Plasma Mass Spectrometer	Develop methods for detection of trace level metals and hexavalent chromium (Cr(VI)) in drinking water at the new health-based levels. Advanced data processing capability with better tools for data analysis and data mining with capability to address data storage and security.	Berkeley	\$220,000
High Pressure Liquid Chromatography	Develop methods for the speciation of chromium and arsenic and other toxic metals.	Berkeley	\$100,000
Spectra Max (Immunochemistry)	Expands and develops new method for the detection of PCBs and pesticides.	Berkeley	\$100,000
Liquid Chromatograph – Inductively Coupled Plasma Triple Quad Mass Spectrometer	Expands lab capability by developing methods for detection of trace level metals and hexavalent chromium (Cr(VI)) in drinking water at the new health-based levels and speciation of arsenic and other toxic metals. Advanced data processing capability to address data analysis, data mining, and data storage and security.	Pasadena	\$450,000

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
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Attachment A

Inductively Coupled Plasma Atomic Optical Emission	Updated instrument with latest software and capability to analyze for metals from different extracts in shorter turn-around-time (TAT). Updated data processing capability to address data storage and security	Pasadena	\$130,000
Thermal Desorption Equipment and Accessories	Expands capability by developing method to analyze VOCs and SVOCs in soil gas from vapor intrusion. Updated data processing with better tools for data analysis and data mining with capability to address data storage and security.	Pasadena	\$200,000
X-Ray Fluorescence (XRF) Analyzers and Specialized Standards	Screening tools to detect the presence of metals in materials. Provides initial qualitative screening of samples before submitting to lab for quantitative analysis. XRF standards of different matrices are required to provide sufficient quality control.	Various Regional Offices	\$300,000
Forensics laboratory equipment and surveillance equipment	Computer forensics laboratory equipment to image and download computer data, and to identify, transfer, and preserve digital data from servers, phones, memory cards, and other devices during search and seizure activities conducted as part of a search warrant	Various Regional Offices	\$50,000
Investigatory equipment and other field supplies	Tools and supplies used in the field to collect evidence of environmental violations	Various Regional Offices	\$50,000

BCP Fiscal Detail Sheet

BCP Title: Replacement of Laboratory and Investigatory Equipment

DP Name: 3960-008-BCP-DP-2016-A1

Budget Request Summary

	CY	BY	BY+1	FY16	BY+2	BY+3	BY+4
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Operating Expenses and Equipment	0	2,000	0	0	0	0	0
5368 - Non-Capital Asset Purchases - Equipment							
Total Operating Expenses and Equipment	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0
Total Budget Request	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0

Fund Summary

Fund Source - State Operations	0	2,000	0	0	0	0	0
0014 - Hazardous Waste Control Account							
Total State Operations Expenditures	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0
Total All Funds	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0

Program Summary

Program Funding	0	2,000	0	0	0	0	0
3625 - Hazardous Waste Management							
Total All Programs	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0