Stage 1 Business Analysis

California Department of Technology, SIMM 19A.3 (Ver. 3.0.8, 02/01/2022)

1.1 General Information

1. **Agency or State entity Name:** 3940 - Water Resources Control Board, State

   If Agency/State entity is not in the list, enter here with the organization code.

2. **Proposal Name and Acronym:** California Environmental Regulatory Data Security Initiative

3. **Proposal Description: (Provide a brief description of your proposal in 500 characters or less.)**

The existing Microsoft Access database vital to the Division of Drinking Water (DDW) Environmental Laboratory Accreditation Program (ELAP) is obsolete and routinely experiences numerous data loss and failure events. Complete failure of the database is inevitable and will result in cessation of ELAP operations and prevent ELAP from performing its essential function to accredit laboratories. Such a failure will affect statewide regulators relying on laboratory data to make decisions to protect public health and the environment. This initiative will fund the planning to replace the failing database and ensure security of California regulatory agency data through the protection and improvement of ELAP's accreditation program database.

A new database and staff to support its development, implementation, and operations are needed to avert the danger attached to the imminent failure of the existing database.

4. **Proposed Project Execution Start Date:** 8/1/2024

5. **S1BA Version Number:** Version 1

1.2 Submittal Information

6. **Contact Information**

   Contact Name: Cheryl Holden

   Contact Email: Cheryl.Holden@waterboards.ca.gov

   Contact Phone: 916-327-0003

7. **Submission Type:** New Submission

8. **Attach** Project Approval Executive Transmittal to your email submission.

9. **Attach** Stage 1 Project Reportability Assessment to your email submission.

1.3 Business Sponsorship

1. **Executive Champion (Sponsor)**

   Title: Deputy Director
   Name: **Darrin Polhemus**
   Business Program Area: **Division of Drinking Water**

2. **Business Owner**

   Title: Principal Engineer, Program Management Branch
   Name: Robert **Brownwood**
   Business Program Area: **Division of Drinking Water**

3. **Product Owner**

   Title: ELAP Section Chief
   Name: **Christine Sotelo**
   Business Program Area: **Division of Drinking Water**

1.4 Stakeholder Assessment

The Stakeholder Assessment is designed to give the project team an overview of communication channels that the state entity needs to manage throughout the project. More stakeholders may result in increased complexity to a project.

1. **Indicate which of the following are interested in this proposal and/or the outcome of the project. (Select 'Yes' or 'No' for each.)**

   State Entity Only: **No**

   Other Departments/State Entities: **Yes**

   Public: **Yes**

   Federal Entities: **Yes, U.S. EPA**

   Governor's Office: **No**

   Legislature: **No**

   Media: **No**

   Local Entities: **Yes, laboratories**

   Special Interest Groups: **Yes, Proficiency Test Providers**

Other: **Yes**

2. **Describe how each group marked 'Yes' will be involved in the planning process.**

   ELAP and Division of Information Technology (DIT) will be involved in the planning process and database development. All other interested parties will use the final product.

   ELAP will solicit feedback from stakeholders to ensure requirements are met and issues are adequately addressed. ELAP stakeholders include seven (7) Proficiency Test (PT) providers, approximately 575 laboratories, State and Regional Water Board programs, and multiple state and federal agencies (collectively called State Agency Partners).

   ELAP will work closely with the PT providers and require their file formats and naming conventions are compatible with the new database. Comparing the PT providers' data to the laboratories' applications is a core function of the application review process and is critical to the success of the Program.

   Laboratories will be required to submit accreditation applications through the new database. The public will have access to the database information through the GIS map portal and public search function.

1.5 Business Program

3. **Business Program Name:** Division of Drinking Water - Environmental Laboratory Accreditation Program (ELAP)

4. **Program Background and Context:**

   4.1 Regulatory Requirements and ELAP's Primary Function

   Under California Health and Safety Code, Article 3 [100825-100920], ELAP provides accreditation to environmental testing laboratories to ensure the quality of analytical data used for regulatory purposes.

   To obtain accreditation, laboratories apply for Fields of Accreditation (FOAs). A FOA is a combination of the analyte, matrix, and testing method being used to conduct an analysis. For example, testing for E. coli (analyte) in drinking water (matrix) using SM 9221-B (testing method) is one FOA. Every year, ELAP accredits laboratories for tens of thousands of FOAs, which must be listed separately on each application. The laboratories are evaluated through an On-Site Assessment (OSA) and PTs for each FOA for which they are applying.

   4.2 Reviewing Applications for Accreditation

   Laboratories submit completed application forms, FOA spreadsheets, and related documentation to ELAP via email. Application forms, attachments, and FOA spreadsheets are frequently incomplete or contain errors. This is either due to negligence from the laboratory or a misunderstanding of how to submit the application. This increases ELAP workload by requiring staff to reach out to the laboratory to explain the application and request missing or corrected information. It also delays the review of the applications until the application is complete.

ELAP's administrative team conducts preliminary reviews of applications to confirm that there is no missing information or attachments. This is time consuming for ELAP and the laboratories and it inhibits ELAP's ability to process applications in a timely manner and has resulted in lapses in laboratories' accreditations.

Once the application package is determined to be complete and accurate, the information is manually entered into ELAP's MS Access database (database), and attachments are saved in the network drive. Some applications have up to 1,300 lines of FOAs, resulting in a time-consuming manual process with a high probability for error.

Next, a technical review of the PT results begins. Technical experts conduct an in-depth review of the PT results to confirm passing results for each FOA that has been applied for. If the reviewer finds any errors or missing information, they will reach out to the laboratory for clarification before the review is finalized. After the PT review, the PT results are manually entered into the database. Rejected applications further lengthen the time it takes to review an application. The average number of FOAs per application is 140, however the range of FOAs per application can be from less than 10 to over 1,000.

After the technical review, the review of OSA documents begins. OSA documents are lengthy, technical, narrative documents which must be analyzed for content to determine if they are sufficient for a laboratory's application. Review of OSA documents provided by the laboratory with their application averages eight hours per application to complete. Considering the application attachments, OSA documents have the second highest error rate, after FOA spreadsheets.

4.3 Other ELAP functions

In support of application review, ELAP receives PT results directly from the PT providers. On average, it takes one staff eight hours per week to review these PT reports, however, the range of time varies significantly depending on how many laboratories are listed on the report. PT reports with results for multiple laboratories account for about 50% of the PT reports received, which is about 10 per day on average, and can have anywhere from 12-30 laboratories' results listed. This is another lengthy review process with a high probability of error.

Once the OSA unit has completed an assessment, it can take up to 20 days to finalize the post-OSA report and send it to the laboratory. There is much variability in the length of time this takes to finalize, depending on the number of FOAs and complexity of the assessment.

In an effort to provide the public with accreditation information, a GIS map was created which shows laboratory locations and their accredited FOAs. The GIS map cannot be linked to the Access database, so any updates in accreditation information must be made manually, and thus are not always up to date.

All of ELAP's work is significantly hindered by the outdated MS Access database; processing times are tedious and time-consuming and hinder ELAP's ability to provide transparency and customer service to our constituents.

Many Water Board programs and State Agency Partners rely on data provided by ELAP-accredited laboratories. These programs are impacted by ELAP's obsolete database because it hinders their ability to quickly verify whether their laboratories are accredited. A modern database

will allow ELAP to provide better customer service to these programs and will greatly impact those programs' success as well.

5. **How will this proposed project impact the product or services supported by the state entity?**

   ELAP receives almost 700 applications a year, 43% of which are incomplete.

   Implementing an online fillable application that provides guidance to the laboratories and validation of required fields, will ensure that applications are complete and accurate before submission, and eliminate manual data entry. A new system will reduce the need to individually coordinate with laboratories to complete their applications. The new system will allow laboratories to look up their application status and track its progress as well as provide the public with current laboratory accreditation information to increase transparency of ELAP operations.

   The current GIS map contains limited information, is difficult to search, and is not updated in real-time. ELAP has received requests from the public to include additional search functions to be able to search by method, analyte, and FOA, but the current system is not able to fulfill these requests. By developing a new system that is linked to a GIS map, it can be updated automatically, as soon as accreditation information is changed to keep publicly available data up to date. To update the current GIS map, ELAP must submit one request per laboratory to the Division of Information Technology (DIT). This is time-consuming and cumbersome for both DIT and ELAP staff and has created a backlog of data to be updated on the GIS map. ELAP has been made aware of errors and missing information in the GIS map which occurred because outdated information is still published online.

1.6 Project Justification

1. **Strategic Business Alignment**

   Enterprise Architect

   Title: **Info Tech Specialist II**

   Name: **Evan Levy**

   Strategic Plan Last Updated **6/1/2010**

   Strategic Business Goal: Water Boards Strategic Plan

   Goal 5: Improve transparency and accountability by ensuring that Water Board goals and actions are clear and accessible, by demonstrating and explaining results achieved with respect to the goals and resources available, by enhancing and improving accessibility of data and information, and by encouraging the creation of organizations or cooperative agreements that advance this goal, such as establishment of a statewide water data institute.

   Alignment: Implementing a new system will allow ELAP be more transparent about the application review process by providing status updates to laboratories in real-time, without taking away from staff's focus of application review. Reducing the amount of manual data entry will allow ELAP to catch up on the backlog of applications to review and will allow us to provide more

prompt responses to inquiries, including providing current and historic accreditation information to the public.

Strategic Business Goal: ELAP Strategic Communications Action Plan

Last updated: 2015

Goal: Create a centralized and structured communications plan to provide a consistent and transparent message to stakeholders.

Alignment: Online, self-help resources will allow ELAP to provide a centralized location for communicating with the public and laboratories and provide them with consistent messaging about the accreditation process and real-time accreditation information. By providing online resources to the public and State Agency Partners, ELAP will provide a place for those stakeholders to get the information they need quickly and accurately. By providing online resources for laboratories to fill out their application, look up their application status, and review the information we have on file, they will have one easily accessible place to go for most of the information that they currently request from ELAP via email.

Strategic Business Goal: ELAP Strategic Plan

Last updated: 2021

Goal 3: Enforce Regulations

Alignment: Updated functions and features will help ELAP staff meet and enforce regulations, including the timely review of applications and providing data to the public.

Goal 4: Promote Accreditation Awareness

Alignment: Promotes accreditation awareness by providing publicly available data.

Goal 5: Foster Organizational Relationships/synergies

Alignment: A new system will allow State Agency Partners and other Water Board divisions to access ELAP data to support their programs.

Goal 6: Continuously Improve

Alignment: A new system will be an improvement from the current system which moved to the Water Board in 2014 from California Department of Public Health. The current database is obsolete with extremely limited functionality and new functions cannot be added as needed to support changing regulations. MS Access is built for managing small datasets. As ELAP has grown, MS Access no longer meets Program needs and cannot keep pace with Program changes. At one point, ELAP was managing 800 laboratories and continues to manage thousands of FOAs, with more being added annually.

Goal 7: Provide High Quality Customer Service

Alignment: Allows ELAP to provide customer service features that are currently unavailable: publicly available data, guidance to laboratories for filling out applications, and a way for laboratories to look up the status of their applications.

Mandate(s): Both

Bill Number/Code, if applicable: Resolution 2020-0012, U.S.EPA Records Retention Policy (as cited in the 2018 U.S. EPA audit), primacy agreement with the U.S.EPA to provide accreditation.

Add the Bill language that includes system-relevant requirements:

Resolution 2020-0012: "Ensure regulated entities can locate and access accredited laboratories by providing real-time access to accreditation data through an improved electronic database system and mapping tool."

2018 U.S. EPA audit: "ELAP keeps current PT records in its ELAP Tool, but the software does not meet USEPA's standard for record retention as it only stores the most current records.

A beta version of a web portal is currently being tested, but it does not allow real-time evaluation, does not retain historical PTs, and has no audit trail."

Paraphrased from audit report: ELAP should acquire software that can be customized to fit its needs to allow record retention and electronic PT management.

U.S.EPA records retention policy: "Maintain records so they can be accessed for appropriate business reasons by staff who have a need to know the information and kept for the required retention period."

ELAP Expert Review Panel Recommendations: "The majority of the processes being conducted by ELAP staff for laboratory accreditation are being performed manually. This exacerbates the shortage of staff resources and lengthens the time to complete the accreditation of any individual laboratory.

Use of software to improve the processing efficiency of information being evaluated for laboratory accreditation should be initiated as soon as possible. Automated processes will enhance management of the overall accreditation process. This includes a significant labor reduction for management of the PT program, which is a significant consumer of labor resources. Software investment will facilitate the efficient use of the currently available labor resources."

ELAP voluntarily follows The NELAC Institute (TNI) standard, including clause ISO 17011, 8.2.2 which states the following requirements:

As a minimum, the accreditation body shall make publicly available, **without request**, information on conformity assessment bodies as described in 7.8.1 and, where applicable, information on suspension or withdrawal of accreditation, including dates and scopes.

It is noted that, for security reasons, certain information can be limited.

2. Business Driver(s)

Financial Benefit: **Yes**

Increased Revenue: **No**

Cost Savings: **Yes**

Cost Avoidance: **No**

Cost Recovery: **No**

Will the state incur a financial penalty or sanction if this proposal is not implemented? **Yes**

If the answer to the above question is “Yes,” please explain: There is a possibility that the U.S. EPA could revoke California’s primacy agreement to manage drinking water and essentially remove the drinking water program. The U.S. EPA could also impose a consent decree on California, requiring ELAP to take certain actions within a certain amount of time. While these actions are unlikely, they are extremely serious and are viable future outcomes if updates are not made.

Improvement

Better Services to the People of California: **Yes**

Efficiencies to Program Operations: **Yes**

Improved Equity, Diversity, and/or Inclusivity: **No**

Improved Health and/or Human Safety: **Yes**

Improved Information Security: **Yes**

Improved Business Continuity: **Yes**

Improved Technology Recovery: **Yes**

Technology Refresh: **Yes**

Technology End of Life: **Yes**

1.7 Business Outcomes Desired

Executive Summary of the Business Problem or Opportunity:

ELAP’s 30-year-old database is unstable and frequently experiences data loss and operational failures which has delayed ELAP’s essential function to accredit laboratories and inhibited revenue collection for the program. The database is built using Microsoft Access, which is not recommended by information technology professionals and is no longer supported by the State Water Resource Control Board’s Division of Information Technology (DIT) or by Microsoft Corporation. Also, the database cannot accommodate any future statutory requirements, does not maintain historical information, and there are no Board staff that can fix or maintain the database.

Data generated by accredited laboratories is critical to the successful operation of every program in the state that manages public health and the environment. This includes local agencies operating drinking water and wastewater treatment systems and oversight of environmental cleanup projects. A database that can adequately meet ELAP’s needs will ensure that the data generated by laboratories supporting these activities is accurate, reliable, and continuously available to regulators charged with protecting public health and the environment. Environmental regulatory testing easily costs local agencies hundreds of millions of dollars annually and they must rely on the data they receive from laboratories for protection of public health. A new system and staff to support its development,

implementation, and ongoing operations will ensure there is no lapse in the accreditation of laboratories.

Objective 1: By 2027, all application information and PT results will be automated.

Metric: Number of applications and PT results submitted electronically

Baseline: Zero

Target Result: 100% of applications and PT results will be submitted electronically

Target Goal: All applications are processed within one month of receipt by the time the new database has been fully implemented. There is no backlog of applications waiting to be processed. Only complete applications can be submitted.

Objective 2: By 2027, reduce the number of inquiries regarding application statuses, PT results, and other information on file by 75% .

Metric: Number of inquiries ELAP receives about application statuses.

Baseline: 30-50 inquires per week

Target Result: Laboratories create and login to their account to complete an application. Subsequent renewal applications will have previous information prepopulated into the application. The application will have required fields and the laboratory will be guided through filling out the application to ensure only complete applications are submitted.

PT Providers upload digital PT results into the database. The database associates the PT results with the corresponding laboratories. Laboratories login to their account to view the PT results that we have received. When a laboratory is completing the electronic application, the only FOAs the laboratory can apply for are those that have corresponding passing PT results. Laboratories can save their progress and return to their application later if they need additional documentation or information to complete their application.

Objective 3: By 2027, program will have the ability to electronically update testing methods and track testing method versions. Testing methods will each have only one record. Different versions of the same testing method will be listed within this record.

Metric: ELAP staff will search for a testing method and view all versions at the same time. ELAP will be able to list which versions of a testing method for which a laboratory is accredited and view the differences between the versions in one place.

Baseline: Testing methods cannot be updated to include multiple versions under the same testing method name. Testing method versions can only be searched one at a time because the current method has been to create separate records for different versions. Staff have to use a complex numbering system to organize the records. It currently takes staff about one hour to add a new testing method version.

Target Result: Designated ELAP staff will be able to add new versions to a testing method record. The database will store information about what has changed between testing method versions and when the change became effective.

Objective 4: By 2027, create a publicly available search to look up laboratories and their accreditations.

Metric: Number of emails requesting information that is available to the public.

Baseline: ELAP receives about 30 emails per month requesting accreditation information. In total, staff spend 30 hours per week, on average, researching and responding to these inquiries.

Target Result: By 2027, reduce the need for ELAP staff to respond to inquiries for information by at least 50%

Objective 5: By 2027, update GIS map and link it to the search function

Metric: Number of inaccurate and/or missing information in the GIS map.

Baseline: Approximately three hundred (300) pins on the map have been identified as missing information or showing inaccurate information. This includes missing pdfs, incorrect pdfs being attached to pins, missing pins on the map, and outdated pdfs showing on pins.

Target Result: Data will be updated on the map automatically by linking the searchable GIS map to the database. Public search functions will include filters such as laboratory location, method, matrix, or analyte, laboratory name, and certificate ID.

Objective 6: By 2027, update internal database search functions, improve data management, and include data and document storage.

Metric: Hours spent searching the database

Baseline: Depending on what information staff are searching for, each staff member can spend anywhere from five hours to 30 hours per week. This number only includes time spent searching for documents and information, and does not include time working on reports, applications, and conducting job functions.

Target Result: Reduce the average amount of time staff spend searching to 1-2 hours per week per staff member.

Objective 7: By 2027, track ELAP's key performance metrics electronically.

Metric: Program productivity is improved by 75% based on real-time system generated reports on key performance measures.

Baseline: All performance metrics are tracked manually and cannot be produced in real-time when requested by the Board.

Target Result: By 2027, metrics will be automatically tracked and reports will be available as needed.

1.8 Project Management

1. **Project Management Risk Score:** 1.1

   (Attach a completed Statewide Information Management Manual (SIMM) Section 45 Appendix A Project Management Risk Assessment Template to the email submission.)

2. **Project Approval Lifecycle Completion and Project Execution Capacity Assessment**

   Does the proposal, development, or project execution anticipate sharing resources (state staff, vendors, consultants, or financial) with other priorities within the Agency/state entity (projects, PALs, or programmatic/technology workload)?

   Answer: No

   Does the Agency/state entity anticipate this proposal will result in the creation of new business processes or changes to existing business processes?

   Answer (No, New, Existing, or Both)**: Both New and Existing Processes**

1.9 Initial Complexity Assessment

1. **Business Complexity Score:** 0.8

   (Attach a completed SIMM Section 45 Appendix C to the email submission.)

   2. Noncompliance Issues: (Indicate if your current operations include noncompliance issues and provide a narrative explaining how the business process is noncompliant.)

   Programmatic regulations: **Yes**

   HIPAA/CIIS/FTI/PII/PCI: **No**

   Security: **No**

   ADA: **No**

   Other: **Yes**

   Not Applicable: **No**

   Noncompliance Description:

   The primacy agreement that California has with the U.S. EPA requires that ELAP provide public information on accreditation. State regulations require that ELAP provide real-time public information. The ELAP Expert Review Panel made recommendations for an updated database. The U.S. EPA audit recommended that ELAP implement an updated database and cited that ELAP is not meeting the U.S. EPA's records retention policy.

3. **Additional Assessment Criteria**

If there is an existing Privacy Threshold Assessment/Privacy Information Assessment, include it as an attachment to your email submission.

How many locations and total users is the project anticipated to affect?

Number of locations: **Headquarters office and Richmond and Glendale regional offices. There are over 575 laboratories that ELAP currently supports, and this number is always changing. Numerous other Water Board divisions and external state departments rely on ELAP data including DTSC and the U.S. EPA. There are seven PT providers that ELAP receives results from.**

Estimated Number of Transactions/Business Events (per cycle): **Over 500 applications processed annually.**

Approximate number of internal end-users: **26**

Approximate number of external end-users: **1,000+ not including the public.**

1.10 Funding

Planning

1. Does the Agency/state entity anticipate requesting additional resources through a budget action to ***complete planning*** through the project approval lifecycle framework? **Yes**

   If Yes, when will a budget action be submitted to your Agency/DOF for planning dollars?

   Fall 2023

2. Please provide the Funding Source(s) and dates funds for planning will be made available:

   TBD

Project Implementation Funding

1. Has the funding source(s) been identified for ***project implementation***? **No**

   If known, please provide the Funding Source(s) and dates funds for implementation will be made available:

   Will a budget action be submitted to your Agency/DOF? **Yes**

   If "Yes" is selected, specify when this BCP will be submitted: TBD

2. Please provide a rough order of magnitude (ROM) estimate as to the total cost of the project: ELAP estimates a project cost of roughly $1,000,000 but has not done sufficient market research to determine a precise approximation of the costs of a project such as this. It is anticipated that market research will begin during Stage 2 of the Project Approval Life Cycle.

End of agency/state entity document.

Please ensure ADA compliance before submitting this document to CDT.

When ready, submit Stage 1 and all attachments in an email to ProjectOversight@state.ca.gov.

Department of Technology Use Only

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Form Disposition: **Approved**

If Other, specify: Click or tap here to enter text.

Form Disposition Date: **8/2/2023**

Department of Technology Project Number (0000-000): **3940-111**