Fiscal Year 2022-23 Information Technology Request

Public Health and Environment

Stationary Sources Solution Modernization

SHORT PROJECT DESCRIPTION

The Air Pollution Control Division (APCD) within the Colorado Department of Public Health and Environment (CDPHE) is requesting $4,099,148 in state funding for FY 2022-23 for phase one of a three-phase, $12.8 million project to replace and modernize its outdated core data systems used primarily for stationary source regulatory and management purposes. The funding will be used to implement a new data system for permitting, inventory, reporting, inspections, compliance and enforcement, billing, public access to data, and other key regulatory and management functions. The system will also potentially be used to track greenhouse gas emissions.

PRIORITY NUMBERS

2023038

Prioritized By	Priority	
OSPB	6 of 6	Recommended for funding.

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2022-23	FY 2023-24	Future Requests	Total Cost
CCF	$0	$4,099,148	$4,319,241	$0	$8,418,389
CF	$0	$0	$0	$4,373,158	$4,373,158
Total	$0	$4,099,148	$4,319,241	$4,373,158	$12,791,547

PROJECT STATUS

This is a new, never-before-requested project.

PROJECT DESCRIPTION

The Stationary Sources Program (SSP) in the APCD is responsible for the oversight of stationary sources of pollution in the state, including oil and gas facilities; Title V major sources, as defined by the Environmental Protection Agency (EPA); landfills; and others. Currently, the division's SSP permitting, inspection, and compliance functions are primarily paper-based, requiring SSP staff to manually input large amounts of data into the current system, costing valuable time and resources. Each document the division receives needs to be captured electronically in the current data system, then manually scanned into the records retention system. With the new project, the SSP is aiming to improve the delivery of environmental services to customers through the implementation of a new, customer-focused, integrated and interactive electronic system used for permitting, inspection, and compliance systems. The new system will be web-based, allowing regulated entities to use the SSP via a secure web portal, rather than being largely paper-based. The web-based system will perform a number of functions, such as: application and payment for required permits; uploading documents required by regulations or statute; and, the ability for each user in the regulated community to update and modify information on file with the SSP.

The department also plans to contract with a local university or regional organization to build and maintain a new, cloud-based data warehouse for storing, collecting, and sharing data with other agencies, the regulated community, and the public. Due to the division's lack of technical expertise in developing a complex technology tool, they believe it will be more efficient to contract with local expertise to develop and maintain such a data warehouse.

PROJECT JUSTIFICATION

The division's current software and data systems were implemented in 1995 and are outdated, lack integration with one another, and require upgrading to support current data management and overall business needs. Historically, paper forms have been used to submit data to the division, which has proven to be an inefficient and cumbersome method as additional regulations are passed. With the current processes in place, it can take several days to move a single "business transaction" through the SSP due to the inefficient system. Consequently, the division has recognized a need for a "big data" solution, beginning with the

electronic warehousing of data for proper collection and sharing of this data with the public, environmental researchers, and non-governmental organizations. By shifting to an electronic system, the collection, analysis, and interpretation of environmental data will become more efficient and effective to process. According to the division, the new systems will help customers realize the following benefits:

• The current SSP data system serves approximately 2,500 regulated companies, and approximately 14,000 active facilities throughout the state. These entities will be able to save time and resources by interacting with the SSP via a secure web portal.

• The new system will result in greater programmatic efficiency and effectiveness, saving SSP staff time and resources, resulting in greater staff capacity to devote to other priorities, helping to achieve the mission of the organization.

• The new, improved SSP data system will also benefit a variety of other state and local agencies including, but not limited to Colorado Oil and Gas Conservation Commission, Colorado Energy Office, Colorado Department of Transportation, Climate Cabinet, local air quality inspection programs, environmental interest groups, universities, and local elected officials.

An additional benefit of the new system will be public access to select records via the secure web portal, cutting down on the number of public requests for records, and the SSP resources required to process those requests. Data in the improved SSP data system could more easily be queried and captured for decision making, as well as provide improved public access to information.

COST-BENEFIT ANALYSIS

The department did not provide a quantified cost-benefit analysis for this project, but anticipates that the new system will increase staff efficiency, increase operating and workflow efficiency, and enable staff to dedicate more time to other high priority work initiatives. The department receives about 20,000 documents per year. Using the manual, paper-based system currently in place, the department estimates that for each document received, they are spending 60 minutes processing each document. That equates to 20,000 hours of labor spent processing documents under the current system. The department believes that with the new system the time spent processing each document could perhaps be reduced to 10-15 minutes per document, which would consequently result in significant reductions in hours of labor spent processing.

PROJECT COST INFORMATION

The department provided the following cost estimates for this project:

Consultants/contractors for the Stationary Sources System Modernization: $8,345,000
• Developers (including developers, integrations, and enterprise content services): $5,807,000 (estimated 29,780 hours at an hourly rate of $195)
• Business analysts: $1,527,000 (estimated 14,539 hours at an hourly rate of $105)
• Database support: $1,011,000 (estimated $5,186 hours at an hourly rate of $195)

Consultants/contractors for the Data Warehousing Solution: $1,987,000
• Developers (including developers, integrations, and enterprise content services): $528,000 (estimated 2,710 hours at an hourly rate of $195)
• Business analysts: $352,000 (estimated 3,360 hours at an hourly rate of $105)
• Database support: $1,107,000 (estimated 5,675 hours at an hourly rate of $195)

Other project costs: $2,459,546
• Independent Verification & Validation (IV&V): $516,600
• Training: $75,000
• 2.70 percent inflation for professional services: $196,625
• Other services/project management: $360,000
• COTS software: $392,750
• 2.70 percent inflation on software: $9,450
• Cloud hosting: $300,000
• 5 percent project contingency: $609,121

CASH FUNDS

The division is proposing to use $4.4 million from the Stationary Sources Control Fund for year three of the project. According to the department, the projected resources in this cash fund are currently insufficient to fund the first two years of the project due to the impacts of the COVID-19 pandemic. Revenues for this cash fund come from permit fees, emission notice fees, and per-ton emission fees.

PROJECT RESEARCH

In order to determine the need for this project, the department has taken several preliminary steps. The project proposal was reviewed and approved by the Governor's Office of Information Technology (OIT) in July 2021. Additionally, a review was conducted of current system capabilities and limited scoping of potential new systems. Furthermore, all SSP business processes have been mapped out in a step-by-step method.

The SSP will evaluate a number of different alternatives to the proposed approach. The proposed approach, as well as alternatives, estimated costs, and pros and cons are as follows.

• The proposed solution is to implement a single commercial off the shelf product (COTS) for all of the SSP's processes. To fund implementation of several processes for each of the next three years, the estimated annual cost will be $4.1 million to $4.4 million.

• An alternative solution that was evaluated was to develop a custom solution using vendor resources. The cost of this solution would be determined through a Request For Proposal (RFP) process with a potential focus on a cloud-based solution.

• Also evaluated was the approach of continuing with current paper-based processes. In this scenario, FTE and fee increases are likely due to increasing demand in the program. Additionally, the entities regulated under the SSP may soon be required to electronically report to the EPA. If the SSP does not have a system in place to handle electronic reporting from regulated entities, it is likely that the regulated entity would have to report information to both the EPA and SSP separately, hindering efficiency and effectiveness.

ADDITIONAL PROJECT INFORMATION

The SSP is conducting this project in a phased approach and is planning to utilize agile development processes to implement the system. Phase one includes the implementation of base system and the implementation of the Air Pollutant Emission Notices for sources required to report emissions. Phase two will include the development of workflow for permitting for inspection and compliance purposes. Phase three will be the implementation of 30 simple and 10 moderate processes by December 31, 2024, and the implementation of another 30 simple and 10 moderate processes by December 31, 2025. CDPHE will work with OIT and the selected contractor(s) to develop a training plan to validate that the system is functioning as expected and meet's the department's needs.

The new system will be cloud-based, which is consistent with OIT's cloud-first strategy, and will require limited technical support from OIT. OIT will be involved in the following components of the project:

• Assisting with the development of system requirements and advising on best possible solution(s) to meet those requirements.
• Assisting with the contracting process and evaluation of potential vendors.
• Assisting with the development and testing of the solution(s).
• Reviewing and advising on the security of the solution(s) and reviewing the system security plan.
• Advising on and implementing a plan for ongoing support for the solution(s).

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PROJECT SCHEDULE

	Start Date	Completion Date
Planning	July 2022	March 2023
Implementation	March 2023	June 2025
Testing	March 2023	June 2025
Closing	June 2025	June 2025

QUESTIONS

1. Please describe the potential impact if funding is received for phase 1 but not subsequent phases in future years.

This will deprive permittees of timely application processing and delay the incorporation of the most current environmental protections into permits issued by the division, or result in paper processes for compliance and enforcement programs. Insufficient cloud storage limits the Department's ability to improve public access to permitting records. The consequence is that a significant portion of the processes will not be automated and remain paper based. This will deprive permittees of timely application processing and delay the incorporation of the most current environmental protections into permits issued by the division, or result in paper processes for compliance and enforcement programs. The Department will also have greater challenges in achieving the data management and gathering needs required by recent legislation, and the risk of a catastrophic failure of its circa 1995 system will continue.

2. What cash fund is the department proposing to use for FY 2024-25 funding? What is the revenue source for the cash fund? Why is this cash fund not being used for the entire cost of the project?

The Stationary Sources Control Fund (SSCF) would be used for the final year of the project in FY25. Revenues come from permit fees, emission notice fees and per-ton emission fees. The Oil and Gas Industry is the largest fee payer. Other fee payers include electric generation, manufacturing, retail, landfill, agricultural, construction, mining and other entities. At this point, the SSCF is still recovering from the financial and economic impacts associated with the Covid-19 pandemic and the fund's projected financial resources are insufficient to fund the first two years of the project. Pending the ability for the Department to generate fee revenue, the SSCF can be used to fund FY25.

3. Has the department begun discussions with the Governor's Office of Information Technology regarding the potential for inclusion of this new system with the myColorado app that is mentioned on Page 8 of the request document?

The Department has had preliminary discussions with OIT on myColorado but has not formalized anything. As the system requirements are being developed, the Department will look for viable options to leverage systems between state agencies.