Fiscal Year 2013-14 Capital Construction Request

Public Health and Environment

Two Year Air Fugitives Inventory and Compliance Study

PROGRAM PLAN STATUS

2014-080

Approved Program Plan? N/A Date Approved:

PRIORITY NUMBERS

Prioritized By	Priority
DeptInst	3 of 4
OSPB	NP of 29

PRIOR APPROPRIATION AND REQUEST INFORMATION

Fund Source	Prior Approp.	FY 2013-14	FY 2014-15	Future Requests	Total Cost
CCF	$0	$567,000	$0	$0	$567,000
Total	$0	**$567,000**	$0	$0	$567,000

ITEMIZED COST INFORMATION

Cost Item	Prior Approp.	FY 2013-14	FY 2014-15	Future Requests	Total Cost
Land Acquisition	$0	$0	$0	$0	$0
Professional Services	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0
Equipment	$0	$540,000	$0	$0	$540,000
Miscellaneous	$0	$0	$0	$0	$0
Contingency	$0	$27,000	$0	$0	$27,000
Total	$0	**$567,000**	$0	$0	$567,000

PROJECT DESCRIPTION / SCOPE OF WORK

The Department of Public Health and Environment (DPHE) is requesting state funds to purchase six infrared cameras to conduct a two-year project to identify leaks of invisible pollutants emitted by oil and gas operations. The project, called an air fugitives and compliance project, will be conducted jointly with the Department of Natural Resources (DNR) in order to help ensure compliance with applicable laws while maintaining and improving the state's air quality. DPHE says these issues have become concerns with the increase in oil and gas extraction activity in Colorado.

Infrared cameras are used by environmental field compliance inspectors to take images of oil and gas operations to identify fugitive emissions, or leaks, including invisible emissions, allowing the department to audit a greater number of operations in a shorter amount of time than without the cameras. The cameras take infrared images of oil and gas operations to show where gases are leaking, in a manner similar to infrared images taken of homes during the winter to show where heat is escaping. As with residential energy efficiency assessments, the department uses the infrared images to further investigate leaks to determine the type and amount of gases involved, thus allowing the department to determine if an operation is in compliance with emission regulations. DPHE currently has one infrared camera for field inspections, which it acquired in 2012, while DNR does not have any cameras. By comparison, the department says Wyoming has five cameras. Under the project, DPHE will own the cameras, which will be loaned to DNR for use. The department anticipates the following outcomes from the two-year project:

- inspection of two-thirds of the oil and gas industry's 16,000 condensate tanks in Colorado;
- reduced fugitive emissions from leaking oil and gas equipment;

- increased compliance with emission regulations by the oil and gas industry; and
- adoption of tailored regulations to address the most pervasive emission issues identified during the project.

This capital request purchases six infrared cameras costing $90,000 each. In addition to the capital request, the project also carries an operating budget component to hire, equip, and train five temporary or contract employees for the project's two-year period to supplement DPHE's eight current oil and gas inspectors. DNR will contribute ten inspectors to the project, and will cover some of the project's associated costs. The total cost of both the capital and operating components is $1.5 million. Joint Budget Committee Staff is recommending that the Two-Year Air Fugitives and Compliance project not be funded.

PROJECT JUSTIFICATION

With increased oil and gas development in Colorado, DPHE says fugitive emissions from oil and gas equipment and associated air pollution issues are a growing concern. According to the department, traditional inspection methods are both labor intensive and time consuming, and the department's current compliance personnel are unable to inspect the growing number of oil and gas extraction facilities in a timely and efficient manner. The department says that purchasing infrared cameras for use during a two-year inspection project with a temporary increase in personnel will help to mitigate these issues, resulting in better air quality, increased compliance with emissions regulations, and more efficient oil and gas operations.

According to the department, much of Colorado's oil and gas development is taking place near Denver and along the northern Front Range, which is designated as an ozone nonattainment area for violation of federal health-based air quality standards. A geographic area is designated as a nonattainment area if certain air pollutants in the area exceed the federal threshold. For instance, the number of horizontal wells drilled in the Niobara shale formation northeast of Denver has risen from 8 in 2008 to 291 in 2012. The department says a single oil and gas operator plans to invest $1 billion in oil and gas infrastructure in Weld County during the coming year. The department further says identifying fugitive emissions from this growing stock of oil and gas infrastructure will further its mission of protecting public health and the environment.

DPHE currently has eight oil and gas inspectors on staff, each capable of inspecting about 40 wells per year. According to the department, this means that the current inspection staff is only capable of visiting each oil and gas tank every 25 years. Combined with inspection staff at the DNR's Oil and Gas Conservation Commission, the department says there are 25 inspectors in Colorado, each having oversight over about 2,000 oil and gas wells. Since natural gas is invisible, pinpointing the source of fugitive emissions is difficult using traditional equipment and inspection methods. The department says regulators and the oil and gas industry are finding success in spotting and fixing fugitive emissions sources with infrared imaging. Using infrared cameras in a concentrated two-year effort, the department estimates that it can broadly assess about two-thirds of the 16,000 oil and gas tanks in Colorado for leaks, and use the data collected to further pinpoint compliance issues.

In addition to improving air quality and public health, DPHE says the two-year project will improve industry efficiency and lead to more effective inspection processes in the future. The department says the oil and gas industry will be able to use the data culled during the two-year project to design future infrastructure that captures more gas instead of continuing to build leaking systems, resulting in not only better air quality but more efficient use of energy resources. DPHE says it will use the data to better identify common leak points, and thus tailor future inspection processes and rulemaking accordingly.

Project alternatives. The department says purchasing the cameras without hiring additional temporary field inspectors, while beneficial, would not enable it to conduct the widespread survey proposed. The department says failure to fund the project will reduce the ability of both the department and DNR to continue to implement effective rules, policies, and strategies pertaining to oil and gas operations.

PROGRAM INFORMATION

The department's mission is to protect and improve the health of Colorado's people and the quality of its environment. DPHE's Air Pollution Control Division issues permits for air emissions associated with oil and gas production, and in particular volatile organic compounds that lead to the formation of ozone. The division also has

inspection duties associated with this permitting. The department says its oil and gas permitting actions have increased approximately 30 percent from 2011 levels, and oil and gas sources now account for over 50 percent of air permitting in Colorado.

LEED CERTIFICATION INFORMATION

The project is not required to comply with the provisions of Senate Bill 07-051 regarding LEED certification because it involves the purchase of scientific equipment and does not involve the renovation, design, or construction of a physical facility.

PROJECT STATUS

This is a new project.

SOURCE OF CASH FUNDS

This project is not funded from cash sources.

STAFF QUESTIONS AND ISSUES

1. How will the equipment purchased under this request be used, or disposed of, after the project is completed in two years?

The department is already training current staff to use the department's one existing infrared camera as an additional tool to enhance the effectiveness of ongoing inspection work. After the two year intensive project to identify fugitive emissions, the additional infrared cameras will be retained and used by department inspectors to complement and expand their compliance work.

2. The request information references inspection of oil and gas operations in the Denver-Julesburg and Piceance Basins under this project. Will the scope of the project be more widespread than these areas?

The department anticipates focusing the two-year project in these areas, as this is where the vast majority of oil and gas development in Colorado is taking place. However, after the intensive survey the cameras could ultimately be used at inspections anywhere in the state.

3. Why is the Department of Natural Resources involved in the project? Does DNR currently conduct oil and gas fugitive emissions inspections?

The Department of Natural Resources houses the Oil and Gas Conservation Commission (OGCC). The OGCC permits and inspects oil and gas drilling operations and wells. DPHE permits for the subsequent air pollution emission source, and the DNR permits the actual wells. Oil and gas oversight in Colorado is thus shared between the OGCC and DPHE. Colorado law promotes collaboration among the two agencies on a variety of oil and gas issues, including odors, citizen complaints, and environmental performance. See, e.g., Section 34-60-106 (11)(a)(II), C.R.S. The OGCC is authorized to foster the responsible development of oil and gas in a manner consistent with the protection of public health, safety, and welfare, including protection of the environment and wildlife (Section 34-60-102 (1), C.R.S.). OGCC rules provide that OGCC inspectors can look at emissions issues and seek to enforce related DPHE regulations. DPHE has a complementary role in regulating oil and gas operations by focusing on air pollution from such sources. Between DPHE and OGCC, there is thus a comprehensive regulatory framework that involves close collaboration among the agencies. Because both agencies routinely inspect oil and gas sources, and some aspects of the agencies' duties and missions overlap, it is appropriate for both agencies to have access to infrared cameras for detecting leaks.

4. Has the public expressed growing concern about air quality issues associated with oil and gas development, or is the project primarily driven by the need for the state to remain in compliance with federal air quality standards?

Both of these issues factor into DPHE's requested budget amendment. The public has expressed growing concerns about air quality issues near and around oil and gas wells. Recently, this is particularly true in the Front Range, where some communities have either sought to ban oil and gas development, or to place restrictions on such development that go beyond the state's current regulatory framework. The infrared camera survey will help to address citizen concerns by ascertaining the scope of potential fugitive emissions, and identifying and fixing such leaks. Related, reducing fugitive emissions of volatile organic compounds will help support Colorado's efforts to reduce ozone concentrations along the Front Range.

5. Is there potential for a cash-funded alternative to this proposal?

The department does not currently have adequate spending authority. Also, if the department were to utilize the Stationary Sources Cash Fund for this project, then fees would need to be increased (statutorily) sooner than is currently anticipated.

OPERATING BUDGET

The department is submitting a separate operating budget request for the two-year air fugitives project for $969,918. The request covers the temporary hiring of five field inspectors, vehicle leases, equipment, and other associated costs.

PROJECT SCHEDULE

	Start Date	Completion Date
Design **Construction** **Equipment** **Occupancy**	July 2013	June 2014