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Justification Review



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Report No. 01-65

Environmental Laboratory Privatization Feasible; Cost Savings Are Uncertain

at a glance

It is feasible to privatize additional Department of Environmental Protection laboratory services. The department currently uses contract laboratories to perform some of its regular laboratory work, and anticipates increased privatization to meet the demands of the Total Maximum Daily Load Program.

The department could contract out additional routine laboratory work. Private laboratories could do most of the department laboratory's chemical analytical work, but may lack the capacity to conduct a majority of the department's biological analyses. Further, we believe it is appropriate for the department to retain some in-house capacity to provide quality assurance to ensure the quality of private laboratory analyses.

Given that the department cannot report its full cost of providing laboratory services, it is currently unclear what effect increased privatization would have on the state's cost for laboratory services.

Purpose

Section 11.513, *Florida Statutes*, directs the Office of Program Policy Analysis and Government Accountability to complete a program evaluation and justification review of each state agency that is operating under a performance-based program budget. Justification reviews assess agency performance measures and standards, evaluate agency performance, and identify policy alternatives for improving services and reducing costs, including whether a program could be administered more efficiently or effectively by another unit of government or a private entity.

This report reviews the services provided by the Department of Environmental Protection's (DEP) environmental laboratory. DEP currently uses private laboratories to provide some services and has proposed expanding its use of contract laboratory services in its Long-Range Program Plan for Fiscal Years 2001-02 through 2005-06. The department has determined that it must contract with private laboratories to accommodate the substantial workload associated with the Total Maximum Daily Load (TMDL) Program.¹

¹ A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

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In this review, we sought to assess how well current privatization efforts are working and to determine the feasibility of further privatizing the department's environmental laboratory.

Background

The department's environmental laboratory was created in 1970. It provides a range of environmental testing services, including analyses of water, air, soil, and hazardous material samples. The laboratory performed 103,641 chemical tests and 18,881 biological tests on various samples in Fiscal Year 2000-01. (See Appendix A for a detailed description of services provided by the department's laboratory.) These services support the department's efforts to protect, conserve, and restore the state's air, water, and natural resources.

The department bases many of its regulatory and resource management decisions on data produced by the laboratory. For example, the Water Resource Management Program uses tests performed by the laboratory to determine whether water is safe for ecosystem health and to identify the causes of problems in aquatic communities. The department's Waste Management Program uses tests performed by the laboratory to assess the results of Superfund and petroleum cleanup efforts. In addition, decisions on how petroleum cleanups are conducted and determinations as to when they are completed are based on laboratory analyses.

Other regulatory entities in Florida also use the laboratory's services. For example, the South Florida Water Management District contracts with the department's laboratory to perform about one-quarter of the work it outsources to outside entities. The water management district uses tests performed by the department's laboratory to evaluate whether water samples meet quality standards.

Department laboratory staff also performs other services, such as providing testimony to courts to explain laboratory analyses and

collecting field samples for various department initiatives.

Laboratory resources

The department allocated \$7.1 million and 76 positions to the environmental laboratory for Fiscal Year 2001-02. The laboratory also has 39.5 other personal services (OPS) positions, many of which are filled by biologists and chemists.

The laboratory is primarily funded through the Environmental Laboratory Trust Fund. Sources of revenue for the Environmental Laboratory Trust Fund include revenues collected from the delivery of laboratory services to external entities and transfers from various department trust funds to pay for analytical services.² Fees for DEP programs do not recover the full costs for these tests, but are solely based on the price of labor and consumables used to conduct the analyses. Revenues deposited into the trust fund are sufficient to cover laboratory expenditures.

Findings

It is feasible to privatize additional department laboratory services. Presently, the department uses contract laboratories to perform some of its regular laboratory work and DEP managers believe this is working well. The department is planning to expand its privatization efforts in order to meet the demands of the TMDL Program. We concluded that it would be feasible to expand this privatization, although the department should retain some in-house testing capacity.

² The laboratory charges fees to DEP programs and external customers for biological and chemical analyses. Fees for external customers, such as the water management districts and other federal, state, regional, and local entities, are determined by adding 25% to the cost assessed to internal clients. External clients paid the laboratory \$969,650 for testing services in Fiscal Year 2000-01.

DEP currently contracts for some laboratory services

The department currently contracts for some laboratory services. The department periodically issues a Request for Proposal to solicit responses from private laboratories for routine biological and chemical analytical support when the department's laboratory is unable to provide these tests due to emergencies (such as disasters) and temporary capacity limitations. The department also contracts for infrequently performed tests. In Fiscal Year 2000-01, the department contracted out 686 analyses (or less than 1% of its analytical workload) to private laboratories for a total cost of \$31,897.

DEP managers believe this approach works well because it allows them to provide additional testing services without expanding the laboratory's existing capacity. In emergency situations, private laboratories help analyze large volumes of samples that might otherwise expire if they are not tested quickly. In addition, using private laboratories allows DEP to obtain specialized analyses without purchasing costly equipment to provide such services in-house.

The department has proposed expanding laboratory privatization efforts. In its Long-Range Program Plan for Fiscal Years 2001-02 through 2005-06, DEP proposed converting 39 full-time laboratory staff to private contract employees who would be hired through a technical staffing agency to work in the DEP laboratory facility under the current management team.³ The department will pilot the proposal by hiring four or five contract workers to minimize the effects caused by turnover of laboratory OPS personnel.

³ While no laboratory privatization is proposed in the Long-Range Program Plan for Fiscal Years 2002-03 through 2006-07, the prior year's proposal continues to be the foundation of the long-range strategy for privatizing laboratory services. The department has proposed eliminating 13 laboratory positions in Fiscal Year 2003-04 as part of its staffing reduction plan.

DEP will use private laboratories to meet TMDL Program requirements

Increased workload resulting from implementing the Total Maximum Daily Load (TMDL) Program will cause the department to increase its privatization of laboratory services. Section 303(d) of the Clean Water Act requires states to submit lists of surface waters that do not meet applicable water quality standards to the U.S. Environmental Protection Agency (EPA). States largely ignored this requirement until 1999, when the U.S. District Court issued a consent decree ordering that TMDLs be set for polluted water bodies in Florida by 2012.

As part of this effort, the department will have to sample and test more than 700 impaired water body segments for various pollutants. The department must expand its laboratory capacity to meet requirements of this program because the laboratory does not currently have the resources to accommodate this level of testing.⁴ Thus, the laboratory will need to contract with private laboratories to meet the workload generated by the TMDL Program.

DEP managers fully expect to use private laboratory support for the duration of the TMDL implementation process. Although it may be more cost-effective to provide these services in-house over the long term, it is unlikely that the department will undertake any significant laboratory expansion given the state's current position of reducing the size of its workforce.

It is feasible to privatize more of the department's laboratory services

We concluded that it would be feasible for the department to contract with private laboratories for additional analytical services. The feasibility of outsourcing depends upon generating competition among a sufficient number of bidders willing to provide the same or better services at lower cost combined with

⁴ Estimates of the workload generated by the TMDL Program vary from 130% to 400% of the laboratory's total capacity available to the Water Resource Management Program.

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strong contract monitoring by the state.⁵ Thus, we used three criteria to determine whether it is feasible to privatize additional DEP laboratory services:

- whether private sector providers already exist that could provide laboratory services;
- whether the private providers are qualified to perform the tests presently performed by the department's laboratory; and
- whether service quality of private providers can be readily monitored.

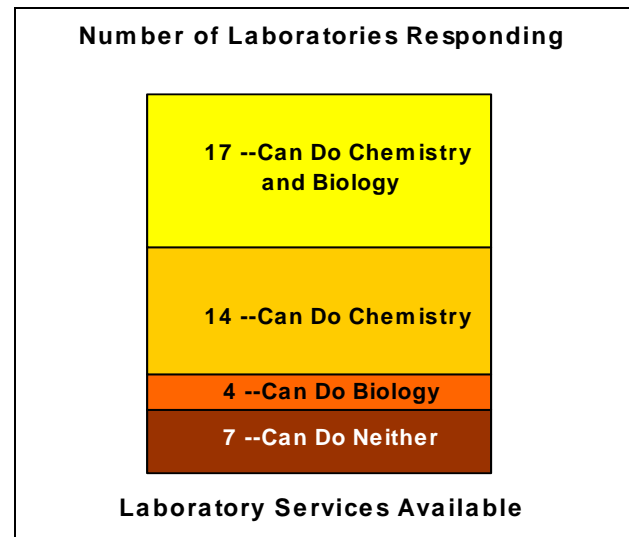
Private providers exist. The outlook for competition is good. We obtained a list of private laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP) to perform certain testing services in Florida and surveyed them to determine their ability to perform the level and types of tests conducted by the DEP laboratory.⁶

As mentioned previously, the department contracts with private laboratories to help meet the demand for specialized analytical services or to accommodate the demand for analytical services in emergency situations. The department typically selects more than one laboratory to perform its contract work. However, the number of laboratories awarded contracts depends on the services that are available from responding laboratories.

We concluded that private providers could do additional laboratory work. Private laboratories could provide most of the DEP laboratory's chemical analytical services, but only minimal biological services.⁷ Most laboratories offer only limited biological analyses due to a current low demand for this type of service. In response to our survey, representatives of 35 laboratories said that they are capable of doing some level of work

currently being done by the DEP laboratory, as shown in Exhibit 1. Yet, no private laboratory reported that it could offer the full range of laboratory services currently provided by the DEP laboratory. Therefore, the department would likely need to contract with multiple laboratories to cover the range of analyses it currently provides.

Exhibit 1 Private Laboratories Can Provide Both Chemistry and Biology Tests



Note: Laboratories reporting that they are able to provide both chemistry and biology analytical services can do most chemistry analyses, but offer limited biology analyses.

Source: OPPAGA Survey of Private Environmental Laboratories.

Private laboratories are qualified to conduct department laboratory work. We concluded that private laboratories could generally meet quality standards, as all laboratories we contacted are currently certified under NELAP to perform testing services in Florida.⁸ A primary intent of NELAP is to foster the generation of environmental laboratory data of known and acceptable quality for use in public health and environmental management decision making. In order to be accredited, laboratories have to demonstrate that they possess the staff, equipment, and other

⁵ *Feasibility of Outsourcing Florida's Statewide Retirement Systems, Report No. 01-12*, February 2001.

⁶ In our initial survey, we contacted 86 laboratories, and 42 provided complete responses. We conducted a follow-up survey to collect in-depth information from 17 laboratories.

⁷ Most laboratories responding to our follow-up survey reported that they could provide data interpretation services as well.

⁸ As of September 2001, 139 laboratories are certified under NELAP to perform environmental testing services in Florida. The Department of Health serves as the state's accrediting authority.

qualifications to perform testing services in support of several environmental regulatory programs, including the Resource Conservation and Recovery Act, Clean Air Act, Clean Water Act, Safe Drinking Water Act, and Comprehensive Environmental Response Compensation and Liability Act.⁹

Further, nearly all of the laboratories we contacted in our survey are well established. Many have been in operation for 15 years or more and have provided laboratory services to numerous local, state, and federal entities. Some of these laboratories are among the largest in the environmental laboratory industry. As shown in Exhibit 2, a ranking of environmental laboratories lists 12 of the companies accredited to work in Florida as being among the nation's top 25 environmental laboratories.¹⁰

**Exhibit 2
Laboratories Capable of Performing Testing Services in Florida Are Nationally Ranked**

| Rank | Company Name | Annual Revenues (Millions) | Number of Employees |
|--------------|-----------------------|----------------------------|---------------------|
| 1 | STL | \$210.0 | 1,850 |
| 3 | TestAmerica | 41.8 | 379 |
| 4 | Pace Analytical | 38.0 | 450 |
| 5 | Columbia Analytical | 31.7 | 360 |
| 7 | Accutest Laboratories | 30.0 | 245 |
| 8 | Lancaster Labs | 26.3 | 270 |
| 11 | General Engineering | 15.0 | Not Reported |
| 14 | Southwest Labs of OK | 13.0 | 180 |
| 17 | SPL | 11.0 | Not Reported |
| 18 | Montgomery Watson | 9.8 | 77 |
| 23 | ELAB | 7.3 | Not Reported |
| 24 | EHL | 7.2 | Not Reported |
| Total | | \$441.1 | > 3,811 |

Source: Environmental Laboratory Washington Report, Bonus Report, *The ELWR/Maxwell 2001 Top 20 Survey and Analysis*, 2001.

Private laboratories can meet performance standards. An important factor in awarding business to private laboratories is whether they can meet performance standards for measures

⁹ For many of the laboratories we contacted, professionals who possess degrees in biology, chemistry, and other science disciplines make up more than half of their staffs.

¹⁰ The Environmental Laboratory Washington Report ranks laboratories based on annual revenues generated.

of service quality. Two key measures of laboratory performance are turnaround time and detection limits.¹¹

Private laboratories could meet the department's turnaround time standards. Most private laboratory representatives reported that they are able to do analytical work within needed time frames. For example, turnaround times reported for nutrient chemical analyses ranged from 10 to 21 days. These time periods are comparable to those of the DEP laboratory, which offers its customers the ability to select target turnaround times ranging from 7 to 28 days. To meet faster turnaround times, private laboratories would likely assess an additional cost.

Private laboratories also generally could meet the department's detection limit requirements utilizing specified analytical methods.¹² For chemical analyses, many laboratories generally met the department's detection limit requirements.¹³ However, some laboratories reported that they could not meet the department's requirements to detect substances at specified levels. DEP managers note that equipment upgrades could improve a laboratory's ability to meet its sensitivity requirements.

Effect of privatization on costs unclear. The costs of DEP and private laboratory work cannot be reliably compared. We obtained pricing information from the department and private laboratories for a sample of biological and chemical analyses to compare the cost of providing analytical services. However, we were unable to compare these costs to the department's in-house costs because the

¹¹ Turnaround time is the length of time it takes a laboratory to do the routine testing and return the results. In order for the results of analytical tests to be useful, the turnaround time must be as short as possible.

¹² Detection limits are the lowest concentration of a contaminant that can be reliably detected, and are important because the presence or absence of a contaminant may be the critical information desired from an analysis.

¹³ Detection limits vary among different types of chemical analyses and are specific to the substance being measured. For example, the department requires phosphorous to be measured at 4 ug/L (parts per billion).

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department's pricing information does not include overhead costs, such as electricity and other building expenses. Unfortunately, many state agencies do not know the costs of in-house services because their accounting systems do not allocate all direct and indirect (overhead) costs to services.¹⁴ Private laboratories also quoted prices that exclude the cost of performing quality control activities required for DEP laboratory analyses and expert testimony costs.¹⁵ Thus, the cost-effectiveness of privatizing laboratory services can be determined only when private laboratories submit price bids that can be compared to the DEP laboratory's full costs. (See Appendix B for private laboratory price quotes.)

Other governments use private laboratories; service quality monitoring is critical

Privatization works well for the limited services DEP currently contracts to private laboratories. The federal government and other states reported that their privatization efforts have generally worked well, but noted that quality control monitoring is essential.

The U.S. EPA and other states contract with private laboratories for similar types of services.¹⁶ States that currently contract with private laboratories primarily use them to provide specialized services that are not available in-house. EPA uses private laboratories to support regulatory programs, including Superfund, the Resource Conservation and Recovery Act, the Clean Air Act, and the Clean Water Act. None of the federal and state representatives we contacted indicated that they have fully privatized their laboratories.

The EPA and other states cited benefits as well as cautions with laboratory privatization. Representatives from EPA and other states told us that privatization has enabled them to increase laboratory capacity without having to purchase additional equipment and hire more staff to accommodate the demand for certain tests. However, federal and state laboratory officials cited cautions with the potential for private laboratories to falsify laboratory data. For example, the EPA found evidence of fraudulent laboratory activities at nine federal facility Superfund sites that resulted in \$11 million being spent on rejected analyses, resampling, and associated costs and cleanup delays of up to two years.

Federal officials indicated that having strong quality assurance processes in place to ensure that data are verifiable and defensible could control fraudulent laboratory activities. The EPA reports that establishing clear data quality objectives and having adequate quality assurance project plans in place will help to prevent and detect inappropriate data.¹⁷

Thus, we believe it would be important for the department to retain some in-house laboratory capacity. This would enable the department to conduct in-house tests to validate data submitted by private laboratories to ensure integrity. It would also be vital for the department to retain some level of staffing to perform quality control tests such as reviewing data documentation, including raw data, instrument printouts, chain of custody records, and instrument calibration logs. The department should also have the ability to perform on-site audits of private laboratories and evaluate laboratory performance through performance studies and "round robins"

¹⁴ *Assessing Privatization in State Agency Programs*, Report No. 98-64, February 1999.

¹⁵ Most laboratories would charge the DEP on an hourly basis to provide expert testimony.

¹⁶ We contacted laboratory officials in 6 of 10 regional labs and representatives of environmental agencies in Alabama, Colorado, Louisiana, North Carolina, and Wisconsin.

¹⁷ Data quality objectives define how data will be used, and establish corresponding quality objectives before data is collected, thereby resulting in a defensible decision-making process. Quality assurance project plans are blueprints for ensuring that laboratory analyses produce data of appropriate quality and quantity for decision making and include the quality assurance activities necessary to achieve data quality objectives.

to identify data problems.¹⁸ Such quality assurance activities will help prevent and detect data quality problems.

Conclusions and Recommendations

It is feasible to privatize additional department laboratory services. Qualified private laboratories exist that provide many of the services provided by the DEP laboratory, and these laboratories appear to be able to meet the department's performance requirements. However, it would be important for the department to retain in-house capacity to monitor the work of private laboratories. Due to inadequate unit cost data for the DEP laboratory, the cost-effectiveness of privatizing laboratory services can be determined only when private laboratories submit price bids that can be compared to the DEP laboratory's full costs.

If the Legislature decides to outsource more of the department's regular laboratory work, the department should take the following steps:

1. identify the services to be outsourced;
2. identify state costs for these services;
3. identify desired performance levels for the services;
4. issue a request for information (RFI);
5. review the RFI responses;
6. issue a request for proposal (RFP);
7. assess the RFP responses;
8. establish a strong contract oversight mechanism; and
9. contract with a single or multiple vendors.

¹⁸ Performance studies help assess the proficiency of environmental laboratories in testing samples and help ensure high quality environmental laboratory performance. In "round robins," participating laboratories receive homogenous samples to assess the comparability of data generated by different facilities. DEP uses round robin results to identify and assist poorly performing laboratories in resolving their analytical problems.

Step 1: Identify services to be outsourced

The department should first identify the laboratory services to be outsourced. As shown in Appendix A, the bureau's major responsibilities include chemical and biological laboratory analysis, technical consulting, quality assurance, methods development, and field sampling.

We determined that it is feasible to contract out some chemistry and biology laboratory services. However, some services, such as quality assurance, should remain with the department because it is an important aspect of the contract management process and ensures that DEP has some control over the quality of the data being reported by private laboratories.

If the department finds that it is not maximizing use of its equipment after privatization occurs, it should consider allowing a contract laboratory to operate out of the DEP laboratory and DEP could sell or lease the space and equipment to one or more contractors.

Step 2: Identify state costs for services

The department should determine the state's full costs for laboratory services that it is currently providing and wishes to privatize. At this time, the department is unable to determine its complete cost for analytical services that includes electricity and other overhead expenses. This information will be needed to evaluate bid responses and make decisions on whether to proceed with outsourcing.

In evaluating the state's costs, the department also should develop estimates of its cost for monitoring contractors. The department also should assess whether any other indirect state costs would be incurred by contracting for laboratory services. Indirect state costs and monitoring costs should be added to the bids of private vendors when comparing the cost of privatized services to the cost of state-run services.

Step 3: Identify desired performance levels for services

The department should establish performance measures and standards to evaluate contractor performance. This information should be incorporated into the bidding process and the department's contract with one or more laboratories. For example, measures will be needed to assess the quality of the services being privatized, such as timeliness and accuracy rates.

Step 4: Issue a Request for Information

The purpose of the Request for Information (RFI) is to identify which private sector companies are interested in providing laboratory services, which services they would be able to provide, what information needs to be included in a Request for Proposal, and what assistance the state would need to provide to ensure a smooth transition. We collected much of this information from private laboratories. However, further analysis of vendors is needed as our analysis was based on non-binding responses.

The RFI should include, but not be limited to, the elements listed below.

- **A list and description of the specific services within the department laboratory that are available for bidding.** Our assessment is that most chemical analytical services can be outsourced. The RFI should clearly describe the processes involved in the provision of these analytical services. For example, the department has procedures for laboratory activities ranging from sampling and analytical techniques to data validation and reporting. The RFI can describe the DEP laboratory's standard operating procedures for these activities.
- **Identification of the number of samples involved in the provision of each service.** For example, the RFI should identify the number of samples typically analyzed each year. This will help ensure that private laboratories responding to the RFI have a

realistic understanding of the scope of services expected.

- **A discussion of future trends that might occur in the provision of laboratory services, such as additional services needed due to new regulatory requirements.**
- **Specification as to whether laboratories would be expected to make changes to their information systems to accommodate the department's quality control, data management, and data reporting processes.**

Respondents to the RFI should be required to provide, at a minimum, the information listed below.

- **A description of the specific services they could provide, specifying whether they could provide some or all of the services.**
- **An indication of the information that needs to be included in a Request for Proposal so that laboratories can make cost estimates.** This would assist the department in developing a better RFP. For example, laboratories might need more detailed information about the types of analyses to be privatized and associated performance specifications.
- **A description of any assistance the state would need to provide to ensure a smooth transition from state-run services to privatized services.**

During the RFI process, the department should schedule a Pre-Proposal Conference at which potential bidders could ask questions and discuss issues concerning information in the RFI. The results of this conference may prove valuable in developing a more effective Request for Proposal.

Step 5: Review RFI responses

Once the department receives the RFI responses, it should review and assess them to determine private sector capacity, potential state costs, and how to best word the Request for Proposal.

Department staff should review the RFI responses to identify private companies that can provide laboratory services. In our preliminary assessment, we identified 35 private laboratories as potential providers of analytical services.

The department should use the information obtained from the RFI responses to refine estimates of the department's costs for monitoring future contracts and any other state costs. For example, we learned from our assessment that it is unlikely that a single laboratory could provide all the biology and chemistry laboratory services that could be privatized. Thus, the department might need to estimate monitoring costs for multiple laboratories.¹⁹

Step 6: Issue a Request for Proposal

The next step is to develop a formal Request for Proposal (RFP). The RFP should allow vendors to bid on providing all or just some of the DEP laboratory's services. DEP should develop and issue the RFP within 90 days of assessing RFI responses, and should then require responses to the RFP within 60 days.

The department should use a managed competition approach in which the department's laboratory is allowed to bid on performing the services specified in the RFP.²⁰ As noted previously, the department anticipates contracting with private laboratories in order to handle the level of work associated with developing TMDLs. However, if the department decides to contract out its regular work, its laboratory should be allowed to compete to provide services. The bureau's bid should be evaluated in the same manner as that of other vendors. The laboratory's proposal would allow the department to better compare public and

private sector costs for these services. Thus, it is important that DEP determine the true cost of providing laboratory services.

The RFP should include, but not be limited to, the elements listed below.

- **A list and description of the specific laboratory services within the bureau that are up for bidding.**
- **Detailed information on the volume and seasonality of samples involved in the provision of laboratory services.**
- **The type and quantity of additional laboratory services the department wishes to implement.**
- **The performance measures upon which the eventual contractor(s) will be evaluated.** The department should set performance level expectations for contracted services. The RFP should specify that the department plans to establish a performance-based contract with the winning bidder.
- **Specification as to what changes private laboratories would be expected to make to their information systems to accommodate the department's quality control, data management, and data reporting processes.**
- **A procurement timetable that sets forth dates for submission of laboratories' proposals and approval of bids.**
- **The criteria the department will use to evaluate laboratories' proposals.**
- **A declaration that the department may unbundle proposals or select multiple laboratories if no single laboratory can demonstrate capacity to perform all services.**

Respondents to the Request for Proposal should be required to provide, at a minimum, the information listed below.

- **A demonstration of the laboratory's financial soundness, such as audited financial statements for the last five years.** We identified 12 laboratories certified to do environmental work in Florida that are

¹⁹ DEP laboratory officials note that parsing out laboratory work from individual field sampling events to multiple laboratories will substantially complicate and increase the cost of sample collection, data validation, and the generation of project data reports.

²⁰ The Fiscal Year 2002-03 through 2005-06 Long-Range Program Plan instructions allow current state workers to bid to provide laboratory services.

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ranked among the top 25 environmental laboratories in the nation.

- **A description of the laboratory's prior experience, with emphasis on the laboratory's experience in government.** Many of the laboratories we contacted have provided laboratory services to other state departments and many conduct analytical services in support of a variety of federal regulatory programs.
- **A description of the specific services the vendor is proposing to administer.** Also, the vendor needs to specify which services it plans to sub-contract, if applicable. Some representatives of the laboratories we contacted indicated that they work closely with other laboratories to which they could subcontract laboratory work.
- **Detailed information on the prices the vendor will charge for services, including any start-up costs.** The department should require a uniform pricing format, such as cost per analysis, to aid in comparing bids.
- **Information on the number of full-time equivalent employees who will be devoted to providing laboratory services.** Laboratories we contacted had staffs ranging from 5 to 605. Some laboratory representatives told us that they would have to hire additional staff to accommodate the level of work performed by the DEP laboratory.
- **Any plans for hiring current division employees.** Laboratory representatives indicated that, in the event that they were to relocate to Tallahassee to provide laboratory services at the DEP laboratory complex, they would consider hiring current DEP workers.
- **An estimate of the time needed for transition and start-up.**

Step 7: Assess RFP responses

Department staff should assess the private laboratories' and the DEP laboratory's bids based on the RFP criteria, such as cost, capacity, and experience of the bidder. Using the cost data developed prior to and during the RFI process, the department should strive to evaluate the full costs of each proposal, including any state monitoring costs or other indirect state costs for each bidder.

After analyzing the bids, department managers should determine whether to privatize one or more of the department's laboratory's services. Department managers should also decide whether to outsource to one or more than one provider. For example, some laboratories could perform certain analytical services cheaper than other laboratories. Thus, department managers should evaluate whether these analyses can be separated from other analyses without diminishing the quality of service and accountability.

Step 8: Establish a strong contract oversight mechanism

If the department decides to contract with one or more private laboratories, it is crucial that it establish a strong oversight mechanism as part of the contracting process. This will help ensure that the state continues to receive high quality data upon which to base environmental decisions. As stated earlier, the department should continue its quality assurance efforts to ensure that analytical results are verified for accuracy.

Department managers should develop a performance-based contract that stipulates how they will review the laboratory's performance. First, the contract should specify how performance will be reported and establish a mechanism for accountability. For example, the department should be allowed sufficient access to records to enable a

verification of performance reported by the vendor. DEP's quality assurance staff regularly review laboratory performance through laboratory audits and round robins. Second, the contract should clearly state the timeframes for monitoring, such as a quarterly assessment of performance. Third, the contract should list the performance measures and standards upon which the quality of services will be evaluated.

A final aspect of a strong oversight mechanism is to stipulate penalties in the contract for failure to meet performance expectations. The contract should include levels of sanctions for poor performance. For instance, the department may initially deal with laboratory performance problems by requiring the laboratory to submit an improvement plan to address deficiencies. However, the contract should stipulate that payment will be withheld if the laboratory continues to fall short of expectations. The contract should also include provisions for contract cancellation if the vendor continues to fail to meet performance standards.

Step 9: Contract with a vendor(s)

Once department managers have selected one or more laboratories, the final stage of the process involves issuing the performance-based contract. If the department selects a private vendor(s), then department managers must also establish the timeframe for how and when the transition of services will occur. Priority should be placed on a transition plan that causes the least amount of disruption to the collection and analysis of important environmental data.

Agency Response —————

The Deputy Secretary of the Department of Environmental Protection provided a written response to our preliminary and tentative findings and recommendations. The Deputy Secretary's written response is reprinted herein beginning on page 14.

Appendix A

Laboratory Services Go Beyond Routine Analytical Work

| | |
|---------------------------------------|---|
| Chemical Laboratory Analyses | In the chemistry laboratory, staff measures substances that cause disturbances to ecosystems. Chemists perform a number of types of analyses, including pesticides and herbicides, organic priority pollutants, metals, and nutrients. Staff performs these analyses to look for an array of chemical constituents in water, soil, sediment, waste, and tissue samples to determine the sources of environmental contamination. |
| Biological Laboratory Analyses | The laboratory's biology section studies the effects of man-made disturbances on the state's aquatic systems. Biological analyses fall into four categories: algal biology, invertebrate zoology, microbiology and bench biology, and toxicology. Biologists perform these types of analyses on water, sediment, bug, and plant samples to determine the relative health of biological communities. |
| Technical Consulting | In addition to the analyses they perform, laboratory staff provides technical assistance to the department and other entities in the environmental community. The laboratory's technical personnel are often required to provide testimony to the court to explain laboratory analyses. Staff provided expert testimony in depositions, hearings, and trials approximately 20 times during Fiscal Year 2000-01 and received subpoenas to testify in a number of additional cases that settled before hearing. In addition, staff provides data management support and assist department programs in the statistical and narrative interpretation of environmental data. Staff also helps design scientific studies, develops standardized reports, conducts risk assessment reviews of aquatic communities adjacent to hazardous waste sites, assists in rule development, and provides contract management services. |
| Quality Assurance | The laboratory's environmental assessment section manages the department's quality assurance program that ensures environmental data is correct. The staff develops and maintains the department's quality assurance rule, reviews quality assurance plans, conducts field, laboratory, and data audits, develops standard operating procedures for sample collection and laboratory work, conducts round robins to compare laboratory results, and provides consumer education. |
| Methods Development | Since much of the work the laboratory supports is directed toward ambient monitoring or other research-oriented activities, standard regulatory methods lack the sensitivity and specificity or throughput necessary to satisfy the department's scientific requirements. Thus, laboratory staff must significantly modify standard methods or develop alternative methods to help the department adequately address problems that are unique to Florida's ecosystems. |
| Field Sampling | Sampling is the way the laboratory collects the material it needs to test. The laboratory does field sampling for various department initiatives, including TMDL studies. Staff collects samples and takes them back to the laboratory for analysis. The laboratory also receives samples that are collected by other entities that wish to utilize the department's analytical services. |

Source: Florida Department of Environmental Protection, Bureau of Laboratory Services.

Appendix B

Private Laboratory Costs Vary Significantly for Some Analyses

| | DEP Samples (Per Year) | Private Laboratory Cost Estimates (Per Sample) | | | |
|-------------------------------------|---|---|-----------|-----------|-----------|
| | | Low | Median | High | |
| Biology | <i>Invertebrate Taxonomy</i> | | | | |
| | Freshwater macro invertebrates collected by a 20-dipnet sweep composites from a stream or river | 227 | \$ 300.00 | \$ 500.00 | \$ 700.00 |
| | Estuarine/marine macro invertebrates from a sample collected in one Young-modified VanVeen drop in an unknown substrate | 178 | 300.00 | 500.00 | 700.00 |
| | <i>Algal Taxonomy</i> | | | | |
| | Number of Diatom Taxa of quantitative Everglades Periphyton sample w/speciation and cell counts | 262 | 150.00 | 200.00 | 250.00 |
| | Number of wet taxa of quantitative Everglades Periphyton sample w/speciation and cell counts | 262 | 150.00 | 200.00 | 250.00 |
| | Number of diatom taxa of quantitative Phytoplankton sample | 649 | 150.00 | 200.00 | 250.00 |
| | Number of wet taxa of quantitative Phytoplankton sample | 649 | 150.00 | 200.00 | 250.00 |
| | <i>Toxicity Bioassays</i> | | | | |
| | <i>Cyprinella Leedsii</i> , acute screen | 52 | 225.00 | 250.00 | 516.00 |
| | <i>Ceriodaphnia Dubia</i> , chronic screen | 23 | 250.00 | 507.00 | 900.00 |
| | Selenastrum Capricornutum, chronic screen | 20 | 250.00 | 536.00 | 822.00 |
| | <i>Arbacia Punctulata</i> , chronic screen | NA | 250.00 | 500.00 | 750.00 |
| | <i>Algal Growth Bioassays</i> | | | | |
| | Algal growth potential | 975 | 150.00 | 775.00 | 1,400.00 |
| | Algal growth potential limiting nutrient(s) | 128 | 150.00 | 900.00 | 1,650.00 |
| | <i>Bench Biology</i> | | | | |
| | Chlorophyll-a, monochromatic, with Phaeophytin (Phytoplankton) | 2,702 | 14.00 | 25.00 | 25.00 |
| | Sediment grain size (Coulter LS 230 laser method – % volume) | 407 | 200.00 | NA | NA |
| | <i>Microbiology</i> | | | | |
| Enterococcus by membrane filter | 2,546 | 18.00 | 25.00 | 30.00 | |
| Escherichia coli by membrane filter | 2,457 | 15.00 | 22.50 | 30.00 | |
| Chemistry ¹ | Nutrients In Water – Phosphorous | 13,959 | \$ 18.00 | \$ 25.00 | \$ 35.00 |
| | Selected Metals in Water and Waste | 1,345 | 102.00 | 221.50 | 850.00 |
| | Metals in Water—Mercury | 1,056 | 25.00 | 40.00 | 55.00 |
| | Selected Semi-Volatile Organic Compounds in Water | 1,155 | 225.00 | 310.00 | 550.00 |
| | Selected Volatile Organic Compounds in Water | 1,462 | 100.00 | 160.00 | 192.50 |
| | Volatile Organic Compounds in Water—Acrolein and Acrylonitrile | 10 | 65.00 | 125.00 | 190.00 |
| | Selected Chlorinated Pesticides in Water | 1,236 | 120.00 | 160.00 | 300.00 |
| | Selected Nitrogen and Phosphorous Pesticides in Water | 1,485 | 120.00 | 120.00 | 140.00 |
| | Other Selected Pesticide Compounds and Environmental Tracers in Water | 405 | 160.00 | NA | NA |

¹ The chemistry analyses listed, and the total samples per year, are only a sample of what the DEP laboratory does. Of the analyses groups listed, some include numerous constituents that the DEP laboratory would test for.

Source: OPPAGA analysis of private laboratory survey data and Department of Environmental Protection.

Appendix C



Jeb Bush
Governor

Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

David B. Struhs
Secretary

December 18, 2001

Mr. John Turcotte, Director
Office of Program Policy Analysis and Government Accountability
The Florida Legislature
111 West Madison Street, Room 312
Tallahassee, Florida 32399-3804

Dear Mr. Turcotte:

Thank you for the opportunity to respond to the recent Office of Program Policy Analysis and Government Accountability (OPPAGA) justification review, *Environmental Laboratory Privatization Feasible; Cost Savings Are Uncertain*. We agree with the major findings of the review, and also offer for your consideration our view of the Laboratory's mission, critical measures of laboratory performance and cost comparison of laboratory services that are relevant to your evaluation.

Mission

Most environmental data in Florida is generated by the regulated community in response to environmental permitting requirements. Laboratory support for these activities is generally provided by in-house laboratories of larger organizations or, more often, by commercial laboratories. The DEP Bureau of Laboratories does not compete with commercial laboratories for this work.

The laboratory has historically directed its resources toward critical needs that DEP programs have otherwise been unable to satisfy. These include:

1. **Scientific services that are unavailable from other sources.** Examples include support for ultra low-level mercury and pesticide analyses, invertebrate and algal taxonomy, and the specialized limiting-nutrient assays we perform. These analyses are not readily available from other sources in Florida, but are critical to DEP program activities.
2. **Technical and scientific support for activities where the Department has a vested interest in controlling all aspects of field and laboratory work.** The most obvious examples include civil and criminal enforcement investigations. We have found that reliance on contract laboratories to support criminal investigations can produce undesirable conflicts of interest, because many times private laboratory personnel are subpoenaed to testify on the Department's behalf concerning enforcement cases that may involve their firm's largest clients. Additionally, our law enforcement staff are most comfortable in pursuing criminal convictions based upon the work of our own laboratory, where data quality can be better assessed and controlled than at contract laboratories.
3. **Support for activities where the Department is performing a quality control assessment of work performed by commercial laboratories.** Examples of these activities include our 3rd and 5th year inspections of domestic and industrial discharges into the surface waters of the state. Such studies verify the monitoring data supplied by the regulated entities and assess their impact on specific receiving waters during a five-year permit cycle. Reliance on contract laboratories to support this work may place us in the position of utilizing a private laboratory to verify their own analyses.

"More Protection, Less Process"

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Mr. John Turcotte, Director
December 18, 2001
Page Two

4. **Analysis of effects or trends that are smaller than the inter-laboratory variability for samples done commercial laboratories.** Long-term monitoring of water quality in Florida is a good example. Through actual experience, our scientists found that several years of previous contract laboratory data were unusable and support for this program was brought in-house, where it has operated successfully since 1990.

Critical measures of laboratory performance

The DEP Bureau of Laboratories has a reputation that is unsurpassed for providing high quality and reliable data and for assisting in the interpretation of that data. We believe that method detection limits and turnaround times are important measures of laboratory performance, as well as accuracy and precision of the information that is collected. Increasingly program managers are required to use monitoring data to assess overall environmental health, and to use such data to measure compliance. As a result, we are examining new strategies that we hope will ensure higher quality data from private laboratory sources.

This is especially critical since we anticipate expanded needs as a result of the Total Maximum Daily Load (TMDL) program. Environmental measurements will be vital elements in establishing pollution limits for Florida's waters. We will be looking to the private sector to provide additional capacity, rather than expand our lab, and intend to require our contract laboratories to implement the same data quality assessment protocols performed on data generated in-house. At the same time, we must retain adequate in-house laboratory capacity to support contract management as well as critical mission assignments.

Cost Comparison

You noted correctly that we could not accurately determine comprehensive in-house laboratory support costs at the time the report was compiled. Laboratory staff, in conjunction with our Inspector General's Office, has since developed an activity based costing framework. Preliminary results indicate that our costs for providing in-house laboratory support are likely to be significantly cheaper than the private sector for comparable services.

In closing, the remarkable and tragic events of the last few months have highlighted how important a resource Florida has in the DEP Bureau of Laboratories. When fear and uncertainty regarding Anthrax and other suspected toxins was greatest federal, state and local law enforcement agencies turned to our lab for emergency services they could trust. Staff worked many hours making sure Florida's public health and environment were protected by analyzing emergency samples while still managing to handle regular assessment workloads.

The response to these requests has shown the critical value of having high-quality laboratory support available within our agency. While we continue in our efforts to increase efficiency and make creative use of outsourcing, we must also ensure that we retain agency expertise vital to the protection of environmental and human health in Florida.

Sincerely,

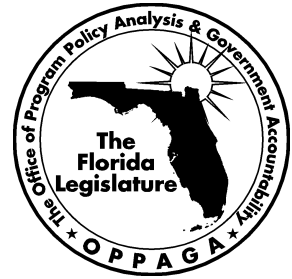
/s/

Lisa Polak Edgar
Deputy Secretary for
Planning and Management

LPE/ecb

The Florida Legislature

Office of Program Policy Analysis and Government Accountability



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John W. Turcotte, OPPAGA Director