

Preliminary Evaluation of the State Board for Professional Engineers

Recommendations: Waive from Full Evaluation

Extend Termination Date by 10 Years to July 1, 2023

Require Follow-up Report by October 1, 2012

The Sunset Review Process

This evaluation was undertaken under the auspices of the Maryland Program Evaluation Act (§ 8-401 *et seq.* of the State Government Article), which establishes a process better known as “sunset review” because most of the agencies subject to review are also subject to termination. Since 1978, the Department of Legislative Services (DLS) has evaluated about 70 State agencies according to a rotating statutory schedule as part of sunset review. The review process begins with a preliminary evaluation conducted on behalf of the Legislative Policy Committee (LPC). Based on the preliminary evaluation, LPC decides whether to waive an agency from further (or full) evaluation. If waived, legislation to reauthorize the agency typically is enacted. Otherwise, a full evaluation typically is undertaken the following year.

The State Board for Professional Engineers last underwent a full evaluation as part of sunset review in 1991. DLS conducted a preliminary evaluation of the board in 2000, which found that it was successfully fulfilling its statutory responsibilities and recommended a waiver from full evaluation. Chapter 73 of 2001 extended the board’s termination date by 10 years to July 1, 2013.

In conducting this preliminary evaluation, DLS staff reviewed applicable State law and regulations; recent legislative and regulatory actions; prior preliminary and full sunset reviews; annual reports submitted by the Department of Labor, Licensing, and Regulation (DLLR) related to the State Occupational and Professional Licensing Design Boards’ Fund; and other information provided by the board regarding revenues, expenditures, examinations, licensing, complaints, and disciplinary actions. DLS staff met with the chairman of the board, board administrative staff, and a representative of the Maryland Society of Professional Engineers. In addition, DLS staff attended a board meeting and conducted phone interviews with an assistant Attorney General at DLLR and the Deputy Commissioner of DLLR’s Division of Occupational and Professional Licensing.

The board reviewed a draft of this preliminary evaluation and provided the written comments attached at the end of this document as **Appendix 2**. Appropriate factual corrections and clarifications have been made throughout the document; therefore, references in board comments may not reflect the final version of the report.

The Practice of Engineering

The concept of engineering has existed since ancient times, as humans devised fundamental inventions such as the pulley, lever, and wheel. Today, engineering is the discipline, art, and profession of acquiring and applying technical, scientific, and mathematical knowledge to design and implement materials, structures, machines, devices, systems, and processes that safely realize a desired objective or invention. The broad discipline of engineering encompasses a range of more specialized sub-disciplines, including:

- Aerospace Engineering – the design and construction of aircraft and spacecraft;
- Chemical Engineering – converting raw materials or chemicals into more valuable forms;
- Civil Engineering – the design and construction of public and private works, such as infrastructure, bridges, and buildings;
- Electrical Engineering – the design, study, and application of electricity, electronics, and electromagnetism; and
- Mechanical Engineering – the design of physical or mechanical systems.

Maryland law defines the practice of engineering as “... any service or creative work the performance of which requires education, training, and experience in the application of: (i) special knowledge of the mathematical, physical, and engineering sciences; and (ii) the principles and methods of engineering analysis and design.” The statutory definition of engineering practice also includes consultation, design, evaluation, inspection of construction to ensure compliance with specifications and drawings, investigation, planning, and design coordination of buildings or other structures, machines, equipment, processes, works, systems, projects, or public or private utilities. Maryland law grants several exceptions that allow unlicensed individuals to practice engineering. Included among these is the performance of specified duties by officers or employees of federal government agencies, public utilities, and corporations. In addition, employees or subordinates under the responsible charge of a licensed professional engineer or other authorized individual are exempted.

Regulation of Engineering

A century ago, anyone could work as an engineer without proof of competency. In order to protect the public health, safety, and welfare, the first engineering license was established in 1907 in Wyoming. Now every state regulates the practice of engineering to ensure public safety by granting only professional engineers the authority to sign and seal engineering plans and offer their services to the public.

The National Council of Examiners for Engineering and Surveying (NCEES) is a national, nonprofit organization dedicated to advancing professional licensure for engineers and surveyors. It develops, scores, and, in some states, administers the examinations used for engineering and surveying licensure in the United States. It also facilitates professional mobility and promotes uniformity of U.S. licensure processes through services for its member licensing boards and licensees. NCEES services currently include a records program that assists licensees seeking reciprocal licensure in other states or territories, a registered continuing education program that helps link licensed engineers with qualified continuing education providers, and a credentials evaluation service for licensure candidates who completed degrees in foreign countries or whose degrees come from unaccredited programs. NCEES members are the engineering and surveying licensure boards from all 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

The State Board for Professional Engineers

In Maryland, the practice of engineering is regulated by the State Board for Professional Engineers. In 1939, the General Assembly established the State Board of Registration for Professional Engineers and Land Surveyors. The board's licensing functions for engineers reorganized as the State Board of Registration for Professional Engineers in 1977. The board received its present name in 1989. The board currently operates as part of the Division of Occupational and Professional Licensing within DLLR. The board is one of five "design boards" under DLLR's purview.¹

The board regulates the practice of engineering to safeguard life, health, and property and to promote public welfare and has authority over a variety of disciplines collectively known as engineering.

The major functions of the board include determining whether applicants qualify for licenses and certificates, issuing licenses and certificates, administering examinations, investigating complaints about professional engineers, and enforcing the Maryland Professional Engineers Act (Title 14 of the Business Occupations and Professions Article). To fulfill its various responsibilities, the board has established a standing complaint committee and convenes

¹The five design boards include the State Board of Architects, State Board of Certified Interior Designers, State Board of Examiners of Landscape Architects, State Board for Professional Engineers, and State Board for Professional Land Surveyors.

other committees as needed. The complaint committee reviews all complaints and makes recommendations to the full board on the disposition of each matter. A continuing education committee composed of board members and outside experts was formed in July 2010 to help develop regulations to implement Chapter 124 of 2010, which requires licensed professional engineers to demonstrate continuing professional competency as a condition of license renewal. In the recent past, board members also served on a committee for the five design boards that addressed overlapping practice issues.

The board consists of seven members: five professional engineers, representing four different engineering disciplines, and two consumers. The engineering disciplines represented are chemical, mechanical, electrical, and civil. As civil engineering is most common in Maryland, two of the five professional engineer members are civil engineers. All professional members must hold a current license and have practiced engineering for at least 12 years. Five of those years must include responsible charge of engineering work. Board members serve staggered, five-year terms. Nominations for a vacant professional seat are submitted by specified professional engineering societies, but the Governor is not bound by these nominations. Consumer members may be anyone who does not have a financial or vocational tie to the engineering profession. Over the past 10 years, board members have been appointed in a timely manner and there have been no apparent problems with achieving a quorum for meetings, even though board meetings occur on a monthly basis.

Due to its size, the board has a large number of staff available to it when compared to the other design boards. The board has six permanent and three contractual staff members. All but one of these positions, which include an executive director, assistant executive director, investigator, office secretary, outreach/communication coordinator (which recently became vacant), and examination coordinator, are shared among the five design boards. The board receives legal assistance from the Office of the Attorney General and clerical and licensing assistance from the central staff of the Division of Occupational and Professional Licensing. Though staffing is shared, it currently appears sufficient to meet the administrative needs of the board. However, the board's workload is expected to change significantly when continuing professional competency regulations take effect and examination administration shifts to a private contractor. Also, fewer board resources may be required to fund the investigator position in the future, as other DLLR boards may assume responsibility for a portion of these salary costs. In response to these changes, DLLR may be required to redistribute existing resources and direct new resources to board activities.

Major Legislative Changes Affecting the Board Since the 2000 Sunset Review

Over the past decade, major legislative changes that affected the board sought to address concerns raised in the last evaluation about scope of practice and board funding. As shown in **Exhibit 1**, these changes included establishing the design boards' special fund, clarifying the scope of practice for design board professionals, and requiring licensed professional engineers to demonstrate continuing professional competency as a condition of license renewal.

Exhibit 1
Major Legislative Changes Since the 2000 Sunset Review

<u>Year</u>	<u>Chapter</u>	<u>Change</u>
2001	73	Extends the termination date of the board by 10 years from July 1, 2003, to July 1, 2013.
	187	Expands the board's authority to impose civil penalty fines on licensees and nonlicensees from \$1,000 to \$5,000 per violation.
	193	Clarifies the scope of practice for each profession represented by the five design boards within DLLR.
2003	227	Requires the chairs of the five design boards to meet annually to discuss issues of mutual importance and post a joint newsletter on the DLLR website. Establishes a State Occupational and Professional Licensing Design Boards' Fund, a special fund for the collection of license and permit fees from the five design boards. Repeals license and permit fees set in statute and instead requires the Secretary of Labor, Licensing, and Regulation to calculate the direct and indirect costs attributable to each of the design boards and to establish fees based on those calculations. Caps any fee increase by a design board at no more than 12.5% annually.
2005	129	Lowers the standard for specified disciplinary actions against a professional engineer applicant or licensee by removing the requirement that an individual "knowingly" committed a violation. Broadens the scope of violations by making a violation of any regulation the basis for a disciplinary action.
2007	403	Repeals the board's authority to issue a limited license to practice engineering.
2008	273	Extends the termination date to June 30, 2013, for the special fund that serves all five design boards and related provisions, including the board's fee-setting authority.
2010	124	Requires licensed professional engineers to demonstrate continuing professional competency as a condition of license renewal and authorizes the board to issue certain individuals a retired status license.

Note: The five design boards include the State Board of Architects, State Board of Certified Interior Designers, State Board of Examiners of Landscape Architects, State Board for Professional Engineers, and State Board for Professional Land Surveyors.

Source: Laws of Maryland

The engineering field has broadened to encompass such specialties as software networking and cyber defense engineering. To address the broadening scope of what it means to practice engineering, Chapter 193 of 2001 clarified the scope of practice of professional engineering under State law. The Act changed the definition of “practice professional engineering” to include “design coordination,” which is the review and coordination of services provided by individuals licensed or certified by any of the five design boards. An individual licensed or certified by any of the design boards may perform design coordination for a project or portion of a project provided that the licensed individual holds a current license or certification by their respective board and has adequate experience in, and understanding of, achieving the purpose of the project or portion of the project being coordinated.

Chapter 193 made several additional changes to the Professional Engineers title, including:

- changing what it means to practice engineering to the exclusive and sole performance of nontechnical management activities; and
- establishing that all engineering documents prepared in connection with the alteration, construction, design, or repair of a building, structure, building engineering system and its components, machine, equipment, process, works, subsystem, project, public or private utility, or facility in the built or economic environment where the skills of a professional engineer are required, must be signed, sealed, and dated by the professional engineer who prepared or approved the documents.

Licensing Is Board’s Central Function

The board issues new or original professional engineer licenses, renewal licenses, and engineering-in-training certificates. Over the past five years, the board issued an average of 961 original and 7,448 renewal licenses and 334 engineering-in-training certificates each year.

Professional engineering licenses in the State have a two-year term and are not discipline specific. There is still only one designation: professional engineer. However, candidates are examined in the disciplines in which their education and/or experience were gained (*e.g.*, chemical, civil, environmental, or industrial engineering). To qualify for a professional engineer license, an applicant must be of good character and reputation and meet specific education, experience, and examination requirements. The general process for obtaining a professional engineer license in the State varies according to whether the individual is seeking an original, reciprocal, or renewal license, as described below.

Historically, the board also issued a limited license that authorized licensed professional engineers from other states to complete limited engineering work in Maryland. As licensing requirements became more standardized among states, demand for limited licenses decreased in favor of reciprocal licenses, and the limited license was discontinued in 2007.

Original License

To qualify for an original professional engineers' license, an applicant must meet one of the following sets of education, experience, and examination requirements:

- **Approved Curriculum Option** – A four-year engineering degree from a board-approved college or university, four years of applicable work experience, and pass both the fundamentals and the principles and practices of engineering examinations.
- **Unapproved Curriculum Option** – A four-year engineering degree from a college or university (not approved by the board), eight years of applicable work experience, and pass both the fundamentals and the principles and practices of engineering examinations.
- **Nonacademic Option** – At least 12 years applicable experience, with five of these years spent “in responsible charge” of engineering work, and pass the principles and practices of engineering examination.

An individual seeking original licensure must meet one of the sets of requirements described above and submit an application, supporting material, and several fees to the board. Applications filed under the approved curriculum option are reviewed and approved administratively by DLLR staff, and applications filed under the unapproved curriculum or non-academic option are reviewed and approved by board members. Upon approval of the application, the applicant is notified and permitted to sit for one or both of the exams. Exams are developed by NCEES but administered in the State by the board. If an application is denied, an applicant may appeal the decision to the board. However, most denials are discussed by the full board before the final decision is made. Thus, few decisions are overturned. Individuals who pass the exam(s) and meet all other requirements are notified and may then submit a \$68 fee and seek final approval for a license.

The board is authorized to certify individuals as engineers-in-training in specified circumstances. The board grants this certification to applicants who have met or nearly met the approved or unapproved curriculum requirements, passed the fundamentals of engineering examination, and paid required fees. The engineer-in-training certificate simply certifies that an individual has passed the fundamentals of engineering examination.

License by Reciprocity

Individuals who are licensed to practice professional engineering in another state, territory, or a foreign country may qualify for licensure by reciprocity. Individuals must provide adequate evidence that (1) at the time the applicant was licensed in the other state, the applicant met requirements that were equivalent to the requirements then required by Maryland, or (2) at the time of the application for a reciprocal license, the applicant meets the State's current requirements. Individuals must submit a licensing reciprocity application, specified supporting material

(e.g., a Report of Professional Experience form, in some cases), and a \$50 application fee to the board. Board members review all reciprocity applications except those accompanied by a specified NCEES record that shows the applicant has an Accreditation Board for Engineering and Technology (ABET)-approved degree, four years of applicable work experience, and no disciplinary problem, which are reviewed by board staff. According to DLLR, there has been an increase in the number of reciprocal license applications in recent years, likely due to more business being conducted across state borders.

Renewal License

Every two years professional engineers must submit a license renewal application and pay a fee of \$68. A reinstatement fee of \$100 must be paid if the license is not renewed on time. When anticipated continuing professional competency requirements are established (discussed in more detail later in this section), it is anticipated that renewal license applications will be required to include proof of compliance with the requirements.

Number of Licensees Has Increased Substantially Since 2006

Exhibit 2 shows key board performance measures for fiscal 2006 through 2010. Overall, the board's licensing workload has increased significantly over the past five years. During this period, the board directly administered 7,253 examinations. The number of licenses and certificates issued by the board increased by 1,800 or 23.3%, between fiscal 2006 and 2010. As of August 6, 2010, DLLR's record count indicated there were 17,492 licensed professional engineers in the State, a 4,660 or 36.3% increase in the number of licensed professional engineers since the 2000 preliminary evaluation.

Exhibit 2
Board Workload Measures
Fiscal 2006-2010

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>Total</u>	<u>Average</u>
Applications Processed*	1,468	1,500	1,439	1,397	1,405	-	-
Exam Candidates**	1,120	1,302	1,406	1,667	1,758	7,253	1,451
Licenses/Certificates Issued							
Individual – Original	774	889	984	967	1,192	4,806	961
Individual – Renewal	6,740	7,395	7,570	7,700	7,836	37,241	7,448
Engineer-in-training	181	339	391	260	497	1,668	334
Limited***	<u>30</u>	<u>36</u>	<u>11</u>	<u>N/A</u>	<u>N/A</u>	=	=
Subtotal:	7,725	8,659	8,956	8,927	9,525	43,715	8,743

*The fiscal 2009 and 2010 data for applications processed amounts does not include re-examination applications.

** Includes candidates scheduled to take examinations for the first or subsequent times.

*** The board's authority to issue limited licenses was repealed by Chapter 403 of 2007.

Source: State Board for Professional Engineers

Examination Administration to Shift to Private Contractor

Prior to the fall of 1999, the State contracted with Local Government Research, Inc. (LGR) to administer the professional engineer examination. However, this arrangement with LGR ended in 1999 when the company filed for bankruptcy. The board's professional staff has administered the examinations since that time. This responsibility has created a significant workload leading up to the examination times in April and October.

Over the past two years, DLLR has been working to secure an independent contractor to administer the professional engineer examination. A request for proposals (RFP) was developed in 2009 but was withdrawn in response to board concerns about the RFP development process and internal responsibility for exam administration. Subsequently, another RFP was developed jointly by DLLR and the board. This most recent RFP was posted on December 4, 2009, and an evaluation committee, composed of board members and DLLR staff, is expected to select a candidate in late 2010. The board is currently taking steps to adjust its regulations to reflect the new examination process and secure State Board of Public Works contract approval. The board hopes the new examination contractor will administer the fall 2011 examinations.

DLLR has one full-time contractual position dedicated to design board exam administration and other DLLR staff provides assistance as needed. The exam coordinator currently reviews and approves some exam applications and is responsible for securing the exam location and all other aspects of the on-site administration, including (1) employing and training approximately 75 examination proctors, and (2) establishing contracts with an armored car service for secure storage and transportation of exam materials and with a rental company for the tables and chairs for the exam site. When a contractor assumes responsibility for exam administration a full-time DLLR position dedicated to exam administration will not be necessary. **The board and DLLR should develop a plan for reallocating resources to address diminished exam administration responsibilities.**

Continuing Professional Competency Requirements Being Developed

Chapter 124 of 2010 requires professional engineers to demonstrate continuing professional competency as a condition of license renewal. The board is required to adopt regulations to implement this requirement. The statutory requirements are modeled on those established for the State Board for Professional Land Surveyors by Chapter 567 of 1999 and made permanent by Chapter 601 of 2001. Three of the other design boards (State Board of Architects, State Board of Certified Interior Designers, and State Board for Professional Land Surveyors) have similar competency requirements and nearly 40 states have continuing education or professional competency requirements for professional engineers.

In July 2010, the board established a committee composed of two board members and representatives from the Maryland Society of Professional Engineers, Institute of Electrical and Electronics Engineers, American Institute of Chemical Engineers, and academia to draft continuing professional competency regulations. The committee plans to begin with model continuing professional competency regulations developed by NCEES and adjust them as necessary. For example, the committee may consider adding ethics-related requirements and requiring licensees to use prequalified continuing education providers.

The board advises that it is working closely with the professional engineering boards in Pennsylvania and New Jersey, which are also developing continuing professional competency requirements. Establishing common requirements within the region may facilitate board consideration and approval of reciprocal license applications.

Evaluation of Foreign Applicants Credentials Remains an Issue

Procedures and policies for assessing applicants with education and/or experience outside the United States continue to receive board attention. The board receives a significant number of applications for reciprocal licensing from foreign-educated engineers. Many of these applicants apply for licenses under the non-academic option. It is often difficult for board members to determine whether foreign experience meets board requirements. To help address this concern, at the July 2010 board meeting, the board voted to require reciprocity applicants to complete and

submit Report of Professional Experience forms, which require very specific information about an applicant's work experience.

Some state licensing boards and licensure candidates retain credential evaluation services to verify the authenticity of academic documents submitted in support of applications for licensure. These companies can help determine whether candidates who have earned engineering degrees outside the United States or from non-ABET accredited domestic programs meet curriculum requirements. Generally, these companies help ensure that state licensing boards receive accurate information upon which to base a decision on whether to admit a candidate for a licensure exam. At its April 2010 meeting, the board agreed to accept evaluation of degrees only from companies that obtain transcripts directly from the educational institutions.

Complaint Rate Remains Steady

The board's licensing enforcement efforts involve responding to complaints that are submitted through established processes. Thus, the board takes a largely reactive approach to enforcement. All complaints are forwarded to the complaint committee, which comprises two board members and two professional staff. The committee generally meets prior to each board meeting. The committee reviews each complaint that is submitted and any accompanying documentation and then recommends a course of action to the full board. The board makes the final decisions regarding handling of complaints.

The board has disciplinary authority over a variety of violations. Specifically, the board has the authority to deny a license to any applicant, reprimand a licensee, and revoke or suspend a license if an applicant or licensee:

- fraudulently or deceptively obtains or attempts to obtain or use a license;
- is convicted of a felony or a misdemeanor that is directly related to the fitness and qualification of the individual to practice engineering;
- is guilty of gross negligence, incompetence, or misconduct while practicing engineering;
- has had a license to practice engineering in another state revoked or suspended by the other state for a cause that would justify revocation or suspension in Maryland; or
- knowingly violates any provision of the code of ethics adopted by the board or the Professional Engineers title.

The board may impose fines of up to \$5,000 per violation. All fine and penalty revenue is allocated to the general fund. The maximum fine the board imposed over the past five years was \$5,000 against an individual who signed and sealed 38 projects involving heavy construction,

cranes, concrete formwork, and excavation with a lapsed license. While the board has not revoked a license over the past 10 years, complaints have resulted in criminal charges being filed and temporary license suspension.

Complaints concerning professional engineers often involve practicing with an expired license, negligence, incompetence, and misconduct. **Exhibit 3** illustrates the number and current disposition of complaints the board received from fiscal 2006 through 2010. The number of annual complaints filed fluctuated from a low of 11 in fiscal 2009 to a high of 28 in fiscal 2008. Since the total number of licensees has increased over the past five years, this data suggests there has not been concurrent growth in the number of complaints. The majority of the complaints filed are resolved with either a consent order and payment of a fine or a finding of no violation or action needed.

Since approximately half of the complaints submitted annually concern practicing with an expired license, the board has specific guidelines for addressing this type of violation. Generally, if professional engineers sign and seal engineering documents in Maryland after their license expires, they must pay reinstatement and renewal fees and have the work they completed while unlicensed reviewed, resigned, and sealed by a third party. In addition, the board may deny renewal licenses or offer consent agreements with an additional fine to individuals who practice with a license that has lapsed for three or more licensing periods. The number of projects an individual completes with an expired license is considered when determining additional fines.

Exhibit 3
Complaint Volume and Disposition
Fiscal 2006-2010

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Complaints Filed	19	24	28	11	21
Disposition of Complaints					
Open	0	2	0	0	5
Closed					
Guilty of Criminal Charges	0	0	1	0	1
No Violation/Action	8	10	11	5	3
Consent Order and Fine	11	11	12	6	12
Other	0	1	4	0	0

Source: State Board for Professional Engineers

While the board has resolved the vast majority of the complaints filed over the past five years in a timely manner, two complaints from fiscal 2007 remain open. These two complaints are associated with complicated cases originally initiated by the Montgomery County inspector general, involve several professions (*i.e.*, foresters, landscape architects, surveyors, and engineers), and have required significant investigative work. DLLR advises that the complaints are currently being handled by the assistant Attorney General and a charge letter was recently sent to the Office of Administrative Hearings.

DLLR Design Boards Work Cooperatively and Share Special Fund

As mentioned previously, there are five design boards within DLLR, including the State Board for Professional Engineers. The other boards regulate architects, interior designers, landscape architects, and professional land surveyors. Chapter 227 of 2003 established the State Occupational and Professional Licensing Design Boards' Fund as a special, nonlapsing fund in DLLR. One of the major goals of this Act was to cluster the design boards, since they regulate similar types of professions, in order to equalize the licensing fees among the design boards. Through this clustering approach, the Act required the design boards to work more cooperatively together through a Joint Chairs Committee. The creation of the special fund and the formalization of the Joint Chairs Committee were implemented in response to recommendations made by DLS in the 2002 Sunset Evaluation of the State Board of Certified Interior Designers. The status of the special fund is discussed in greater detail later in this report.

Chapter 227 also requires that the chairmen of each of the five design boards meet annually to discuss issues of mutual importance and publish a joint newsletter. In practice, the Joint Chairs Committee meets quarterly and has proven to be a useful and efficient way for the design boards to communicate amongst themselves and with DLLR. The Joint Chairs Committee was established to serve as an effective forum for the design boards to share ideas, work cooperatively, and support the combined interests of the design industry as a whole in the State.

Board License Revenues Support Design Board Operations

A pilot program established by Chapter 227 of 2003 created a State Occupational and Professional Licensing Design Boards' Fund to ensure that costs for the five design boards, in the aggregate, were covered by their revenues, in the aggregate. The fund and fee-setting authority were set to terminate on June 30, 2008; however, Chapter 273 of 2008 extended the termination date for the special fund to June 30, 2013. Prior to the enactment of Chapter 227, board licensing fees were set in statute, board revenues were credited to the general fund, and the Governor included a general fund allowance for the board within the budget of DLLR.

Since 2003, the Secretary of Labor, Licensing, and Regulation has been charged with annually calculating the direct and indirect costs attributable to each of the design boards and providing this information to the boards. With consent of the boards, the Secretary is authorized

to average the direct and indirect costs among the boards in order to establish fees that more equitably distribute the costs associated with the operation of each board across all five boards. With these calculations in mind, the board is charged with setting reasonable fees for its services by regulation. The fees charged are required to be set so as to produce funds to approximate the cost of maintaining the boards and may not be increased more than 12.5% over the previous year's fees.

In 2007, the design boards determined that the fund balance merited a fee reduction, and the across-the-board license fee of \$78 was reduced to the current fee of \$68. Prior to the enactment of the special fund, the board charged a \$20 fee for either an original license or a biennial renewal license. **Appendix 1** provides the board's current fee schedule.

As shown in **Exhibit 4**, the board is in reasonably sound financial condition and board expenditures continue to be less than the revenues attributable to it. The board's revenues and expenditures have increased substantially in recent years. The recent increase in board expenditures is largely due to hiring an investigator and general personnel cost increases as well as accounting adjustments that sought to ensure all board-related costs were reflected in the board's budget. When fiscal 2008 is compared to fiscal 2010, licensing revenues increase by \$72,607 or 9.8% and expenditures increase by \$114,005 or 18.3%. As the biggest design board, the board is able to fully fund all of its expenditures from its own revenues and partially subsidize the operation of other design boards. This was the legislative intent of Chapter 227, which created the special fund. In spite of \$300,000 from the design boards' special fund being redirected to the general fund in fiscal 2010 in accordance with the Budget Reconciliation and Financing Act of 2010 (Chapter 484), as a whole, the fund ended fiscal 2010 with a balance of \$244,624.

The board's direct costs include salaries and benefits for staff, office supplies, and legal fees from the Office of the Attorney General within DLLR. The board's indirect costs are incurred at the departmental level and include costs for activities and services related to budget, personnel, general services, and the Office of the Secretary. Indirect costs are allocated to each board by the Secretary's office using a federal cost allocation formula. In the past, the Secretary's office generated the occupational and professional (O&P) cost allocation for each board in DLLR, which reflected the costs incurred at the level of the Division of Occupational and Professional Licensing, including central licensing, the telephone center, the commissioner's office, and information technology costs. However, beginning in fiscal 2009, O&P indirect costs are coded as reimbursable funds and are included within the board's direct costs, consistent with guidance from the Department of Budget and Management. Generally, between fiscal 2005 and 2007, there was significant variation in accounting for direct costs and indirect costs. DLLR advises that during these years the department was implementing new accounting standards and bringing on a new accounting team.

Exhibit 4
Fiscal History of the State Board for Professional Engineers
Fiscal 2006-2010

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Total Revenues	\$768,280	\$794,453	\$743,651	\$868,949	\$816,258
Total Costs	\$462,520	\$429,718	\$622,687	\$694,132	\$736,692
Direct Costs	244,034	259,763	422,104	522,939	616,217
Direct Legal Costs	55,032	57,498	58,894	118,338	68,884
Indirect Costs	35,295	26,484	41,591	52,855	51,591
O&P Indirect Costs	128,159	85,973	100,098	N/A	N/A
Surplus/(Deficit)	\$305,760	\$364,735	\$120,964	\$174,817	\$79,566

O&P = Occupational and Professional

Note: Does not include penalty revenue, which is deposited into the general fund, or examination fee revenue, which is passed through to NCEES. Beginning in fiscal 2009, O&P indirect costs were included within the direct costs total.

Source: Department of Labor, Licensing, and Regulation

Potential Future Legislative Issues

Four issues related to the board may require legislative attention in the near future. These issues are described in greater detail below.

Implementing the New Structural Engineering Exam

NCEES plans to introduce a new 16-hour structural professional engineering exam in April 2011. At its May 2010 meeting, the board agreed to administer this new exam in Maryland. To offer the exam in calendar 2011, references to “8-hour exams” in the board’s statute must be deleted. DLLR is expected to offer legislation during the 2011 legislative session that would authorize the board to administer the new 16-hour structural professional engineering exam.

Authorizing Computer-based Testing

NCEES has determined that examination efficiency and security could be improved by adopting computer-based testing methods. A NCEES Computer-Based Testing Task Force has been gathering information on the feasibility of administering exams via computer. In light of

these efforts, it is possible that professional engineer examinations will be offered via computer in the near future. However, prior to offering computer-based examinations in Maryland, a legislative change would be required since the board's statute specifically refers to "written" examinations.

Requiring Firm Permits/Certificates of Authorization

Three of the design boards (State Board of Architects, State Board of Examiners of Landscape Architects, and State Board for Professional Land Surveyors) require the businesses they regulate to obtain a board-issued permit prior to operating and providing services. Generally, this requirement helps ensure that firms practicing in Maryland employ individuals who are licensed by the State to practice in these areas and that these individuals are in responsible charge of projects in the State. Currently, the three design boards have differing requirements associated with these permits and very limited enforcement authority. DLLR may offer legislation during the 2012 legislative session that establishes firm permits or "certificates of authorization" with uniform requirements for all five design boards. The design boards are currently considering various components of this permit/certificate proposal, including reasonable firm staffing requirements and enforcement mechanisms. Ultimately, this approach is expected to reduce misrepresentation and help ensure State-licensed professional engineers are in responsible charge of projects in the State.

Adopting More Rigorous Educational Requirements for Licensure

Over the past decade, NCEES has given significant attention to increasing the minimum engineering education required to become a professional engineer. NCEES has determined that by expanding existing educational requirements, professional engineers will be better prepared to meet current demands and the public will benefit from higher standards for licensure. In 2006, NCEES delegates passed a motion to draft "model law" language requiring candidates to complete 30 academic credits beyond an accredited bachelor's degree (or earn a master's degree) as a prerequisite for engineering licensure. Since then, NCEES has wrestled with how to implement more rigorous educational requirements at the state level. These national-level deliberations, along with ongoing discussions at the State level, may result in more rigorous educational requirements for State licensure in the coming years.

Recommendations

The State Board for Professional Engineers is fulfilling its statutory requirements to the best of its abilities. The board appears to be a well run and professional entity. The board has successfully implemented many changes since the 2000 evaluation and is well positioned to address current issues and demands. **Consequently, the Department of Legislative Services recommends that the Legislative Policy Committee waive the board from full evaluation and that legislation be enacted to extend the board's termination date by 10 years to July 1, 2023.**

After discussions with the current board chairman, board staff, and others, several issues merit further consideration by both the board and DLLR. **Therefore, the Department of Legislative Services recommends that the Department of Labor, Licensing, and Regulation, in collaboration with the State Board for Professional Engineers, submit a follow-up report to the Senate Education, Health, and Environmental Affairs Committee and the House Economic Matters Committee by October 1, 2012, providing an update on:**

- **reallocating the board's special fund resources and staff in light of privatization of examination administration responsibilities, the new continuing professional competency requirements, and the growing licensing workload;**
- **implementing the examination administration process via a private contractor;**
- **establishing and implementing continuing professional competency requirements;**
- **establishing firm permits/certificates of authorization with uniform requirements for all five design boards;**
- **implementing the new structural engineering exam; and**
- **instituting computer-based testing and establishing more rigorous educational requirements for licensure.**

Appendix 1. Schedule of Fees for the State Board for Professional Engineers

License and Permit Fees

<u>Type of License/Permit</u>	<u>Fee</u>
Professional Engineer License	\$68
Engineer-in-training Certification	15
Initial Applications	
Engineer-in-training Certificate*	25
License	50
License by Reciprocity	50
Reinstatement of License	100
Verification Fee	20
Replacement License Certificate Fee	35

National Council of Examiners of Engineers and Surveyors Fees

<u>Examination</u>	<u>Exam Fee</u>	<u>Admin. Fee</u>	<u>Total Fees</u>
Fundamentals of Engineering	\$55	\$60	\$115
Principles and Practice	165	60	195

*The board proposed regulations in the *Maryland Register* (Volume 37, Issue 15, July 16, 2010) that eliminate the application fee for first-time candidates taking the fundamentals of engineering examination to encourage emerging engineers to seek licenses. The regulations are expected to take effect in late 2010.

Source: Code of Maryland Regulations, 09.23.04.03

Appendix 2. Written Comments of the State Board for Professional Engineers

December 2, 2010

Ms. Jennifer B. Chasse
Senior Policy Analyst
Office of Policy Analysis
Department of Legislative Services
90 State Circle
Annapolis, Maryland 21401-1991

Dear Ms. Chasse:

The Department of Labor, Licensing and Regulation (DLLR) and the Board for Professional Engineers (Board) have received the draft of the preliminary evaluation of the Board conducted by the Department of Legislative Services pursuant to the Maryland Program Evaluation Act. We appreciate the time and attention that was spent reviewing the Board's operations.

We are pleased that the evaluation found that the Board is fulfilling its statutory duties and has recommended that the Legislative Policy Committee waive the Board from full evaluation and that legislation be enacted to extend the board's termination date by 10 years to July 1, 2023.

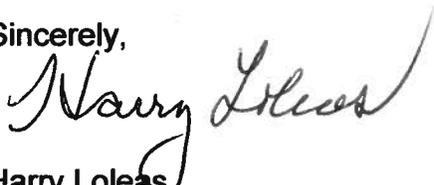
The report requires a follow up report by DLLR and the Board regarding several issues that arise as a result of changes pending in the manner in which licensing examinations are delivered and administered. In addition we are requested to report on two matters which are under currently being reviewed or acted on by the Board: a statutory requirement for a firm permit/certificate of authorization where engineering services are provided through a corporation or partnership; and the implementation of continuing professional competency requirements as authorized by the General Assembly during its 2010 session. We are also requested to report on the allocation of resources and staff in light of the dynamic testing and licensing environment currently in evidence.

Each of these issues is of importance and concern to DLLR, the Board and the engineering community in our state. They speak to the Board's core mandates to protect the health safety and welfare of our citizens and assure the initial and continuing competence of licensed professional engineers in Maryland

Ms. Jennifer B. Chasse
Page Two
December 2, 2010

As requested, we have separately provided any factual corrections that have been identified. We would like to express our appreciation for the thoroughness and professionalism of Amanda Mock in her conduct of the evaluation. We look forward to working with the General Assembly and legislative staff in addressing issues that were raised in the report as well as future issue which may arise. If you office should require additional information, please do not hesitate to contact me (410-230-6226) or Board Executive Director Jay Hutchins (410-230-6262).

Sincerely,

A handwritten signature in cursive script that reads "Harry Loleas". The signature is written in black ink and is positioned above the printed name.

Harry Loleas
Deputy Commissioner

cc: Alexander M. Sanchez, Secretary
Stanley J. Botts, Commissioner
Jay Hutchins, Executive Director
Chairman and Members, Board for Professional Engineers