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INDEPENDENT STATE AUDITOR'S REPORT
ON CERTAIN ACTIVITIES OF THE
BOARD OF STATE EXAMINERS OF
ELECTRICIANS
AND THE DIVISION OF PROFESSIONAL
LICENSURE

OFFICIAL AUDIT
REPORT
JUNE 19, 2003

TABLE OF CONTENTS/EXECUTIVE SUMMARY

INTRODUCTION

1

Chapter 13, Section 8, of the Massachusetts General Laws established the state's Division of Professional Licensure (DPL) under the supervision of a full-time Director. DPL is a division of the state's Office of Consumer Affairs and Business Regulation and oversees 36 regulatory boards that are responsible for licensing 46 professions in the Commonwealth. Chapter 13, Section 32, of the General Laws established the Board of State Examiners of Electricians (BSEE) under DPL's supervision. BSEE is responsible for licensing and regulating the state's electricians and security/fire alarm installers.

The scope of our audit included certain activities of DPL, BSEE, and Experior Assessments LLC (Experior), the firm that administers the Journeyman Practical Electricians (JPE) exam, during the period June 1, 2002 through December 31, 2002. Our audit was conducted in accordance with applicable generally accepted government auditing standards for performance audits issued by the Comptroller General of the United States and had the following specific objectives: (1) determining whether DPL and BSEE had established adequate controls over the administration of the JPE exam; (2) determining whether any changes made to the JPE exam during the audit period were properly authorized and implemented; (3) reviewing and analyzing BSEE's, Experior's, and DPL's administration of the JPE exam to determine their compliance with applicable laws and regulations; and (4) assessing the adequacy of the process established by BSEE for investigating and resolving complaints regarding the JPE exam.

Our audit identified the following problems: (1) inadequate controls over the administration of the JPE exam resulted in an unauthorized change in the JPE exam passing score, which caused 155 candidates to incur as much as \$14,700 in additional exam costs and as much as \$529,200 in potential lost compensation; (2) BSEE had not established adequate controls to address complaints from candidates regarding the exams; and (3) DPL had not established the number and location of JPE exam test sites in accordance with Chapter 141 of the General Laws.

AUDIT RESULTS

6

1. INADEQUATE CONTROLS OVER THE ADMINISTRATION OF THE JPE EXAM RESULTED IN AN UNAUTHORIZED CHANGE IN THE EXAM PASSING SCORE

6

According to its contract with the Commonwealth, Experior was allowed to make changes to the JPE exam only with the approval of BSEE. We found, however, that during our audit period Experior had changed the passing score on the JPE exam from 16 correct questions to 17, without formal approval from BSEE. As a result, 155 candidates had to retake the exam, many of them several times, before receiving a passing grade. They consequently incurred as much as \$14,700 in additional exam fees and as much as \$529,200 in potential lost compensation.

2. BSEE HAD NOT ESTABLISHED ADEQUATE CONTROLS TO ADDRESS COMPLAINTS FROM JPE CANDIDATES 11

We found that BSEE had not established adequate controls to ensure that complaints issued by candidates who took exams administered by BSEE are handled effectively and efficiently. As a result, there is inadequate assurance that BSEE was able to properly address candidates' concerns regarding exams and ensure timely and equitable resolutions.

3. DPL HAD NOT ESTABLISHED THE NUMBER AND LOCATION OF TEST SITES IN ACCORDANCE WITH CHAPTER 141 OF THE GENERAL LAWS 14

Chapter 141 of the General Laws requires BSEE to hold frequent examinations in Boston and in at least five other convenient sites in the Commonwealth. We found, however, that the contract awarded by DPL to Experior to administer the JPE exam requires the firm to have only two Massachusetts test sites (Lexington and Worcester). Three other test sites specified in the contract are located in New Hampshire and Connecticut. As a result, candidates taking the JPE exam are not always afforded a convenient location to take exams, contrary to the intent of Chapter 141.

4. OTHER MATTERS 16

After we began our audit, a former BSEE member brought to our attention additional concerns regarding the administration of BSEE. A concern regarding the location of test sites for the JPE exam was investigated by the audit staff, and the results are presented in Audit Result No. 3 of this report. Based on our audit work we determined that these concerns were either addressed or not valid.

INTRODUCTION

Background

Chapter 13, Section 8, of the Massachusetts General Laws established the state's Division of Professional Licensure (DPL) under the supervision of a full-time Director. DPL is a division of the state's Office of Consumer Affairs and Business Regulation and oversees 36 regulatory boards¹ that are responsible for licensing and supervising 46 professions in the Commonwealth.

Section 32 of Chapter 13 established the Board of State Examiners of Electricians (BSEE) consisting of the state Fire Marshal, the Associate Commissioner for the Division of Occupational Education, and eight persons appointed by the Governor for terms of three years each. Chapter 13 also established the position² of BSEE Executive Secretary to handle daily operations and act as intermediary between BSEE and DPL. BSEE is responsible for making all substantive adjudicatory and policy decisions and promulgating regulations that govern the practice of electrical work in the Commonwealth. To meet these responsibilities, BSEE issued Code of Massachusetts Regulations (CMR) 237, which sets forth eligibility criteria for examinations for licensure and requires electrical education, continuing education, and adjudication proceedings. BSEE also licenses security/fire alarm installers and issues the following types of licenses:

- Class A (Master Electrician)
- Class B (Journeyman Electrician)
- Class C (Systems Contractor)
- Class D (Systems Technician)
- Corporate License
- Partnership License

¹ In January 2003, Chapter 184 of the General Laws transferred control of seven of the boards under the control of DPL to the state's Department of Public Health.

² During fiscal year 1998, DPL's Director changed the title of this position to Executive Director (See the Other Matters section of this report).

The Board of Electricians licenses 31,779 electricians and 2,767 security/fire alarm installers in the Commonwealth.

Candidates for licensure must pass an exam and satisfy other eligibility criteria, including classroom training and work experience, before they can be licensed. The work-experience criteria differ for each type of license. For example, a candidate for the Class B Journeyman Electrician³ license has to furnish documentation to substantiate that he or she has had a total of 8,000 hours of work experience within the prior four years as an apprentice working under the direct supervision of a licensed Journeyman Electrician. The candidate must also furnish proof of having completed the 600-hour Journeyman's course within 10 years of the date of his or her application to sit for an exam.

Each exam has two parts, written and practical. Prior to February 2001, BSEE administered four manual examinations annually: two for electricians (Masters and Journeyman) and two for Security/Fire Alarm Systems (Contractor and Technician). A candidate was required to mail in an application for verification of education and work experience requirements prior to taking an exam. BSEE then mailed the applicant the necessary forms for taking the exam and a Candidate Information Bulletin (CIB), which provided the candidate detailed information, including examination requirements, the exam's passing score and CMR-required passing grade (70%), examination fees, and the location of test sites. After the application was approved, the candidate was allowed to take the exam and, if successful, was issued a license.

According to DPL officials, during the summer of 1999 the Division decided to change all BSEE examinations from a written to a computer-based test (CBT). According to DPL's Deputy Director, CBTs offered several advantages over the traditional written exams in that tests could be administered daily, candidates could immediately receive test scores, and tests could be taken anytime at pre-determined locations.

³ Chapter 141 of the General Laws defines a Journeyman Electrician as "a person qualified to do the work of installing, repairing, or maintaining wires, conduits, apparatus, devices, fixtures, or other appliances used for heat, light, power, fire warning or security devices."

In May 2000, DPL issued a Request for Response on the Commonwealth's Procurement Access & Acquisition System for these testing services. DPL received only one bid, from Experior Assessments, LLC, of Salt Lake City (Experior), the same company that had previously administered DPL's written examinations. In September 2000, DPL and Experior entered into a five-year agreement.

Under the terms and conditions of this agreement, Experior was required to perform the following functions:

- Develop, design, and print applications and other materials, as needed, including employment verification forms, subject to BSEE approval, for all exams for levels of licensure
- Receive examination scheduling forms and fees; review and maintain records of applications and fees received; provide a toll-free number for candidates to contact Experior directly five business days a week; and maintain a Web site
- Prepare licensing examinations for all levels of licensure; develop system of daily testing by computer; obtain, schedule and rent examination sites; and prepare a projection of number of candidates
- Retain and train test supervisors and proctors; maintain security of test materials, test area, and test administration process; and report in detail any irregularities to BSEE
- Ensure that candidates receive their examination results immediately following their exam and provide candidates who pass the exam a permanent or temporary wallet-sized, photo-bearing license at that time
- Provide all reasonable examination modifications for disabled or special-needs candidates
- Return to BSEE for evaluation and determination of further action the applications for licensure of those candidates who show they have had a criminal record or a record of previous disciplinary matter

The maximum obligation, under the contract, would depend on the number of candidates taking the exams. Experior estimated that number and the generated fees (for exams and licenses) to be approximately 2,500 and \$326,000, respectively, each year. Exam fees are paid directly by candidates to Experior. For the Journeyman Practical Electrician (JPE) exam, the exam fee as of

the end of our audit period was \$253. Candidates pay license fees directly to the Commonwealth once they have passed the exam and met the eligibility requirements for obtaining a license. Exuperior, with BSEE authorization, awards candidates who successfully pass the exam an initial license; however, candidates are required to renew their licenses every three years for a \$45 fee.

Audit Scope, Objectives, and Methodology

During fiscal year 2002, the Office of the State Auditor (OSA) received an inquiry expressing concerns over BSEE's administration of the JPE exam. The concerns focused primarily on two areas: BSEE's improper handling of complaints and BSEE's having inappropriately changed the passing score on the written part of the JPE exam from 16 correct answers to 17. Based on these concerns, OSA initiated an audit of DPL and BSEE.

The scope of our audit included certain activities of the DPL, BSEE, and Exuperior regarding their administration of the JPE exam between June 1, 2002 and November 30, 2002. Our specific objectives were to

- Determine whether DPL and BSEE had established adequate controls over the administration of the JPE exam
- Determine whether any changes made to the JPE exam during the audit period were properly authorized and implemented
- Review and analyze DPL's, BSEE's, and Exuperior's administration of the JPE exam to determine their compliance with applicable laws and regulations
- Assess the adequacy of the process established by BSEE for investigating and resolving complaints regarding the JPE exam

To accomplish these objectives, we first examined applicable statutes, including Chapters 13, 112, and 141 of the General Laws; CMR 237; minutes of BSEE board meetings; and various DPL annual reports. We also examined BSEE and DPL policies and procedures, correspondence files, financial records, and JPE exam data for the period February 1, 2000 through February 28, 2002. In addition, we reviewed DPL's contract with Exuperior and examined Exuperior's and BSEE's procedures for handling complaint letters. We interviewed key

officials, including DPL's Director and Deputy Directors and BSEE's Executive Director, Director of Computer Services, and the Manager of the Accounting Unit. We also met or interviewed officers of Experior, including its Northeast Sales Manager, Vice-President of Test Development, and Chief Financial Officer.

During the conduct of our audit work, a former BSEE member brought to our attention other concerns about the operation of BSEE (see Other Matters). Consequently, in addition to conducting the audit work necessary to meet the previously stated audit objectives, we performed audit tests to address the additional concerns raised.

Our audit was conducted in accordance with generally accepted government auditing standards for performance audits and was limited to a review of certain activities of BSEE's, DPL's, and Experior's administration of the JPE exam during the audit period. We did not review DPL's activities regarding the administration of other boards or exams and did not conduct any onsite audit work at Experior.

AUDIT RESULTS

1. INADEQUATE CONTROLS OVER THE ADMINISTRATION OF THE JPE EXAM RESULTED IN AN UNAUTHORIZED CHANGE IN THE EXAM PASSING SCORE

According to its contract with the Commonwealth, Experior was allowed to make changes to the JPE exam only with the approval of BSEE. We found, however, that Experior, without formal approval from BSEE, had changed the passing score on the JPE exam from 16 correct questions to 17. As a result, during our audit period 155 candidates had to retake the exam, many of them several times, before receiving a passing grade. These candidates incurred as much as \$14,700 in additional exam fees and lost as much as \$529,200 in potential compensation.

According to its contract with the Commonwealth, Experior was required to obtain approval from BSEE prior to making any changes to the JPE exam. Specifically, section 2B of the contract states:

The Board [BSEE] shall have sole responsibility for establishing minimum qualifications and minimum passing score for all candidates....

Despite this contractual obligation, subsequent to Experior's being awarded the contract to administer the JPE exam in September 2000, Experior changed from 16 to 17 the number of questions that needed to be correctly answered on the written portion of the JPE exam.

As a result, beginning in February 2001, candidates who scored 16 on the written part of the exams were informed that they had failed and had to retake the exam at their own expense. The additional cost for retaking an exam was \$50. According to data provided by Experior, 1,479 candidates took exams during the period February 1, 2001 through February 28, 2002. Of these, 155 had to retake their exams (sometimes several times) because they scored 16 on their first exam. We estimate that the 155 candidates expended as much as \$14,700 on reexamination fees, as summarized in the following table:

**Summary of Exam Costs for
Candidates Who Scored 16 Correct Answers But Failed
February 1, 2001 through March 2002***

Candidates Who Failed With a Score of 16	Number of Times Test Retaken	Total Cost of Exams
73	1	\$3,650
48	2	4,800
20	3	3,000
8	4	1,600
3	5	750
<u>3</u>	6	<u>900</u>
<u>155</u>		<u>\$14,700</u>

BSEE officials in August 2002 estimated that a candidate who successfully passed the exam the first time could begin work as a Journeyman almost immediately, earning an extra \$1,800 per month. Candidates who failed the exam needed to wait at least one month before they could retake it. We calculated that the 155 candidates would have earned as much as an additional \$529,200 in potential income (see following table) had they received licenses when they scored 16 on the JPE exam.

**Estimated Lost Wages
February 1, 2001 through March 2002***

Number of Times Test Taken	Necessary Waiting Period Until Test	Number of Candidates Taking Test	Estimated Monthly Lost Wages	Estimated Total Lost Wages
2	1 Month	73	\$1,800	\$131,400
3	2 Months	48	\$3,600	172,800
4	3 Months	20	\$5,400	108,000
5	4 Months	8	\$7,200	57,600
6	5 Months	3	\$9,000	27,000
7	6 Months	<u>3</u>	\$10,800	<u>32,400</u>
Total		<u>155</u>		<u>\$529,200</u>

* Experior did not provide us with the information necessary (e.g., names of candidates) to accurately determine the excessive exam costs and potential lost compensation figures for the candidates involved. In reality, the excessive exam fees and lost compensation could have been as little as \$286,750; 155 candidates retaking the exam one additional time (\$7,750) losing one months of additional potential compensation (\$279,000).

Under the Code of Massachusetts Regulations (CMR) 237, a candidate must achieve a passing score of at least 70% or better to pass the exam. Specifically, Section 14.03 (Examination Scores) states:

(1) Applicants for all licenses [Class A (Master Electrician), Class B (Journeyman Electrician), Class C (Systems Contractor), Class D (Systems Technician)] shall obtain a passing score of at least 70% on the examination(s) required for each licensure.

When Experior administered the written JPE exam, candidates had to score 16 correct answers out of 23, or 69.565%, which Experior rounded up to 70%. According to Experior officials, when the company changed to computer-based tests (CBTs) in February 2001, it found that its software program did not allow rounding up.

Experior officials stated that at the time they advised the DPL Executive Director that the software it planned to use for the JPE exam “truncated” scores and rounded down to the nearest whole number—that is, only a score of 17 correct answers or greater would qualify as the CMR-mandated 70% to pass.

According to DPL officials, after Experior was awarded the contract, it held an initial meeting and three subsequent meetings with DPL officials and other parties involved in the licensing of candidates for electrician and security/fire alarm licenses. The purpose of these meetings was to determine the specific test questions to be used in the various exams and the quality of the questions. However, neither Experior nor DPL officials could provide complete data on the initial or subsequent meetings. Specifically, they could not provide meeting agendas or lists of attendees. Also, our review of the minutes of the meetings of BSEE from September 2000 through January 2001 indicated that although BSEE’s Executive Director mentioned to the Board that these meetings were being held, he did not formally invite board members to attend.

Experior officials stated that as a result of these meetings DPL’s Executive Director verbally authorized a change in the JPE exam passing score from 16 to 17. However, according to BSEE’s counsel, the Executive Director, who is no longer employed by DPL, denies ever having approved Experior’s request to change the score. Furthermore, in the period prior to

February 1, 2001, the Candidate Information Bulletin (CIB) distributed to candidates by Experior clearly stated that candidates who answered 16 questions correctly on the written part of the examination would receive a passing score. Moreover, DPL and BSEE officials stated that they were not informed of a change in the JPE exam score when it was made.⁴ According to the current DPL Executive Director, BSEE learned of the score change eight months after the tests had been administered. As soon as BSEE members were informed of the change, they directed the Executive Director to contact Experior to reset the JPE exam passing score to 16 and to compensate the candidates who had scored 16 correct responses on the written exam but had to retake the exam until they scored 17.

On February 28, 2002, DPL's Executive Director, under BSEE advice (1) informed Experior by letter that the JPE exam passing score should revert to 16; (2) asked Experior to change the status of candidates who during the period February 1, 2001 through February 28, 2002 had received a JPE exam score of 16 on the written part of the JPE exam; and (3) requested that Experior reimburse those who had to needlessly retake the exam. In response, Experior agreed to change the scores for the JPE candidates in question. However, in a letter dated May 2002 to DPL, Experior stated that since it had not received BSEE's written authorization to change the JPE exam passing score to 16 until February 28, 2002, it had decided to reimburse only those candidates who had taken the exam after March 1, 2002 and had been affected by the score change. It should be noted that as of the end of our audit period Experior had not made any reimbursements to these candidates. Furthermore, according to DPL officials, BSEE subsequently modified its instructions to Experior. Still requiring that the score revert to 16, BSEE and the DPL agreed that Experior reimburse only those candidates who had taken the JPE exam in March and April 2002 and had scored 16 correct answers on the written part of the exam but had failed.

As a result of our audit work, BSEE has taken steps to reform its administration of the JPE exam. Specifically, it has drafted proposed changes to the contract that it will award for these testing services. The contract would require BSEE to approve, in writing, any changes

⁴ The Executive Director, in a November 2001 BSEE meeting, informed the members and the DPL that the JPE passing score had been changed from 16 to 17.

to the pass/fail scores of the exam. Also, the exam would contain 20 questions, and a candidate would need to correctly answer 14 out of 20 questions to pass.

Recommendation

BSEE should continue its efforts to establish better controls over the administration of the JPE exam to ensure that no changes can be made to it without the prior knowledge and consent of BSEE. Furthermore, DPL should work with Experior to establish an equitable resolution for those candidates who took the JPE exam and scored 16 correct answers on the written part of the exam but were not given a passing grade.

Auditee's Response

In response to this draft audit result, DPL's Director provided the following comments:

The Division and Board share your concern that its testing company, Experior, changed the passing examination score on the Journeyman Practical Electrician Exam from 16 to 17 without knowledge or written authorization of the Board. The Division notes that the impact of the score change, while disruptive to the examination candidates, did not in anyway jeopardize the safety of the public by allowing unqualified candidates to wrongly become licensed. The Division has taken steps to exercise improved oversight of this vendor. In addition, the Board has a new Executive Director who has implemented better controls to be sure that problems such as this do not occur in the future. The Division has made every effort to ensure that individuals impacted have been reimbursed for unnecessary exam expenses.

The Division and the Board disagree, however, with report's estimate of potential consequential damages from the unauthorized change of the exam score. The Board believes that the number of candidates and number of times the test was retaken listed in the chart has not been adequately verified by Experior, and that the amount of lost wages is highly speculative and not a reliable calculation.

Auditor's Reply

The estimate of potential damages as a result of the score change cited in our report was based on information provided by both Experior and DPL. Experior provided us with the number of individuals who were affected by this scoring change as well as the number of times they had to retake the exam before they received a passing grade. The potential lost wages figures were based on conservative wage information provided to us by DPL officials. Consequently, our calculation is not speculative because it is based on information that was provided by and assumably verified by both Experior and DPL. The purpose for calculating

an estimated earnings loss is to demonstrate the real, negative impact that resulted from Experior's decision to increase the number of correct test answers necessary to successfully pass the exam, because of computer system capabilities. Based on its response, DPL and BSEE have taken measures to address this matter. However, we again recommend that DPL fully implement the recommendations in our report.

2. BSEE HAD NOT ESTABLISHED ADEQUATE CONTROLS TO ADDRESS COMPLAINTS FROM JPE CANDIDATES

We found that BSEE had not established adequate controls to ensure that complaints issued by candidates who took exams administered by BSEE are handled effectively and efficiently. As a result, there is inadequate assurance that BSEE was able to properly address candidates' concerns regarding exams and ensure timely and equitable resolutions.

The 237 CMR 14.4 establishes the following requirements for addressing concerns candidates may have regarding exams:

- 1. Any applicant who fails an examination may apply to the Board [BSEE] in writing for an opportunity to review the examination.*
- 2. Each applicant seeking review of an examination shall submit the required fee for such review.*
- 3. Applicants permitted to review an examination may not be accompanied by any individual while engaged in such review.*
- 4. The Board shall make all final decisions with respect to the validity of examination questions, applicant scores and applicant licensure.*

We found, however, that although regulations establish BSEE as the entity responsible for addressing candidates' questions or concerns regarding exams, BSEE has not established formal written policies and procedures for this purpose. Rather, according to BSEE officials, its practice was to rely on DPL's Executive Director and Experior to handle complaints.

Experior's contract with the Commonwealth did not specifically require it to address complaints by candidates regarding exams. However, in its Candidates Information Bulletin (CIB), Experior had established a process for candidates to comment on the exam.

Comments were divided by category, one dealing with exam questions, the other with the test experience. Candidates with comments on test questions were asked to write their comments on scratch paper and give them to the proctor. Candidates with comments on the test experience were asked to record those comments on the exam, report them to the proctor, or phone them in to Experior. We requested a copy of Experior's policies and procedures regarding the processing of these questions. Experior cited its policy, which was to respond to written inquiries within 10 calendar days. We then requested all inquiries received by Experior from JPE candidates during the period February 1, 2000 to February 28, 2002 and found that most of the 61 questions Experior received were not resolved within 10 days. In fact, for the majority of questions raised by candidates, Experior took 10-30 days to respond. Although we found that Experior was not adhering to its policy of responding to questions within the specified period, questions regarding the validity of questions and answers were referred to appropriate Experior staff and subject-matter experts for follow-up, review, and discussion, and Experior then sent an explanation of the results to the person making the inquiry.

We asked Experior and BSEE to provide copies of all complaints they had received regarding the JPE exam. Experior officials responded that during the period February 1, 2000 to February 28, 2002 they did not receive any complaints, although they did receive questions from candidates.

Experior officials stated that they received a few letters about the JPE exam. However, Experior did not maintain a file of these letters. As a result, it was not possible to determine to what extent JPE candidates who took exams during the period covered by our review may have complained about the test score change. Experior officials stated that their response to such letters was to remind the candidates that the JPE exam passing score had changed from 16 to 17. They also stated that they were unaware that any candidates regarded the change as a problem until the Executive Director and BSEE officially notified them in February 2002.

Although BSEE officials stated that they relied on DPL's Executive Director and Experior to resolve any complaints regarding exams, BSEE did not establish policies and procedures to ensure that it was made aware of complaints so that they could be resolved in an equitable and timely manner. As a result, BSEE did not become aware of changes to the scoring of the JPE exam and the concerns of candidates more than eight months after Experior had begun administering the new JPE exam (i.e., after the exam had been automated and the passing score increased).

During our audit, we brought this matter to the attention of BSEE and DPL officials. In response, BSEE and Experior have attempted to improve the candidate complaint process. Specifically, in May 2002 Experior authorized a revised CIB that requires Experior to forward a candidate's complaint to BSEE after Experior has reviewed the complaint but is unable to satisfy the candidate's inquiry.

Recommendation

BSEE and Experior should take measures to improve controls for addressing complaints regarding exams. At a minimum, such controls should include the development and implementation of formal written procedures on how complaints and concerns should be submitted to BSEE, who should handle them, and how they should be handled, how the results should be communicated within specific timelines, and how the entire process should be documented.

Auditee's Response

In response to this audit result, DPL's Director provided the following comments:

As the report notes, new controls have been put in place and the Division is continuing to exercise supervision over Experior in this regard. Since September 2002, the Board has published a new Candidate Information Brochure that clearly outlines candidates rights and opportunities for appeals. This information is included on web sites hosted by both the Division and Experior. In addition, candidate application forms were revised to make sure candidates understand their opportunities to raise any concerns.

Auditor's Reply

Based on its response, BSEE has taken measures to improve controls in this area. However, we again recommend that the agency fully implement the recommendations in this report.

3. DPL HAD NOT ESTABLISHED THE NUMBER AND LOCATION OF TEST SITES IN ACCORDANCE WITH CHAPTER 141 OF THE GENERAL LAWS

Chapter 141 of the General Laws requires BSEE to hold frequent examinations in Boston and in at least five other convenient places in the Commonwealth. We found, however, that the contract awarded by DPL to Experior to administer the JPE exam requires the firm to have only two Massachusetts test sites (Lexington and Worcester). The three other test sites specified in the contract are located in New Hampshire and Connecticut. As a result, candidates taking the JPE exam are not always afforded a convenient location to take the exam, contrary to the intent of this statute. Specifically, Section 2 of Chapter 141 states, in part:

They [BSEE] should hold frequent examinations in Boston and twice each year shall hold examinations in at least five other convenient places within the Commonwealth and they may hold annual or occasional examinations in other places. Public notice shall be given of all examinations.

Prior to DPL's changing the JPE exam to a CBT, test sites for the written exam were located in the following Massachusetts cities:

- Boston
- Lowell
- Fall River
- Springfield
- Pittsfield
- New Bedford

We found that when DPL awarded Experior the contract to administer the new CBT, the contract did not specify all test sites—nor had Experior's response to DPL's Request for

Response. Rather, Experior's proposal stated that it would deliver exams year-round at two Massachusetts CBT centers: Boston/Lexington and Worcester. Experior's proposal further noted that candidates may elect to take their exams at any of Experior's 100 testing centers nationwide, including those in New England. Subsequent to being awarded this contract, Experior established the following five test sites—two in Massachusetts and three elsewhere:

- Lexington, Massachusetts
- Worcester, Massachusetts
- Concord, New Hampshire
- West Hartford, Connecticut
- Norwalk, Connecticut

According to DPL's Executive Director, DPL and Experior verbally agreed to administer the tests in two sites in Massachusetts, two in Connecticut, and one in New Hampshire and to identify the test sites in the CIBs that Experior mails to candidates.

DPL officials stated that they agreed to allow Experior to administer tests outside the Commonwealth because Experior officials had advised them that establishing five test sites in Massachusetts would be cost prohibitive and Experior would have to increase exam fees as a result. Furthermore, according to the DPL's Executive Director, the availability of additional daily test sites in contiguous states meets, in his opinion, the spirit of the statutory requirement of Chapter 141. However, DPL officials told us that the Division plans to introduce legislation during calendar year 2003 to amend Chapter 141 to allow test sites for exams in non-Massachusetts locations.

Recommendation

DPL should take measures to ensure that it immediately complies with the requirements of Chapter 141 of the General Laws which are intended to provide test site access at convenient locations to Massachusetts candidates for certification. If, however, DPL believes that it is in the best interests of the Commonwealth and test candidates to have test

locations outside the Commonwealth, it should continue its efforts to introduce legislation to amend Chapter 141 accordingly.

Auditee's Response

In response to this audit result, DPL's Director provided the following comments:

The Board acknowledges the finding of the report but notes that this technical breach poses no inconvenience to test candidates given the substantial benefits offered by daily electronic testing which provides immediate score results. Nevertheless, the Division continues to advocate for passage of pending legislation to amend Chapter 141 that would resolve this technical finding.

Auditor's Reply

Regardless of whether or not DPL believes that not having all test sites within the Commonwealth poses no inconvenience to test takers, the fact is that by not requiring Exporior to have five test sites within Massachusetts, DPL has failed to fully comply with the requirements of Chapter 141. As such, we urge the Division to fully implement our recommendation.

4. OTHER MATTERS

After we began our audit, a former BSEE member brought to our attention additional concerns regarding the administration of BSEE. A concern regarding the location of test sites for the JPE exam was investigated by the audit staff, and the results are presented in Audit Result No. 3 of this report. The other concerns, the audit work we conducted to address them, and our conclusions are detailed in the following sections.

a. Concern: DPL Inappropriately Changed the Governance Structure of BSEE

As noted in the Introduction, Chapter 13 of the General Laws established BSEE and requires it to appoint an Executive Secretary to handle the Board's daily operations and act as intermediary between BSEE and DPL. During the 1990s, DPL decided to hire an Executive Director in lieu of a BSEE-appointed Executive Secretary to perform these duties. In our opinion, DPL was within its rights to do this with BSEE approval, because when Chapter 122 of the General Laws established DPL, it removed the BSEE's budget authority

and gave it to DPL. Based on our review of the minutes of the meetings of BSEE, when DPL appointed an Executive Director in 1998 to fill this position, BSEE did not object to this governance change.

b. Concern: There Is Inadequate Control over the Accuracy of Test Questions

We found that during the period of our review BSEE did not have written policies and procedures for determining which questions are suitable for use in its exams. Rather, BSEE officials told us, BSEE was not actively involved in this process and instead relied on Experior and DPL's Executive Director to prepare exam questions.

During 2001, Experior held a series of meetings to determine the appropriate questions for each BSEE exam, and although the meetings were not adequately documented (see Audit Result No. 2) they resulted in a series of questions being established for each exam, including the JPE exam. However, our review of the minutes of BSEE meetings for that period of time found no indication that the questions were formally submitted to, or formally approved by, BSEE.

DPL's Executive Director stated that based on our audit work, and in conjunction with BSEE, DPL changed the procedures for the approval of exam questions. Specifically, in October 2002, DPL's Executive Director and his staff established a BSEE Subcommittee on Education. All exam questions now must be submitted to this subcommittee for review and approval. The subcommittee then submits the approved questions to the BSEE, which votes to grant final approval.

c. Concern: There Has Been an Inappropriate Increase in Exam Fees

We found that during our audit period DPL increased exam fees, as outlined in the following table:

Changes in Exam Fees

	January 1, 2000 to December 31, 2001	January 1, 2002 to Present
Written/Business and Law First-Time Application/License Fee	\$280	\$323
Journeyman Electrician Examination Written and Practical First-Time Application/License Fee	\$227	\$253
Systems Contactor (Certificate C) Examination Written/Business and Law First-Time Application/License Fee	\$280	\$323

DPL officials explained that fees were increased at the request of the Legislature.

d. Concern: Electrical Inspections on a Major Construction Project Were Not Performed

At hundreds of locations in the Commonwealth's Central Artery/Tunnel (CA/T) Project there are electrical connections and installations. For example, traffic and other signals need to be installed, machinery needs electrical power to operate, and electrical systems need to interface. By law, these electrical connections and installations must be inspected to ensure that they work properly and meet the requirements of the state's electrical code.

DPL officials stated that given the size and complexity of the CA/T Project, there was some dispute regarding which agency should be responsible for issuing permits and conducting the inspections of electrical work. As a result, during fiscal year 1997, six state entities—the Massachusetts Division of Registration (currently, DPL), BSEE, the Massachusetts Highway Department, the Massachusetts Bay Transportation Authority, the Massachusetts Port Authority, and the Massachusetts Turnpike Authority—entered into a Memorandum of Understanding (MOU). Under this MOU, the exclusive authority and jurisdiction for the permitting and inspection of electrical work on horizontal construction undertaken by the six agencies and their agents or contactors was given to DPL. Under the agreement, the six agencies were to provide funding for two electrical inspectors and various overhead expenses (e.g., administrative support). The agreement also stipulated that local (primarily, City of Boston) inspectors were still responsible for inspecting electrical connections in all vertical structures.

The former BSEE member stated that he didn't know whether the inspectors hired by DPL under the MOU were qualified, and therefore he questioned whether the inspections of the horizontal structures (e.g., the Ted Williams Tunnel) associated with this project were properly conducted, or whether inspections were conducted at all.

We spoke with DPL's Executive Director regarding this matter, and he stated that DPL had originally hired two inspectors, both master electricians with over 10 years of experience. He further stated that the original inspectors have subsequently left but have been replaced with equally qualified individuals.

The Executive Director explained that DPL, upon entering into the MOU, established a process whereby contractors involved in horizontal electrical work must file an application with DPL. If the application is approved, DPL issues the contractors a permit and DPL inspectors perform regular inspections of the work. During our audit, we reviewed a sample of inspection files for calendar years 2001 and 2002 and concluded that for the projects in our sample the appropriate permits had been obtained and the necessary inspections conducted.

We also met with officials from the CA/T Project, including the Chief Electrical Inspector (CEI). These officials stated that they were aware that DPL electrical inspectors had conducted inspections of certain aspects of the Project and continue to do so. However, these officials also stated that the inspection work of DPL inspectors was not integrated with that of Project staff, except that when DPL inspectors identify a problem they report it to Project officials, who ensure that it is corrected.

The CEI stated that regardless of the DPL inspectors' work, the existing checks and balances within the process ensure that all electrical work on the Project is consistent with the requirements of the terms and conditions of applicable contracts and the state's electrical code. Specifically, he pointed out that electrical contractors working on each phase of the process have licensed electricians who are fully aware of the requirements of the state's electrical code. Furthermore, the CEI stated that his staff inspects each phase of the project both for compliance with contractual terms and conditions and for compliance with the

electrical code. Accordingly, the CEI stated, he is confident that all aspects of the project have been completed according to code. He also provided a copy of a document titled “Electrical Systems Approval Affidavit,” a sworn statement that the CEI had signed, attesting that to the best of his knowledge all electrical systems on the specific project were satisfactorily completed in compliance with contractual terms and the state’s electrical code.

Based on our audit testing in this area, we determined that there appear to be adequate controls over the process to ensure that the required electrical inspections regarding the Project were conducted and are continuing.

Auditee’s Response

In response to these Other Matters, DPL’s Director provided the following comments:

The Board is pleased to see that the draft recognizes that the change of nomenclature for Executive Secretary to Executive Director was part of a statutory change and that the fee increase on licenses was mandated by the legislature. Finally, the Board is also pleased that the report finds that the electrical inspections of the CA/T project are adequately documented, performed and on going.