July 2015 FBPE Rules Committee Meeting

July 15, 2015 at 08:30 AM

FBPE Board Office

2639 N. Monroe St., Ste. B-112

Tallahassee, Florida 32303

July 2015 FBPE Rules Committee Meeting Book

1. Call to Order

2. Roll Call, Determination of Quorum and Address Absences

3. Introduction of Guests & Annoucements

4. Discusson on Rule 61G15-20.0010
Review New/Proposed PE Application for Licensure by Examination – (Mr. Bracken has been revising it after comments from board members at the June 2015 FBPE Board Meeting) –Comments from Board Members are now past due—if you have not provided them, please provide them as soon as possible

5. Review/Open Rule 61G15-21.007 - Re-Examination
(Concerns from JAPC about the review courses & proposed changes by General Counsel Harris)

6. Review/Open Rule 61G15-23
(JAPC has some concerns about the new language that was passed at the February 2015 FBPE Board Meeting)

7. Review/Open Rule 61G15-31.004
Design of Cast-in-Place Post-Tensioned Concrete Structural Systems (email from June 2015 FBPE Board Meeting)

8. Review/Open Rule 61G15-31.006
Design of Structural Systems Utilizing Open Web Steel Joists and Joists Girders.

9. Review/Open Rule 61G15-32.004 (2)
Design of Water Based Fire Protection Systems

10. Review/Open Rule 61G15-35.003(c)
Qualification Program for Special Inspectors of Threshold Buildings (JAPC has concerns & email from June 2015 FBPE Board Meeting)
(Exhibit #10)

11. Review/Open Rule 61G15-35.004
Common Requirements to All Engineers Providing Threshold Building Inspection Services

12. Discussion on Rule 61G15-20.007
Educational Requirements for Applicants without EAC/ABET Accredited Engineering Degrees – the new rule that was passed at the June 2015 FBPE Board Meeting (How granting H&SS for experience applies to FE Applicants)

13. Old Business

14. New Business

15. Adjourn

a. Date, Time and Location of Next Rules Committee Meeting

September 16, 2015 at 8:30 a.m.
FBPE Office
2639 North Monroe Street
Suite B-112
Tallahassee, FL 32303

PAM BONDI
ATTORNEY GENERAL
STATE OF FLORIDA

OFFICE OF THE ATTORNEY GENERAL
Administrative Law Bureau

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June 23, 2015

Ms. Marjorie C. Holladay
Chief Attorney
Joint Administrative Procedures Committee
Room 680, Pepper Building
111 W. Madison Street
Tallahassee, Florida 32399-1400

Re: Department of Business and Professional Regulation
Board of Professional Engineers Rule 61G15-21.007, F.A.C.

Dear Ms. Holladay:

I am writing in response to your correspondence of June 17, 2015, regarding the above-referenced rule. In your correspondence, you make three comments, two of which will require decisions of the Board. The Rules Committee is next scheduled to meet July 15, 2015, and I will endeavor to have this matter placed on the meeting agenda for the Committee's consideration and recommendation to the full Board. I will promptly update you on the Board's decisions thereafter.

Thank you for your comments and assistance regarding the Board's rulemaking endeavors. As always, please do not hesitate to contact me if you have any questions or further concerns.

Sincerely,

Lawrence D. Harris
Assistant Attorney General
Counsel to the Florida Board of Professional Engineers

cc: Zana Raybon, Executive Director
Tammie Britt, Paralegal Specialist

Board Counsel suggested amendments to resolve June 17, 2015 JAPC concerns.

- Section 471.015 is deleted from the "Law Implemented" section;
- Paragraph (b) is deleted from the reference to Rule 20.007(1). It appears the intent of section (1) is to require remedial courses in mathematics, science or engineering, which are addressed by 20.007(1)(a) and (c); 20.007(1)(b) addresses general education, which does not appear to be the Board's intent;
- (2) is reworded, to substantially revise and combine the first and last sentences of the subsection, in an attempt to make the sentences "clearer to the reader."

61G15-21.007 Re-examination.

If an applicant fails three times to pass the examination, the applicant must take additional courses in order to reapply for examination. The applicant may either:

(1) Submit to the Board of Professional Engineers transcripts for the enrollment and completion of twelve (12) college credit hours, with grades no lower than a "C" or its equivalent, of college level courses in the applicant's area of deficiency. For applicants to take Part I of the engineer examination, such additional courses shall be undergraduate college courses in higher mathematics, basic sciences or engineering as described in paragraphs 61G15-20.007(1)(a)~~, (b)~~ and (c), F.A.C. For applicants to take Part II of the engineer examination, such additional courses shall be upper level or higher courses in engineering, as defined in paragraph 61G15-20.007(1)(c), F.A.C.; or

(2) Submit evidence of completion of one of the following board approved engineering examination review courses; ~~offered by:~~ the selected course must cover content for the examination in the engineering discipline the applicant intends to take.

(a) Schools with an ABET approved engineering program;

(b) Kaplan Engineering Education;

(c) School of PE;

(d) Testmasters Educational Services, Inc.;

(e) SmartPros, Ltd.;

(f) Professional Publications, Inc.; or

(g) State and National Engineering Professional Associations approved by the Board.

~~The applicant must take a review course that covers content for the examination in the engineering discipline which the applicant intends to take.~~

Rulemaking Authority 455.217(2), 471.008 FS. Law Implemented 455.217(2), 471.013, ~~471.015~~ FS. History–New 1-8-80, Amended 8-25-81, Formerly 21H-21.07, 21H-21.007, Amended 2-14-95, 5-22-01, 12-10-02, 2-3-05, 4-10-08, _____.

THE FLORIDA LEGISLATURE

JOINT ADMINISTRATIVE PROCEDURES COMMITTEE

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June 23, 2015

Mr. Lawrence Harris
Assistant Attorney General
Department of Legal Affairs
PL-01, The Capitol
Tallahassee, Florida 32399-1050

Re: DBPR: Board of Professional Engineers
Rules 61G15-23.001, .002, .003, .004, and .005, F.A.C.

Dear Mr. Harris:

I have reviewed the above-referenced proposed rules, which were advertised in the Florida Administrative Register on June 16, 2015. I have the following comments.

Purpose and Effect and Summary:
These statements discuss the reorganization of this rule chapter, as well as the addition of rule 61G15-23.005. The statements do not appear, however, to discuss the purpose and effect of this new rule, nor do they summarize it. Please publish a notice of correction to include the purpose and effect of rule 61G15-23.005 and a summary of that rule. *See* § 120.54(3)(a)1., Fla. Stat.

Summary of Statement of Estimated Regulatory Costs and Legislative Ratification:
This summary in the notice of proposed rule states, in part, that, "[T]he Board found there will be no adverse impact on small business, nor are the amendments expected to increase costs, directly or indirectly, on any entity in excess of $200,000. Accordingly, no SERC is required, nor is legislative Ratification [sic] necessary."

It is unclear whether the $200,000 economic impact referenced in this summary is referring to one year after implementation of the rule, as contemplated in section 120.541(1)(b). Moreover, the threshold amount to determine whether legislative ratification is required is not $200,000. Instead, legislative ratification will be required if the rule has a direct or indirect economic impact as set forth in section 120.541(2)(a), which is in excess of $1 million in the aggregate within five years after implementation of the rule. While a rule may not have an economic

impact of $200,000 in the first year after implementation, it could ultimately have all its economic impact in years two through five, and this amount could exceed $1 million.

Please publish a notice of correction describing the information expressly relied upon by the board to determine why legislative ratification is not expected to be required. *See* § 120.54(3)(a)1., Fla. Stat.

61G15-23.001: The word "shall" in the rule title should be capitalized.

61G15-23.001(1): Please explain why this subsection includes the requirements set forth in paragraphs (1)(a) and (b). It appears those requirements are included in section 471.025(1). *See* § 120.545(1)(c), Fla. Stat.

61G15-23.001(1)(c): Please provide statutory authority for the requirements set forth in this rule paragraph. They do not appear to be authorized by section 471.025, cited as the law implemented.

61G15-23.001(2): Please provide statutory authority for the requirements of this rule subsection. They do not appear to be authorized by section 471.025, cited as the law implemented.

61G15-23.001(3): See comment to 61G15-23.001(2).

61G15-23.001(4): See comment to 61G15-23.001(2).

61G15-23.001(6): See comment to 61G15-23.001(2).

61G15-23.001(8): Please explain what the board means by "clearly notes." *See* § 120.52(8)(d), Fla. Stat.

61G15-23.002: Please explain why section 471.033(1)(a) is cited as a law implemented.

61G15-23.002(1)(c): Please explain what the board means by "native full size." *See* § 120.52(8)(d), Fla. Stat.

61G15-23.002(2)(b): It appears that, "[i]f the seal is for a temporary license" should be "[i]f the seal is for a temporary licensee."

61G15-23.002(2)(c): Please explain the board's authority to prescribe a seal used by licensees in good standing under both chapter 471 and 472. It does not appear that the board is authorized to determine a seal used by persons licensed under chapter 472.

61G15-23.004: It does not appear that section 471.033(2) should be cited as rulemaking authority.

It does not appear that section 471.033(1)(d) should be cited as a law implemented.

61G15-23.004(3)(f): The reference to "section (e)" should be to "paragraph (e)."

61G15-23.005: It does not appear that section 471.033(2) should be cited as rulemaking authority.

It does not appear that section 471.033(1)(d) should be cited as a law implemented. If that statute is correctly cited as a law implemented, please insert a comma and a space preceding its citation.

61G15-23.005(2)(a): This rule paragraph incorporates by reference the Federal Information Processing Standard Publication 180-3, entitled Secure Hash Standards, dated October 2008. It appears that a more recent version of that document may be available. Please confirm whether the rule is referencing the correct edition of that document. If the board intended to incorporate a subsequent version of that document, a notice of change must be published to reference the correct edition of that publication. *See* § 120.54(3)(d). Additionally, a copy must be provided to the committee at least 21 days prior to adoption of the rule. *See* § 120.54(3)(a)4., Fla. Stat.

61G15-23.005(3)(a): It appears that the word "Digitally" should be "digitally."

As always, please let me know if you have any questions. Otherwise, I look forward to your response.

Sincerely,

Marjorie C. Holladay
Chief Attorney

cc: Mr. Edward Tellechea, Bureau Chief

MCH:SA WORD/MARJORIE/61G15_23.001LS062315_158422_158426

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June 25, 2015

Ms. Marjorie C. Holladay
Chief Attorney
Joint Administrative Procedures Committee
Room 680, Pepper Building
111 W. Madison Street
Tallahassee, Florida 32399-1400

Re: Department of Business and Professional Regulation
Board of Professional Engineers Rules 61G15-23.001 - 23.005, F.A.C.

Dear Ms. Holladay:

I am writing in response to your June 23, 2015, correspondence regarding the above-referenced rules, wherein you make a number of substantive comments which will require decisions of the Board to resolve. I will endeavor to have your correspondence presented to the Board's Rules Committee at its next meeting; the Rules Committee's recommended language will then go to the full Board for final decision. The Rules Committee is next scheduled to meet on July 15, 2015, and the next Board meeting is scheduled for August 12, 2015. I will promptly update you on the Board's decision thereafter.

Thank you for your comments and assistance regarding the Board's rulemaking endeavors. As always, please do not hesitate to contact me if you have any questions or further concerns.

Sincerely,

Lawrence D. Harris
Assistant Attorney General
Counsel to the Florida Board of Professional Engineers

cc: Zana Raybon, Executive Director
Tammie Britt, Paralegal Specialist

As passed at the February 2015 FBPE Board Meeting:

61G15-23 SEALS

61G15-23.001 Signature, Date and Seal Shall Be Affixed
(1) A professional engineer shall sign, date and seal
(2) Plans and Prints
(3) Engineering Specification and Calculations
(4) Engineering Reports or Other Documents
(5) The date that the signature and seal is affixed
(6) Professional engineers working for local, State or Federal government agencies
(7) A professional engineer may only sign, date and seal
(8) A professional engineer shall not sign, date and seal

61G15-23.002 Seals Acceptable to the Board
(1) Only the following seals are authorized to be used
(2) Wet Seals, Embossing Seals and Digitally Created Seals

61G15-23.003 Procedures for Physically Signing and Sealing Plans, Specifications, Reports or Other Documents
(1) Engineering plans, specifications, reports or other documents

61G15-23.004 Procedures for Digitally Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents
(1) Engineering plans, specifications, reports or other documents
(2) A professional engineer utilizing a digital signature
(3) The affixing of a digital signature

61G15-23.005 Procedures for Electronically Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents
(1) Engineering plans, specifications, reports or other documents
(2) A professional engineer utilizing an electronic signature
(3) The affixing of an electronic signature

CHAPTER 61G15-23

SEALS

61G15-23.00~~2~~1 ~~Seal,~~ Signature ~~and,~~ Date and Seal Shall Be Affixed.

(1) A professional engineer shall sign ~~by hand the licensee's handwritten signature (facsimiles are not acceptable) and affix the licensee's~~, date and seal:

(a) ~~To a~~All final ~~drawings, specifications,~~ plans, prints, specifications, reports, or other documents prepared or issued by the licensee and being filed for public record; ~~and~~

(b) ~~To a~~All final documents provided to the owner or the owner's representative; and

~~(c) In addition, the date that the signature and seal is affixed as provided herein shall be entered on said plans, specifications, reports, or other documents immediately adjacent to the signature of the professional engineer.~~

(~~d~~c) ~~In order to comply with the requirements of this rule, a licensee is not required to seal, sign and date documents other than those referenced in paragraph (a) or (b). This provision does not obviate any~~All documents ~~requirement of~~required by any public entity or any provision of contract which ~~may~~ requires the ~~sealing,~~ signing, ~~and~~ dating and sealing of additional original documents.

(2)~~(a)~~ Plans and Prints: When an engineer must sign, date and seal plans or prints under the provisions of Section 471.025, F.S., and subsection (1) of this rule, ~~E~~every sheet ~~of~~ within the plans and prints ~~which~~ must be ~~sealed under the provisions of Chapter 471, F.S., shall be sealed,~~ signed ~~and,~~ dated and sealed by the professional engineer in responsible charge.

(a) A title block shall be used on each sheet of plans or prints and shall contain the printed name, address, and license number of the engineer who has signed, dated and sealed the plans or prints.

(b) If the engineer signing, dating and sealing engineering plans or prints is practicing through a duly authorized engineering business; the title block shall contain the printed name, address and certificate of authorization number of the engineering business.

(~~b~~3) Engineering Specifications and Calculations: When an engineer must ~~seal,~~ sign ~~and,~~ date and seal engineering specifications or calculations under the provisions of Section 471.025, F.S., and subsection (1) of this rule, an index sheet ~~for engineering specifications and calculations may~~shall be used and shall be signed, dated and sealed by each professional engineer who is in responsible charge of any portion of the engineering specifications or calculations.

(a) The index sheet must be signed, ~~sealed and~~dated and sealed by those professional engineers in responsible charge of the production and preparation of each section of the engineering specifications or calculations, with sufficient information on the index sheet so that the user will be aware of each portion of the specifications or calculations for which each professional engineer is responsible. ~~In addition, t~~

(b) The index sheet shall include at a minimum:

1. The printed name, address and license number of each engineer in responsible charge of the production of any portion of the calculations or specifications.

2. If the engineer signing, dating and sealing calculations or specifications is practicing through a duly authorized engineering business; the printed name, address and certificate of authorization number of the engineering business.

~~2~~3. Identification of the project, by address or by lot number, block number, section or subdivision and city or county.

~~3~~4. Identification of the applicable building code and chapter(s) that the design is intended to meet.

Comment [WCB1]: This section was modified to include electronically transmitted documents

Comment [WCB2]: This item was moved to **61G15-23.003(1)**

Comment [WCB3]: All references to documents were standardized to: *plans, prints, specifications, reports or other documents*

Comment [WCB4]: This item was moved to **61G15-23.001(5)**

Comment [WCB5]: This item was reworded so as to fit with the two previous items (a) and (b)

Comment [WCB6]: All references to sealing were standardized to: *Signed, Dated and Sealed*

Comment [WCB7]: Modified to match the other items within this section

Comment [WCB8]: Copied from **61G15-23.002(3)(c)** to match the other items within this section

Comment [WCB9]: Modified to match the other items within this section

Comment [WCB10]: Copied from **61G15-23.002(3)(c)** to match the other items within this section

45. Identification of any computer program used for engineering the specifications or calculations.

(c4) ~~Engineering reports which must be~~Engineering Reports or Other Documents: When an engineer must sign~~ed, sealed and~~, date~~d~~ and seal engineering reports or other documents under the provisions of Section 471.025, F.S., and subsection (1) of this rule, ~~, shall be sealed, signed and dated by utilizing~~ a signature page or cover letter shall be used and shall be ~~that is sealed,~~ signed ~~and~~, dated and sealed by each professional engineer who is in responsible charge of any portion of the report with sufficient information provided so that the user will be aware of each portion for which each professional engineer is responsible.

(a) If the engineer signing, dating and sealing an engineering report or other document is practicing through a duly authorized engineering business, the printed name, address and certificate of authorization number of the engineering business shall be placed on the signature page or cover letter.

~~(3)(a) A title block shall be used on each sheet of plans or prints and shall contain the printed name, address, and license number of the engineer who has sealed, signed and dated the plans or prints.~~

~~(b) If the engineer sealing, signing and dating engineering plans or prints is practicing through a duly authorized engineering business, the title block required by paragraph (2)(a) shall contain the name, address and certificate of authorization number of the engineering business.~~

~~(c) If the licensee(s) sealing signing and dating engineering specifications, calculations or reports is practicing through a duly authorized engineering business, the name, address and certificate of authorization number of the engineering business shall be placed on the index sheet, signature page or cover letter incorporated into or accompanying all engineering specifications, calculations or reports.~~

(5) The date that the signature and seal is affixed as provided herein shall be entered on said plans, prints, specifications, reports or other documents immediately adjacent to the signature of the professional engineer.

(46) Professional ~~E~~engineers working for local, State or Federal Government agencies shall legibly indicate their name and license number, and shall indicate the name and address of the agency on all documents that are required to be ~~sealed,~~ signed ~~and~~, dated and sealed.

(57) A professional engineer may only sign, date and seal ~~an~~ engineering ~~report,~~ plans, prints, ~~or~~ specifications~~-~~, reports or other documents if that professional engineer was in responsible charge, as that term is defined in subsection ~~61G15~~Rule 61G15-18.011(1), F.A.C., of the preparation and production of the engineering document and the professional engineer has the expertise in the engineering discipline used in producing the engineering document(s) in question.

~~(6) A professional engineer shall not seal original documents made of mylar, linen, sepia or other materials which can be changed by the entity with whom such document(s) are filed unless the professional engineer accompanies such document(s) with a signed and sealed letter making the receiver aware that copies of the original document as designed by the professional engineer have been retained by the professional engineer and that the professional engineer will not be responsible for any subsequent changes to the reproducible original documents.~~

(~~7~~8) A professional engineer shall not sign, date and seal ~~plans, reports or other~~any documents which are not final documents unless the professional engineer clearly notes any limitations on the use of ~~the~~ those documents ~~or plans~~ on the face of ~~the~~ those documents ~~or plans,~~ by using terms such as "Preliminary," "For Review Only," "Not for Construction," or any other suitable statement which denotes that the documents are for limited use, are not final and are not intended for permit, construction, or bidding purposes.

~~(8) Engineers who wish to sign and seal electronically transmitted plans, specifications, reports, final bid documents, or other documents shall follow the procedures set forth in Rule 61G15-23.003, F.A.C.~~

Comment [WCB11]: Modified to match the other items within this section

Comment [WCB12]: Copied from **61G15-23.002(3)(c)** to match the other items within this section

Comment [WCB13]: Moved to **61G15-23.001(2)(a) & (b)**

Comment [WCB14]: Moved to **61G15-23.001(3)(c) & (4)(a)**

Comment [WCB15]: This item was moved here from **61G15-23.002(1)(b)**

Comment [WCB16]: Removed because it was outdated and no longer applicable

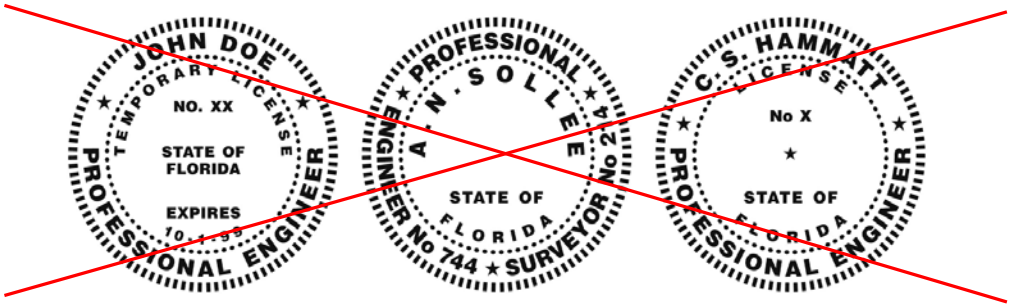
Comment [WCB17]: Removed because it was redundant

61G15-23.00~~1~~2 Seals Acceptable to the Board.

(1) ~~Pursuant to Section 471.025, F.S., the Board hereby establishes as indicated below the forms of~~Only the following seals ~~which~~ are ~~acceptable to the Board.~~authorized to be used pursuant to Section 471.025, F.S.:

(a) Wet Seals: A Wet Seal is any ~~Any~~ seal physically applied to a printed document capable of leaving a permanent ink representation or other form of opaque ~~and~~ permanent impression on the printed document ~~which contains the information described herein is acceptable to the Board.~~ that complies with Rule 61G15-23.002(2), F.A.C.,

(b) ~~Said seal shall be a minimum of 1 7/8 inches in diameter and shall be of a design similar to those set forth below.~~ Embossing Seals: An Embossing Seal is any seal physically applied to a printed document capable of leaving a permanent crimped representation or other form of permanent raised impression on the printed document that complies with Rule 61G15-23.002(2), F.A.C., or



(c) ~~The type of seal in the center may be used only by registrants who are in good standing under both Chapters 471 and 472, F.S.~~ Digitally Created Seals: A Digitally Created Seal is any seal created as part of the document and not physically applied that is an opaque permanent representation that complies with Rule 61G15-23.002(2), F.A.C. when the document is printed in its native full size.

~~(d) The seal may contain an abbreviated form of the licensee's given name or a combination of initials representing the licensee's given name provided the surname listed with the Board appears on the seal and in the signature.~~

(2) ~~Embossing impression seals which do not provide an opaque and permanent impression or permanent ink representation and computer generated seals which otherwise comply with these provisions are also acceptable to the Board.~~ Wet Seals, Embossing Seals and Digitally Created Seals shall be a minimum of 1-7/8 inches in diameter and shall be of a design similar to those set forth in (a), (b) and (c) below.

(a) The seal must contain the licensee's given name, the licensee's license number immediately preceded by the designation "No", the words "PROFESSIONAL ENGINEER" and the words "STATE OF FLORIDA" similar to that depicted here:

Comment [WCB18]: Reworded

Comment [WCB19]: Define a "Wet Seal"

Comment [WCB20]: This item was moved to **61G15-23.002(2)**

Comment [WCB21]: Define an "Embossing Seal"

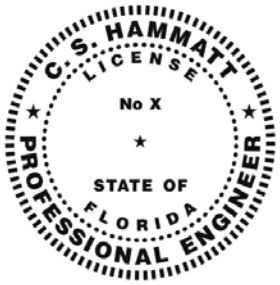
Comment [WCB22]: This item was moved to **61G15-23.002(2)(c)**

Comment [WCB23]: Define a "Digitally Created Seal"

Comment [WCB24]: This item was moved to **61G15-23.002(2)(d)**

Comment [WCB25]: This was used to define a "Digitally Created Seal"

Comment [WCB26]: This was reworded so as to include all types of seals and to provide guidance on what is to be included on the seal



(b) If the seal is for a temporary license it must also contain the words "TEMPORARY LICENSE" and the date that the license expires in the form of "Month – Day – Year" immediately preceded by the word "EXPIRES" similar to that depicted here:

Comment [WCB27]: This text was created so as to provide guidance on what is to be included on a temporary seal

(c) For licensees who are in good standing under both Chapters 471 and 472, F.S., a seal similar to that depicted here may be used:

Comment [WCB28]: This text was created so as to provide guidance on what is to be included on a combination engineering and surveying seal

(d) Seals may contain an abbreviated form of the licensee's given name or a combination of initials representing the licensee's given name provided the surname listed with the Board appears on the seal and in the signature.

Comment [WCB29]: This was moved here from **61G15-23.001(1)(d)**

61G15-23.003 Procedures for Physically Signing and Sealing Plans, Specifications, Reports or Other Documents.

Engineering plans, specifications, reports or other documents which must be signed, dated and sealed in accordance with the provisions of Section 471.025, F.S., and Rule 61G15-23.001, F.A.C. may be physically signed, dated and sealed as provided herein by the professional engineer in responsible charge.

(1) The licensee shall sign by hand an original of the licensee's signature on each page required to be sealed. A scanned, facsimile, digitally created or copied image of the licensee's signature shall not be used.

(2) The licensee must then use a wet seal, a digitally created seal, or an embossing seal placed partially overlapping the licensee's signature on each page required to be sealed. The placement of the seal shall not render the signature illegible.

61G15-23.0034 Procedures for Digitally Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.

(1) Engineering plans, specifications, reports or other documents ~~work~~ which must be signed, dated and sealed in accordance with ~~sealed under~~ the provisions of Section 471.025, F.S., and Rule 61G15-23.001, F.A.C. may be signed ~~electronically or~~ digitally as provided herein by the professional engineer in responsible charge. As used herein, the terms "certification authority," and "digital signature" ~~and "electronic signature"~~ shall have the meanings ascribed to them in Sections 668.003(2), (3) and (4), F.S.

~~The affixing of a digital or electronic signature to engineering work as provided herein shall constitute the sealing of such work.~~

~~(a) A scanned image of an original signature shall not be used in lieu of a digital or electronic signature.~~

~~(b) The date that the electronic signature file was created or the digital signature was placed into the document must appear on the document in the same manner as date is required to be applied when a licensee uses the manual sealing procedure set out in Rule 61G15-23.002, F.A.C.~~

(2) A professional engineer utilizing a digital signature to electronically sign and seal engineering plans, specifications, reports or other documents ~~work~~ shall have their identity authenticated by a certification authority and shall assure that the digital signature is:

(a) Unique to the person using it;

(b) Capable of verification;

(c) Under the sole control of the person using it; and

(d) Linked to a document in such a manner that the ~~electronic~~ digital signature and correspondingly the document is invalidated if any data in the document ~~are~~ is changed.

(3) The affixing of a digital signature to engineering plans, specifications, reports or other documents as provided herein shall constitute the signing and sealing of such items.

(a) A Digitally created seal as set forth in Rule 61G15-23.002, F.A.C. may be placed where it would appear if the item were being physically signed, dated and sealed.

(b) The date that the digital signature was placed into the document must appear on the document in accordance with Rule 61G15-23.001(5), F.A.C. and where it would appear if the item were being physically signed, dated and sealed.

(c) The engineering plans, specifications, reports or other documents being digitally signed and sealed shall include text to indicate the following and place it where an original signature would appear if the item were being physically signed, dated and sealed:

1. The same information required by Rule 61G15-23.002(2), F.A.C. if a digitally created seal is not use,

2. The item has been electronically signed and sealed using a Digital Signature, and

Comment [WCB30]: This was created for Physically signing and sealing

Comment [WCB31]: Created to match the previously created section on electronic sign, dating and sealing

Comment [WCB32]: This item was moved here from **61G15-23.002(1)**

Comment [WCB33]: This was modified to address only digital signing and sealing

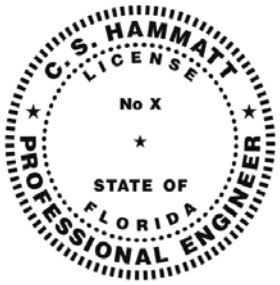
Comment [WCB34]: This was moved to create **61G15-23.004(3)** below

Comment [WCB35]: This was moved here from **61G15-23.004(1)** above

3. Printed copies of the document are not considered signed and sealed and all signatures must be verified on any electronic copies.

(d) Formatting of seals and text similar to that depicted below may be used.

1. When a digitally created seal is used:



This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

2. When a digitally created seal is not used:

C. S. Hammatt, State of Florida, Professional Engineer, License No. X

This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

(~~4~~e) ~~A professional engineer signing and sealing a document in electronic form that~~ When engineering plans, specifications, reports or other documents contain~~s~~ multiple ~~plan~~ sheets or pages, the licensee may apply a single digital signature per electronically transmitted item as set out in Rule 61G15-23.001~~subsection 61G15-23.003(2)~~, F.A.C.~~, or an electronic signature set forth in subsection (3)~~. A ~~single~~ digital signature applied to ~~a document~~ an item in electronic form shall have the same force and effect as signing all of the individual sheets or pages ~~in the set~~ contained ~~in said document~~ within that item unless otherwise limited ~~by elements of the project for which the engineer does not intend to accept responsibility by use of qualifying language, as set out~~as specified in subsection 61G15-30.003(3), F.A.C.

(f) In the case where multiple ~~engineers of record are to~~ licensees sign and seal a single ~~document file~~item, each licensee shall apply their digital ~~or electronic~~ signature and include qualifying language with those items required in section (e) of this rule ~~in said signature, or in the text of the document~~ thoroughly describing what portions the~~y take~~ licensee is taking responsibility for.

61G15-23.005 Procedures for Electronically Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.

Comment [WCB36]: This was created to address electronic signing and sealing

(1) Engineering plans, specifications, reports or other documents which must be signed, dated and sealed in accordance with the provisions of Section 471.025, F.S., and Rule 61G15-23.001, F.A.C. may be signed electronically as provided herein by the professional engineer in responsible charge. As used herein, the term "electronic signature" shall have the meanings ascribed to them in Sections 668.003(2), (3) and (4), F.S.

(~~3~~2) A professional engineer utilizing an electronic signature to electronically sign and seal engineering plans, specifications, reports or other documents ~~work~~ shall:

(a) ~~c~~Create a "signature" file that contains the ~~engineer's name and PE number~~ licensee's given name, the licensee's license number, a brief overall description of the engineering documents to be signed and sealed, ~~and~~ a list of the electronic files to be signed and sealed~~.~~, and the ~~Each file shall have an~~ ***SHA-1*** authentication code ~~defined as an SHA-1 message digest~~or ***Secure Hash Standard*** for each electronic file to be signed and sealed. The ***SHA-1*** authentication code is described in Federal Information Processing Standard Publication 180-3 "***Secure Hash Standard***," October 2008, which is hereby adopted and incorporated by reference by the Board and can be obtained from the Internet Website: http://www.flrules.org/Gateway/reference.asp?No=Ref-00790, ~~or http://csrc.nist.gov/publications/fips/fips180-3_final.pdf~~.

(b) ~~The licensees shall then c~~Create a "signature" report that contains the ~~engineer's name and PE number~~ licensee's given name, the licensee's license number, a brief overall description of the engineering documents ~~in question~~ to be signed and sealed and the ***SHA-1*** authentication code of the signature file~~.~~,

(c) ~~This report shall be p~~Print~~ed~~ and manually sign~~ed~~, date~~d,~~ and seal~~ed~~ the signature report in compliance with Rule 61G15-23, F.A.C. ~~by the professional engineer in responsible charge.~~,

(d) Transmit the signed, dated and sealed signature report ~~shall be sent~~ to the authority having jurisdiction along with the signed, dated and sealed signature file. ~~either by hardcopy or electronic scan; if scanned and sent electronically. The hardcopy signed and sealed report shall be retained by the licensee in accordance with Rule 61G15-30.009, F.A.C.~~ The signature file is ~~defined as~~considered to be signed and sealed if the signature file's authentication code matches the authentication code on the manually signed, dated and sealed signature report. Each electronic file listed ~~in a~~within the signed and sealed signature file is ~~defined as~~considered to be signed and sealed if the listed ***SHA-1*** authentication code in the signature file matches the electronic file's ***SHA-1*** ~~computed~~ authentication code.

(3) The affixing of an electronic signature to engineering plans, specifications, reports or other documents as provided herein shall constitute the signing and sealing of such items.

(a) A Digitally created seal as set forth in Rule 61G15-23.002, F.A.C. may be placed where it would appear if the item were being physically signed, dated and sealed.

(b) The date that the electronic signature is to be placed into the document must appear on the document in accordance with Rule 61G15-23.001(5), F.A.C. and where it would appear if the item were being physically signed, dated and sealed.

(c) A scanned, facsimile, digitally created or copied image of the licensee's signature shall not be used on electronically signed and sealed engineering plans, specifications, reports or other documents.

(d) The engineering plans, specifications, reports or other documents being electronically signed and sealed shall include text to indicate the following and place it where an original signature would appear if the item were being physically signed, dated and sealed:

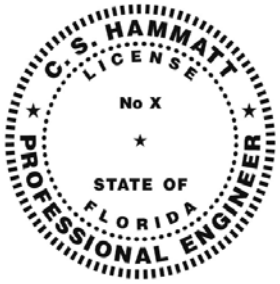
1. The same information required by Rule 61G15-23.002(2), F.A.C. if a digitally created seal is not use,

2. The item has been electronically signed and sealed using a ***SHA-1*** authentication code, and

3. Printed copies of the document are not considered signed and sealed and all ***SHA-1*** authentication code must be verified on any electronic copies.

(e) Formatting of seals and text similar to that depicted below may be used.

1. When a digitally created seal is used:



This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a ***SHA-1*** authentication code.

Printed copies of this document are not considered signed and sealed and the ***SHA-1*** authentication code must be verified on any electronic copies

2. When a digitally created seal is not used:

C. S. Hammatt, State of Florida, Professional Engineer, License No. X

This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a ***SHA-1*** authentication code.

Printed copies of this document are not considered signed and sealed and the ***SHA-1*** authentication code must be verified on any electronic copies

CHAPTER 61G15-23
(Proposed Language - No Markups)

SEALS

61G15-23.001 Signature, Date and Seal Shall Be Affixed.

(1) A professional engineer shall sign, date and seal:

(a) All final plans, prints, specifications, reports, or other documents prepared or issued by the licensee and being filed for public record;

(b) All final documents provided to the owner or the owner's representative; and

(c) All documents required by any public entity or any provision of contract which requires the signing, dating and sealing of additional original documents.

(2) Plans and Prints: When an engineer must sign, date and seal plans or prints under the provisions of Section 471.025, F.S., and subsection (1) of this rule, every sheet within the plans and prints must be signed, dated and sealed by the professional engineer in responsible charge.

(a) A title block shall be used on each sheet of plans or prints and shall contain the printed name, address, and license number of the engineer who has signed, dated and sealed the plans or prints.

(b) If the engineer signing, dating and sealing engineering plans or prints is practicing through a duly authorized engineering business; the title block shall contain the printed name, address and certificate of authorization number of the engineering business.

(3) Engineering Specifications and Calculations: When an engineer must sign, date and seal engineering specifications or calculations under the provisions of Section 471.025, F.S., and subsection (1) of this rule, an index sheet shall be used and shall be signed, dated and sealed by each professional engineer who is in responsible charge of any portion of the engineering specifications or calculations.

(a) The index sheet must be signed, dated and sealed by those professional engineers in responsible charge of the production and preparation of each section of the engineering specifications or calculations, with sufficient information on the index sheet so that the user will be aware of each portion of the specifications or calculations for which each professional engineer is responsible.

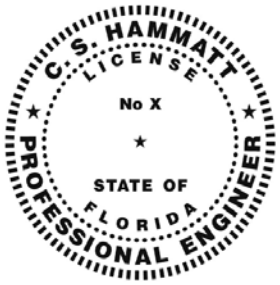
(b) The index sheet shall include at a minimum:

1. The printed name, address and license number of each engineer in responsible charge of the production of any portion of the calculations or specifications.
2. If the engineer signing, dating and sealing calculations or specifications is practicing through a duly authorized engineering business; the printed name, address and certificate of authorization number of the engineering business.
3. Identification of the project, by address or by lot number, block number, section or subdivision and city or county.
4. Identification of the applicable building code and chapter(s) that the design is intended to meet.
5. Identification of any computer program used for engineering the specifications or calculations.

(4) Engineering Reports or Other Documents: When an engineer must sign, date and seal engineering reports or other documents under the provisions of Section 471.025, F.S., and subsection (1) of this rule, a signature page or cover letter shall be used and shall be signed, dated and sealed by each professional engineer who is in responsible charge of any portion of the report with sufficient information provided so that the user will be aware of each portion for which each professional engineer is responsible.

(a) If the engineer signing, dating and sealing an engineering report or other document is practicing through a duly authorized engineering business, the printed name, address and certificate of authorization number of the engineering business shall be placed on the signature page or cover letter.
(5) The date that the signature and seal is affixed as provided herein shall be entered on said plans, prints, specifications, reports or other documents immediately adjacent to the signature of the professional engineer.
(6) Professional engineers working for local, State or Federal Government agencies shall legibly indicate their name and license number, and shall indicate the name and address of the agency on all documents that are required to be signed, dated and sealed.
(7) A professional engineer may only sign, date and seal engineering plans, prints, specifications, reports or other documents if that professional engineer was in responsible charge, as that term is defined in subsection Rule 61G15-18.011(1), F.A.C., of the preparation and production of the engineering document and the professional engineer has the expertise in the engineering discipline used in producing the engineering document(s) in question.
(8) A professional engineer shall not sign, date and seal any documents which are not final documents unless the professional engineer clearly notes any limitations on the use of those documents on the face of those documents by using terms such as “Preliminary,” “For Review Only,” “Not for Construction,” or any other suitable statement which denotes that the documents are for limited use, are not final and are not intended for permit, construction, or bidding purposes.

61G15-23.002 Seals Acceptable to the Board.
(1) Only the following seals are authorized to be used pursuant to Section 471.025, F.S.;
(a) Wet Seals: A Wet Seal is any seal physically applied to a printed document capable of leaving a permanent ink representation or other form of opaque permanent impression on the printed document that complies with Rule 61G15-23.002(2), F.A.C.,
(b) Embossing Seals: An Embossing Seal is any seal physically applied to a printed document capable of leaving a permanent crimped representation or other form of permanent raised impression on the printed document that complies with Rule 61G15-23.002(2), F.A.C., or
(c) Digitally Created Seals: A Digitally Created Seal is any seal created as part of the document and not physically applied that is an opaque permanent representation that complies with Rule 61G15-23.002(2), F.A.C. when the document is printed in its native full size.
(2) Wet Seals, Embossing Seals and Digitally Created Seals shall be a minimum of 1-7/8 inches in diameter and shall be of a design similar to those set forth in (a), (b) and (c) below.
(a) The seal must contain the licensee’s given name, the licensee’s license number immediately preceded by the designation “No”, the words “PROFESSIONAL ENGINEER” and the words “STATE OF FLORIDA” similar to that depicted here:



(b) If the seal is for a temporary license it must also contain the words "TEMPORARY LICENSE" and the date that the license expires in the form of "Month – Day – Year" immediately preceded by the word "EXPIRES" similar to that depicted here:

(c) For licensees who are in good standing under both Chapters 471 and 472, F.S., a seal similar to that depicted here may be used:

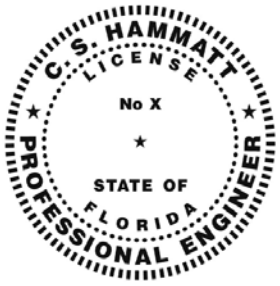
(d) Seals may contain an abbreviated form of the licensee's given name or a combination of initials representing the licensee's given name provided the surname listed with the Board appears on the seal and in the signature.

61G15-23.003 Procedures for Physically Signing and Sealing Plans, Specifications, Reports or Other Documents.

(1) Engineering plans, specifications, reports or other documents which must be signed, dated and sealed in accordance with the provisions of Section 471.025, F.S., and Rule 61G15-23.001, F.A.C. may be physically signed, dated and sealed as provided herein by the professional engineer in responsible charge.

(a) The licensee shall sign by hand an original of the licensee's signature on each page required to be sealed. A scanned, facsimile, digitally created or copied image of the licensee's signature shall not be used.
(b) The licensee must then use either a Wet Seal or an Embossing Seal placed partially overlapping the licensee's signature on each page required to be sealed. The placement of the seal shall not render the signature illegible.

61G15-23.004 Procedures for Digitally Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.
(1) Engineering plans, specifications, reports or other documents which must be signed, dated and sealed in accordance with the provisions of Section 471.025, F.S., and Rule 61G15-23.001, F.A.C. may be signed digitally as provided herein by the professional engineer in responsible charge. As used herein, the terms "certification authority," and "digital signature" shall have the meanings ascribed to them in Sections 668.003(2), (3) and (4), F.S.
(2) A professional engineer utilizing a digital signature to electronically sign and seal engineering plans, specifications, reports or other documents shall have their identity authenticated by a certification authority and shall assure that the digital signature is:
(a) Unique to the person using it;
(b) Capable of verification;
(c) Under the sole control of the person using it; and
(d) Linked to a document in such a manner that the digital signature and correspondingly the document is invalidated if any data in the document is changed.
(3) The affixing of a digital signature to engineering plans, specifications, reports or other documents as provided herein shall constitute the signing and sealing of such items.
(a) A Digitally created seal as set forth in Rule 61G15-23.002, F.A.C. may be placed where it would appear if the item were being physically signed, dated and sealed.
(b) The date that the digital signature was placed into the document must appear on the document in accordance with Rule 61G15-23.001(5), F.A.C. and where it would appear if the item were being physically signed, dated and sealed.
(c) The engineering plans, specifications, reports or other documents being digitally signed and sealed shall include text to indicate the following and place it where an original signature would appear if the item were being physically signed, dated and sealed:
1. The same information required by Rule 61G15-23.002(2), F.A.C. if a digitally created seal is not use,
2. The item has been electronically signed and sealed using a Digital Signature, and
3. Printed copies of the document are not considered signed and sealed and all signatures must be verified on any electronic copies.
(d) Formatting of seals and text similar to that depicted below may be used.
1. When a digitally created seal is used:



This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

2. When a digitally created seal is not used:

C. S. Hammatt, State of Florida, Professional Engineer, License No. X

This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a Digital Signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

(e) When engineering plans, specifications, reports or other documents contain multiple sheets or pages, the licensee may apply a single digital signature per electronically transmitted item as set out in subsection 61G15-23.004, F.A.C. A digital signature applied to an item in electronic form shall have the same force and effect as signing all of the individual sheets or pages contained within that item unless otherwise limited as specified in Rule 61G15-23.001, F.A.C.
(f) In the case where multiple licensees sign and seal a single item, each licensee shall apply their digital signature and include qualifying language with those items required in section (e) of this rule thoroughly describing what portions the licensee is taking responsibility for.

61G15-23.005 Procedures for Electronically Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.
(1) Engineering plans, specifications, reports or other documents which must be signed, dated and sealed in accordance with the provisions of Section 471.025, F.S., and Rule 61G15-23.001, F.A.C. may be signed electronically as provided herein by the professional engineer in responsible charge. As used herein, the term “electronic signature” shall have the meanings ascribed to them in Sections 668.003(2), (3) and (4), F.S.
(2) A professional engineer utilizing an electronic signature to electronically sign and seal engineering plans, specifications, reports or other documents shall:
(a) Create a “signature” file that contains the licensee’s given name, the licensee’s license number, a brief overall description of the engineering documents to be signed and sealed, a list of the electronic files to be signed and sealed, and the ***SHA-1*** authentication code or ***Secure Hash Standard*** for each electronic file

to be signed and sealed. The ***SHA-1*** authentication code is described in Federal Information Processing Standard Publication 180-3 "***Secure Hash Standard***," October 2008, which is hereby adopted and incorporated by reference by the Board and can be obtained from the Internet Website: http://www.flrules.org/Gateway/reference.asp?No=Ref-00790, .

(b) Create a "signature" report that contains the licensee's given name, the licensee's license number, a brief overall description of the engineering documents to be signed and sealed and the ***SHA-1*** authentication code of the signature file,

(c) Print and manually sign, date and seal the signature report in compliance with Rule 61G15-23, F.A.C.,

(d) Transmit the signed, dated and sealed signature report to the authority having jurisdiction along with the signed, dated and sealed signature file. The signature file is considered to be signed and sealed if the signature file's authentication code matches the authentication code on the manually signed, dated and sealed signature report. Each electronic file listed within the signed and sealed signature file is considered to be signed and sealed if the listed ***SHA-1*** authentication code in the signature file matches the electronic file's ***SHA-1*** authentication code.

(3) The affixing of an electronic signature to engineering plans, specifications, reports or other documents as provided herein shall constitute the signing and sealing of such items.

(a) A Digitally created seal as set forth in Rule 61G15-23.002, F.A.C. may be placed where it would appear if the item were being physically signed, dated and sealed.

(b) The date that the electronic signature is to be placed into the document must appear on the document in accordance with Rule 61G15-23.001(5), F.A.C. and where it would appear if the item were being physically signed, dated and sealed.

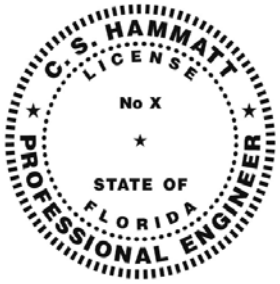
(c) A scanned, facsimile, digitally created or copied image of the licensee's signature shall not be used on electronically signed and sealed engineering plans, specifications, reports or other documents.

(d) The engineering plans, specifications, reports or other documents being electronically signed and sealed shall include text to indicate the following and place it where an original signature would appear if the item were being physically signed, dated and sealed:

1. The same information required by Rule 61G15-23.002(2), F.A.C. if a digitally created seal is not use,
2. The item has been electronically signed and sealed using a ***SHA-1*** authentication code, and
3. Printed copies of the document are not considered signed and sealed and all ***SHA-1*** authentication code must be verified on any electronic copies.

(e) Formatting of seals and text similar to that depicted below may be used.

1. When a digitally created seal is used:



This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a *SHA-1* authentication code.

Printed copies of this document are not considered signed and sealed and the *SHA-1* authentication code must be verified on any electronic copies

2. When a digitally created seal is not used:

C. S. Hammatt, State of Florida, Professional Engineer, License No. X

This item has been electronically signed and sealed by C. S. Hammatt, PE. On [DATE] using a *SHA-1* authentication code.

Printed copies of this document are not considered signed and sealed and the *SHA-1* authentication code must be verified on any electronic copies

Rebecca Sammons

From: Desiree C. Perazzo <dperazzo@jeminspections.com>
Sent: Thursday, June 11, 2015 5:05 PM
To: Board
Subject: Question Regarding Delegated Engineer for Post Tension

This is a question/topic that I would like to see answered or addressed in the quarterly newsletter:

The FAC states that the EOR can choose to delegate the design of the post-tensioning system, however it also states that the EOR must show the location of the tendons and the magnitude of the forces. Is it the intension of the code for the EOR to provide a minimum design and then for the delegated engineer to "re-design" ? Can the entire system be delegated with the EOR not providing magnitude of tendon forces and allows the delegated engineer to design the entire system? And if so, can the mild reinforcement design that accompanies the PT system also become a delegated item, since it would be part of the delegated engineer design?

FAC section referenced below:

61G15-31.004 Design of Cast-in-Place Post-Tensioned Concrete Structural Systems.

(1) Structural engineering documents shall show the nature, type of post-tensioning system, location of the prestressing tendons and the magnitude of all prestressing forces and all design assumptions.

(2) If the engineer of record elects to delegate the responsibility for preparation of calculations and installation drawings to a delegated engineer for the post-tensioning system(s), the Engineer of Record shall require the submission of installation drawings for review by the engineer of record. Calculations shall also be submitted by the delegated engineer which show sufficient information to confirm that the number and size of tendons provided are adequate to provide the prestressing forces shown on the structural engineering documents. Installation drawings shall identify the structure and provide all details of post-tensioning materials to be used including necessary accessories and instructions for construction. The installation drawings and calculations shall bear the impressed seal, date, and signature of the delegated engineer who prepared them and shall be reviewed by the engineer of record for the structure. A cover sheet listing the drawings and calculations may be used.

(3) It is the responsibility of the engineer of record for the structure to review the post-tensioning system installation drawings together with the shop drawings of all required reinforcing steel needed for a complete structural design.

(4) The effect of post-tensioning on other parts of the structure is the responsibility of the engineer of record.

Rulemaking Authority 471.033(2), 471.008 FS. Law Implemented 471.033(1)(g) FS. History–New 1-26-93, Formerly 21H-31.004, Amended 9-28-10.

Thank you,

Desiree C. Perazzo, P.E.
JEM Inspections & Engineering
3525 NW 115th Ave. Miami, FL 33178
P: (305) 477-7878 F: (305) 477-6848
dperazzo@jeminspections.com

Notice of Proposed Rule

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
Board of Professional Engineers
RULE NO.: RULE TITLE:
61G15-31.006 Design of Structural Systems Utilizing Open Web Steel Joists and Joist Girders
PURPOSE AND EFFECT: The Board proposes the rule amendment to delete unnecessary language and to add new language to clarify the requirements for the design of structural systems utilizing open web steel joists and joist girders.
SUMMARY: The rule amendment will delete unnecessary language and add new language to clarify the requirements for the design of structural systems utilizing open web steel joists and joist girders.
SUMMARY OF STATEMENT OF ESTIMATED REGULATORY COSTS AND LEGISLATIVE RATIFICATION: The Agency has determined that this will not have an adverse impact on small business or likely increase directly or indirectly regulatory costs in excess of $200,000 in the aggregate within one year after the implementation of the rule. A SERC has not been prepared by the Agency.
The Agency has determined that the proposed rule is not expected to require legislative ratification based on the statement of estimated regulatory costs or if no SERC is required, the information expressly relied upon and described herein: During discussion of the economic impact of this rule at its Board meeting, the Board, based upon the expertise and experience of its members, determined that a Statement of Estimated Regulatory Costs (SERC) was not necessary and that the rule will not require ratification by the Legislature. No person or interested party submitted additional information regarding the economic impact at that time.
Any person who wishes to provide information regarding a statement of estimated regulatory costs, or provide a proposal for a lower cost regulatory alternative must do so in writing within 21 days of this notice.
RULEMAKING AUTHORITY: 471.033(2), 471.008 FS.
LAW IMPLEMENTED: 471.033(1)(g), (j) FS.
IF REQUESTED WITHIN 21 DAYS OF THE DATE OF THIS NOTICE, A HEARING WILL BE SCHEDULED AND ANNOUNCED IN THE FAR.
THE PERSON TO BE CONTACTED REGARDING THE PROPOSED RULE IS: Zana Raybon, Executive Director, Board of Professional Engineers, 2639 North Monroe Street, Suite B-112, Tallahassee, FL 32303

THE FULL TEXT OF THE PROPOSED RULE IS:

61G15-31.006 Design of Structural Systems Utilizing Open Web Steel Joists and Joist Girders.

(1) The Engineer of Record shall indicate on the Structural Engineering Documents the steel joist and joist girder designations as required in Section 2206 of the Florida Building Code ~~from the 1997 Steel Joist Institute's Specifications and load tables~~ and shall indicate the appropriate standards for joist and joist girder design, layout, end supports, anchorage, bridging requirements, etc., including connections to walls. These documents shall indicate special requirements for concentrated loads, non-uniform loads, openings, extended ends, and resistance to uplift loads.

(2) The steel joist and joist girder manufacturer shall design the steel joist and joist girder members in accordance with as required in Section 2206 of the Florida Building Code ~~the 1997 Steel Joist Institute Specifications and load tables~~ to support the loads per the Engineer of Record's specified joist and joist girder designations and/or special loading diagrams, as set forth in Structural Engineering Documents. The Engineer of Record may require the submission of the steel joist and joist girder design calculations as an indication of compliance. When required to submit the steel joist and joist girder calculations, the steel joist and joist girder manufacturer shall submit a cover letter along with the steel joist and joist girder design calculations. The cover letter shall bear the seal and signature of a Florida registered professional engineer responsible for design of the steel joist and joist girders.

Rulemaking ~~Specific~~ Authority 471.033(2), 471.008 FS. Law Implemented 471.033(1)(g), (j) FS. History–New 1-26-93, Formerly 21H-31.006, Amended 10-19-97, _____.

NAME OF PERSON ORIGINATING PROPOSED RULE: Board of Professional Engineers
NAME OF AGENCY HEAD WHO APPROVED THE PROPOSED RULE: Board of Professional Engineers
DATE PROPOSED RULE APPROVED BY AGENCY HEAD: January 26, 2015
DATE NOTICE OF PROPOSED RULE DEVELOPMENT PUBLISHED IN FAR: March 10, 2015

THE FLORIDA LEGISLATURE

JOINT ADMINISTRATIVE PROCEDURES COMMITTEE

KENNETH J. PLANTE
COORDINATOR
Room 680, Pepper Building
111 W. Madison Street
Tallahassee, Florida 32399-1400
Telephone (850) 488-9110
Fax (850) 922-6934
www.japc.state.fl.us
joint.admin.procedures@leg.state.fl.us

April 1, 2015

Mr. Michael Flury
Senior Assistant Attorney General
Department of Legal Affairs
PL-01, The Capitol
Tallahassee, Florida 32399-1050

Re: DBPR: Board of Professional Engineers
Rule 61G15-31.006, F.A.C.

Dear Mr. Flury:

I have reviewed the above-referenced proposed rule, which was advertised in the Florida Administrative Register on March 27, 2015. I have the following comments.

61G15-31.006(1): This subsection provides in part that the "Engineer of Record shall indicate on the Structural Engineering Documents the steel joist and joist girder designations as required in Section 2206 of the Florida Building Code . . . ." It appears that the date of the Florida Building Code should be referenced in the rule text so that regulated individuals know the requirements expected of them in order to comply with the rule. Also, please provide a copy of section 2206 of the Florida Building Code to the committee for review.

Additionally, it appears that, based on this rule text, compliance with this section of the Florida Building Code is required, and therefore the rule text should specifically state that this section of the Florida Building Code is incorporated by reference in the rule and state how it may be obtained. *See* Fla. Admin. Code R. 1-1.013. Next, this material may only be incorporated by reference as it exists on the date the rule is adopted. *See* § 120.54(1)(i)1., Fla. Stat. Please include the effective date of section 2206 of the Florida Building Code in the rule text. A copy of any incorporated materials should be provided to the committee for review at least 21 days prior to adoption of the rule. *See* § 120.54(3)(a)4., Fla. Stat.

Please incorporate this section of the Florida Building Code by reference in the rule text or explain why it is not required.

61G15-31.006(2): Please explain the board's authority to require that the "steel joist and joist girder manufacturer shall design the steel joist and joist girder members in accordance with [sic] as required in Section 2206 of the Florida Building Code." It does not appear that this board regulates the manufacturers.

It appears that the words "in accordance with" should have been stricken in the rule text.

See comments regarding 61G15-31.006(1).

As always, please let me know if you have any questions. Otherwise, I look forward to your response.

Sincerely,

Marjorie C. Holladay
Chief Attorney

MCH:SA WORD/MARJORIE/61G15_31.006LS040115_157984

PAM BONDI
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June 23, 2015

Ms. Marjorie C. Holladay
Chief Attorney
Joint Administrative Procedures Committee
Room 680, Pepper Building
111 W. Madison Street
Tallahassee, Florida 32399-1400

Re: Department of Business and Professional Regulation
Board of Professional Engineers Rule 61G15-31.006, F.A.C.

Dear Ms. Holladay:

I am writing to supplement my May 27, 2015, correspondence regarding the above-referenced rule. As promised, your April 1 and May 12, 2015, correspondence was considered by the Board at its June 17, 2015, meeting. Given the substantive nature of your concerns, the Board determined that the rule should be referred back to the Board's Rules Committee, which will make the appropriate changes to the language as proposed. The Rules Committee's language will then go back to the full Board for final decision. The Rules Committee is next scheduled to meet on July 15, 2015, and the next Board meeting is scheduled for August 12, 2015. I will promptly update you on the Board's decision thereafter.

Thank you for your comments and assistance regarding the Board's rulemaking endeavors. As always, please do not hesitate to contact me if you have any questions or further concerns.

Sincerely,

Lawrence D. Harris
Assistant Attorney General
Counsel to the Florida Board of Professional Engineers

cc: Zana Raybon, Executive Director
Tammie Britt, Paralegal Specialist

Board Counsel Suggested Edits to Rule 61G15-31.006, as proposed, in response to April 1, 2015 JAPC comments.

61G15-31.006 Design of Structural Systems Utilizing Open Web Steel Joists and Joist Girders.

(1) The Engineer of Record shall indicate on the Structural Engineering Documents the steel joist and joist girder designations as required in Section 2207 of the Florida Building Code, Building, 5th Edition (2014), which is hereby incorporated by reference ~~from the 1997 Steel Joist Institute's Specifications and load tables~~ and shall indicate the appropriate standards for joist and joist girder design, layout, end supports, anchorage, bridging requirements, etc., including connections to walls. These documents shall indicate special requirements for concentrated loads, non-uniform loads, openings, extended ends, and resistance to uplift loads.

(2) The material incorporated and adopted in subsection (1) is copyrighted material that is available for public inspection and examination at the Department of State, Administrative Code and Register Section, Room 701, The Capitol, Tallahassee, Florida 32399-0250, and at the Office of Codes and Standards, 1940 North Monroe Street, Room 90, Tallahassee, Florida 32399-0772.

(3 ~~2~~) The Engineer of Record is responsible for ensuring the steel joist and joist girder manufacturer ~~shall~~ designs the steel joist and joist girder members as required in Section 2206 of the 2010 Florida Building Code, incorporated by reference above, ~~in accordance with the 1997 Steel Joist Institute Specifications and load tables~~ to support the loads per the Engineer of Record's specified joist and joist girder designations and/or special loading diagrams, as set forth in Structural Engineering Documents. The Engineer of Record may require the submission of the steel joist and joist girder design calculations as an indication of compliance. When required to submit the steel joist and joist girder calculations, the Engineer of Record shall ensure the steel joist and joist girder manufacturer ~~shall~~ submits a cover letter along with the steel joist and joist girder design calculations. The cover letter shall bear the seal and signature of a Florida registered professional engineer responsible for design of the steel joist and joist girders.

Rulemaking ~~Specific~~ Authority 471.033(2), 471.008 FS. Law Implemented 471.033(1)(g), (j) FS. History–New 1-26-93, Formerly 21H-31.006, Amended 10-19-97, _____.

61G15-32.004 Design of Water Based Fire Protection Systems.

(1) Water Based Fire Protection Systems include, but are not limited to, automatic sprinkler systems of wet, dry, fine water spray (mist), manual, and deluge valve controlled types, pumping systems, standpipes, fire water mains and dedicated fire protection water sources.

(2) To ensure minimum design quality in Fire Protection System Engineering Documents, said documents shall include as a minimum the following information when applicable:

(a) The Point of Service for the fire protection water supply as defined by Section 633.021(18), F.S.

(b) Applicable NFPA standard to be applied, or in the case where no such standard exists, the engineering study, judgments, and/or performance based analysis and conclusions.

(c) Classification of hazard occupancy for each room or area.

(d) Design approach, which includes system type, densities, device temperature rating, and spacing for each separate hazard occupancy.

(e) Characteristics of water supply to be used, such as main size and location, whether it is dead-end or circulating; and if dead-end, the distance to the nearest circulating main, as well as its minimum duration and reliability for the most hydraulically demanding design area.

(f) When private or public water supplies are used, the flow test data, including date and time of test, who conducted test or supplied information, test elevation, static gauge pressure at no flow, flow rate with residual gauge pressure, hydrant butt coefficient, and location of test in relation to the hydraulic point of service.

(g) Valving and alarm requirements to minimize potential for impairments and unrecognized flow of water.

(h) Microbial Induced Corrosion (MIC). The Engineer of Record shall make reasonable efforts to identify water supplies that could lead to Microbial Induced Corrosion (MIC). Such efforts may consist of discussions with the local water purveyor and/or fire official, familiarity with conditions in the local area, or laboratory testing of water supplies. When conditions are found that may result in MIC contamination of the fire protection piping, the engineer shall design corrective measures.

(i) Backflow prevention and metering specifications and details to meet local water purveyor requirements including maximum allowable pressure drop.

(j) Quality and performance specifications of all yard and interior fire protection components.

(k) A determination of whether a fire pump is required and if so, the specific volumetric flow and pressure rating of the pump.

(l) A verification of whether a firewater storage tank is required on site and if so, a determination of the size and capacity required.

(m) Owner’s Certificate. In storage occupancies, the Owner’s Information Certificate is required from the property owner as it clearly defines the storage configuration of the space for the current and future use of the property, as required by the codes and standards set forth in subsection 61G15-32.002(7), F.A.C.

(3) Contractor submittals which deviate from the above minimum design parameters shall be considered material deviations and require supplemental engineering approval and documentation.

(4) In the event the Engineer of Record provides more information and direction than is established above, he or she shall be held responsible for the technical accuracy of the work in accordance with applicable codes, standards, and sound engineering principles.

Rulemaking Authority 471.008, 471.033(2) FS. Law Implemented 471.033(2) FS. History–New 5-19-93, Formerly 21H-32.004, Amended 4-2-00, 6-26-01, 6-15-15.

Rebecca Sammons

From: John Rimes
Sent: Monday, June 08, 2015 2:41 PM
To: Nick Georgalis
Cc: Rebecca Sammons
Subject: RE: Question on 61G15-35-003 FAC

The cite is incorrect and thank you for catching it. The correct acronym is FDOT's *CTQP* which means Construction Training Qualification Program. Its website is here http://www.ctqpflorida.com/

From: Nick Georgalis [mailto:ngeorgalis@wowway.com]
Sent: Saturday, June 06, 2015 3:45 PM
To: John Rimes
Subject: Question on 61G15-35-003 FAC

John,

61G15-35-003(1)(c) F.A.C. makes reference to *"… Florida DOT CEQUTP… "* – what is Florida DOT CEQUTP?

Thank you,

Nick Georgalis, PE
216-401-5326

61G15-35.003 Qualification Program for Special Inspectors of Threshold Buildings.

(1) The minimum qualifying criteria for Special Inspectors of Threshold Buildings, also referred to as Threshold Inspectors, established by the Board shall be as follows:

(a) Proof of current licensure in good standing as a licensed professional engineer in the State of Florida whose principal practice is structural engineering or whose principal practice is in performing structural field inspections on Threshold Buildings.

(b) Licensed professional engineers whose principal practice is structural engineering shall also have three years of experience in performing structural field inspections on threshold buildings and two years of experience in the structural design of threshold buildings after having achieved licensure as a professional engineer. Such Experience shall be within the seven years preceeding submission of the application. For the purpose of these criteria, structural design shall mean the design of all structural components of the building and shall not be limited to specific structural components only, such as foundations, prestressed or post-tensioned concrete, etc.

(c) Licensed professional engineers whose principal practice is structural field inspections shall have five years of experience in performing structural field inspections on Threshold Buildings within the preceeding seven years prior to submission of the application and possess certification in each of the following: advanced concrete inspection, advanced structural masonary inspection, advanced post tensioning, basic structural steel and basic soils from a nationally recognized entity such as ACI, ICC, Florida Concrete and Products Association, and Post Tension Institute, Florida DOT CEQUTP or equivalent.

(2) Applications.

(a) The instructions and application form for Special Inspector, Form FBPE/TBI/006(08/00) is hereby incorporated by reference, effective 4-19-01, “Special Inspector Application and Instructions”. Copies of Form FBPE/TBI/006(08/00) may be obtained from the Board office or by downloading it from the internet web site www.fbpe.org.

(b) All applications for certification as a Special Inspector shall be submitted to the Board on Form FBPE/TBI/006(08/00).

(c) Applications shall contain the following basic information pertaining to the applicant:

1. Name;

2. Florida license number;

3. Educational and experience dates and sufficient description of each to clearly demonstrate that the minimum qualification criteria has been met;

4. Letters of recommendation from three registered professional engineers whose principal practice is structural engineering in the State of Florida, one of whom must be certified as a Special Inspector;

5. The signature, date and seal by the applicant attesting to the competency of the applicant to perform structural inspections on threshold buildings; and

6. Completed form FBPE/TBI/006(08/00).

(d) Upon a determination that the application contains all of the information requested by these rules, review of the application shall be scheduled for consideration by the Board. Such applications may be approved, rejected or deferred for further information by the Board. If the Board defers an application for additional information, it shall notify the applicant of the information needed. Applicants shall be notified in writing of the Board’s actions as soon as practicable and, in the case of rejected applications, the Board shall set forth the reasons for such rejection.

(3) Temporary Certification. Professional engineers who have been granted temporary licensure in Florida pursuant to the provisions of Section 471.021, F.S., shall also be granted temporary certification as a Special Inspector provided the criteria set forth in these rules have been met. Such temporary certification shall be limited to work on one specific project in this state for a period not to exceed one year.

(4) Roster of Special Inspectors. The Board shall maintain a roster of all persons certified as Special Inspectors pursuant to the criteria established in these rules and the law. The roster shall be made available to interested parties upon request. The roster shall be updated on a continuing basis and additions or deletions to the latest published roster may be verified by contacting the Board office.

Rulemaking Authority 471.008, 471.033(2) FS. Law Implemented 471.015(7), 471.033 FS. History–New 4-19-01, Amended 7-7-

02, 4-5-04, 11-29-04, 2-4-13.

THE FLORIDA LEGISLATURE

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June 5, 2015

Mr. Lawrence Harris
Assistant Attorney General
Department of Legal Affairs
PL-01, The Capitol
Tallahassee, Florida 32399-1050

Re: DBPR: Board of Professional Engineers
Rule 61G15-35.004, F.A.C.

Dear Mr. Harris:

I have reviewed the above-referenced proposed rule, which was advertised in the Florida Administrative Register on June 1, 2015. I have the following comments.

61G15-35.004(2)(e): Subsection (1) requires that authorized representatives be qualified by education or licensure. It does not appear that qualification under this paragraph requires either education or licensure, and instead requires only training. Please explain whether the board intended that authorized representatives qualified under this criterion are not required to have any specialized formal education or licensure.

61G15-35.004(2)(f): As this paragraph is followed by five subparagraphs listing certifications, it appears this paragraph should end with a colon instead of a semi-colon.

In order to logically follow this paragraph, it appears that subparagraphs (2)(f)1. through 5. should begin with the word "in."

61G15-35.004(2)(f)1.: This subparagraph authorizes persons who possess a certification in "Advanced concrete inspection from a nationally recognized entity such as ACI or equivalent prior to inspection of concrete components."

Please explain whether this certification is in advanced concrete inspection. It appears this subparagraph should be clarified. *See* § 120.545(1)(i), Fla. Stat.

It appears that the rule text should clarify the acronym in this rule text. *See* §§ 120.54(2)(b)1., 541(1)(i), Fla. Stat.

It appears that the use of the term "such as" implies that the board may or may not allow persons who are certified by entities other than ACI to serve as authorized representatives, which may vest unbridled discretion in the board. *See* § 120.52(8)(d), Fla. Stat. Please revise the rule text or explain why it is not necessary.

Because standards may change from time to time, it does not appear that the board can abdicate its statutorily mandated authority to develop minimum qualifications for a qualified representative pursuant to section 471.015(7) to another entity without including in the rule text the date that standards of the other entity were established. *See Hutchins v. Mayo*, 197 So. 495 (Fla. 1940). Please revise the rule text to include that date, or explain why it is not required.

61G15-35.004(2)(f)2.: This subparagraph authorizes persons who possess a certification in "Advanced structural masonry inspection from a nationally recognized entity such as Florida Concrete and Products Association or equivalent prior to inspection of masonry components."

Please explain whether this certification is in advanced structural masonry inspection. It appears this subparagraph should be clarified. *See* § 120.545(1)(i), Fla. Stat.

See comments to 61G15-35.004(2)(f)1.

61G15-35.004(2)(f)3.: This subparagraph authorizes persons who possess a certification in "Advanced post-tensioning from a nationally recognized entity such as Post-Tensioning Institute or equivalent prior to inspection of post tensioned components."

Please explain whether this certification is in advanced post-tensioning. It appears this subparagraph should be clarified. *See* § 120.545(1)(i), Fla. Stat.

See comments to 61G15-35.004(2)(f)1.

61G15-35.004(2)(f)4.: This subparagraph authorizes persons who possess a certification in "Basic structural steel from a nationally recognized entity such as ICC, AISC or equivalent prior to inspection of structural steel componenets [sic]."

Please explain whether this certification is in basic structural steel. It appears this subparagraph should be clarified. *See* § 120.545(1)(i), Fla. Stat.

See comments to 61G15-35.004(2)(f)1.

Please correct the spelling of "components."

61G15-35.004(2)(f)5.: This subparagraph authorizes persons who possess a certification in "Basic soils from a nationally [sic] entity such as ICC or equivalent prior to inspection of soil related components.

It appears that the board intended to insert a word, perhaps "recognized," between "nationally" and "entity."

Please explain whether this certification is in basic soils. It appears this subparagraph should be clarified. *See* § 120.545(1)(i), Fla. Stat.

See comments to 61G15-35.004(2)(f)1.

As always, please let me know if you have any questions. Otherwise, I look forward to your response.

Sincerely,

Marjorie C. Holladay

Marjorie C. Holladay
Chief Attorney

MCH:SA WORD/MARJORIE/61G15_35.004LS060515_158259

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June 23, 2015

Ms. Marjorie C. Holladay
Chief Attorney
Joint Administrative Procedures Committee
Room 680, Pepper Building
111 W. Madison Street
Tallahassee, Florida 32399-1400

Re: Department of Business and Professional Regulation
Board of Professional Engineers Rule 61G15-35.004, F.A.C.

Dear Ms. Holladay:

I am writing to supplement my June 9, 2015, correspondence regarding the above-referenced rule. As promised, your June 5, 2015 correspondence was considered by the Board at its June 17, 2015, meeting. Given the substantive nature of your concerns, the Board determined that the rule should be referred back to the Board's Rules Committee, which will make the appropriate changes to the language as proposed. The Rules Committee's language will then go back to the full Board for final decision. The Rules Committee is next scheduled to meet on July 15, 2015, and the next Board meeting is scheduled for August 12, 2015. I will promptly update you on the Board's decision thereafter.

Thank you for your comments and assistance regarding the Board's rulemaking endeavors. As always, please do not hesitate to contact me if you have any questions or further concerns.

Sincerely,

Lawrence D. Harris
Assistant Attorney General
Counsel to the Florida Board of Professional Engineers

cc: Zana Raybon, Executive Director
Tammie Britt, Paralegal Specialist

Rule Text as proposed June 1, 2015.

61G15-35.004 Common Requirements to All Engineers Providing Threshold Building Inspection Services as Special Inspectors.

(1) No change.

(2) Special Inspectors utilizing Authorized Representatives shall ensure ~~insure~~ the Authorized Representative is qualified by education or licensure ~~, experience, and training~~ to perform the duties assigned by the Special Inspector. ~~and shall maintain responsible supervisory control over the representative pursuant to subsection 61G15-18.011(1) F.A.C.~~ The qualifications shall include: ~~Authorized Representative shall have a minimum of two (2) years of relevant experience under the direct supervision of a Special Inspector.~~

(a) Licensure as a professional engineer or architect; or

(b) Graduation from a four-year engineering education program in civil, structureal or architectural engineering; or

(c) Graduation from a four-year architectural education program; or

(d) Registration as a building inspector or general contractor; or

(e) Four years of Threshold Building inspection training on non-Threshold Buildings performed under the supervision of a Special Inspector who was in responsible charge of the trainee's work; or

(f) Possess the following certification(s);

1. Advanced concrete inspection from a nationally recognized entity such as ACI or equivalent prior to inspection of concrete components,

2. Advanced structural masonry inspection from a nationally recognized entity such as Florida Concrete and Products Association or equivalent prior to inspection of masonry components,

3. Advanced post-tensioning from a nationally recognized entity such as Post-Tensioning Institute or equivalent prior to inspection of post tensioned components,

4. Basic structural steel from a nationally recognized entity such as ICC, AISC or equivalent prior to inspection of structural steel components,

5. Basic soils from a nationally entity such as ICC or equivalent prior to inspection of soil related components.

(3) through (4) No change.

Board Counsel suggested revisions to address JAPC concerns.

(2) Special Inspectors utilizing Authorized Representatives shall ensure ~~insure~~ the Authorized Representative is qualified by education ~~or~~ licensure ~~, experience, and~~ or training to perform the duties assigned by the Special Inspector. ~~and shall maintain responsible supervisory control over the representative pursuant to subsection 61G15-18.011(1) F.A.C.~~ The qualifications shall include: ~~Authorized Representative shall have a minimum of two (2) years of relevant experience under the direct supervision of a Special Inspector.~~

(a) Licensure as a professional engineer or architect; or

(b) Graduation from a four-year engineering education program in civil, structural or architectural engineering; or

(c) Graduation from a four-year architectural education program; or

(d) Registration as a building inspector or general contractor; or

(e) Four years of Threshold Building inspection training on non-Threshold Buildings performed under the supervision of a Special Inspector who was in responsible charge of the trainee's work; or

(f) Possess certification in the following area(s):

1. Prior to inspection of concrete components, certification from the American Concrete Institute (ACI) in advanced concrete inspection pursuant to the qualifications for such certification established by ACI on XX, YYYY;

2. Prior to inspection of masonry components, certification from the International Code Council (ICC) in advanced structural masonry inspection pursuant to the qualifications for such certification established by ICC on XX, YYYY;

3. Prior to inspection of post tensioned components, certification from the Post-Tensioning Institute (PTI) in advanced post-tensioning pursuant to the qualifications for such certification established by PTI on XX, YYYY;

4. Prior to inspection of structural steel components, certification from the International Code Council or American Institute of Steel Construction (AISC) in basic structural steel pursuant to the qualifications for such certification established by ICC on XX, YYYY or AISC on XX, YYYY;

5. Prior to inspection of soil related components, certification from the International Code Council. in basic soils pursuant to the qualifications for such certification established by ICC on XX, YYYY.

As approved at the June 2015 FBPE Board Meeting:

61G15-20.0015 Application for Licensure by Endorsement.

(2) If an applicant for licensure by endorsement satisfies ~~any one of~~ the conditions found in Section 471.015(5)(a)~~1., 2., or 3.~~, F.S., then the Board shall deem that the applicant has passed an examination substantially equivalent to part I, fundamentals, of the engineering examination. If an applicant for licensure by endorsement satisfies the conditions found in Section 471.015(5)(b), F.S., then the Board shall deem that the applicant has passed an examination substantially equivalent to part I, fundamentals, and part II, principles and practice, of the engineering examination.

Rationale: 471.015(5)(a) no longer has 1., 2., and 3., since the statute was changed last year to not allow Ph.D.s to bypass the F.E. exam. Now, (5)(a) only pertains to the 15/20 rule.

…
~~(4) An applicant for licensure by endorsement whose only educational deficiency under subsection 61G15-20.007(2), F.A.C., involves humanities and social sciences and who has held a valid license and practiced in another state or territory of the United States for two (2) years or more shall be deemed to have satisfied that requirement.~~
~~(5)~~(4) The Board….engineering experience.
~~(6)~~(5) An applicant….null and void.

Rationale: Subsection 61G15-20.007(1), F.A.C., requires 16 college semester credit hours of humanities and social science for non-ABET degree holders. Rather than giving leniency on H&SS for *only endorsement* applicants who have two years of licensure in another state, other means of satisfying H&SS are being proposed for *all* applicants. See proposed changes to 61G15-20.007(1)(b), F.A.C.

61G15-20.007 Educational Requirements for Applicants Without EAC/ABET Accredited Engineering Degrees.

Preamble: ABET-accreditation is the "gold standard" for engineering degrees in the U.S. ABET now bases their program evaluations on *outcomes* instead of only a *minimum # of credit hours*. FBPE's predicament is how to define/codify an "equivalent" degree, since it is not feasible for the Board to evaluate "outcomes equivalency" for non-ABET programs. FBPE's current rules are very prescriptive with regard to the number of credit hours and types of courses that are required.

(1) Applicants having engineering degrees from programs that are not accredited by EAC/ABET must demonstrate:
(a) 32 college semester credit hours of higher mathematics and basic sciences. Credit hours may be substituted with engineering science courses that are in excess of the requirements of subsection (1)(c).

Rationale: Extra earned credit hours in Engineering Science could substitute for M&BS deficiencies. The 32 – 4 = 28 hours would be equivalent to the Canada Engineers requirement for total M&BS. Alternatively, use NCEES's standard, which sets no limit on ES substitution.

1. The hours of mathematics must be beyond algebra and trigonometry and must emphasize mathematical concepts and principles rather than computation. Courses in ~~probability and statistics,~~ differential calculus~~,~~ and integral calculus~~, and differential equations~~ are required. Additional courses may include differential equations, linear algebra, numerical analysis, probability and statistics, and advanced calculus. Mathematics courses must be intended for math, science or engineering majors; introductory mathematics courses are not acceptable. Computer skills and/or programming courses cannot be used to satisfy mathematics requirements.

Rationale: ABET *General* Criteria does not require differential equations or probability and statistics.

ABET *Program* Criteria **requires** probability and statistics (or an ability to apply them) for Bioengineering/Biomedical (statistics only), Ceramic, Construction, Electrical/Computer/Communications, Environmental, Manufacturing, Materials/Metallurgical, Mining, Naval Architecture/Marine Engineering, Ocean, Optical/Photonic, Petroleum, and Software.

ABET *Program* Criteria **does not require** probability and statistics for Aerospace, Agricultural, Architectural, Biological, Chemical/Biochemical/Biomolecular, Civil, Engineering/General Engineering/Engineering Physics/Engineering Science, Engineering Management, Engineering Mechanics, Fire Protection, Geological, Industrial, Mechanical, Nuclear/Radiological, Surveying, and Systems.

NCEES Committee on Education recently made changes to their Engineering Education Standard, similar to the proposed changes above. I was involved in this process, and committee members were all in support of these changes.

2. The hours in basic sciences must include at least two courses. These courses must be in general chemistry, ~~and~~ calculus-based ~~general~~ physics, or biological sciences, but both courses may not be in the same area. ~~with at least a two semester (or equivalent) sequence of study in either area.~~ Additional basic science courses may include ~~life sciences (biology),~~ earth sciences (geology, ecology, or oceanography), advanced biology, ~~and~~ advanced chemistry, or advanced physics. Basic science courses must be intended for science or engineering majors; introductory science courses are not acceptable. Astronomy, computer skills and/or programming courses cannot be used to satisfy ~~mathematics or~~ basic science requirements.

Rationale: FBPE's current rule prescribes requirements for science courses, namely general chemistry and calculus-based general physics AND a sequence course in either. The proposed change defines "science" more broadly, to include "biological, chemical, and physical science". This will be consistent with ABET Criteria for Accrediting Engineering Programs (2014-2015).

[See Attachment 3 for this *General* Criteria.] Note that ABET *Program* Criteria specify particular science courses depending on the degree major. [See Attachment 4, which shows that **science requirements vary widely among degrees**.] The proposed change also eliminates the sequence course requirement, which will be consistent with ABET, which does not currently require a sequence course.

The proposed changes are aligned with the recently-revised NCEES Engineering Education Standard. The NCEES Committee on Education, in which I am involved, was entirely in support of these changes.

(b) 16 college semester credit hours in general education ~~humanities and social sciences~~. Examples of ~~traditional~~ acceptable courses include ~~in this area are~~ philosophy, religion, history, literature, fine arts, sociology, psychology, political science, anthropology, economics (micro and macro), professional ethics, and social responsibility. Examples of other general education courses deemed acceptable include management (such as organizational behavior), accounting, written and oral communications, business, and law.

No more than 6 credit hours can come from courses in management, accounting, business, or law. Courses in engineering economics, engineering management, systems engineering/analysis, production, or industrial engineering/management will not be counted. ~~and no more than~~ Up to 6 credit hours of languages ~~other than English or~~ other than the applicant's native language~~.~~ are acceptable for credit. English and foreign language courses in literature and civilization may be considered in this area. ~~Courses such as accounting, industrial management, finance, personnel administration, engineering economics and military training are not acceptable.~~ Courses that ~~which~~ instill cultural values are acceptable, while routine exercises of personal craft are not.

Other means towards satisfying the general education requirement are as follows: Each year of progressive U.S. engineering experience as approved by the Board is equivalent to 2 credit hours, for a maximum of 8 credit hours; obtaining U.S. citizenship is equivalent to 10 credit hours; and earning a doctoral degree is equivalent to 10 credit hours if the degree is from a college or university in the U.S. that has an EAC/ABET-accredited engineering program in a related discipline at the baccalaureate level.

Rationale: ABET no longer prescribes a minimum number of credit hours in humanities and social science. They require "a general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives". Nonetheless, the proposed changes give applicants a wider variety of ways in which to meet the H&SS requirement. See Attachment 5 for results of an NCEES survey to member boards regarding how they handle H&SS deficiencies. State practices vary widely.

(c) 48 college semester credit hours of engineering science and engineering design taught within the college or by the faculty of engineering. Courses in this area shall have their roots in mathematics and basic sciences but carry knowledge further toward creative application of engineering principles. Examples of approved engineering science courses are mechanics, thermodynamics, heat transfer, electrical and electronic circuits, materials

science, transport phenomena, engineering economics, and computer science (other than computer programming skills). Courses in engineering design stress the establishment of objectives and criteria, synthesis, analysis, construction, testing, and evaluation. Graduate-level engineering courses can be included to fulfill curricular requirements in this area. Thesis or dissertation hours shall not be granted credit. A maximum of six credit hours will be granted for special topics and independent study at any level. Graphics, surveying, or engineering technology courses will not be considered to meet engineering science and design requirements. ~~In order to promote breadth, at least one engineering course outside the major disciplinary area is required.~~

Rationale: The proposed changes above will make FBPE's rules consistent with the recently-revised NCEES Engineering Education Standard. The only difference is that NCEES allows thesis or dissertation hours, whereas the proposed rule does not.

(d) In addition, ~~evidence of attainment of appropriate laboratory experience,~~ competency in English~~, and understanding of the ethical, social, economic and safety considerations of engineering practice~~ must be presented. ~~As for competency in English,~~ Satisfactory evidence includes the following: transcripts of course work completed~~,~~; course content syllabi~~,~~; testimonials from employers~~,~~; college level advanced placement tests~~,~~; Test of English as a Foreign Language (TOEFL) scores of at least 550 in the paper-based version, 80 on the internet-based version, or 213 in the computer-based version~~., will be accepted as satisfactory evidence.~~

Rationale: FBPE does not usually check for laboratory experience when reviewing applications. Lab courses can certainly improve student learning, by providing hands-on experience to supplement classroom lectures. However, it is the committee's opinion that labs should not be a requirement for licensure. Furthermore, evaluating whether or not applicants have "understanding of the ethical, social, economic and safety considerations of engineering practice" would require all too subjective judgment.

~~(4)~~(2) An~~y~~ applicant whose only educational deficiency is under subsection (1)(b) above ~~involves humanities and social sciences~~ shall be entitled to receive conditional approval to take the Fundamentals of Engineering examination. Such an applicant shall not become eligible for the Principles and Practice examination until satisfactory completion and documentation of the necessary hours ~~in humanities and social sciences as provided~~ required in subsection (1)(b) above.

~~(5)~~(3) College Level Examination Programs (CLEP) examinations that are outlined at ~~http://www.collegeboard.com/student/testing/clep/exams.html~~ http://clep.collegeboard.org/exam may be recognized as satisfying education deficiencies, provided the exams are in courses that meet the requirements of paragraph (1)(b) above. The applicant shall achieve a passing score as determined either by CLEP or by showing ~~and the applicant is able to show~~ that the results are recognized by a college or university with an EAC/ABET-accredited engineering program. College- or university-level courses can also be taken to satisfy deficiencies. Credit shall not be given for a college, university, or CLEP course if credit in a similar course has already been earned.

Rationale: Applicants should not be required to show that the CLEP course is acceptable by a college/university. Achieving CLEP's passing course should be sufficient.

~~(2)~~(4) The FBPE education~~al Advisory~~ committee shall make the final decision regarding equivalency of programs and shall make recommendations to the Board as to whether an applicant shall be approved for admittance to the examination or for licensure by endorsement.

~~(3)~~(5) ~~The~~ An applicant with an engineering degree from a non-EAC/ABET-accredited degree program ~~foreign institution~~ must request an evaluation of substantial equivalency of his or her credentials to EAC/ABET standards through either~~;~~ of the following: National Council of Examiners for Engineering and Surveying, 280 Seneca Creek Road, Clemson, South Carolina 29678; or Joseph Silny & Associates, Inc., P.O. Box 248233, Coral Gables, Florida 33124. ~~The applicant with an engineering degree from a domestic engineering program not accredited by EAC/ABET must request such an evaluation from Josef Silny & Associates, Inc.~~

Rationale: Rule 61G15-20.001 on "Board Approved Engineering Programs" uses the wording "non-EAC/ABET" rather than "foreign institution". Also, NCEES *will* evaluate an applicant from a non-ABET domestic engineering program upon FBPE's request, so we shouldn't limit an applicant's evaluator options to only Silny.